

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

C.1 STATEMENT OF WORK

IRAQ INFRASTRUCTURE RECONSTRUCTION

C.I. BACKGROUND

The United States Agency for International Development (USAID) has the mandate to rebuild infrastructure and public facilities and services in a post war Iraq. The Administration's goal is to provide tangible evidence to the people of Iraq that the U.S. will support efforts to bring the country to political security and economic prosperity. To accomplish this goal, USAID will provide resources and technical expertise to rebuild potable water and wastewater treatment facilities; schools and health facilities; ports and airports, the electric power system, roads and bridges; railroad infrastructure; solid waste management services; irrigation systems, and selected local government buildings. This program will seek to address the immediate short-term objectives of rebuilding urban and rural infrastructure to accelerate economic growth and the reconstruction of public health and educational facilities to protect human health and to promote productivity. A priority medium-term objective is to invest in human and institutional capacity-building to better operate and maintain infrastructure and service delivery systems. The U.S. government envisions a post-war reconstruction effort as a highly visual symbol of good faith toward building trust for economic, social and cultural benefits as well as for political stability in the region.

C.II. PURPOSE

The purpose of this letter contract is to provide construction services in support of an Iraq Infrastructure Reconstruction Program. The Contractor will assure the successful design, rehabilitation, and construction of infrastructure projects in support of United States Government's (USG) assistance to Iraq in the areas of port and airport rehabilitation, electric power systems, road networks and rail systems, municipal water and sanitation services, school and health facilities, select government buildings, and irrigation systems. To ensure the sustainability of projects, an institutional capacity building component for operation and maintenance will be implemented for all sectors. The activities carried out under this contract are designed to contribute to short-term infrastructure reconstruction, while laying the groundwork for longer-term systemic sector reform.

III. STATEMENT OF WORK

The Infrastructure Reconstruction Program consists of four main components:

- a. engineering and construction of selected infrastructure facilities;
- b. institutional capacity building for operation and maintenance;
- c. provision of infrastructure-related equipment and materials; and
- d. developing a roadmap describing how these facilities might be sustainably managed over the long-term.

Construction will build on civilian and military relief activities as well as activities designed to rebuild the social and economic infrastructure of Iraq. Initial activities will be designed for the basic level of

infrastructure rehabilitation necessary to restore functionality and ensure its continued use. USAID will determine regional and sector priorities in collaboration with civilian and military authorities, international relief and development organizations, USAID implementing partners, the Contractor, and other US Government agencies. Based on the recommendations of the contractor USAID will approve the individual projects to be implemented under this program. The Contractor shall furnish all plant, labor, materials and equipment to perform all work in strict accordance with these specifications and Job Orders. The Contractor may be required to meet compressed schedules to deal with emergency or urgent requirements. Projects will be identified in each Job Order. Assessments will be undertaken through Technical Directives from the Cognizant Technical Officer. The roads and facilities may be in full operation, thus, the Contractor will minimize interference with their daily operation to the maximum extent possible. The Contractor will be responsible for providing all personnel, equipment, materials, supplies and facilities for its use in order to accomplish the work hereunder.

C.III SPECIFIC TASKS

C.III.1 Pre-positioning and Mobilization

The activities under this task shall include:

- (a) establishing the technical team and developing working relationships with relevant contractors, NGOs, and U.S. officials;
- (b) identifying immediate priorities and mobilizing resources to address them;
- (c) making initial project procurements, such as diesel generating packaged water treatment plants, construction materials and sets, equipment, fuel;
- (d) initiating key contracts for commodities or services;
- (e) pre-positioning contractor staff and equipment in the region to carry out the reconstruction tasks;
- (f) set-up and equip office(s) in country and/or in neighboring countries. The contractor will be responsible for providing communications equipment compatible with USG frequencies, vehicles for staff equipped with GPS transmitters, and full support for in-country expatriate staff.
- (g) The contractor will calculate estimated monthly fuel requirements for all program requirements, including fuel for operation of generator sets, vehicle use, heating fuel, pump operation, etc. for up to one year and submit within three weeks of contract start date. The contract must be prepared to implement the program in a number of geographical areas simultaneously.

C.III.2 Rapid Assessment of Infrastructure Conditions in Selected Regions

Assessment will commence in regions as soon as they become secure for civilian relief and reconstruction activities. Civilian/Mil and DART assessments will be available to guide the contractor's assessments, and to identify emergency activities for immediate implementation. The contractor should be prepared to act immediately to address emergency and priority activities identified through the Civilian/Military and DART assessments.

The rehabilitation of Umm Qasr Port and selected airports will be an immediate priority for program activities. Given their importance as gateways for the delivery of relief and reconstruction material and personnel

==
==

the contractor should be prepared to begin rehabilitation and repair at these locations immediately. USAID will award separate contracts for airport and port administration at two international and three domestic airports to be identified by USAID, and the Umm Qasr Port. The contractor should work closely with the port and airport administration contractors in determining the needs to make the infrastructure functional and undertake priority repairs and rehabilitation.

The provision of potable water to Southern Iraq will also be an immediate priority. The water supplies, both water supply distribution systems and commercial delivery of trucked water, could be disrupted in Southern Iraq and there may be an immediate need for ensuring the population has access to potable water.

As a permissive environment is established for relief and reconstruction activities the contractor should focus immediate activities on construction needs related to supporting the relief efforts as well as ensuring basic health and sanitation and the restoration of key services. Establishing reliable transport links, restoring electricity supply, ensuring potable water supplies, and supporting the delivery of basic health care and education should be initial priorities.

It is anticipated that this program will ultimately operate nationwide. As a permissive environment is established in regions, the Contractor shall conduct rapid assessments of the condition of water, wastewater, and solid waste infrastructure; health and education facilities; airports; electric power systems; irrigation; the primary and secondary road networks; rail system; and key government facilities. The Contractor will consult with civilian and military officials, USAID Local Development Advisors, other USAID contractors, and other local stakeholders to solicit input on their reconstruction, repair, rehabilitation, and/or upgrade priorities. USAID supported education and health contractors will inventory education and health infrastructure and identify needs for repair and rehabilitation. These reports will be made available to the contractor for use in the contractor's assessment.

The assessment(s) shall include the following information and must be submitted two weeks after entering a secure area:

- System configuration and condition of electric power systems, water and wastewater treatment plants, sanitation services, and irrigation systems, road networks, rail systems, and evaluation of the building stock in the health, education, and selected government sectors. This would include identifying the type and source of the existing equipment.
- The requirements, including both systems and equipment, in the specified geographical areas for restoring critical services from the power and water systems, wastewater treatment facilities, sanitation services, road and rail systems, health facilities, schools, irrigation systems, and selected government buildings. This should include a summary of the estimated impact of the repair and its significance with regards to system operation.
- An identification and categorization of emergency, short-term, and potential longer-term needs in the above infrastructure sectors.
- An identification of potential issues or challenges in restoring critical infrastructure, including the needs for demining and/or dealing with unexploded ordinance.

- An identification of the existing organization for operation and management of the critical facilities.
- Recommendations for areas of intervention that will address priority needs for restoring critical infrastructure and services, and the associated costs.

C.III.3 Implementation Plan

Once USAID has reviewed the recommended interventions and selected those to be undertaken, the Contractor shall prepare a 12-month implementation plan for carrying out the approved reconstruction, repair, rehabilitation, and/or upgrade activities within the respective geographical area. The implementation plan shall be updated and extended every quarter. The plan shall allow USAID and the Contractor to monitor, maintain control and exercise direction as appropriate. Elements of the plan shall include:

- a) the breakdown and description of the activities in the total program;
- b) an environmental assessment of the project activities per USAID Environmental Guidelines (CFR 216), and appropriate mitigation dimensions incorporated into each project activity;
- c) the identification of critical completion milestones and project interfaces;
- d) a projection of program budget and schedule of disbursements.

C.III.4 Infrastructure Reconstruction, Repair, Rehabilitation, and Upgrade

The Contractor shall be responsible for the provision of all personnel, equipment, materials, supplies, and facilities for use in carrying out the reconstruction, repair, rehabilitation, and/or upgrade program, which will include the following.

C.III.4.1 Umm Qasr Port

C.III.4.1 a. Initial Port Assessment

In conjunction with the Port operations management contractor, the contractor shall provide an assessment of all port resources, systems, utilities and facilities in place for the control, safety, service and security of vessels at the Umm Qasr port. The assessment shall include an analysis of current conditions, possible future levels of port performance and a prioritized list of improvements necessary to achieve those various future levels of performance including channel dredging and marking of sunken vessels. Any current impediments for achieving future levels of performance shall be noted. The assessment shall include a prioritized list of improvements necessary to assure the port operates in accordance with International Maritime Organization (IMO) standards and requirements. All suggested improvements to meet various future levels of performance shall be accompanied by a cost analysis for the improvements prepared by the contractor. The local maritime authority (if any) shall be consulted and a limited environmental impact and mitigation assessment conducted.

The port will be turned over to the contractor free of mines obstructing the waterway, and with basic mine and booby trap assessment, and demining and ordinance removal, conducted by the DOD on principal port facilities and access routes. The contractor should nonetheless conduct an independent mine and booby trap assessment, ensure potentially mined or booby trapped areas

are secured, and undertake any additional measures necessary to establish the safe functioning of the port.

C.III.4.1b. Planning and Implementation of Port Improvements

Following completion, and approval by USAID, of an initial port assessment for Umm Qasr, the Contractor will proceed to plan the implementation of recommended port infrastructure improvements. The Port administration contractor will undertake initial rehabilitation under their contract to restore or maintain basic functioning of the port. The construction contractor must ascertain what initial infrastructure construction and/or rehabilitation efforts have already been undertaken and what additional steps need to be taken to upgrade the port to the capacity identified in the following benchmarks. The construction contractor shall prepare an adequately detailed plan identifying material needs and specifications, implementation method, training needs, and budget for the work to be undertaken. This plan shall be submitted to USAID for review, comment, and approval.

Plans for port improvement must give priority to the most immediate improvements required to facilitate the adequate flow of USAID-funded materials, supplies, and commodities. As dredging is a known need, the contractor should prepare dredging services during the mobilization period in order to begin dredging activities immediately. The Contractor will work closely with the USAID Contractor undertaking port operations management. The quantity and quality of proposed immediate improvements should be linked to the quantity and type of USAID and other donor supplied materials, supplies and commodities likely to be shipped through the port. The plan should, as feasible and needed, provide options with respect to the amounts and types of improvements to be made as they relate to the amounts and types of materials, supplies, and commodities that could be shipped through the port. Desirable improvements of secondary priority may be set out in the plan, but these should be restricted to those most directly linked to facilitating the flow of USAID-funded materials through the port. As required, plans should identify steps to be taken, along with material and training needs to strengthen national or local management of port improvements in a sustainable manner.

C.III.4.1c Benchmarks For Rehabilitation Of The Port

1. The Contractor will assess port facilities, verify channel and berth depth, and assess freight handling equipment within two weeks of gaining access to the port.
2. The Contractor will mobilize to Kuwait and locate and arrange a dredge no later than 3 weeks from the effective contract date.
3. Within the first 8 weeks from gaining access to the port, the port will allow 50,000 T ships to unload containers and pallets, accommodate 3 berths, and facilitate an unloading capacity of 5 days per ship.
4. The contractor will install 3 vacuators, 6 cranes and small equipment, as well as ensure 6 berths are returned to operational condition within 90 days of program start date.
5. The channel will be charted and hazards identified within 90 days of program start date.
6. The Contractor will arrange for the arrival of the dredge and commencement of work on the channel and berths within 60 days from the effective contract date.

7. Within 120 days from gaining access to the port, 6 berths will be in operational condition, ships of 75,000 T can dock at one berth, and unloading capacity per ship will be 72 hours.
8. Within 150 days from gaining access to the port, the Contractor will repair and ensure functional local dredges, remove wrecks from the channel, ensure 9 berths are in operational condition, and an unloading capacity per ship that does not exceed 48 hours.
9. Within 180 days from gaining access to the port, the port will allow for docking of 75,000 T ships and 6-12 berths in operational condition for bulk and other cargo.
10. Within 1 year from gaining access to the port, 12 berths will be restored to a condition that permits the handling of containerized, palletized and bulk cargo.

C.III.4.2 Airport Repair and Maintenance

Functional airports are critical to an adequate flow of relief and reconstruction materials and personnel in support of relief and reconstruction efforts. The Contractor will undertake repair of select airports in Iraq, specifically two international and three domestic airports, to be specified by USAID.

C.III.4.2 a Initial Airport Assessments

In conjunction with the airport administration contractor, the contractor shall provide an assessment of airport resources, systems, utilities and facilities in place for the control, safety, service and security of aircraft at two international and three domestic airports in Iraq, to be specified by USAID. The assessments shall include an analysis of local and international airport infrastructure requirements - including a limited environmental impact and mitigation assessment -- as well as current conditions, possible future levels of airport performance and a prioritized list of improvements necessary to achieve those various future levels of performance. The contractor shall review systems and facilities required to permit the airports to operate at required current minimal and possible future levels. Any current impediments for achieving future levels of performance shall be noted. The assessment shall be mindful of industry best practice for control and safety of aircraft, personnel and cargo. The assessment shall include a prioritized list of improvements necessary to assure the airports operate in accordance with ICAO standards and requirements. All suggested improvements to meet various future levels of performance shall be accompanied by a cost analysis for the improvements. The local civil aviation authority shall be consulted.

The airport will be turned over to the contractor after DOD demining of the runways and access routes and the immediately adjacent area, and with basic mine and booby trap assessment and demining and ordinance removal on principal airport facilities. The contractor should nonetheless conduct an independent mine and booby trap assessment, ensure potentially mined or booby trapped areas are secured, and undertake any additional measures necessary to establish the safe functioning of the airport.

The contractor will complete airport assessments within two weeks of obtaining access to the airport. It is assumed that assessments will be phased corresponding to available access to the facilities. The focus will be prioritizing those issues and recommendations most directly required for the transport of relief and reconstruction personnel, materials, equipment, and

supplies. Desirable but not priority airport improvements shall be included only when they have the potential to impact negatively on the adequate flow of critical personnel and goods. Initial airport assessments should include an executive summary, a concise background of existing status and conditions, a concise description of constraints (particularly those that may impede the adequate flow of relief and reconstruction materials, supplies, and personnel), and a concise set of recommended solutions to priority constraints. Areas needing further inquiry should be identified provided they have a reasonably direct bearing on improving specific airport infrastructure to meet USAID needs. Initial airport assessments should include an illustrative but reasonably accurate budget for priority improvements and, as feasible, present expenditure options related to increased levels of airport improvement.

C.III.4.2 b Planning Implementation of Airport Improvements

Following completion and approval by USAID of initial airport assessments, the Contractor will prepare a plan for the implementation of recommended airport improvements in conjunction with the airport operations management contractor identifying actions to be taken by each party. This plan shall be submitted to USAID within two weeks for review, comment, and approval.

Plans for airport improvement must give priority to the most immediate improvements required to facilitate the adequate flow of relief and reconstruction materials and personnel. The quantity and quality of proposed improvements should be linked to the quantity and type of relief and reconstruction materials, equipment, supplies and commodities likely to be delivered through the airports. The plan should, as feasible and needed, provide options with respect to the amounts and types of improvements to be made as they relate to the amounts and types of materials and personnel that could be delivered through the airport. As required, plans should identify steps to be taken, along with material and training needs to strengthen national or local management of airport improvements in a sustainable manner. The Contractor shall work closely with the USAID contractor responsible for airport administration.

C.III.4.2c Deliverables/Benchmarks Airports:

1. The Contractor will begin repairs to runways and other critical facilities within 30 days from gaining access to the site.
2. The Contractor shall ensure that the infrastructure at the first international airport to be reconstructed is sufficient to handle international freight and passenger service during both daylight and nighttime hours within 6 months from gaining access to the site.
3. The Contractor shall ensure that the infrastructures of two major International airports are sufficient to handle international freight and passenger service within 12 months of start date. By the end of one year, it is anticipated that international commercial air links and international air connections will be restored.

C.III.4.3 Electric Power Systems:

Under this component, the Contractor will reconstruct, repair, rehabilitate, and/or upgrade the power system including generation, transmission, and distribution in order to restore and improve power supply. The Contractor's assessment should focus on the condition of existing power facilities and systems in-country to identify critical and emergency repairs that will lead

to rapid and significant improvements in the quality and reliability of electricity services. The assessment will include an analysis of the configuration and condition of the power system including power plant capacities and availability; fuel use capabilities; system condition and original sourcing of equipment; system control and operation systems; and transmission and distribution networks and their condition. Information on supply and demand including generation and loss estimates; profile of consumption by customer category, including estimates of unmet demand (if any); load profile including daily and seasonal peaks; estimated geographic distribution of the demand including ethnic groupings and information on distributed generation shall also be included. It is envisioned that by the end of the contract reliable power will be available to at least 75% of the population.

The Contractor will focus immediate repair activities on restoring or maintaining electric supply to key services such as health facilities and water supply systems. Generator sets will be supplied where necessary to restore immediate electric supply, remaining as a back up once grid supply is re-established. It is envisioned that up to 500 generator sets will be required to ensure the immediate functioning of facilities crucial to the health and welfare of the population and in support of humanitarian, relief, and reconstruction activities.

Within 6 months the contractor will be expected to establish reliable electric supply to 40% of the previously serviced population in permissive areas. It is estimated this will entail repair of 15% of the HV & LV distribution network, up to 50 substations, and 5 generation plants. Within 12 months generating capacity will be restored to 75% of the pre 1991 level of 9000 kW and up to 110 substations and 10 generation facilities will be rehabilitated.

C.III.4.4 Roads and Bridges:

This component will reconstruct, repair, rehabilitate, and/or upgrade selected primary and secondary roads that are needed to move goods and services quickly and cost effectively between major population centers. The contractor should focus immediate road and bridge repair on establishing reliable transport links in support of humanitarian, relief, and reconstruction activities. Within 6 months the contractor will have clear and open roads, and key bridges repaired or bypassed, to re-open half the economically important road network, estimated at up to 2,230 kilometers of roads and 100 bridges. Within 12 months it is anticipated that the contractor will ensure that all economically important road network links, estimated at up to 4,476 km, will be clear, and open to regular traffic.

C.III.4.5 Rail Networks:

This component will reconstruct, repair, rehabilitate, and/or upgrade selected fixed and mobile railroad infrastructure that is needed to facilitate the movement of passengers and goods quickly and effectively between major urban and industrial centers. The contractor will be responsible for repairing critical track bed sections, rail bridges, stations, locomotives, rolling stock and other essential infrastructure. The contractor should focus immediate activities in permissive areas on establishing functioning rail transport of bulk grain and fuel, both critical elements to humanitarian, relief, and reconstruction activities.

C.III.4.6 Water, Wastewater, Solid Waste Management Systems:

This component will reconstruct, repair, rehabilitate, and/or upgrade water treatment plants, distribution systems, and pumping stations; wastewater

collection systems, pumping stations, and treatment plants; and solid waste collection equipment and disposal facilities.

Iraq has 250 water treatment plants that service 12.9 million people, 14 wastewater treatment plants, and 1,250 wastewater pumping stations. All systems are currently operating at a highly degraded level of performance, and will likely suffer further degradation as a result of a conflict. The contractor will commence repairs of water infrastructure in 10 urban areas within the first month. Within the first 6 months the contractor will repair or rehabilitate critical water treatment, pumping and distribution systems in 15 urban areas. Within 12 months potable water supply will be restored in all urban centers by the end of the program approximately 45 urban water systems will be repaired and put in good operational condition and environmentally sound solid waste disposal will be established. In approximately 10 urban centers wastewater collection systems will be repaired and treatment systems will be restored to at least primary treatment.

In smaller towns and villages water, wastewater, and solid waste systems will be repaired or rehabilitated as needed and as identified by local development advisors. The Contractor will coordinate closely with USAID health contractors and public international organizations such as UNICEF in assessing the water and sanitation rehabilitation and reconstruction needs.

During the initial 60 days of the program the contractor will focus its water sector activities on ensuring the provision of potable water supplies to the population of Southern Iraq. Water is supplied in this region through several mechanisms - piped water systems, trucked water, and commercially supplied bottled water. It is anticipated that disruptions to electric supply, as well as possible damage to supply and distribution systems will severely compromise the integrity of piped water systems during the initial stages of the program. Moreover, populations served by trucked and bottled water could find transportation routes, or supply sources, disrupted. An immediate critical priority in the dry regions, and the marsh region where potable water is available only by trucks, will be re-establishing distribution of potable water to the population. The contractor should use every means possible to restore potable water supplies to this region. A separate USAID program being implemented by USAID/OFDA/CDM will be addressing water supplies for Internally Displaced Persons. The contractor should liaise with this program, determine the gaps in potable water supply for the remainder of the Southern Iraq population, and implement a program to fill those gaps on an emergency basis.

C.III.4.7 Schools, health facilities and selected local government buildings:

Iraq has 270 general hospitals, 5 medical college hospitals, 33,000 hospital beds, and 995 civilian primary medical care centers. 9,400 physicians service a population of 25 million with only limited support of health paraprofessionals. USAID's goal, in collaboration with international organizations, is to fulfill the basic health needs (immunizations, maternal health, treatment of major childhood illnesses, emergency and primary response to illness and trauma, and functioning referral hospital in the major cities) to the Iraqi population within 12 months through provision of medical supplies and equipment, direct health service delivery, public education, and rehabilitation of health infrastructure.

In support of this effort, the contractor will repair and/or rehabilitate one referral hospital in each major city, establishing within them the infrastructure to support advanced medical and surgical services for critical

cases, up to 100 general hospitals throughout the country, and selected Ministry of Health buildings. The total number of facilities across all sectors will be determined at a later date based upon need and on the availability of funding. Priorities will be established in conjunction with USAID, other donor supported health initiatives, and local health officials. Immediate activities will be focused on supporting initiatives to address critical immediate health care. A USAID supported program to provide medical supplies and re-establish basic health care will be operational throughout the country. The contractor should coordinate closely with this and other international programs as well as local health officials in identifying priority needs in facility rehabilitation.

There are over 11,000 schools throughout Iraq. Over 80% of these are in poor physical condition, lacking the basic amenities conducive to effective education. A USAID supported program to re-invigorate education with modern educational materials and techniques and expand literacy will be operational throughout the country. The contractor should coordinate with this program, as well as local officials, USAID and DOD local development staff, and the Ministry of Education in determining priorities and needs. Within 6 months the contractor will repair or rehabilitate up to 3000 school buildings. Within 12 months the contractor will repair or rehabilitate up to a total of 6,000 school buildings and selected Ministry of Education buildings.

C.III.4.8 Irrigation Systems:

USAID's strategy for revitalization of the rural sector focuses on restoring national food security requirements through rehabilitation of agricultural production. Agriculture production in Iraq has been seriously degraded during the last decade. Current grain production of 2 mmt is less than half that required to meet minimum grain needs. The current irrigated crop area of 1.5 million hectares is less than half the area irrigated in the 1980's. USAID agricultural programs will provide agricultural inputs and assist in establishing market based food distribution systems. In support of these efforts the contractor will repair or rehabilitate up to 1000 kms of irrigation and drainage canals and up to 400 flow control structures. The contractor will work with USAID agricultural program staff in determining priority needs for repair.

C.III.5 Institutional Strengthening

The Contractor shall involve, to the extent practicable, existing government institutions and utilities in the implementation of the repair and rehabilitation activities while at the same time laying the foundation for policy, institutional, and financial reforms.

In order to ensure the sustainability of program activities, the Contractor shall provide technical assistance and training to build the capacity for effective operation and maintenance of the electric power system; roads and bridges; railroad infrastructure; potable water and wastewater treatment facilities; solid waste management services; schools and health facilities; irrigation systems, and selected local government buildings.

The Contractor shall also develop a restructuring and reforms roadmap, which will identify future longer-term needs and investments to sustain the operations of the above sectors both financially and institutionally.

C.III.6 Project Management

C.III.6.1. Subproject Implementation

The preferred method of subproject implementation will be direct subcontracting with private subcontractors. On a case by case basis USAID will consider permitting: (I) the contracting of foreign government owned organizations in instances where private firms are not available or qualified to meet the requirements of the project; and/or (II) the use of grants to qualified NGOs as the most effective mechanism to realize reconstruction efforts. Prior USAID approval is required in accordance with 22 CFR 228 and/or ADS 302.5.4 in order to use foreign government owned organizations or subgrants.

C.III.6.2. Job Orders

Job Orders will be issued for all infrastructure repairs, renovation, and/or upgrading activities and any related procurement of equipment, supplies and materials as required. The Job Order will be a letter or other written communications signed by the Contracting Officer or a duly warranted Administrative Contracting Officer with the technical concurrence of the Cognizant Technical Officer and will authorize the Contractor to proceed to implement the activity under CLIN 0010. A Job Order does not add funding to the contract. Each Job Order will: I) be sequentially numbered; II) include a Work description, benchmarks, detailed budget, and any consent to subcontract if known; and III) include funding (full or incremental) for that effort or "Work."

The Contractor will submit to the Contracting Officer with copy to the CTO a written request for the approval of a Job Order. In addition to a description of the work to be carried out, benchmarks, subcontractors (if known), and a detailed budget, the request should include:

- The need, availability and value of a performance or payment bond
- Specific performance or quality standards
- Environmental review conclusions and recommended actions
- O&M issues and recommended actions; and/or
- If applicable, whether a foreign government owned organization or subgrant would be used.

The USAID Contracting Officer may issue unilateral Job Orders based on the information received in an assessment or implementation plan with ceiling costs when deemed necessary to effect a rapid intervention. An example could be repair of an airport runway.

If the Contractor finds that it cannot proceed with a subcontract or purchase of goods/services as described in the approved Job Order for reasons beyond its control, the Contractor must seek and obtain written approval by the Contracting Officer with technical concurrence from the CTO. USAID shall not be liable for any costs incurred by the Contractor in excess of that contained in the Job Order.

C.III.6.3. Cost Control Reporting System.

The Contractor shall develop a cost control reporting system including financial data required by USAID to monitor progress of cost versus budget for each task and project in the total program. The ability to forecast cost based on changes in project conditions is essential as each element

progresses through its various stages. This includes the provision of "look ahead" schedules, "earned value" analysis and simulations capable of depicting "what if" scenarios.

C.III.6.4. Quality Control (QCP) and Quality Assurance (QAP) Programs

The Contractor's Quality Control Program (QCP) shall be an integral component of the management of construction activities and its Quality Assurance Program (QAP). The Contractor shall develop and submit to USAID for approval a comprehensive listing of criteria for development of the QCP. The clear authority to stop work of subcontractors under the project shall be evident. The Contractor shall audit the QAP as established by each subcontractor.

C.III.6.5. Demining

As with any post-war reconstruction program, the problem of land mines, booby traps and unexploded ordnance will require extreme vigilance and specific measures to reduce risk to construction workers, program monitors and other individuals involved in project implementation. Since many of the projects will be in former areas of conflict, it must be assumed that landmines will be present and that special provisions must be made for their clearance. DOD will establish a Mine Action Center to advise civilian organizations of known mine areas.

The contractor will undertake an initial de-mining assessment for each approved project site to determine the potential presence of mines. The contractor will use all available sources of information such as the DOD Mine Action Center, local civilian and military officials, community leaders, and local citizens in assessing the potential for mines. If it is determined that the site requires de-mining, the contractor will conduct de-mining to a reasonable level of confidence before undertaking any construction or repair work.

De-mining assessments will be incorporated as a direct cost to the construction contract. The de-mining of project sites will be attributed to the cost of implementation of the individual project and will be incorporated into any Job Order.

Despite official designation and notification that an area or community is free from mines, booby traps and UXO, the possibility still exists that some mines or ordnance could remain hidden or undiscovered. Except as otherwise provided in this contract, the Contractor assumes all such risks. Therefore, the Contractor shall, in addition to Defense Base Act (DBA) insurance, carry other appropriate "all risk" insurance against potential liabilities for accidents due to the presence of landmines, UXO, or other dangers in Iraq, when such insurance is available on commercially reasonable terms and conditions. The cost of such insurance shall be reimbursable under the contract, provided that such cost is reasonable and the Contractor shall make every effort to obtain the most cost effective coverage.

C.III.6.6. Contractors Construction Manual

The Contractor shall prepare a construction manual that will set forth guidelines and requirements for the subcontractor's working relationship with the Contractor. All standard forms required by USAID shall be included in this manual as well as the appropriate procedures and forms that the Contractor may propose to facilitate the monitoring of the contracts. This manual should be provided to each subcontractor in a language the subcontractor understands at the time each subcontract is executed.

C.III.6.7. Construction Risk Management Program (CRMP)

The Contractor shall develop and submit for USAID approval a Construction Risk Management Program (CRMP). The CRMP will establish a "base-line" or prior existing conditions on the work sites and those areas adjacent or otherwise to the work sites which can be affected in some manner by the work activities. A CRMP may not be required where the project is restricted to replacement of equipment.

The CRMP shall include, but not limited to the survey, measurement and recording of the following parameters as may be appropriate to the project: ground and structural elevations; ground water levels; soil conditions; vertical alignment of structures and other conditions affecting construction.

The Contractor shall participate together with representatives of its subcontractors and USAID in regular monthly examinations of the "base-line" conditions and shall maintain a log of the values recorded and photos taken during these examinations, in such a fashion that comparison with previous values recorded can easily be done and trends readily identified. The Contractor shall regularly review the subject logs and immediately discuss with the pertinent subcontractors and USAID, any finding determined to require consideration of a change in method of construction or some remedial action.

C.III.6.8. Subcontractor Notices to Proceed and Notices to Commence

The Contractor shall prepare and issue Notices to Proceed and Notices to Commence Construction to the subcontractor, as necessary. Prior to issuing any Notice to Commence, the Contractor shall certify that, in accordance with the pertinent contract, the subject subcontractor has submitted a Quality Assurance Program (QAP) and CRMP for the work involved and the Contractor has approved it. Any third tier subcontractors need be specified.

C.III.6.9. Safety Program

The Contractor shall audit/monitor all Safety Program procedures.

C.III.6.10. Security

The Contractor shall develop a security plan to safeguard all project operation and to comply with all United States Government regulations. The plan is to be implemented and maintained by all subcontractors as well.

Deployment into Iraq will not occur until a secure environment is available. The Contractor will be responsible for providing communications equipment compatible with USG frequencies, vehicles for staff equipped with GPS transmitters, and security for in-country staff, office(s) and expatriate residence(s).

Special Security Conditions: U.S. Citizenship is required of key personnel selected to perform under this Contract. At a minimum an "Interim Secret" personnel security clearance issued by the Department of Defense will be required before the issuance of a USAID/RRB Badge or permission to proceed to Post is granted for key personnel. USAID/SEC will be responsible for validating security clearances of all proposed/selected key personnel and will work with the Facility Security Officer of the selected company to transmit security clearance data to U.S. Officials abroad where access to restricted sites and/or facilities is necessary to accomplish the task(s) outlined in this SOW. No classified information will be provided to the contractor for the purpose of review, work, or storage at the contractor's

facility. All access will occur at the Government's facility either within the U.S. or overseas.

No duplication or retransmission of Classification National Security Information is permitted by the contractor without written authorization from the designated USAID CTO who him/herself must possess a valid "Secret or Top Secret" security clearance. Any public release of information regarding this award must be approved in advance of release by the USAID Mission Director/Representative or the Contracting Officer (refer to Section H.10 of this contract for specific security guidance).

C.III.6.11. Inspection, Measurement and Construction Monitoring

The Contractor shall inspect, measure and monitor all materials and equipment testing, and all construction activities associated with this project to verify that all work is executed in accordance with the contract conditions and is consistent with good engineering practices. In this regard, the Contractor shall:

- a. Provide qualified management, technical and clerical on-site staff that is necessary to perform all services related to this contract
- b. Develop and maintain a Unit Cost Database to provide unit cost information for use in cost estimating and analyzing subcontractor cost proposals. The initial version of the database shall be completed by the end of the fourth month of the contract and must take into consideration the differences in unit costs for the various regions of the country based upon terrain, distances and current labor rates for an area. The Unit Cost Database shall be updated monthly.
- c. Review the design, specifications of materials, investigation reports and other technical documentation submitted by a subcontractor.
- d. Review the subcontractor's Critical Path Method (CPM) construction schedules for compliance with the subcontract documents, and accept or reject the subcontractor's CPM construction schedules. The Contractor shall integrate the subcontractors' CPM schedules into the Project Implementation Plan and Schedule.
- e. (a) Hold meetings with the subcontractors, as necessary, which may be attended by USAID representatives to review the progress of work, record and distribute minutes and decisions.

(b) Hold weekly meetings with USAID engineers and CTO to keep them informed on current problems and construction plans.
- f. Provide proper training for host country personnel employed by the Contractor in maintaining proper records for monitoring construction projects to ensure they meet USAID requirements.
- g. Review subcontractor submittals for compliance with the contract documents or specifications. Accurate records shall be maintained relative to date due, date received, date review completed, date returned and/or any action required.

- h. Conduct, as necessary, inspections of the project site to determine the environmental setting and assess the potential for impact as a result of project implementation.
- i. Receive, review and ultimately approve, the following documentation:
- Environmental certification;
 - Implementation plans and schedules;
 - Operating and maintenance manuals;
 - Quality assurance programs;
 - Dilapidation surveys;
 - Safety program and procedures;
 - Subcontractor procurement programs;
 - Start-up procedures;
 - Guarantees and warranties;
 - Certificates of inspection which are to be provided by the subcontractors in accordance with their contract documents; and
 - Other documents submitted by subcontracts in accordance with their contract documents.
- j. Periodically inspect and verify monuments, control lines, coordinates and benchmarks, which constitute the principal survey references for the Work sites.
- k. Inspect and verify the location, dimensions, and orientation of road lines, facilities and structures.
- l. Monitor work performed by the subcontractors for compliance with the drawings, specifications, contract documents and acceptable engineering practices. Take such action, as is appropriate, to require each subcontractor to carry out acceptable corrective measures when required. Issue Defect Notices and Cure Letters, if required.
- m. Prepare necessary sketches, designs and cost estimates for changes.
- n. Review, approve and monitor Subcontractor's Quality Assurance Programs (QAP) established for each project site. This program will cover the inspection and tests of all materials and equipment, as well as all construction activities related to the project. It will be the subcontractors' responsibility to arrange for inspection and testing of materials and equipment by an inspection service satisfactory to the Contractor. The Contractor shall supervise inspections and testing.
- o. Review and note any exceptions, which are taken relative to the results of the on-site inspection program and QAP. Instruct subcontractors to take the actions necessary to resolve any exceptions, which are noted and report such activities in the Monthly Progress Report.
- p. Make regular measurements of all quantities of work performed by subcontractors.
- q. Develop and maintain a comprehensive, up to date Materials and Equipment Inventory, Financial, and Project Status Tracking System. This system shall be developed by the end of the fourth month of the contract. The system should be all inclusive in enabling the Contractor to inventory equipment, provide financial information on Contractor procured materials and equipment, identify distribution of

materials and equipment, identify location ownership and utilization status, provide subcontract project implementation status and provide financial information on subcontractor payments.

- r. Maintain at each Field Office an Inspector's Daily Log and other records pertinent to the subject project.
- s. Prepare and maintain comprehensive construction progress photo albums at each field office. Photos shall be taken on a regular monthly basis or shorter intervals as deemed prudent. Each photo is to be identified as to project, location, activity/subject matter, date, time and photographer. Duplicate albums are to be maintained at the Contractor's principal office
- t. Monitor for compliance the Construction Risk Management Program (CRMP) implemented by each subcontractor. On a frequent basis, not more than 30 calendar day periods, inspect with the pertinent subcontractors the "base-line" data established under their respective CRMP. Log the findings provided by the subcontractors. Alert USAID if there are significant changes taking place and make recommendations as to what action, if any, should be taken.
- u. Maintain a complete set of "marked-up" drawings of the project. The Contractor shall compare these drawings with the final "As-Built" Record Drawings to be submitted by the subcontractors and reconcile any inconsistencies.
- v. Conduct a Final Inspection and Performance Evaluation for each of the subcontracts. A team of experts, selected from the Contractor's staff, shall evaluate the technical performance of the project, and examine all work for completion and conformance to contract requirements. Witness all final performance tests. All final inspections and/or performance tests shall be performed in the presence of USAID representatives, at USAID's discretion. USAID will be given written notice not less than seven (7) calendar days prior to any final inspections and /or performance tests. However, in the event that the representatives of USAID are not available for a period in excess of fourteen (14) calendar days from the date of the written notification, the Contractor shall proceed to perform the necessary inspections and tests without USAID's presence being required. USAID has the right to invite Iraqi counterparts and/or end users to participate during the Final Inspection. The completion report shall include a final inspection certificate and, if appropriate, a Recommendation of Final Acceptance. Two (2) copies of this report shall be supplied to USAID. Perform final inspections of all components and portions of the work for compliance with final punch list. Amend the Site Completion Report with the resolution of final list items.

C.III.6.12. Unit Acceptance-Project Turn-over and Warranty Period:

The contractor shall ensure that all equipment, systems and construction have a one year after turn-over warranty and this warranty is supported by and the responsibility of the subcontractor. Bank guarantee (value of 10% of subcontracted amount), if possible, is to be kept as a guarantee that the warranty activities will be performed when requested. In accordance with procedures approved by USAID, all turn over of completed projects to the proper authorities will be with the appropriate one-year warranty.

C.III.6.13 Environmental Review

The Contractor will be responsible to ensure that all activities undertaken in this program meet the standards set out in U.S. Government environmental regulations 22 CFR 216. Since the majority of the projects will likely involve repair, rehabilitation, upgrading, or expansion of existing facilities, it is not expected that negative environmental impacts will be frequent or significant. Nonetheless all project activities must be reviewed for environmental impact and mitigating actions incorporated into the project design where potential negative impacts are identified. The contractor will not be required to obtain USAID clearance on environmental reviews and mitigation plans. However, environmental review conclusions and mitigating actions where appropriate will be incorporated in Job Orders and reviewed by the CTO and Contracting Officer. The contractor will be required to have on file complete documentation of environmental review and monitoring on each project that will be subject to review by USAID.