OFFICE OF THE SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

AL KASIK LOCATION COMMAND
AL KASIK, IRAQ

SIGIR PA-09-182
OCTOBER 16, 2009

SIGIR

Special Inspector General for Iraq Reconstruction

October 16, 2009

Summary of Report: PA-09-182

Why SIGIR Did this Study

SIGIR is charged to conduct assessments of Iraq reconstruction projects funded with amounts appropriated or made available by the U.S. Congress. SIGIR assessed this project to provide real-time information on relief and reconstruction to interested parties to enable appropriate action, when warranted.

This Iraq Security Forces Fund project, which began in September 2008, is still ongoing.

The objective of this project assessment was to determine if:

- project components were adequately designed
- construction complied with design standards
- adequate quality management programs were used
- project sustainability was addressed
- project results were consistent with original objectives

What SIGIR Recommends

This report contains no findings or recommendations for corrective action. Although management comments were not required, SIGIR received comments from the Gulf Region Division of the U.S. Army Corps of Engineers and the Multi-National Force-Iraq concurring with the draft report.

SIGIR appreciates the concurrences with the draft report. No additional comments are necessary.

For more information, contact SIGIR Public Affairs at (703) 428-1100 or PublicAffairs@sigir.mil

Al Kasik Location Command

What SIGIR Found

On 16 May 2009, SIGIR performed an on-site assessment of the Al Kasik Location Command project. The overall objective of this $6.3 million project was to design and construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa province of Iraq. The project includes the construction of a reclamation platoon facility; a warehousing platoon facility; a bulk storage facility; a petroleum, oil, and lubricants distribution point; a bulk lubricant storage facility; a power line to new buildings; water and sewer hook-ups to new buildings; and perimeter fencing. The project also requires the demolition of some existing buildings and repair and refurbishment.

At the time of the site visit, the project was approximately 56% complete. SIGIR observed ongoing construction work, such as concrete formwork and preparation for concrete placement. SIGIR observed a number of construction issues, including:

- The bracing for the pallet racks was not completely installed.
- The water and sewer piping were placed in the same trench.
- The foundation contained no provisions to continue the reinforcing steel through the construction joint.

SIGIR discussed these issues with personnel from the Mosul Area Office of the Gulf Region Division. Mosul Area Office officials stated that the contractor would perform a final check of the rack system after construction is complete to verify that all bracing is installed and that all legs are securely fastened to the floor slab. The other issues would be addressed throughout the project, and corrective action would be taken as necessary.

The contractor's quality control plan was sufficiently detailed to effectively guide the contractor's quality management program. Also, the U.S. government quality assurance program was effective in monitoring the work of the contractor. Local Iraqis were employed to monitor the contractor's field activities and complete daily reports.

The results to date are consistent with the original project objective to construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa province of Iraq.

SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

October 16, 2009

MEMORANDUM FOR COMMANDING GENERAL, UNITED STATES CENTRAL COMMAND
COMMANDING GENERAL, MULTI-NATIONAL FORCE-IRAQ
COMMANDING GENERAL, GULF REGION DIVISION, U.S. ARMY CORPS OF ENGINEERS
COMMANDING GENERAL, JOINT CONTRACTING COMMAND-IRAQ/AFGHANISTAN
DIRECTOR, IRAQ TRANSITION ASSISTANCE OFFICE

SUBJECT: Report on the Al Kasik Location Command, Al Kasik, Iraq (SIGIR Report Number PA-09-182)

We are providing this report for your information and use. It addresses the current status of construction of the Al Kasik Location Command, Al Kasik, Iraq. This assessment was made to provide you and other interested parties with real-time information on a relief and reconstruction project underway and in order to enable appropriate action to be taken, if warranted.

This report contains no findings or recommendations for corrective action. Although management comments were not required, SIGIR received comments from the Gulf Region Division of the U.S. Army Corps of Engineers and the Multi-National Force-Iraq concurring with the draft report. SIGIR appreciates the concurrences with the draft report. No additional comments are necessary.

We appreciate the courtesies extended to our staff. If you have any questions please contact Mr. Brian Flynn via e-mail at brian.flynn@iraq.centcom.mil or at 240-553-0581, extension 2485. For public affairs queries concerning this report, please contact SIGIR Public Affairs at publicaffairs@sigir.mil or at 703-428-1100.

Stuart W. Bowen, Jr.
Inspector General

Special Inspector General for Iraq Reconstruction

SIGIR PA-09-182 **October 16, 2009**

Al Kasik Location Command
Al Kasik, Iraq

Synopsis

Introduction. The Special Inspector General for Iraq Reconstruction (SIGIR) is assessing projects funded primarily by the Iraq Security Forces Fund (ISFF) to provide real-time information on relief and reconstruction to interested parties to enable appropriate action, when warranted. This ISFF-funded project in Al Kasik will provide the Iraqi Army a new location command.

Project Assessment Objective. The objective of this project assessment was to provide real-time information on relief and reconstruction projects to interested parties to enable appropriate action, when warranted. Specifically, SIGIR determined whether:

1. Project components were adequately designed prior to construction or installation;
2. Construction or rehabilitation is in compliance with the standards of the design;
3. Adequate quality management programs were being utilized;
4. Sustainability was addressed in the contract or task order for the project; and
5. Project results were or will be consistent with their original objectives.

SIGIR conducted this limited scope assessment in accordance with the Quality Standards for Inspections issued by the Council of the Inspectors General on Integrity and Efficiency. The assessment team comprised two engineers/inspectors and two auditors/inspectors.

Project Objective. The overall objective of this $6.3 million project was to design and construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa governorate of Iraq. The project includes the construction of:

- a reclamation platoon facility
- a warehousing platoon facility
- a bulk storage facility
- a petroleum, oil, and lubricants (POL) distribution point
- a bulk lubricant storage facility
- a power line to new buildings
- water and sewer hook-ups to new buildings
- perimeter fencing

The project also requires the demolition of existing buildings. Because this project called for new construction within an existing facility, repair and refurbishment were also required.

Conclusions. The assessment determined that:

1. The U.S. government provided the preliminary design to the contractor. The Statement of Work (SOW) required the contractor to develop the preliminary package into a complete design package. Specifically, the SOW required the

contractor to review the preliminary designs and "correct any conflict or deficiency, also provide any missing or required details or drawings."

SIGIR reviewed the contractor-generated drawings, which contained specific information on the proposed buildings, fuel storage facilities, site utilities, site drainage, sewage collection system, and other project features. SIGIR determined that there was adequate information to complete the final design and construct the facility.

2. During the 16 May 2009 site assessment, SIGIR observed ongoing construction work, such as concrete formwork and preparation for concrete placement. SIGIR observed a number of construction issues, including:

   - The bracing for the pallet racks[1] was not completely installed.
   - The water and sewer piping were placed in the same trench.
   - The raft foundation[2] contained no provisions to continue the reinforcing steel through the construction joint.

   SIGIR discussed these issues with personnel from the Gulf Region North (GRN) Mosul Area Office of the Gulf Region Division (GRD), U.S. Army Corps of Engineers (USACE):

   - The contractor should perform a final check of the rack system after construction completion and to verify that all bracing is installed and all legs are securely fastened to the floor slab.
   - The water and sewer piping create a conflict with the installation of the sanitary manhole and could potentially contaminate the water supply.
   - The raft foundation contained no provisions to continue the reinforcing steel through the construction joint or provide fuel proofing to prevent leaks.

   The GRN Mosul Area Office personnel stated that the contractor would perform a final check of the rack system after construction completion to verify that all bracing is installed and that all legs are securely fastened to the floor slab. The other issues would be addressed throughout the project, and corrective action would be taken as necessary.

3. The contractor's quality control (QC) plan was sufficiently detailed to effectively guide the contractor's quality management program. The contractor submitted a QC plan, which GRN accepted as meeting the standards addressed in Engineering Regulation 1180-1-6 (*Construction Quality Management).* The QC representatives monitored field activities and completed daily QC reports that presented a brief background on the number of workers on site, work activities performed, and major equipment on site.

   The U.S. government quality assurance (QA) program was effective in monitoring the contractor's QC program. GRN Mosul Area Office employed local Iraqi QA representatives to monitor field activities and complete daily QA reports. The daily reports documented the number of workers on site and the daily work performed. SIGIR reviewed the QA reports and found that the QA

[1] Pallet racking is a material-handling storage system designed to store materials on pallets.
[2] A raft foundation is a foundation consisting of an extended layer of reinforced concrete.

representatives did an effective job identifying and correcting construction deficiencies at the project site.

4. Sustainability was addressed in the contract requirements. The contract included sustainability elements to assist the Iraqi ministry ultimately responsible for operating this project after turnover. The contract specifications require the contractor to provide and certify warranties in the name of the appropriate ministry for all materials and equipment. In addition, the contractor is required to perform operations and maintenance training appropriate to the facilities and equipment installed, constructed, or rehabilitated in the scope of this project, along with providing operations and maintenance manuals. Further, upon completion of each facility, the contractor must prepare and furnish as-built drawings, which will be a record of the construction as installed and completed.

5. As of SIGIR's site assessment, the Al Kasik Location Command project was approximately 56% complete. The results are consistent with the original project objective to construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa governorate of Iraq.

Recommendations. This report does not contain any recommendations for corrective action; therefore, management comments were not required.

Management Comments. Although management comments were not required, SIGIR received comments from the Gulf Region Division of the U.S. Army Corps of Engineers and the Multi-National Force-Iraq concurring with the draft report.

Evaluation of Management Comments. SIGIR appreciates the concurrences with the draft report. No additional comments are necessary.

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Introduction

Objective of the Project Assessment

The objective of this project assessment was to provide real-time information on relief and reconstruction projects to interested parties to enable appropriate action, when warranted. Specifically, the Special Inspector General for Iraq Reconstruction (SIGIR) determined whether:

1. Project components were adequately designed prior to construction or installation;
2. Construction or rehabilitation is in compliance with the standards of the design;
3. Adequate quality management programs are being utilized;
4. Sustainability was addressed in the contract or task order for the project; and
5. Project results were or will be consistent with their original objectives.

Pre-site Assessment Background

Contract, Costs and Payments

On 12 June 2008, the Joint Contracting Command-Iraq/Afghanistan (JCC-I/A) and Multi-National Security Transition Command-Iraq (MNSTC-I) awarded Contract W917GY0-08-D-0007, an indefinite-delivery indefinite-quantity construction contract with firm-fixed-price task orders to a local contractor.

The contract stated that work performed would be ordered by written task orders (TOs) issued on a DD Form 1155 (Order for Supplies or Services) to the contractor by the contracting officer. On 5 August 2008, JCC-I/A and MNSTC-I awarded Task Order 0002—a firm-fixed-price contract for $6,365,120—to the contractor.

The performance period for this project included an initial phase to install utilities, which was to be completed within 120 days, after the Notice to Proceed (NTP) was issued. The second phase—to construct the remainder of the facility—was to be completed within 120 to 180 days from the NTP. The contractor was to provide 12 months of interim contractor support, which was effective as soon as the facility was accepted and turned over to the Government of Iraq. The NTP was awarded on 27 August 2008, and the contractor signed it on 10 September 2008.

Task Order 0002 had two modifications:

- **Modification A00001**, dated 16 December 2008, changed the location of the warehousing platoon facilities; reclamation platoon facilities; bulk storage petroleum, oil, and lubricants (POL) point; POL distribution point; and bulk lubricant storage area. The total contract amount was unchanged.
- **Modification 1B**, dated 12 January 2009, decreased the contract amount by $53,259—from $6,365,120 to $6,311,861. The modification adjusted the contract price to reflect the location changes of the warehousing platoon, reclamation platoon facilities, bulk storage POL point, distribution POL point, and bulk lubricant storage area, which resulted in a decrease in the quantity of piping necessary for the water supply and for the wastewater management facilities. The contract period of performance was extended from 180 to 190 days.

Project Objective

The overall objective of this project was to design and construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa governorate of Iraq. A location command is a facility that provides logistical support and equipment to soldiers.

Prior to this project, Al Kasik did have a location command. However, the new Al Kasik Location Command project will help consolidate operations and storage facilities that, in turn, will improve operational efficiency and accountability of equipment and parts.

Pre-construction Description

Because location commands provide operational efficiency and assistance, the location of this project was critical to the logistical support provided to soldiers. The Al Kasik Location Command is located southeast of Jaddu, Iraq. The project site is situated on developed land that is slightly elevated.

Statement of Work

The Statement of Work (SOW) required the contractor to design and construct a new Iraqi Army Location Command in Iraq. The project consisted of primarily new construction in support of the existing location command and upgrades to the existing utility hook-up facilities. The SOW required the construction of the following:

- a reclamation platoon facility
- a warehousing platoon facility
- a bulk storage, distribution POL point, and bulk lubricant storage
- a power line to new buildings
- water and sewer hook-up to new buildings
- demolition of some existing buildings
- perimeter fencing

Also, the SOW contained detailed information regarding the components of the project. However, the specific details of the construction were left to the contractor.

> "*The precise details of performing the work are not stipulated except as considered essential for the successful completion of the work. The Contractor shall determine the exact dimensions and elevations of the site and evaluate alternatives for exact placement and layout of the new buildings and facilities.*"

Because this project called for new construction within an existing facility, repair and refurbishment of items were required, especially where connections to the existing facility were performed. When repair or refurbishment was required, the contract specified that the contractor was to follow the standards of the original design.

Project Design and Specifications

The contract stated that the U.S. government was to provide the contractor a set of TO drawings and specifications. The contractor was to check and compare the drawings, verify the figures, notify the contracting officer of any discrepancies, and be responsible for any errors. Also, if there was a conflict between the contractor's drawings and the TO's drawings, the TO's drawings would prevail. Further, the contract stated that the contractor was to provide 30%, 60%, 90%, and 100% project design drawings in addition to the as-built drawings.

The SOW required the contractor to design, construct, and install equipment, materials, and works in compliance with the International Building Code. The equipment, material, and articles incorporated into the work covered by this contract shall be new and commercial grade or higher, unless otherwise specifically provided for in this contract. Further, the SOW required conformity to the following codes and standards for the design and construction specific to each trade and category:

- Iraqi General Technical Specifications
- Iraqi Minister of Electricity Standards
- International Existing Building Code, International Mechanical Code, International Plumbing Code, International Electromechanical Code, National Electrical Code (International Fire Code National Fire Prevention Agency), Sheet Metal and Air-Conditioning Contractor's National Association Underwriters Laboratories, American Standards for Testing and Materials, American Society of Mechanical Engineers Standard 62 – Indoor Air Quality
- DoD ammunition and Explosive Safety Standards 6055.9-STD

The contractor provided drawings under the terms of the contract, which were included with the contract documentation provided by Gulf Region North (GRN). The contractor drawings contained specific information regarding the proposed structures, foundations, fuel storage and distribution, site utilities, site drainage, sewage collection system, and other project features.

The project proposed to expand the facilities at the location command by adding additional buildings, infrastructure, and equipment. The initial task order's design indicated that all improvements would occur in one area and require power generation and septic holding capabilities (Figure 1).

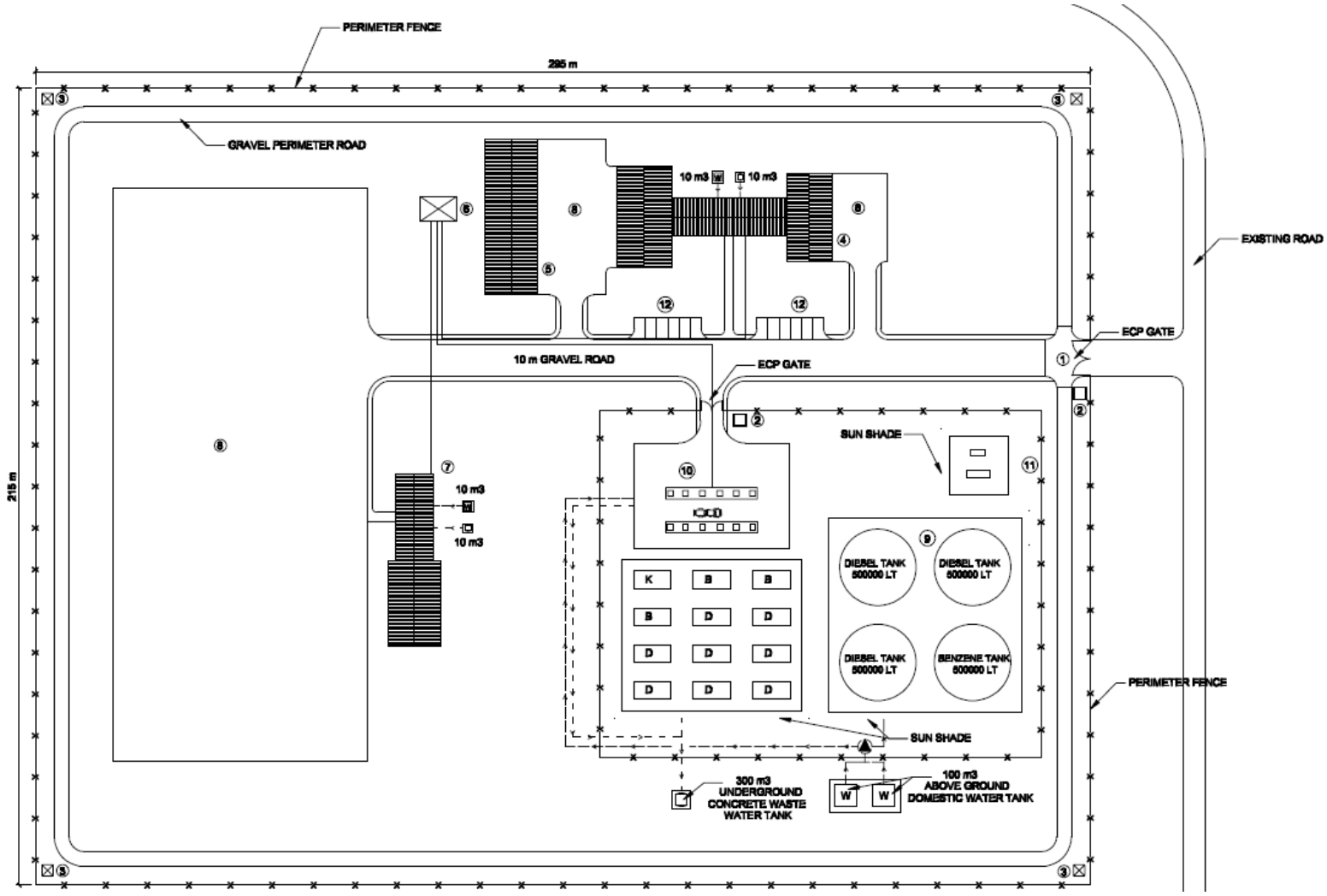


Figure 1. Original site layout design (Courtesy of USACE)

However, the configuration of the project was changed in subsequent design submissions, placing the improvements at several locations throughout the existing facilities. The new design eliminated the need for additional electrical generation by utilizing the existing facility's infrastructure (Figure 2).

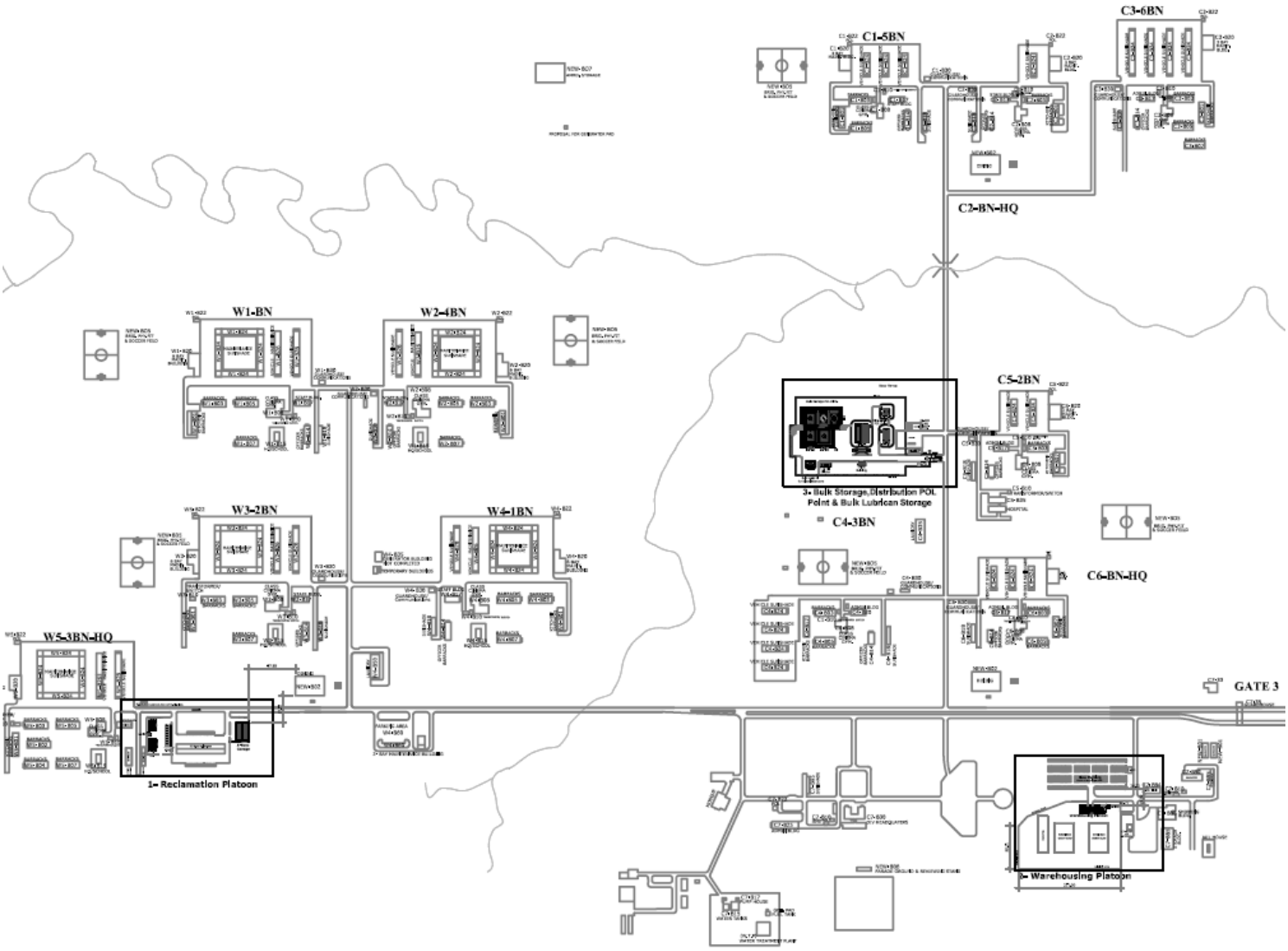


Figure 2. Final site layout design (Courtesy of USACE)

Warehousing Platoon, Reclamation Platoon, and Bulk Fuel POL — Pre-engineered Metal Buildings

GRN provided contract documentation that specified the purpose of the proposed buildings for the project. The SOW required specific sizes for rooms for each building within the facility; a specific number of doors and windows for each room; heating, ventilation, and air conditioning configuration; as well as other information required to design the facility.

The contractor provided detailed design calculations and drawings for the proposed buildings. The contractor's design drawings included foundation, architectural, mechanical, and electrical plans. The architectural plans included floor plans and elevations of the structure (Figure 3) and provided detailed information regarding construction.

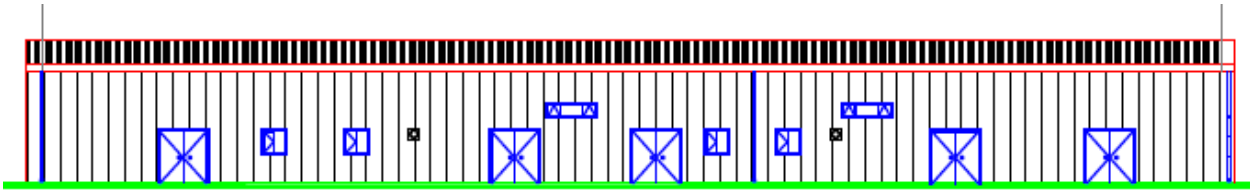


Figure 3. Warehousing platoon administration building elevation (Courtesy of USACE)

The type of structure selected by the contractor for the proposed buildings was a pre-engineered metal building. The contractor provided design calculations and detailed drawings for the steel structures. The structures were designed as continuous steel frames with no interior supports (Figure 4). Details, including the lateral force resisting system and the foundation design, are similar for the pre-engineered metal building structures of the proposed buildings for the project.

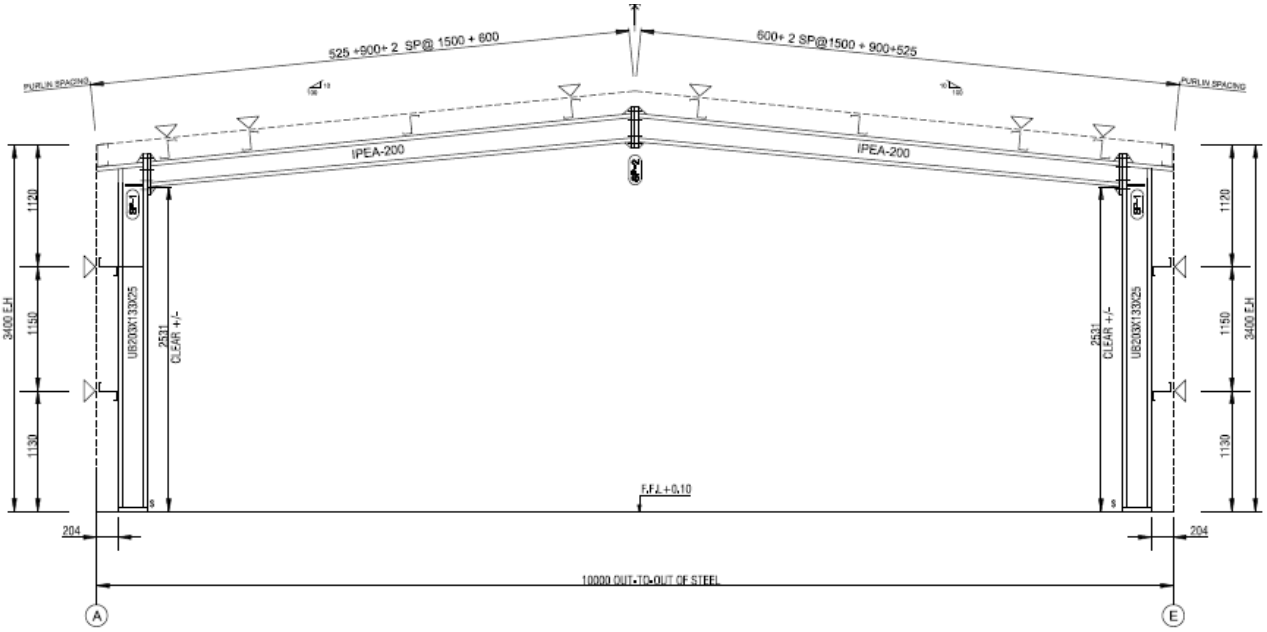


Figure 4. Warehousing platoon administration building section (Courtesy of USACE)

Lateral loads[3] are resisted by two different techniques:

- Loads parallel to the main frame (Figure 4, above) are resisted within the frame and transmitted to the foundation.
- Lateral loads perpendicular to the frame are resisted by means of steel portals placed between several of the framing bays.

The contractor prepared detailed designs of the foundations for the proposed structures. Anticipated building loads[4] were incorporated into the designs. The contractor-generated drawings were based on the designs for the building foundations. The foundations were configured as continuous footings to resist all

[3] Lateral loads are sideways-directed loads sustained by a structure; they may be caused by winds or seismic activity.

[4] Building loads are the most stressful combination of weight or other forces that a building, structure, or mechanical system or device is designed to sustain.

vertical loads. Hairpins[5] were detailed as part of the footing construction to resist lateral loads (Figure 5).

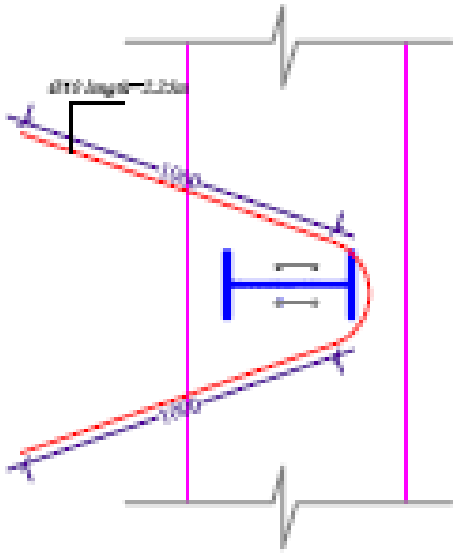


Figure 5. Hairpin detail (Courtesy of USACE)

Warehousing Platoon and Reclamation Platoon—Latrines

The SOW provided several requirements to guide the contractor's latrine design. Also, the contractor was to provide designs adequate to construct the latrines. The criteria for latrine size and configuration were primarily based on facilities used for billeting. Although the facilities that were being constructed as part of this project do not provide billeting, they do serve as administrative office buildings.

The contractor's design for the latrine structures incorporated a reinforced concrete frame with brick infill. The plans show sandwich panels for the roof of the latrine (Figure 6).

[5] U-shaped reinforcing steel used to transfer anchor bolt shear (due to column thrust) to concrete floor mass.

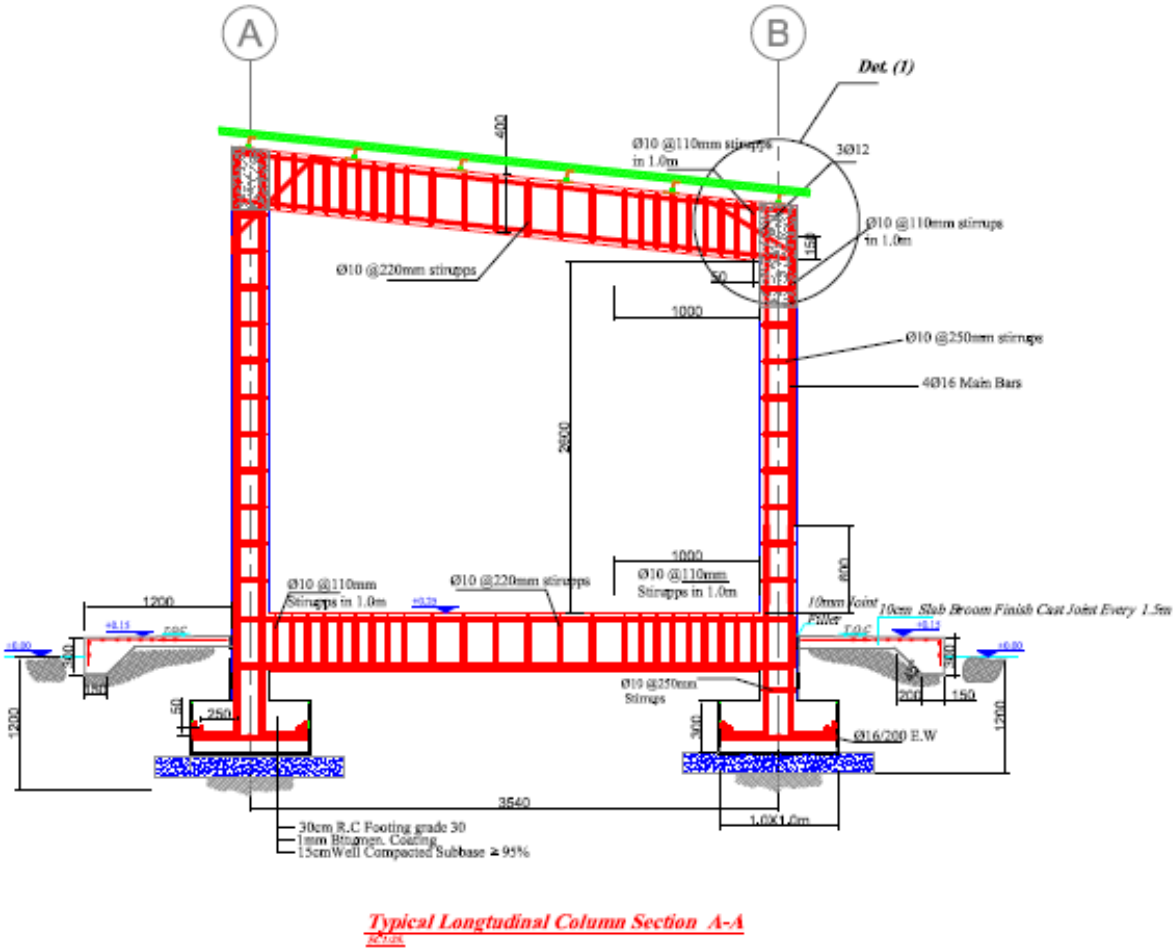


Figure 6. Latrine structural section (Courtesy of USACE)

The contractor provided details of the connection of the brick infill to the reinforced concrete frame. The method of attachment used chicken wire lapped over the reinforced concrete column and the exterior face of the brick infill. The wire was nailed into the column and brick infill, and the contractor was to parge[6] over the entire area, blending it into the rest of the wall. Although this method is expedient, it is unclear if it provided the required resistance to seismic loading to prevent the brick infill from detaching from the frame during a seismic event.

The SOW required the installation of a water shut-off valve to the latrine and the installation of a hose bib[7] in the latrine. The contractor's plan included isolation valves on the exterior of the structure.

In addition, the SOW specified that the contractor was not to install tile floors in latrines and shower facilities. Instead, the contractor was directed to provide a steel trowel finish for the concrete floor. The installation of a floor drain is also required, and the concrete floor is to be sloped to the floor drain. The contractor provided design plans for the installation of two floor drains in the latrine.

[6] A coat of cement mortar applied over a masonry wall.
[7] A valve for controlling the release of a liquid or gas.

The contractor provided general drawings and specifications for the exterior latrine used at the warehousing platoon facility and the reclamation platoon facility. Based on the proposed use and number of personnel expected, the design appeared appropriate for both the warehousing platoon and the reclamation platoon sections.

Parking

The SOW designated the size of the proposed parking area and included a requirement for lighting; however, the location and configuration was not specified. The contractor provided site plans for the warehousing platoon parking area, including parking layout and electrical and lighting plans (Figure 7).

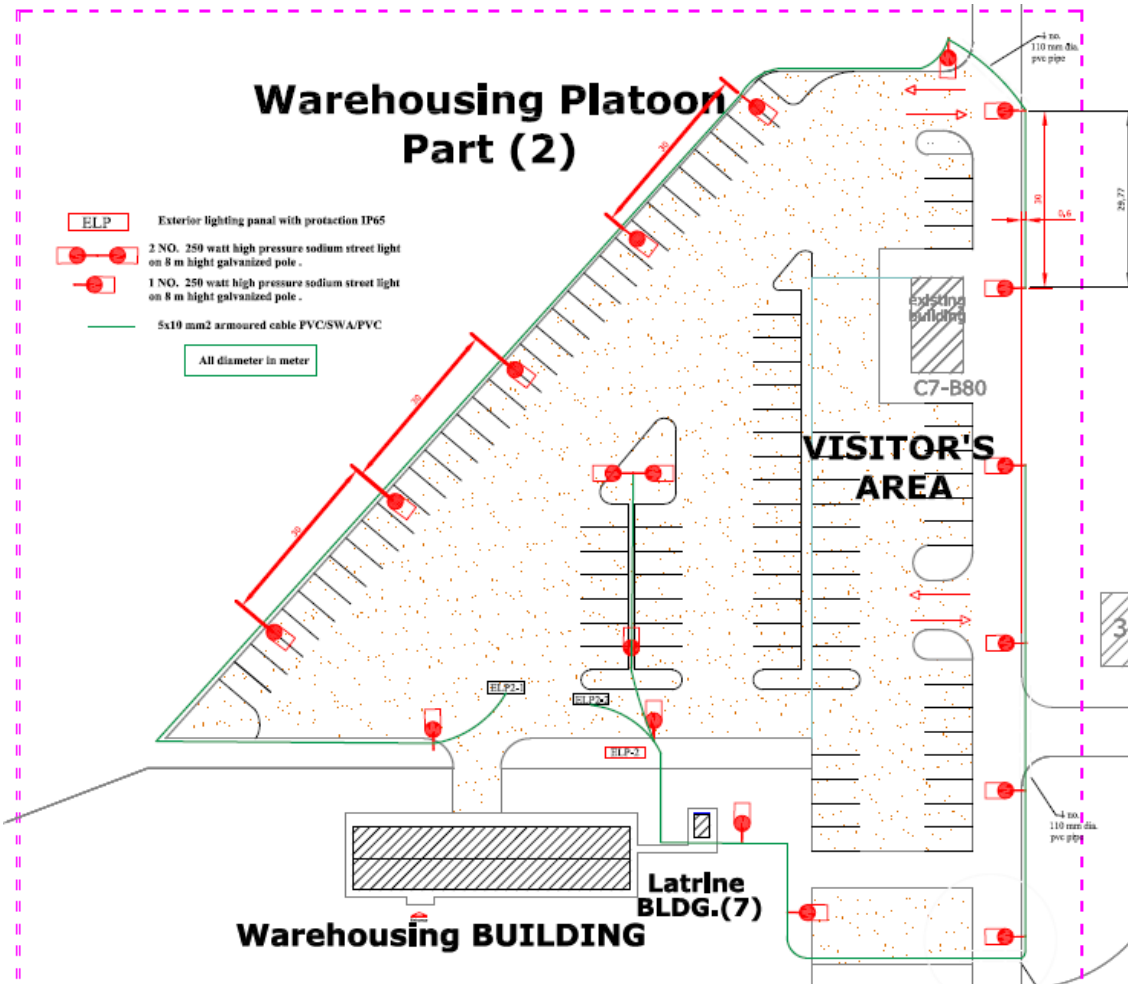


Figure 7. 10,000m^2 parking lot plan (Courtesy of USACE)

The contractor provided design calculations for the proposed light poles. The design calculations verified the size and configuration of the concrete foundation, anchor bolts, and base plate for the light poles. The contractor provided drawings that contained the information required to construct the light pole foundations according to the design.

For the reclamation platoon's covered parking, the contractor provided calculations and detailed drawings, which included a steel frame covering for the parking area, supported on mass concrete footings.

Pallet Racks

The SOW provided specific requirements for the pallet rack system[8] including overall rack dimensions, layout requirements, and specifications to support a minimum load of 1,000 pounds per 2m-long unit (Figure 8).

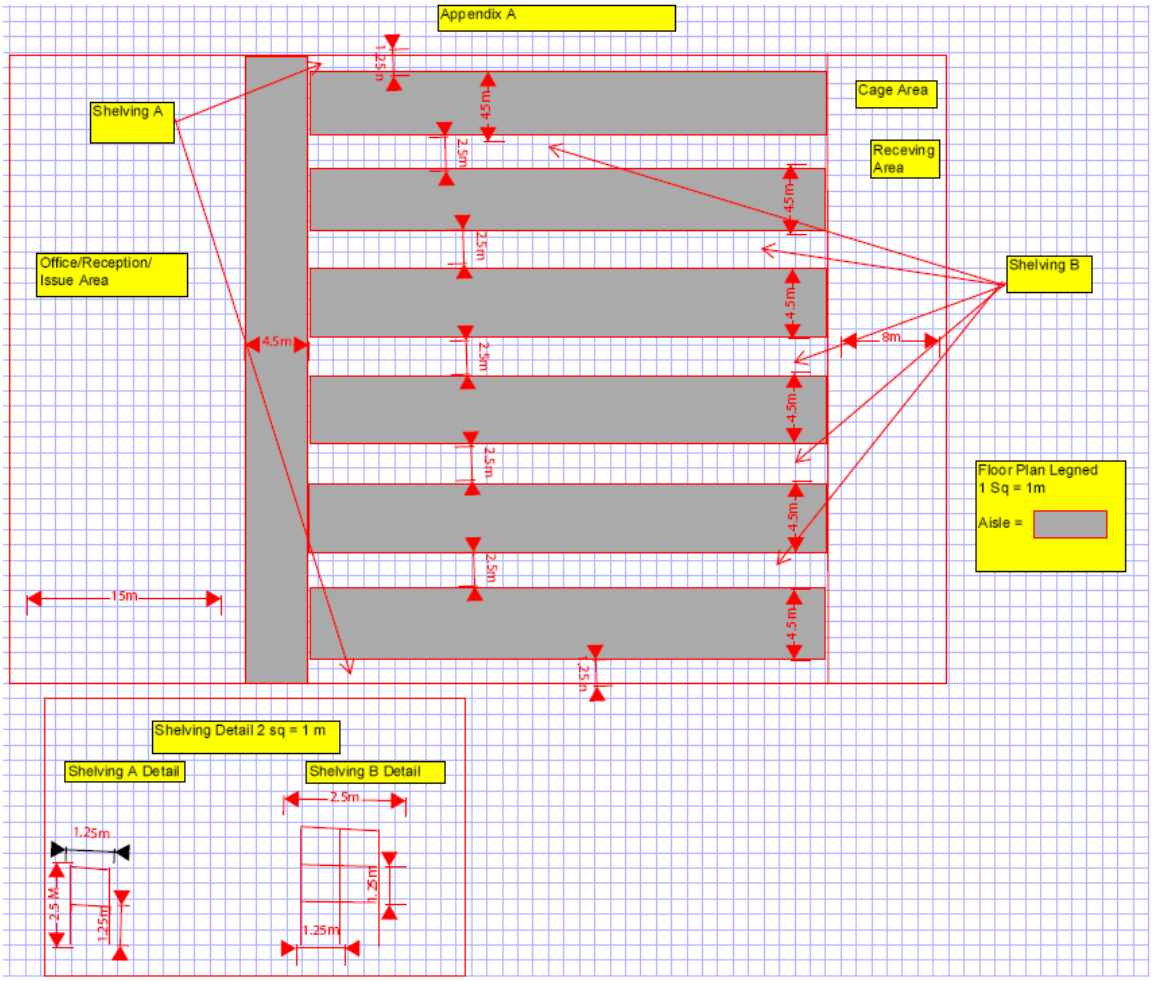


Figure 8. Schematic of pallet rack configuration and layout (Courtesy of USACE)

In addition, the contractor was required to secure the pallet racks to the floor to "…prevent the shelving system from tipping through normal day-to-day operations."

The SOW did not specify the size of the base plate for the rack legs. The dimensions of the base plate are critical in determining the allowable capacity of the concrete floor slab. To prevent cracking and failure of the slab, the base plate sizes should be specified based on the thickness of the existing slab. The information provided by GRN did not include any submittals for the pallet rack system.

[8] A pallet rack, also referred to as "pallet racking," is for stocking inventory that sits on pallets (or "skids") that are stored in horizontal rows with multiple levels; pallet racks allow warehouse inventory to be stored more efficiently.

Lube Oil Drum Storage

The SOW provided specifications of the lube oil drum storage facility, including the general size of the concrete pad, 250m^2 storage capacity, and other pertinent information required for design.

The contractor provided detailed design calculations and drawings for the lube oil drum storage building, which included foundation, architectural, and mechanical plans. The architectural plans included plans, elevations, and sections of the structure; foundation details; and detailed information regarding construction.

Bulk Fuel Storage

The contractor's design of the bulk fuel storage facility consisted of five vertical cylindrical steel storage tanks (Figure 9). The plans showed an earthen dike containment system[9] around each tank. An access drive was shown elevated above the earthen dike, bisecting the containment area. The fill for the drive was contained between two reinforced-concrete retaining walls. No lining was specified for the containment structure.

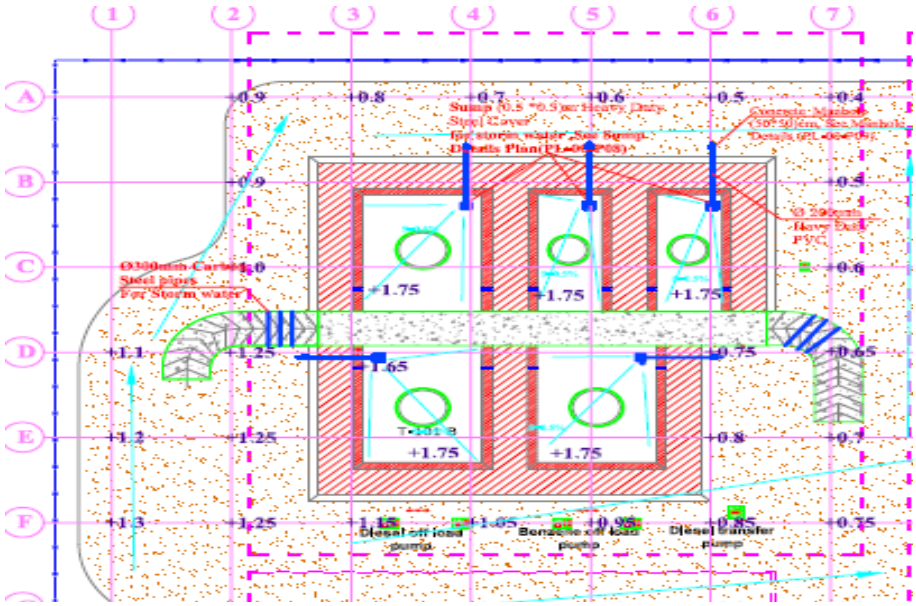


Figure 9. Site plan of POL platoon (Courtesy of USACE)

The steel storage tanks were specified by the contractor as a third-party-manufactured product. The specifications for the tanks were included in the project documentation. The tanks submitted by the contractor are 250,000- and 500,000-liter field-welded steel tanks (Figure 10), supported on a reinforced concrete raft foundation.

The proposed raft foundations were circular foundations with radial and circumferential reinforcement. Design calculations and detailed drawings for the foundations were provided with the project documentation.

[9] An earth dike is a continuous mound or pile of dirt compacted and stabilized with seed and mulch. This is used to divert or force sediment-laden waters to a desired location on the construction site, such as a sediment trap or sediment basin. This may also be used to prevent clean water from off site from entering the construction site.

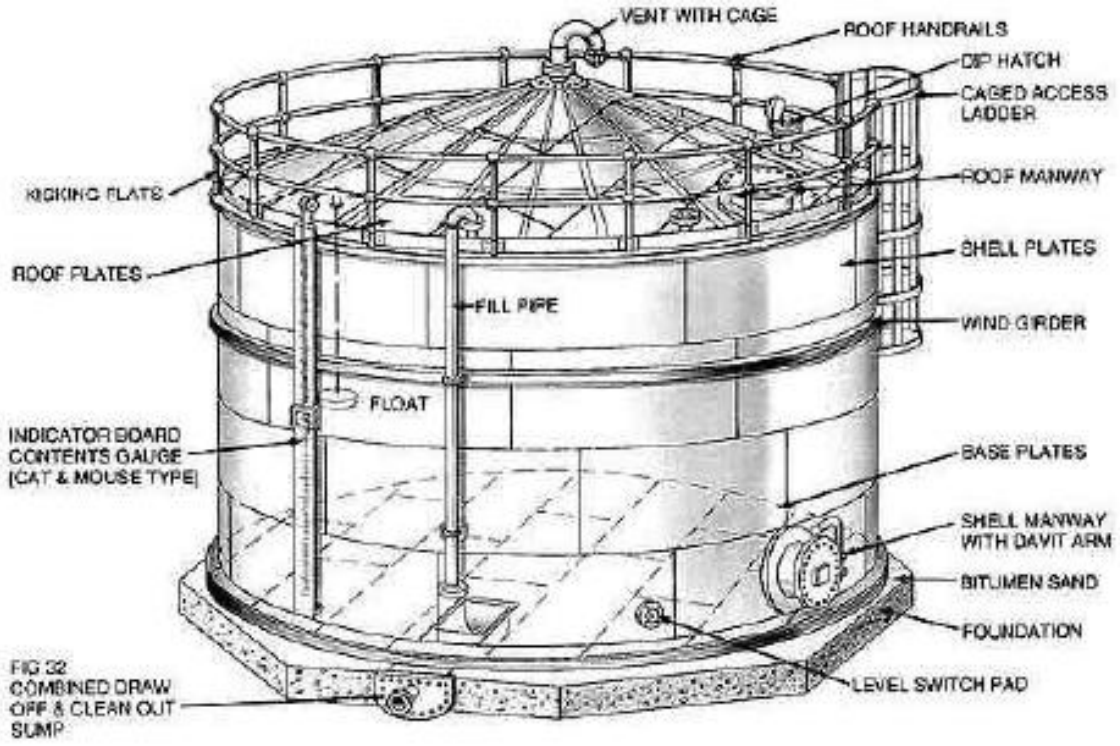


Figure 10. Proposed bulk storage tank (Courtesy of USACE)

The design for the facility included earthen containment dikes around the individual storage tanks. The plans included detailed sections of the dikes. The design drawings did not specify any type of liner for the containment system. Without the protection of an impervious liner, a containment event may contaminate the underlying soils, requiring extensive cleanup operations.

An elevated access drive traverses the containment area. The contractor submitted calculations and detailed plans for the retaining structure for the drive. The fill for the drive was contained between two reinforced-concrete retaining walls. Backfill was proposed between the walls and was capped with a reinforced-concrete slab.

Distribution Point

A petroleum distribution point was required as part of the POL platoon. A fueling island was provided for each product, with dispensers for bulk, individual usage, and tankage. The dispensers were to be segregated from the bulk POL storage tanks and were to have dedicated operating tanks. Diesel distribution tanks, pump piping, and transfer systems were separated from the benzene distribution tanks, pump piping, and transfer systems. The distribution tanks were connected to receive fuel from bulk storage tanks and tanker trucks. Also, the distribution point would dispense diesel and benzene through a common commercial fuel system to fill tanker trucks, large trucks, or equipment. The kerosene, diesel, and benzene distribution systems were required to be located separately from one another, which the designs indicated.

The kerosene distribution system comprised 2 storage tanks (Figure 11); the diesel distribution system, 16 diesel storage tanks (Figure 12) at 4 distribution points; and the benzene distribution system, 6 storage tanks (Figure 13). All of the storage tanks

hold 50,000 liters each. The contractor's designs provided detailed site plans for storage and distribution for each type of product.

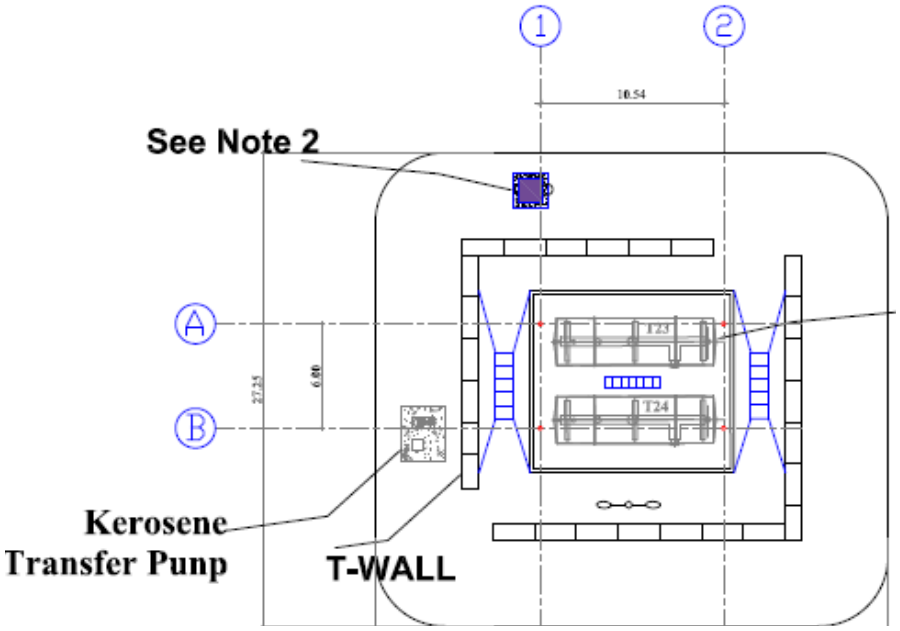


Figure 11. Kerosene storage tank (Courtesy of USACE)

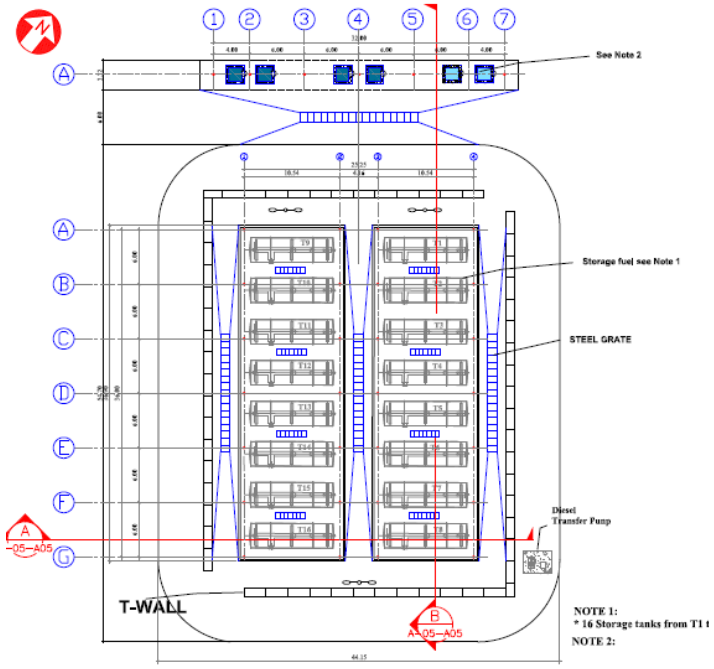


Figure 12. Diesel storage tank (Courtesy of USACE)

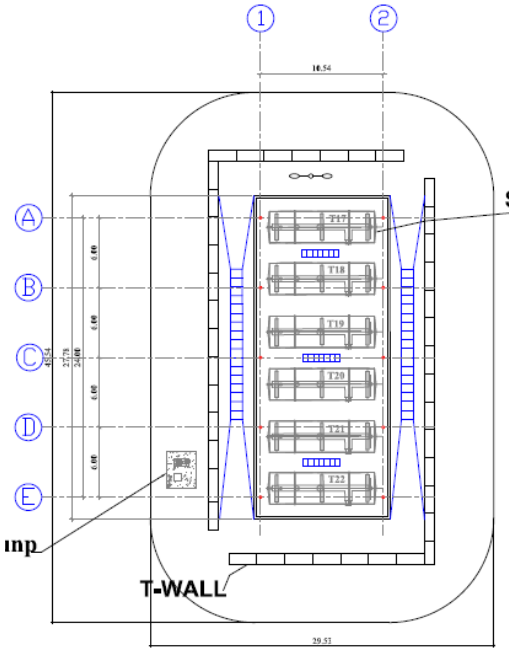


Figure 13. Benzene storage tank (Courtesy of USACE)

The contractor also provided submittal information on the storage tanks for the distribution point, which included detailed drawings of the proposed 50m^3 storage tanks (Figure 14).

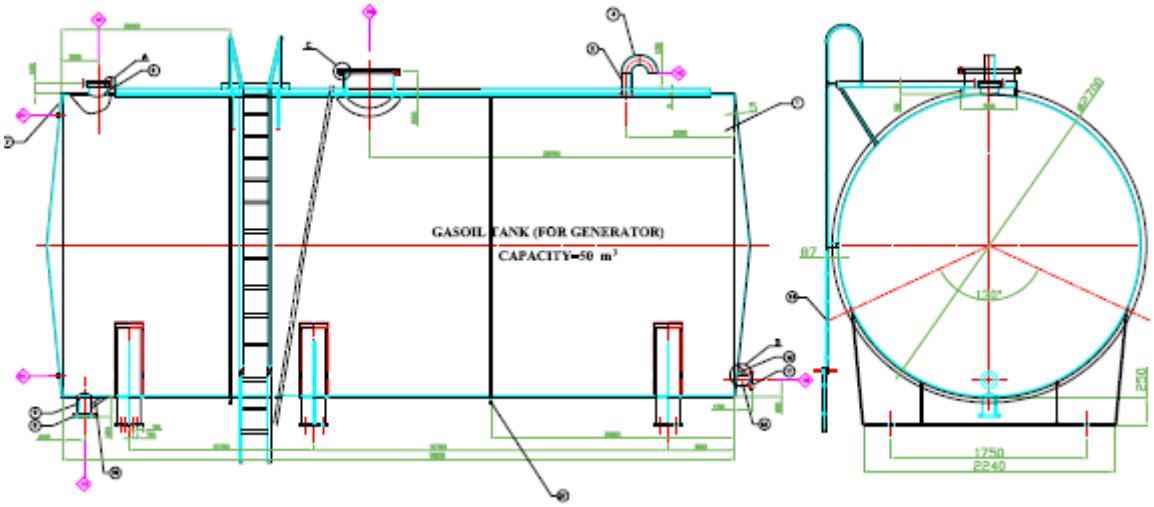


Figure 14. 50-m^3 Tank detail (Courtesy of USACE)

Additionally, the contractor provided design calculations and drawings for the distribution tank foundations and containment structure, which specified a reinforced-concrete raft foundation with concrete pedestals to hold the tanks. The raft foundation also functions as the floor of the containment structure and is surrounded by reinforced-concrete walls.

Project Design

GRN provided SIGIR with the project designs for the Al Kasik Location Command facilities, including site utilities. The site design showed the general layout of the site, including the buildings and parking areas, security fence, site utilities, site lighting, and landscaping. The architectural plans identified the location, dimensions, and proposed uses of various spaces within the facility. The architectural plans appeared complete, with detailed information for the rooms and corridors. In addition, the architectural plans included information on various building systems, including electricity, plumbing, and mechanical. The plans appeared to contain adequate detail to construct the various systems in the facilities.

The contract documents included requirements for a design/build project with sufficient detail for the contractor to design the facility. GRN provided conceptual drawings to the contractor that included the architectural layout and building designs. Contractor-generated drawings contained specific information regarding the structural details, building mechanical systems, site utilities, site drainage, sewage collection system, and other project features. The contractor provided final design drawings and specifications that contained specific information for construction of the facility and the inclusion by reference of other applicable codes and standards. Adequate information was provided in the specifications for the contractor to complete the final design and construct the Al Kasik Location Command facility.

Site Assessment

On 16 May 2009, SIGIR performed an on-site assessment of the Al Kasik Location Command project, accompanied by GRN Mosul Area Office representatives. The total

time on site was approximately two hours. Consequently, SIGIR performed an expedited assessment of the project construction. The ongoing project construction was approximately 56% complete.

Warehousing Platoon

At the time of the site assessment, the contractor was working in the warehousing platoon section. The warehousing platoon section consisted of an administration building, exterior latrine, a 10,000 square meter parking lot with site lighting, and installation of pallet racks in an existing warehouse (Figure 15).

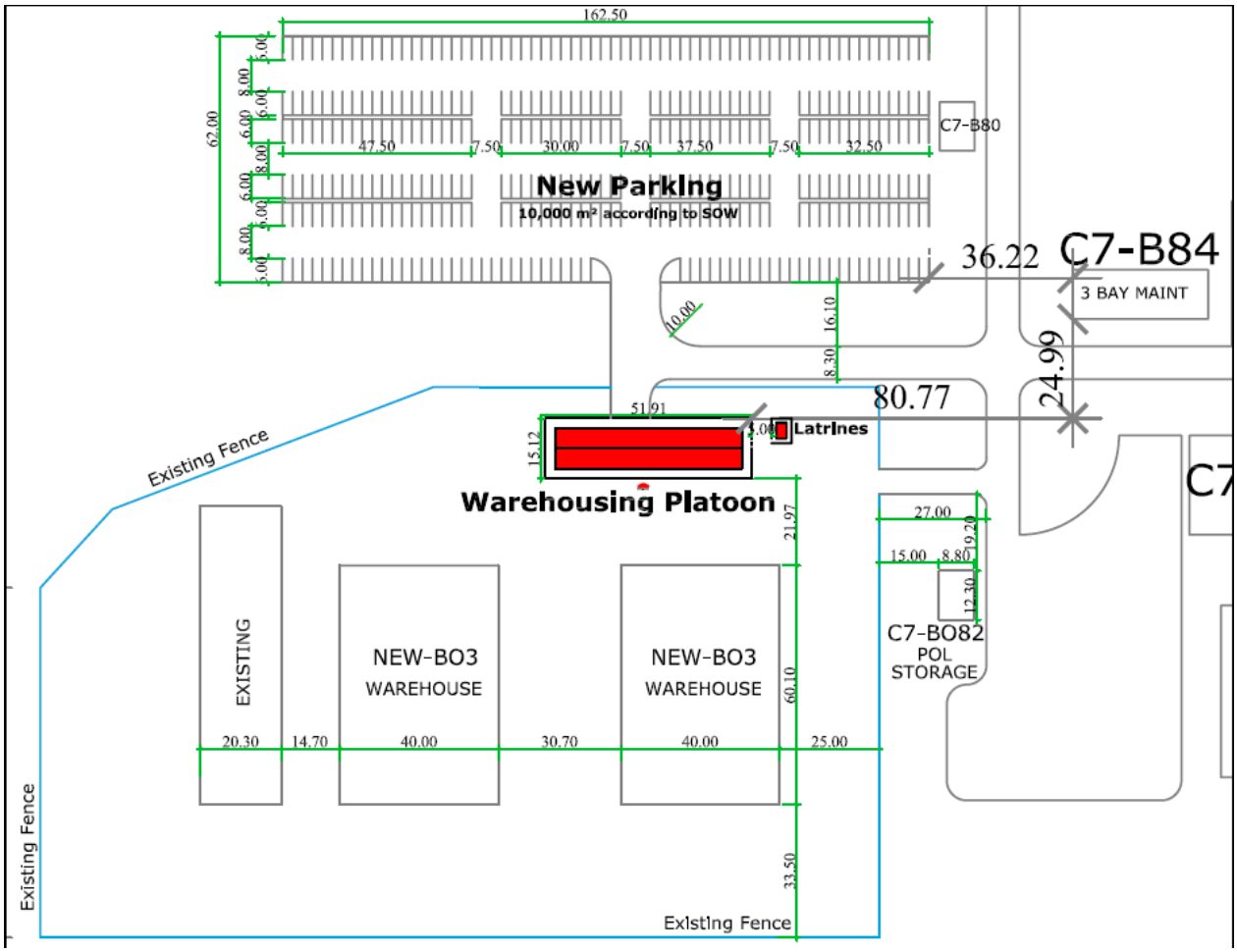


Figure 15. Warehousing platoon layout (Courtesy of USACE)

Administrative Building

SIGIR observed the contractor performing site grading for the warehouse administration building. The site was relatively flat with little variation in topography, and there were no apparent low areas near the administration building or exterior latrine. The grading directed runoff away from the administration building and exterior latrine (Site Photo 1).

Site Photo 1. Site grading at the front of the administration building

The administrative building structure was a pre-engineered metal building. The configuration of the structure was a clear-span steel frame with no interior supports (Site Photo 2). The frame was supported on a continuous 50 centimeter (cm) x 50 cm strip footing. The structural steel was erected and secondary members—such as purlins (roof supports), girts (wall supports), and cross-bracing (diagonal supports)—were installed.

Site Photo 2. Warehousing platoon administration building interior

Also, the non-shrink grout beneath the column base plates for the frames was not yet placed (Site Photo 3).

Site Photo 3. Column base plate prior to placement of non-shrink grout

The exterior sheathing, consisting of sandwich panels for both the roof and sidewalls, was installed. The panels were fastened to the purlins and girts with self-tapping pan head screws, indicating good attention to detail.

Sandwich panels were installed on the interior of the sidewalls. According to the contractor, a drop ceiling was proposed for the structure. At the time of the site assessment, the ceiling was not installed, but the perimeter ledge for the ceiling was installed in several rooms.

The SOW required the use of surface-mounted conduit on the interior of the structure. At the time of the inspection, the interior electrical system was not installed. According to the contractor, the electrical system will be surface-mounted to the interior sandwich panels using self-tapping sheet metal screws.

The water and sewer piping penetrated the footing and was placed under the concrete floor slab of the administration building. At the time of the site assessment, the trench for the water and sewer lines was not backfilled at the exterior of the building, and the administration building was not connected to the existing water and sewer system. In addition, it appeared that the contractor was placing the water and sewer pipes in the same trench. This was a deviation from the original design and may create a conflict with the installation of the sanitary manhole shown on the design drawings. Placing water and sewer piping in the same trench creates the potential for contamination of the water supply.

Latrine

At the time of the site visit, the latrine was partially constructed. The structure was constructed using typical local construction methods that utilized reinforced-concrete frame with brick infill, and the contractor was curing the reinforced-concrete roof slab (Site Photo 4). The brick infill was mortared on all sides, as required by the SOW.

Site Photo 4. Latrine exterior

Parking Lot with Site Lighting

According to the GRN Mosul Area Office personnel, final grading and surfacing was completed for the parking area adjacent to the warehousing platoon. The parking area was surfaced with crushed aggregate, which appeared surface compacted. The contractor specified that the electrical wiring was placed beneath the parking area and was ready for installation of the site lighting. At the time of the site assessment, it was not readily apparent whether the foundation or conduit returns were constructed.

Pallet Racks

The SOW required the installation of pallet racks in the existing warehouse building. At the time of the site assessment, the contractor was nearly finished installing the pallet racks (Site Photo 5). However, some of the bracing for the racks was not installed. Bracing for the rack system is critical for structural integrity and to prevent toppling.

The contractor stated that the existing warehouse floor was not level and sloped toward the front entry door. The contractor stated that prior to anchoring the racks to the existing concrete slab; steel shims would be installed to level the racks. Also, the contractor stated that shelves were being fabricated for the racks to provide storage for non-palletized items.

Site Photo 5. Pallet racks in existing warehouse

Reclamation Platoon

At the time of the site assessment, the contractor was also working in the reclamation platoon section, which comprised a maintenance garage, storage and maintenance building, administrative building, latrines, and a covered parking area (Figure 16).

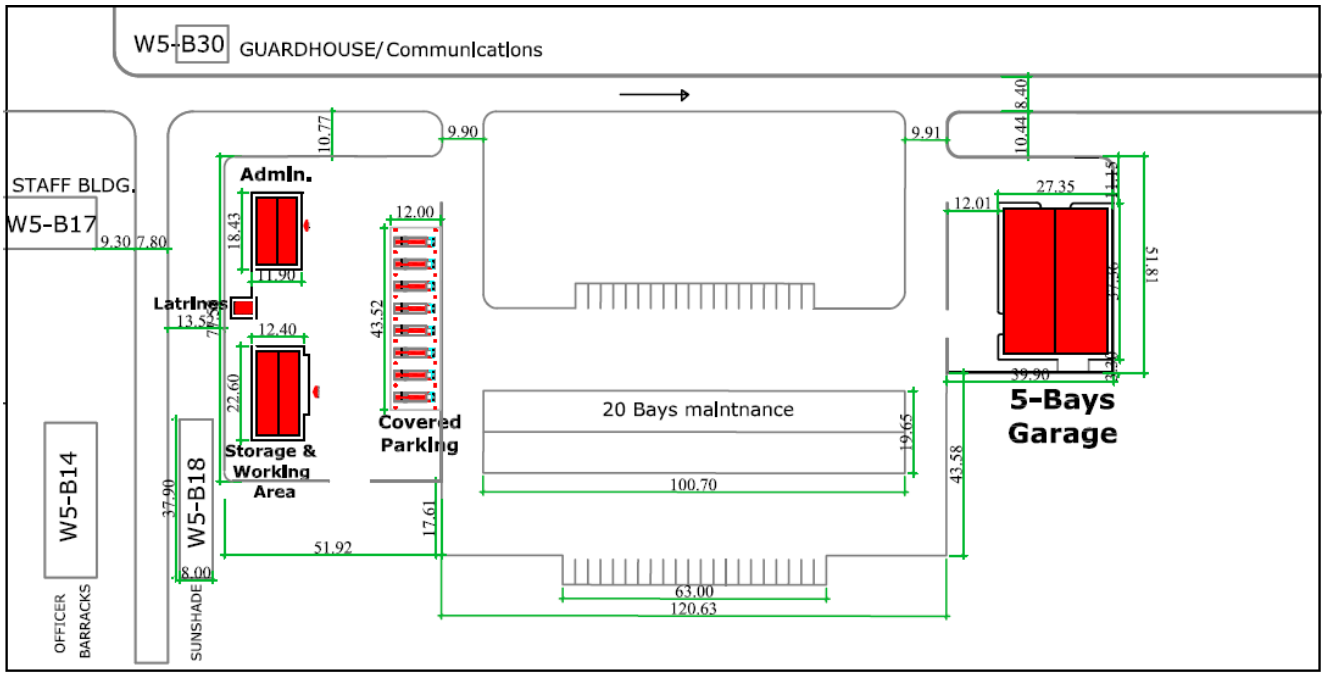


Figure 16. Reclamation platoon layout (Courtesy of USACE)

Maintenance Garage

The maintenance garage was a pre-engineered metal building, configured as a clear-span steel frame with no interior supports (Site Photo 6). The frame was supported on a continuous 60cm x 50cm strip footing. At the time of the site assessment the structural steel was erected and secondary members—such as purlins, girts, and cross bracing—were installed. The contractor was installing the exterior sandwich panels. The contractor installed the non-shrink grout under the column base plates for the garage.

Prior to installing the concrete floor slab, the contractor installed the utility lines beneath the floor. Several penetrations through the slab were noted, and an area for a trench drain was formed near the middle of the slab. SIGIR did not note any open utility excavations near the maintenance garage.

Site Photo 6. Maintenance garage prior to completion of exterior panel installation

Storage and Workshop Building

The storage and workshop building was a pre-engineered metal building, configured as a clear-span-steel frame with no interior supports. The frame was supported on a continuous 50cm x 50cm strip footing. The exterior sheathing for the roof and sidewalls was a sandwich panel attached to steel purlins or girts depending on orientation. The structural steel was erected, and secondary members—such as purlins, girt, and cross bracing—were installed. The exterior sandwich panels were installed, and the flashing and trim were nearly complete.

At the time of the site assessment, the final grading for the storage and workshop building was not complete; GRN Mosul Area Office personnel expressed concern to the contractor about the adequacy of the diversion berm (narrow ledge) to the west of the structure. The contractor stated that additional grading would be performed to correct any drainage issues.

There were open utility trench excavations (Site Photo 7) for underground electrical service to the storage and workshop building. The contractor installed utility lines under the slab on the interior of the building. However, at the time of the site assessment, there

was no evidence that the utilities were connected from the existing main utility lines to the exterior of the building.

Site Photo 7. Electric utility trench

Administrative Building

The structure for the administrative building was a pre-engineered metal building with a clear-span steel frame and no interior supports. The frame was supported on a continuous 50cm x 50cm strip footing. At the time of the site assessment, the contractor had constructed most of the interior partition walls; however, a significant amount of finish work was not yet completed, including the drop ceiling.

The GRN Mosul Area Office personnel informed SIGIR that the contractor neglected to make provisions for computer networking in the administrative building. Also, they stated that quality assurance (QA) personnel caught the oversight, and corrective actions were being implemented. Further, the contractor was being required to install a wireless network system in the building. At the time of the site assessment, the contractor's submittals for the wireless system were incomplete.

Latrine

The latrine was partially constructed using typical local construction methods—a reinforced concrete frame with brick infill. The construction appeared to be of lower quality than the previously inspected latrine. Instead of constructing reinforced concrete lintels above the windows and door, the contractor omitted the brick and increased the bond beam depth to extend to the top of the opening (Site Photo 8). Although this issue

does not appear to greatly affect the integrity of the building, it is indicative of poor workmanship and less overall quality of construction in this area.

Site Photo 8. Bond beam increased depth in lieu of lintel

Bulk Storage, Distribution, and POL Point Platoon

At the time of the site assessment, the contractor was also working in the bulk storage, distribution, and POL point platoon section. The bulk storage, distribution, and POL point platoon section comprised constructing an office building; latrines; security facilities; lube oil drum storage; bulk storage; and diesel, benzene, and kerosene storage (Figure 17).

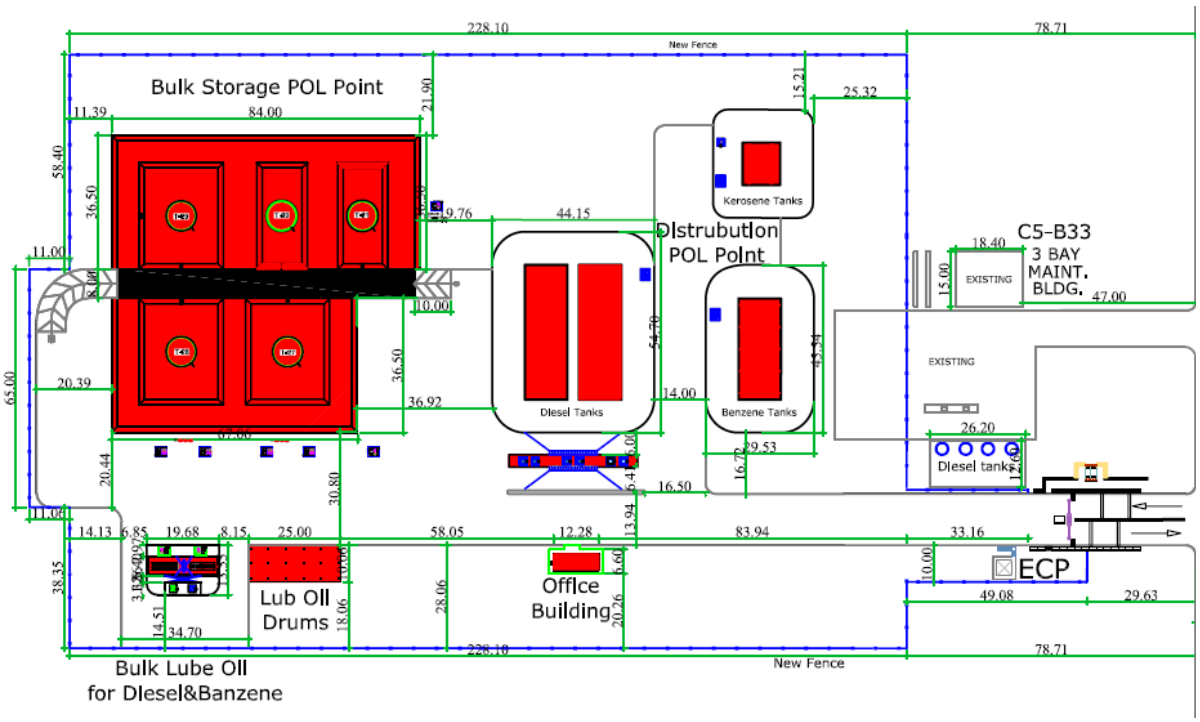


Figure 17. Bulk storage, distribution, and POL point platoon layout (Courtesy of USACE)

Office Building

At the time of the site assessment, the foundation for the office building was constructed, and some of the structural steel was erected (Site Photo 9). Unlike other buildings constructed under this contract, the contractor included a restroom on the interior of the office building. The contractor constructed the plumbing beneath the concrete floor slab and extended the water and sewer piping through the foundation to the exterior of the building. SIGIR noted that the water and sewer lines were placed in the same trench, similar to other buildings at the Al Kasik Location Command project.

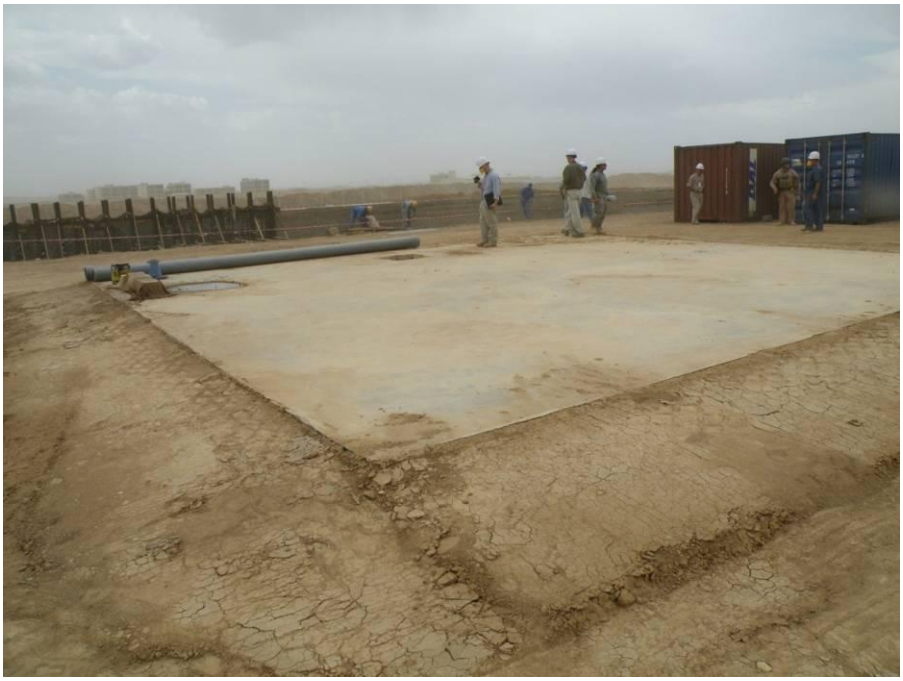
Site Photo 9. Office building

Lube Oil Drum Storage

The lube oil drum storage building was under construction, and some of the structural steel was erected. There were no issues with the construction of the lube oil drum storage.

Bulk Fuel Storage

The contractor was required to provide 1,500,000 liters of bulk storage for diesel fuel and 500,000 liters of bulk storage for benzene for the project. The contractor's design provided the required storage with three 500,000-liter circular tanks and two 250,000-liter circular tanks. The tanks are above-ground, inside an earthen dike containment structure. At the time of the site assessment, the contractor had completed the bulk fuel storage foundation for the circular tanks (Site Photo 10). The design required the foundation for the tanks to be circular; however, SIGIR observed that the foundation was square.



Site Photo 10. Completed tank foundation

The bulk fuel storage circular tanks were fabricated; the final assembly, including welding of the plate seams, was to take place on site. At the time of the site assessment, the tanks were stored on site, but the contractor had not begun assembly.

GRN Mosul Area Office personnel stated that the fabricator's specifications for the tanks required radiographic inspection of the welds. The GRN Mosul Area Office personnel stated that the contractor was employing a subcontractor from Baghdad to perform the assembly of the tanks, and the subcontractor employed personnel and equipment required to perform the radiographic inspection.

Construction of the containment system for the bulk storage area was progressing, and the contractor was constructing a significant portion of one of the concrete retaining walls for the loading deck.

The GRN Mosul Are Office personnel told SIGIR that previous QA inspections discovered an issue with the construction of the concrete retaining wall. The contractor was using plastic conduit to sleeve the form crossties (cross braces) for the retaining wall formwork, and the sleeves were permanently cast into the wall after removal of the forms and crossties. Because the loading deck functions as a part of the spill containment system for the bulk storage area, any penetration through the wall was not acceptable. GRN required the contractor to take corrective action on this issue, and the contractor's proposed resolution was to fill the existing holes in the wall with epoxy. To prevent future issues, the contractor proposed to use embedded stainless-steel threaded rod to crosstie the forms. The rod would permanently remain in the wall, but should not have an adverse effect on the performance of the wall. GRN also notified the contractor that the use of plastic conduit was unacceptable. At the time of the site assessment, the contractor had ceased using plastic conduit and switched to an acceptable method of securing the forms. The GRN personnel directed the contractor to remove the remaining plastic conduit from the project.

Distribution Point

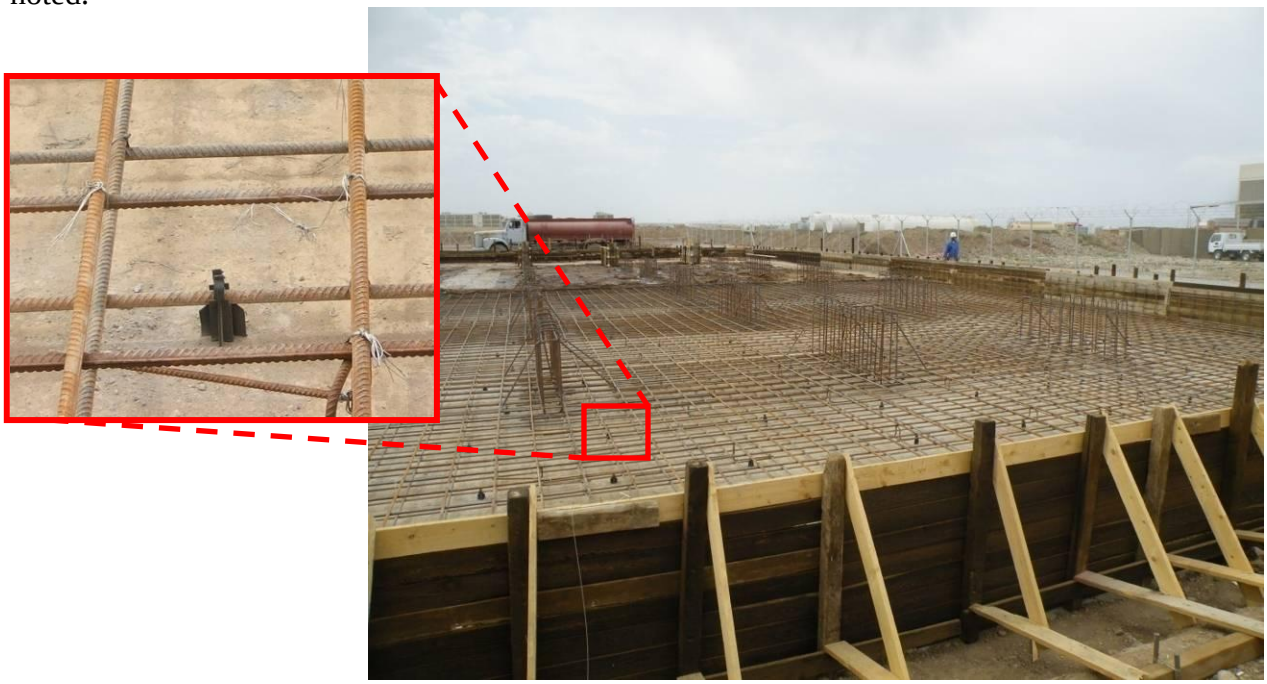
SIGIR observed the contractor performing site grading, compaction, and foundation construction for the distribution point (Site Photo 11).

Site Photo 11. Site grading for diesel storage at the distribution point

The contractor was constructing the raft foundation for the benzene storage for the distribution point, half of the foundation slab was poured, and the concrete was being cured. The remaining section of the foundation slab was formed and appeared to be ready for pouring (Site Photo 12).

SIGIR noted that the contractor had exercised good construction technique and was using spacers and chairs to elevate and hold the reinforcing mats for the slab (Site Photo 12 inset). In addition, the contractor installed temporary bracing to reinforce the piers to prevent displacement during pouring operations.

During the inspection of the raft foundation, SIGIR discovered one issue. It appeared that the contractor placed a construction joint near the middle of the foundation slab. It did not appear that provisions were made to continue the reinforcing steel through the construction joint or provide fuel proofing. There was also no evidence of a shear transfer mechanism at the joint—such as dowels or a shear key—and no fuel stop was noted.



Site Photo 12. Raft foundation for benzene storage

The contractor's design incorporated cylindrical steel for the required distribution point storage tanks. At the time of the site assessment, the cylindrical storage tanks were at the site, waiting for placement.

Site Electrical

Based on information provided by GRN Mosul Area Office personnel, the bulk storage, distribution, and POL point platoon section did not require a generator for electrical power. The facility was within a reasonable distance of existing electric transmission lines to make a connection to the existing power grid feasible.

To provide the connection to the existing power grid, the contractor was required to construct a connection to the existing transmission lines and install a step-down transformer and switchgear[10]. The contractor constructed the connection to the existing transmission lines and installed a step-down transformer. It appeared that the switchgear was not installed, and only a temporary connection was made for power during construction.

The contractor was performing trenching and installation of underground electric service from the transformer and switchgear to the facility. Based on information provided by GRN personnel, the contractor was installing the electric line and placing blocks in the trench over the line as a second form of warning for future excavation. A warning tape was also placed in the trench above the blocks.

[10] A devise that controls high-current equipment.

Project Quality Management

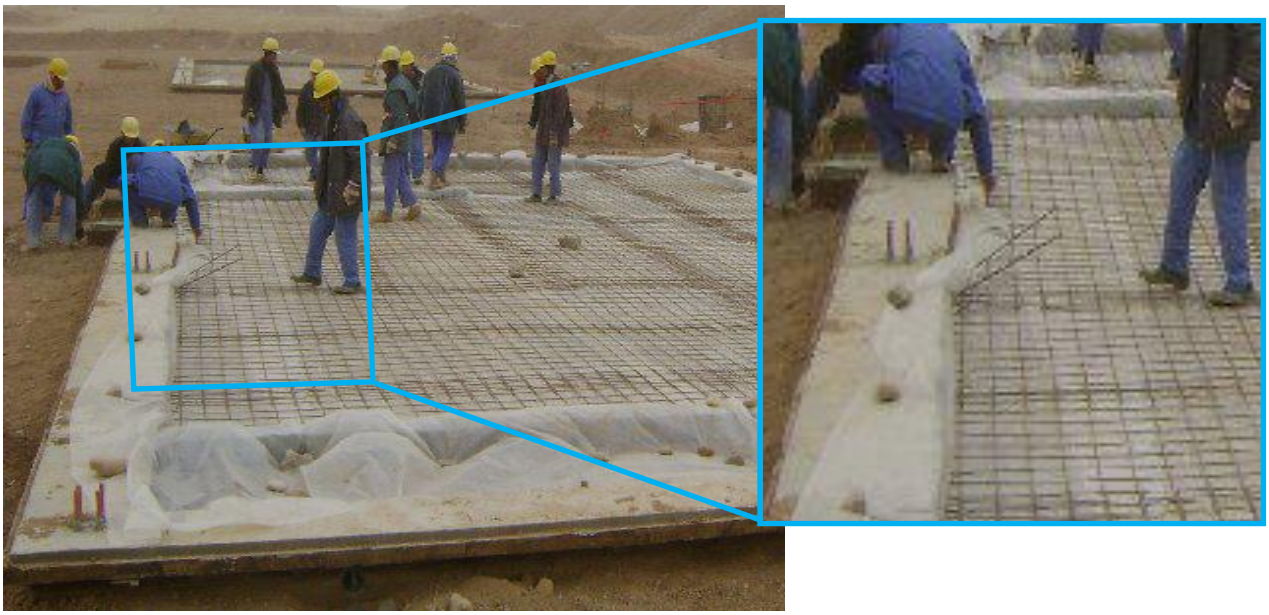
Contractor's Quality Control Program

Department of the Army Engineering Regulation (ER) 1180-1-6 (30 September 1995) provides general policy and guidance for establishing quality management procedures in the execution of construction contracts. According to ER 1180-1-6, "…obtaining quality construction is a combined responsibility of the construction contractor and the government."

The SOW required the contractor to submit an overall QC plan, to include implementing a three-phase QC control system (preparatory, initial, and follow-up phases) necessary to ensure that the construction complies with the requirements of the contract. The QC representatives are responsible for preparing daily reports, identifying and tracking deficiencies, documenting progress of work, and supporting other contractor QC requirements. In addition, the SOW required the contractor to develop and maintain a complete list of QC testing and transferred and installed property.

The contractor submitted the QC plan initially on 10 September 2008 and revised the QC plan on 30 October 2008, which the GRN Mosul Area Office accepted as meeting the standards addressed in ER 1180-1-6.

The QC representatives monitored field activities and completed daily QC reports, which presented a brief background on the number of workers on site, the work activities and testing performed, and the documented deficiencies identified. The project manager signed off on the reports. In addition, the QC representatives supplemented the daily QC reports with photographs reinforcing the information provided in the daily reports. The 20 February 2009 QC report documents hairpin installation to resist lateral loads. These were required by the design before compacting the sub base and installing the concrete floor slab for the administration building in the reclamation platoon section of the project (Site Photo 13).



Site Photo 13. Hairpin placement (Courtesy of USACE)

Further, the QC representatives were also present for significant testing and follow-up on the test results. For example, during the pneumatic test of one of the 50 cubic meter fuel distribution tanks, the QC representative noted leaks in the tank. The QC report on 3 March 2009 documented the contractor correcting the defective tank.

Government Quality Assurance

According to the "Quality Assurance (QA) Plan and Standard Operating Procedure," 17 February 2008, the QA verifies the effectiveness and accuracy of the contractor's control system for producing quality work.

GRN Mosul Area Office, which is responsible for the construction of the Al Kasik Location Command project, employs local Iraqi engineers to serve as QA representatives responsible for visiting the project site and writing QA reports. In addition, GRN Mosul Area Office representatives visited project sites to verify the contractor's work and perform mentoring activities for the local-national QA representatives.

Local QA representatives monitored field activities and completed daily QA reports. The reports document the number of workers on site and the work performed for the day. Also, the QA representatives supplement the daily QA reports with detailed photographs that reinforced the information provided in the reports.

SIGIR reviewed the daily QA reports and found that the QA representatives did an effective job in identifying and correcting construction deficiencies at the project site.

Project Sustainability

The contract included sustainability elements to assist the Al Kasik Location Command, which is ultimately responsible for consolidating operations and storage facilities that in turn will improve operational efficiency and assistance in the accountability of equipment and parts. The contract specifications require that the contractor provide a twelve month contractor-certified construction warranty for all material or equipment, which includes and mechanical, electrical and/or electronic devices. Further, the contractor must provide all operation and maintenance (O&M) manuals for all facility equipment, and is responsible for testing and commissioning of all mechanical and electrical systems. Specific contract requirements include:

Submittals

The contract required the contractor to provide submittals, which includes the contractor or manufacturer's drawings, catalog cuts, diagrams, operating charts, test reports, test cylinders, samples, certifications, and warranties.

Spare Parts

The contract required the contractor to provide one-year spare parts for the maintenance and operation of the project.

As-built Drawings

Upon completion of the project, the contractor must provide as-built drawings (hard and electronic copies). Final as-built drawings will depict the facilities and construction footprint, which will include all new electrical, plumbing, and mechanical systems, as well as all known utility services on site.

Warranty of Construction Work and Training

The contract states that the warranty for construction work continues for one year from the date of final acceptance of the work. If the government takes possession of any part of the work before final acceptance, this warranty shall continue for one year from the date the government takes possession.

Also, the contractor will prepare a preventive maintenance plan, which will identify the manufacturer's information and recommendations for preventive maintenance on all new equipment installed under this contract.

Further, the contract states that the contractor will provide O&M training manuals for the components of these systems and will conduct 26 days of training and provide O&M manuals for 5 personnel per functional area. The contractor will provide classroom and hands-on training covering the O&M manuals and each representative system. The contractor will ensure that the O&M manuals and training provide a sufficiently trained and skilled labor force to adequately operate and maintain, in accordance with the manufacturer's guidance, the installed equipment and systems throughout the warranty period. The contractor is responsible for providing training on:

- heating, ventilation, and air-conditioning O&M
- electrical systems, including building, exterior, and distribution
- generator O&M
- plumbing
- fire alarm and fire-fighting systems
- refrigeration and freeze facility O&M
- installation maintenance management

Commissioning Plan

The contract states that the contractor will prepare a commissioning plan, and the contractor will issue a DD Form 1354 after all of these tasks have been completed:

- final inspection of project by the contracting officer representative and the local Iraqi QA or designee
- resolution and completion of final punch list items
- delivery and acceptance of final as-built drawings and O&M manuals

In addition, at the conclusion of the project, the contracting officer will complete a contractor's performance evaluation. The evaluation will take into account all aspects of the contractor's performance. Contractors will be provided a copy of the performance evaluation and an opportunity to discuss the evaluation.

Conclusions

The assessment determined that:

1. The U.S. government provided the preliminary design to the contractor. The Statement of Work (SOW) required the contractor to develop the preliminary package into a complete design package. Specifically, the SOW required the contractor to review the preliminary designs and "correct any conflict or deficiency, also provide any missing or required details or drawings."

   SIGIR reviewed the contractor-generated drawings, which contained specific information on the proposed buildings, fuel storage facilities, site utilities, site drainage, sewage collection system, and other project features. SIGIR determined that there was adequate information to complete the final design and construct the facility.

2. During the 16 May 2009 site assessment, SIGIR observed ongoing construction work, such as concrete formwork and preparation for concrete placement. SIGIR observed a number of construction issues, including:

   - The bracing for the pallet racks[11] was not completely installed.
   - The water and sewer piping were placed in the same trench.
   - The raft foundation[12] contained no provisions to continue the reinforcing steel through the construction joint.

   SIGIR discussed these issues with personnel from the Gulf Region North (GRN) Mosul Area Office of the Gulf Region Division (GRD), U.S. Army Corps of Engineers (USACE):

   - The contractor should perform a final check of the rack system after construction completion and to verify that all bracing is installed and all legs are securely fastened to the floor slab
   - The water and sewer piping create a conflict with the installation of the sanitary manhole and could potentially contaminate the water supply.
   - The raft foundation contained no provisions to continue the reinforcing steel through the construction joint or provide fuel proofing to prevent leaks.

   The GRN Mosul Area Office personnel stated that the contractor would perform a final check of the rack system after construction completion to verify that all bracing is installed and that all legs are securely fastened to the floor slab. The other issues would be addressed throughout the project, and corrective action would be taken as necessary.

3. The contractor's quality control (QC) plan was sufficiently detailed to effectively guide the contractor's quality management program. The contractor submitted a QC plan, which GRN accepted as meeting the standards addressed in Engineering Regulation 1180-1-6 (*Construction Quality Management).* The QC

[11] Pallet racking is a material-handling storage system designed to store materials on pallets.
[12] A raft foundation is a foundation consisting of an extended layer of reinforced concrete.

representatives monitored field activities and completed daily QC reports that presented a brief background on the number of workers on site, work activities performed, and major equipment on site.

The U.S. government quality assurance (QA) program was effective in monitoring the contractor's QC program. GRN Mosul Area Office employed local Iraqi QA representatives to monitor field activities and complete daily QA reports. The daily reports documented the number of workers on site and the daily work performed. SIGIR reviewed the QA reports and found that the QA representatives did an effective job identifying and correcting construction deficiencies at the project site.

4. Sustainability was addressed in the contract requirements. The contract included sustainability elements to assist the Iraqi ministry ultimately responsible for operating this project after turnover. The contract specifications require the contractor to provide and certify warranties in the name of the appropriate ministry for all materials and equipment. In addition, the contractor is required to perform operations and maintenance training appropriate to the facilities and equipment installed, constructed, or rehabilitated in the scope of this project, along with providing operations and maintenance manuals. Further, upon completion of each facility, the contractor must prepare and furnish as-built drawings, which will be a record of the construction as installed and completed.

5. As of SIGIR's site assessment, the Al Kasik Location Command project was approximately 56% complete. The results are consistent with the original project objective to construct a new Iraqi Army Location Command in the Al Kasik area in the Ninewa governorate of Iraq.

Recommendations

This report does not contain any recommendations for corrective action; therefore, management comments were not required.

Management Comments

Although management comments were not required, SIGIR received comments from the Gulf Region Division of the U.S. Army Corps of Engineers and the Multi-National Force-Iraq concurring with the draft report.

Evaluation of Management Comments

SIGIR appreciates the concurrences with the draft report. No additional comments are necessary.

Appendix A. Scope and Methodology

SIGIR performed this project assessment from May 2009 through October 2009 in accordance with the Quality Standards for Inspections issued by the Council of Inspectors General on Integrity and Efficiency. The assessment team included two engineers/inspectors and two auditors/inspectors.

In performing this Project Assessment SIGIR:

- Reviewed documentation to include the following: contract W917GY0-08-D-0007**,** Task Order 0002**,** contract modifications, bill of quantities, Notice To Proceed**,** Statement of Work;
- Reviewed contractor quality control plan, contractor quality control reports, contractor quality control photographs, government quality assurance reports, and quality assurance photographs;
- Reviewed the design package (plans) and submittals; and
- Conducted an on-site assessment on 16 May 2009 and documented results at the Al Kasik Location Command project in Al Kasik, Iraq.

Scope Limitation. The time allotted for the Al Kasik Location Command project site assessment was approximately two hours; therefore, a complete review of all work completed was not possible.

Appendix B. Acronyms

cm	Centimeter
ER	Engineering Regulation
GRD	Gulf Region Division
GRN	Gulf Region North
ISFF	Iraq Security Forces Fund
JCC-I/A	Joint Contracting Command-Iraq/Afghanistan
m	Meter
m^2	Square Meter
m^3	Cubic Meter
MNSTC-I	Multi-National Security Transition Command-Iraq
NTP	Notice to Proceed
O&M	Operations and Maintenance
POL	Petroleum, Oil, and Lubricants
QA	Quality Assurance
QC	Quality Control
SIGIR	Special Inspector General for Iraq Reconstruction
SOW	Statement of Work
TO	Task Order
USACE	U.S. Army Corps of Engineers

Appendix E. Report Distribution

Department of State

Secretary of State
- Senior Advisor to the Secretary and Coordinator for Iraq
- Director of U.S. Foreign Assistance/Administrator, U.S. Agency for International Development
  - Director, Office of Iraq Reconstruction
- Assistant Secretary for Resource Management/Chief Financial Officer, Bureau of Resource Management

U.S. Ambassador to Iraq
- Director, Iraq Transition Assistance Office
- Mission Director-Iraq, U.S. Agency for International Development

Inspector General, Department of State

Department of Defense

Secretary of Defense
Deputy Secretary of Defense
Under Secretary of Defense (Comptroller)/Chief Financial Officer
- Deputy Chief Financial Officer
- Deputy Comptroller (Program/Budget)

Deputy Assistant Secretary of Defense-Middle East, Office of Policy/International Security Affairs
Inspector General, Department of Defense
Director, Defense Contract Audit Agency
Director, Defense Finance and Accounting Service
Director, Defense Contract Management Agency

Department of the Army

Assistant Secretary of the Army for Acquisition, Logistics, and Technology
- Principal Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology
- Deputy Assistant Secretary of the Army (Policy and Procurement)
- Commanding General, Joint Contracting Command-Iraq/Afghanistan

Assistant Secretary of the Army for Financial Management and Comptroller
Chief of Engineers and Commander, U.S. Army Corps of Engineers
- Commanding General, Gulf Region Division
- Chief Financial Officer, U.S. Army Corps of Engineers

Auditor General of the Army

U.S. Central Command

Commanding General, Multi-National Force-Iraq
- Commanding General, Multi-National Corps-Iraq
- Commanding General, Multi-National Security Transition Command-Iraq
- Commander, Joint Area Support Group-Central

Other Federal Government Organizations

Director, Office of Management and Budget
Comptroller General of the United States
Inspector General, Department of the Treasury
Inspector General, Department of Commerce
Inspector General, Department of Health and Human Services
Inspector General, U.S. Agency for International Development
President, Overseas Private Investment Corporation
President, U.S. Institute of Peace

Congressional Committees

U.S. Senate

Senate Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Foreign Relations
Senate Committee on Homeland Security and Governmental Affairs

U.S. House of Representatives

House Committee on Appropriations
House Committee on Armed Services
House Committee on Oversight and Government Reform
House Committee on Foreign Affairs

Appendix F. Project Assessment Team Members

The Office of the Assistant Inspector General for Inspections, Office of the Special Inspector General for Iraq Reconstruction, prepared this report. The principal staff members who contributed to the report were:

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