**Rehabilitation of Unified Water Plant in Rawah**

**Rawah City – Anbar Governorate – Iraq**

* **SOW**

The project’s aim is to rehabilitate the Unified Water Plant in Rawah Which feeds Rawah area with potable water that was severely damaged during the liberation of the area, all people are served by this Water Plant (20,000 beneficiaries); **GPS:** N:34°29'16.7" E:41°55'04.9"

Rawah Water Plant contains of 2 concrete sedimentation tanks of 25m diameter and 5m height, water ground tank, 8 concrete filters basins, main electrical distribution boards, water pumps, water pipes to connect the plant parts, valves, Chlorine devices, Alum dossing systems, transformers, cables, generators, air compressors and service building...etc., during the liberation of the area suffered destruction in most of its vital parts.





The project includes rehabilitation the following parts:

1. **Site Works:**

The work includes; cleaning the site and removing 20 cm thickness of existing soil, the concrete or masonry debris, trees, logs, upturned stumps, loose boulders, and any other objectionable material of any kind which would interfere with the performance or completion of the work, create a hazard to safety, or impair the subsequent usefulness of the work, or obstruct its operation. In addition to remove trees and other natural vegetation outside the actual lines of site, and all debris from the site to a dump site approved by the relevant authority

1. **Civil Works for project and service buildings**

The work includes; supplying and installing steel windows, supplying and installing wooden and steel doors of a various sizes, replacing the existing damaged porcelain tiles by mosaic tiles, installing ceramic tiles for the sanitary walls, painting works for the internal and external walls of the project including ceilings, casting concrete to construct side walkways after removing the damaged walkways, finishing the main corridor of the building by interlock, removing the old mastic of the roof concrete tiles and refilling the joints by new mastic with cautery and replacing the damaged concrete tiles by new ones, supplying and installing galvanized steel water tanks, supplying and installing water heaters, rebuilding the damaged parts of the fence with painting.

1. **Electrical works for project and service buildings**

The work includes; supplying and installing electrical switches, ceiling fans, air ventilation fans, lamps, outdoor lamps, air-conditioner split units, 400-watt sodium projectors with holders to be installed with poles of 1m height, and circuit breaker for the light, sub distribution board.

1. **Reconstruction of Reception building**

The work includes; removing the damaged part of the building, spreading and compacting a layer of crushed stone, using sub-base to filling 2 layers with compacting, casting a blinding layer, casting reinforced concrete for the foundations, building the walls under and over DPC by stones with plastering, casting a concrete for DPC, casting a reinforced concrete for the roof, roofing works, finishing works for the walls and painting, installing ceramic tiles for sanitary and kitchen walls and anti-slide ceramic for the floors, suppling and installing mosaic tiles, casting concrete for the external walkways, supplying and installing doors and windows, and all sanitary and electrical works.

1. **Rehabilitation of the warehouse (Steel truss)**

The work includes; removing the old damaged plate parts of the steel truss, supplying and installing a steel corrugated sheet plate for the roof, replacing the damaged parts of the steel frame, supplying and installing a sliding steel door for the truss, supplying and installing a 5tons manual steel crane with all accessories.

1. **water treatment unit**

the work includes; supplying and installing horizontal pumps (split case), rotary air blower, supplying and installing an electrical crane single girder 5tons, cleaning and maintaining sedimentation basins, maintaining the mud sweeper and replacing the electrical motors, supplying and installing an electrical board for the mud sweeper, supplying and installation a chlorination device, chlorine poster pumps, electrical crane of 5tons capacity for the chlorination room, supplying and installing alum dossing pumps and replacing the electrical motors of alum mixer, maintaining and repairing the valves of the filters and the outlets, supplying and installing a submersible pumps, installing a steel passageway, maintaining the electrical board of filters.

1. **Electrical Generators and transformer works**

The work includes; supplying and installing a generator of 1250KVA with constructing a concrete base and steel sun-shed for the generator and fuel tanks, maintaining and repairing the existing generator of 1100KVA Cummins type, supplying and installing a changeover of 1600 Amp., supplying and installing an electrical transformer of 1000KVA capacity.

1. **Withdrawals Section " Intake"**

The work includes; supplying and installing horizontal pumps, the main valve of the main ductile pipe, steel basin and casting a reinforced concrete base for the pumps.

**I- Garden Works:**

Supplying and installing a fire extinguisher

**J- Fire Extinguisher:**

The work includes, removing the old soil layers, backfilling the garden with blended soil of 30 cm with afforestation.

* **Schedule of Requirements and Technical Specifications**

The Contractor shall visit the designated sites to be familiar with the condition of the work areas, the structures, it is the bidders’ responsibility to acknowledge the site conditions before submitting the bids.

In general, the Contractor should be familiar with all current conditions and circumstances which may affect the work progress.

The Contractor shall implement the Project based on a detailed work plan which shall be approved by the Project Engineer. The contractor is expected to produce/perform works which conforms in quality/quantity and accuracy of detailed specification. The Contractor is to institute a quality control system to ensure adequate monitoring of the works progress at all times.