

AMMANA MARKET RENOVATION
MAJJASIM, IRAQ

SUSTAINMENT ASSESSMENT

SIGIR PA-09-171
JULY 30, 2009



Ammana Market Renovation

Summary of Report: PA-09-171

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.

The objective of this sustainment assessment was to determine whether the project is operating at the capacity stated in the original contract.

What SIGIR Recommends

The Multi-National Corps-Iraq (MNC-I) should coordinate with the Multi-National Division-Baghdad to require the contractor to complete all required items, specifically:

- Install brackets and barbed wire on the security wall.
- Install barbed wire on the pedestrian and vehicle gates.
- Enclose the electrical wiring in conduit.
- Correct the internal electrical system to comply with applicable safety codes.
- Ensure steel awnings over individual shops are able to withstand weather loads.
- Install restroom backflow preventers.
- Restore water service.

MNC-I concurred with the recommendations, except those involving electrical wiring and load capacity of the steel awnings, stating that the contract did not require those recommended actions.

The Electrical and Structural Building Standards and Codes section of the contract specifies the standards and codes to be used and requires the actions specified in the recommendations involving the electrical wiring and load capacity of the steel awnings. In view of the electrocution injuries and deaths occurring in U.S.-constructed facilities in Iraq, SIGIR believes that compliance with electrical code requirements to be particularly important. SIGIR requests that MNC-I review page 13 of the contract and restate its position with respect to recommendations involving the electrical wiring and load capacity of the steel awnings.

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

What SIGIR Found

On 31 May 2009, SIGIR conducted an on-site assessment of the Ammana Market renovation project, funded by the Commander's Emergency Response Program. SIGIR was accompanied by the Civil Capacity Cell Chief of the Multi-National Division-Baghdad and representatives from the embedded Provincial Reconstruction Team. Because of security concerns, SIGIR performed only an expedited assessment. The time allotted was approximately 30 minutes; therefore, a complete review of all work completed was not possible.

The objective of this \$0.6 million project was to construct and renovate the Ammana Market to allow for more efficient use of space and time for people buying and selling goods, thereby improving the local economy in Majjasim, a suburb of Baghdad, Iraq.

SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market.

SIGIR identified several construction deficiencies:

- Brackets and four strands of barbed wire along the top of the security wall were not installed.
- Four strands of barbed wire on the pedestrian and vehicle gates were not installed.
- Electrical wiring was without conduit and connected to a poorly constructed existing system.
- Construction of the internal electrical system did not conform to any known code.
- Steel awnings over the shops were of weak construction.
- Backflow preventers were not installed in the restrooms.
- The market had no water service to the restrooms. SIGIR was told that the contractor disconnected the water supply and extorted shopkeepers for money to restore service.

Despite the construction deficiencies noted above, at the time of the site visit, the market was open for business; merchants were selling goods to the local populace. A section of the interior stalls was enclosed to form a game room for young local residents to play in while their parents shopped. According to the market manager, aside from the water issue, the local merchants are generally pleased with the work performed by the contractor.





SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

July 30, 2009

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

SUBJECT: Report on Sustainment Assessment of the Ammana Market Renovation, Majjasim,
Iraq (SIGIR Project Number PA-09-171)

We are providing this report for your information and use. It addresses the current status of the Ammana Market Renovation, located in Majjasim, Iraq. The assessment was made to determine whether the project was operating at the capacity stated in the original contract.

Comments on a draft of this report from Multi-National Corps-Iraq concurred with recommendations 1.a., 1.b., 1.f., and 2. Multi-National Corps-Iraq did not concur with recommendations 1.c., 1.d., and 1.e. stating that the contract's Statement of Work did not require the recommended actions. The Electrical and Structural Building Standards and Codes section of the contract on page 13 specifies the standards and codes to be used and requires the contractor to take the actions specified in recommendations 1.c., 1.d., and 1.e. In view of the electrocution injuries and deaths occurring in U.S.-constructed facilities in Iraq, SIGIR believes that compliance with electrical code requirements is particularly important. SIGIR requests that Multi-National Corps-Iraq review page 13 of the contract and restate its position with respect to recommendations 1.c., 1.d., and 1.e.

We appreciate the courtesies extended to our assessment staff by Multi-National Force-Iraq, Multi-National Corps-Iraq, and Multi-National Division-Baghdad. If you have any questions please contact Mr. Brian Flynn at brian.flynn@iraq.centcom.mil or at 240-553-0581, extension 2485. For public 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-09-171

July 30, 2009

Ammana Market Renovation Majjasim, Iraq

Synopsis

Introduction. The Office of the Special Inspector General for Iraq Reconstruction (SIGIR) is assessing projects funded under the Commander's Emergency Response Program (CERP) to provide real-time information on relief and reconstruction projects to interested parties to enable appropriate action, when warranted.

Project Assessment Objective. The objective of this project assessment was to determine whether the project is operating at the capacity stated in the original contract. To accomplish the objective, SIGIR determined whether the project was at full capability or capacity when accepted by the U.S. government, when transferred to Iraqi operators, and during the site inspection on 31 May 2009. 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 \$0.6 million project was to construct and renovate the Ammana Market to allow for more efficient use of space and time for people buying and selling goods, thereby improving the local economy in Majjasim.

Conclusions. Before the site visit, SIGIR reviewed the project's Statement of Work (SOW) and the project's design documentation, which were provided by Multi-National Corps-Iraq (MNC-I). Before starting construction, the contractor was required to provide shop drawings, a work breakdown structure or timeline, and samples of each material to be used. MNC-I provided a detailed SOW for the project, and the contractor provided the project timeline with the contractor's proposal, which included a general site plan. However, MNC-I advised SIGIR that its project file did not contain the contractor's shop drawings, design calculations, or material lists.

After reviewing the available project file documentation, SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market.

According to the MNC-I project file documentation, the U.S. government accepted this project from the contractor on 1 December 2008. The contractor's performance evaluation stated the following:

"The [local contractor] completed the project satisfactorily. They responded quickly to any guidance or requests made by coalition forces."

On 31 May 2009, SIGIR conducted an on-site assessment of the Ammana Market renovation project, accompanied by the Civil Capacity Cell Chief of Multi-National Division-Baghdad and representatives from the embedded Provincial Reconstruction Team and MNC-I.

Because of security concerns, the total time available on site was approximately 30 minutes. Consequently, SIGIR performed only an expedited assessment of the areas available; a complete review of all work completed was not possible.

SIGIR identified several areas of concern about the contractor's performance, specifically noting these construction deficiencies:

- The contractor did not install the required brackets and four strands of barbed wire along the top of the security wall.
- The contractor did not install the required four strands of barbed wire on the pedestrian and vehicle gates.
- Electrical wiring was strung along the roof without conduit, and the electrical wiring appeared to be connected to a poorly constructed existing system.
- Construction of the internal electrical system was poor and did not conform to any known code.
- Steel awnings over individual shops appeared to be of weak construction, which may prove problematic under even a limited load.
- There were no SOW-required backflow preventers on the water supply to the restrooms.

In addition, at the time of SIGIR's site visit, there was no water service to the restrooms. According to the market manager, the contractor connected the restrooms to the existing municipal water supply line; however, the contractor later disconnected the municipal water supply line to the restrooms. The market manager claimed that the contractor was trying to extort money from the shop owners to restore water service to the restrooms. SIGIR performed the inspections that it could in the time available and could not validate the assertion that the contractor had disconnected the municipal water supply line to the restrooms. The municipal water line was underground and there was no apparent disturbance of the ground around the Ammana Market.

Despite the construction deficiencies noted above, at the time of the site visit, the market was open for business; merchants were selling goods to the local populace. A section of the interior stalls was enclosed to form a game room for young local residents to play while their parents shopped. According to the market manager, aside from the water issue, the local merchants are generally pleased with the work performed by the contractor.

Recommendations. SIGIR recommends that Multi-National Corps-Iraq coordinate with Multi-National Division-Baghdad to:

1. Require the contractor to complete all items specified in the SOW, specifically:
 - a. Install the required brackets and four strands of barbed wire along the top of the security wall.
 - b. Install the required four strands of barbed wire on the pedestrian and vehicle gates.
 - c. Enclose the electrical wiring along the roof in conduit.
 - d. Correct the internal electrical system to comply with the United States National Electric Safety Code, International Electric Code, or British Standard (BS 7671).
 - e. Ensure that the steel awnings over individual shops are able to withstand wind, rain, and weather loads typical of that in the Baghdad area.
 - f. Install the SOW-required backflow preventers on the water supply to the restrooms.

2. Determine why there was no water service to the restrooms. If the contractor did disconnect the municipal water supply line to the restrooms, require that the contractor reconnect it. If the contractor did not disconnect the municipal water supply line to the restrooms, alert the appropriate representatives of the Government of Iraq of this health issue and the need to have the water supply to the restrooms restored.

Management Comments. SIGIR received comments on the draft of this report from MNC-I concurring with recommendations 1.a., 1.b., 1.f., and 2. MNC-I non-concurred with recommendations 1.c., 1.d., and 1.e. stating that the contract's Statement of Work did not require the recommended actions. MNC-I also noted that it found statements on pages 6 and 14 of the draft report to be contradictory.

Evaluation of Management Comments. SIGIR appreciates the concurrence by MNC-I with recommendations 1.a., 1.b., 1.f., and 2.

The Electrical and Structural Building Standards and Codes section of the contract on page 13 specifies the standards and codes to be used:

*“All work shall be in accordance with accepted standards of quality.
The contract shall meet uniform facilities code (UFC) standards:*

- “1) the minimum requirements of United States’ National Fire Protection Association (NFPA) 70,*
- “2) the American National Standards Institute (ANSI) C2, and*
- “3) the United States National Electrical Safety Code (NESC).*

“These standards must be met when it is reasonable to do so with available materials. When conditions dictate deviation, then provisions within the International Electrical Code (IEC) or British Standard (BS 7671) shall be followed. Any deviations from the above shall only be approved by a qualified engineer and contracting officer in writing.”

The standards and codes section of the contract requires the contractor to take the actions specified with respect to the electrical system and the structural building strength of the steel awnings in recommendations 1.c., 1.d., and 1.e. In view of the electrocution injuries and deaths occurring in U.S.-constructed facilities in Iraq; SIGIR believes that compliance with electrical code requirements—including enclosure of electrical wiring in conduit and proper, secure mounting of electrical fixtures—is particularly important. SIGIR requests that MNC-I review page 13 of the contract and restate its position with respect to recommendations 1.c., 1.d., and 1.e.

SIGIR revised information on pages 6 and 14 of the report to clarify that although contract specifications did not provide details or requirements for the roof, SIGIR believes that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market because page 13 of the contract specified the standards and codes to be used including the uniform facilities code (UFC).

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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 to be taken, when warranted. Specifically, SIGIR determined whether the project was operating at the capacity stated in the original contract. To accomplish this, SIGIR determined if the project was at full capability or capacity when accepted by the U.S. government, when it was transferred to Iraqi operators, and during the site inspection.

Pre-Site Assessment Background

Contract, Costs, and Payments

On 4 August 2008, Multi-National Corps-Iraq (MNC-I) awarded contract W91GET-08-C-0076, a firm-fixed-price contract for \$596,360, to a local contractor. The contract's period of performance was from 4 August 2008 through 3 October 2008.

There was one modification to the contract. Modification P00001 dated 6 December 2008, made administrative changes to contract W91GET-08-C-0076.

Project Objective and Pre-Construction Description

The *Money As A Weapons System*¹ (MAAWS) document serves as primary guidance for all Commander's Emergency Response Program (CERP) projects. To qualify as a CERP project, MAAWS requires that the potential project must meet a perceived need of the people and will be maintained in the future.

For the Ammana Market project, the contract identified the perceived need (justification):

“Renovate the existing market in Muhalla (city subdivision) 891 area of Hayy Furat to provide a local place for vendors and consumers to sell and buy goods.”

The description of the facility (pre-construction) was based on project file documentation, including the contract. The Ammana Market is located in the Majjasim neighborhood of Baghdad. The market provides the local community with fruits, vegetables, meats, fish, and other food as well as nonfood products, which stimulates the local economy and provides jobs in the local market. This market has a significant impact on the local economy and benefits the residents of Hayy Furat and the surrounding areas. According to available project file documentation, the existing market did not have any perimeter security features, and the market buildings were in a state of disrepair.

¹ The concept of MAAWS is to use resources as a critical enabler of everything done on the battlefield—applying and employing money as a non-lethal weapon system to maximize operational effects at minimal costs. Money must be placed on the battlefield just like a weapon system to create the desired effects.

Statement of Work

MAAWS required the Statement of Work (SOW) to be sufficiently detailed so that the contractor would know what needed to be accomplished. The SOW for this project included minimum design requirements and detailed the construction and renovation of the Ammana Market, specifically:

- clearing and excavation of the project site
- excavation, compaction, and placement of 65 meter (m) x 45m x 15 centimeter (cm) concrete pads
- construction of four steel market stall roofs
- construction of a 1,771 square meter (m²) asphalt parking lot
- rehabilitation of the existing shops including:
 - painting
 - repair and testing of the electrical system
 - repair and upgrade of all doors
 - replacement of window glass
 - supply and installation of fluorescent lights
 - supply and installation of steel framing and roofing
- construction of six benches
- construction of a security wall, including:
 - reinforced concrete posts and cross beams with brick masonry infill
 - anti-intrusion barbed wire topping
 - two pedestrian entrances with bollards (safety guards)
 - two vehicular entrances
- six steel corrals for livestock
- two restroom buildings
- potable water distribution and connection to municipal system
- site drainage

Current Project Design and Specifications

The contract required the contractor to provide shop drawings, a work breakdown structure or timeline, and samples for each material to be used prior to starting construction.

The contractor provided the project timeline with the contractor's proposal, which included the general site plan (Figure 1). However, MNC-I advised SIGIR that its project file did not contain the contractor's shop drawings, design calculations, or material lists.

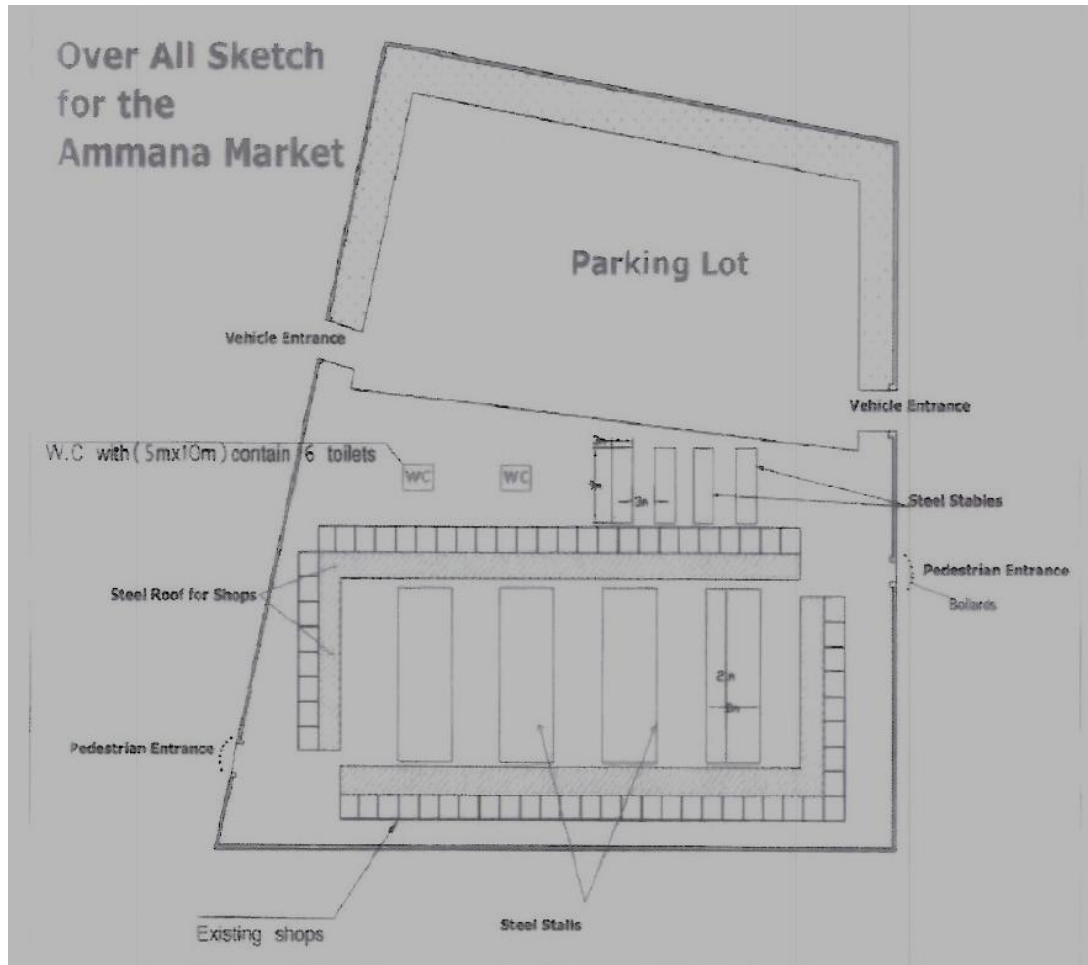


Figure 1. General site plan for the market

The documentation provided by MNC-I did not include project-specific technical specifications. The contract did provide references to specifications that cover some items and materials incorporated into the project. The SOW required the contractor to design and construct the project in compliance with the following codes and regulations:

- Uniform Facilities Code standards
- United States National Fire Protection Association 70,2
- American National Standards Institute C2 and 3
- United States National Electric Safety Code

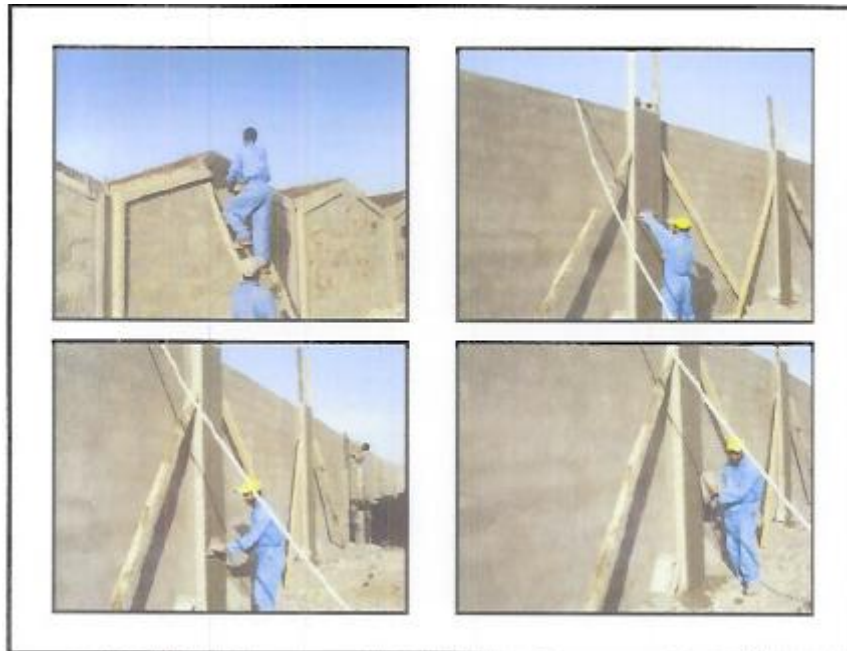
The contract further specified that if conditions arose that required deviation from a specified code, then the International Electric Code or British Standard (BS 7671) should be followed.

After reviewing the available project file documentation, SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market.

Site Progress During Construction

MAAWS requires military commanders to appoint a Project Purchasing Officer (PPO) to manage projects like the Ammana Market renovation. The PPO is responsible for managing the project from inception to completion. One of the PPO's specific duties is to maintain a project file containing copies of all documents created during the project.

According to the available project file documentation, the contractor provided at least three progress reports during the course of the project. However, the project file contained only the last progress report, which included pictures to verify progress and completion of work. The photos document the construction of the perimeter wall (Site Photo 1), the construction of the market buildings, and the painting of the interior market shops.



Site Photo 1. Construction of perimeter security wall (Courtesy of MNC-I)

The available project file documentation did not document construction progress via daily quality assurance reports or photographs taken during site visits.

Condition at Turnover

MNC-I established a uniform procedure for the consistent transfer of completed CERP projects to the appropriate Iraqi ministry. MNC-I created a turnover checklist, which consisted of various documents signed by authorized representatives of the U.S. government, contractor, or Iraqi ministry. Project file documentation is broken into three distinct stages—fund certification, project obligation/disbursing, and project closure:

Fund Certification

- project proposal or SOW
- standard letter of justification

- sustainment letter from the Iraqi government (local, provincial, national) for any construction or equipment project greater than \$50,000
- outline of project performance metrics for projects greater than \$50,000

Project Obligation/Disbursing

- completed copy of contract
- contract modifications

Project Closure

- contract completion statement
- Commander's clearance memorandum

Three-phase Documentation for the Ammana Market Project

Fund Certification Stage

The MNC-I fund certification documentation provided the proposal and the SOW. On 10 December 2007, the Al Rasheed District Council granted approval for the Ammana Market renovation project. However, MNC-I was unable to provide the project performance metric for the project.

Project Obligation/Disbursing Stage

The project file documentation included the contract and contract modification.

Project Closure Stage

The project closure documents consisted of the Commander's clearance memorandum, which stated that the project started on 26 July 2008 and was completed on 23 January 2009. The project file lacked photographs and written reports documenting the work completed and any verification of the work performed. The only reference in the project file documentation about the contractor's performance was MNC-I's evaluation, which stated:

“The [local contractor] completed the project satisfactorily. They responded quickly to any guidance or requests made by coalition forces.”

MAAWS stated that any construction project greater than \$50,000 required an Iraqi Memorandum of Agreement (MOA) accepting the follow-on maintenance and sustainment requirements of the project. However, the documentation provided by MNC-I did not contain a document with an Iraqi MOA accepting the follow-on maintenance and sustainment requirements of the project.

According to project file documentation, on 1 December 2008, the PPO completed the required acceptance document (DD Form 250) certifying that the project was received.

Site Assessment

On 31 May 2009, SIGIR conducted an on-site assessment of the Ammana Market renovation project, accompanied by the Civil Capacity Cell Chief of the Multi-National Division-Baghdad, and representatives from the embedded Provincial Reconstruction Team, and MNC-I.

Because of security concerns, the total time available on site was approximately 30 minutes. Consequently, SIGIR performed only an expedited assessment of the areas available; a complete review of all work completed was not possible.

Concrete Pad

The SOW required the contractor to clear, grade, and level the site and then construct a concrete pad for the market. The specifications required a 15cm thick pad with 2m² construction joints. In addition, the contractor was to pave the parking area with 5cm of asphalt.

The concrete pad was placed around the interior perimeter of the market, beneath the market stall steel truss roofs, and in the parking area. Because of time limitations and the fact that the concrete edges were either abutting other structures or were backfilled, SIGIR could not determine the overall thickness of the pad.

SIGIR noted that the contractor constructed a concrete pad for the parking area, instead of asphalt paving. Based on the condition of the pad during the site assessment, the concrete pad appeared to be a comparable method of surfacing the parking area.

The concrete pad was constructed with expansion joints along the edges of the existing shops (Site Photo 2) and in the parking area (Site Photo 3); however, it was not apparent whether expansion joints were constructed in the slab beneath the steel truss roofs of the market stalls. Also, the contractor did not maintain the site: a bicycle had been ridden through the wet concrete.



Site Photo 2. Slab along existing shops



Site Photo 3. Slab at parking area

Market Stall Steel Truss Awnings

The SOW required the contractor to install four metal roofs 21m long by 8m wide over the interior courtyard of the market. Though contract specifications did not provide details or requirements for the roof, SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market because page 13 of the contract specified the standards and codes to be used, including the uniform facilities code (UFC).

SIGIR observed four steel awnings installed over the interior courtyard of the market (Site Photo 4). The roof structure consists of steel pipe columns supporting steel trusses. The columns were cast into the concrete slab; therefore, the size and configuration of the foundation system could not be verified.



Site Photo 4. Steel roof trusses and columns—typical underside

SIGIR observed a masonry infill approximately 1m high around the perimeter of the columns, with openings at either end. Also, masonry was constructed between the interior columns that divided the area into individual stalls with the main aisle in the center (Site Photo 5).



Site Photo 5. Masonry stalls with center aisle

The market manager stated that the interior stalls were used when large crowds came to the market and for vendors with no permanent venue at that market. SIGIR noted that the interior stalls did not appear to be used and were filled with refuse (Site Photo 5).

Under the awnings, one section of interior stalls was enclosed with tarpaulins, corrugated metal, and assorted construction materials and made into a makeshift game room. Evaporative coolers were installed at several points around the perimeter of the game room. The local citizens provided billiards, foosball, and other games for local children to play while their parents shopped at the market (Site Photo 6).



Site Photo 6. Modified interior stalls made into a game room

Market Shop Rehabilitation

The SOW required the following rehabilitation of the shops:

- paint the exterior walls of all shops (3 coats)
- paint the interior walls and ceilings of all shops (3 coats)
- repair, test, and operate the entire market electrical network
- repair all doors, install new locks, and paint the doors and locks
- replace all missing window glass (6 millimeters)
- install fluorescent lighting in the shops
- install or replace new steel frames and roofs for the existing shops

Because of time constraints, SIGIR was unable to inspect every shop; however, SIGIR inspected several representative shops. SIGIR observed that the contractor painted the interior and exterior of the shops (Site Photo 7). However, SIGIR was unable to determine if three coats of paint were applied or if the appropriate coating thicknesses was obtained.



Site Photo 7. Typical shop interior

At the time of the site visit, the Ammana Market was supplied with power. SIGIR observed that the shops had several lights and ceiling fans installed, and the courtyard had exterior lighting. SIGIR was unable to determine which light fixtures were installed by the contractor and which light fixtures were modified by the shop occupants.

SIGIR observed a cable that connected the overhead transformer, came into the market, and terminated in a panel box. However, SIGIR could not locate how the power was extended from the panel box to the internal wiring of the market.

The construction of the internal electrical system was poor and did not conform to any known code. Light fixtures were affixed to the structure with bailing wire (Site Photo 8) or improvised wooden mounts and connected to the electrical system with temporary connectors (Site Photo 9). SIGIR observed that the electrical wiring was strung along the roof without conduit (Site Photo 10), and the electrical wiring appeared to be connected to a poorly constructed existing system (Site Photo 11).



Site Photo 8. Light affixed with bailing wire



Site Photo 9. Light fixture with wooden mount



Site Photo 10. Electrical wiring without conduit



Site Photo 11. Electrical wiring connecting to system

The individual market shops had either solid steel doors or folding metal grills for security (Site Photo 12). The quality of the doors appeared to be typical of locally available materials. Several doors inspected had padlocks as required in the SOW.



Site Photo 12. Security doors and grills

The contractor constructed steel awnings along the front of the individual market shops. The awning extended out from the shops about 2m, and the awnings were made of a translucent material. The project file documentation lacked the design information and contractor submittals for the awnings installed in the front of the individual market shops; therefore, SIGIR could not verify their adequacy. However, the awnings appeared to be of weak construction and may prove problematic under even limited loading.

Pre-cast Concrete Benches

The SOW required the contractor to provide six pre-cast concrete benches for the project; however, the project file documentation lacked design information. SIGIR verified the presence of six pre-cast concrete benches on the project (Site Photo 13), which appeared to be of poor quality.



Site Photo 13. Pre-cast concrete benches

Security Wall

The security wall appeared to be constructed to the general overall dimensions indicated on the plans and in the SOW. The security wall had pillars installed at regular intervals. The construction appeared to be of decent quality, with no apparent cracking or settling of the wall (Site Photo 14).

The SOW required the contractor to install brackets and four strands of barbed wire along the top of the security wall. SIGIR observed that the security wall did not have brackets or barbed wire.

The contractor installed the pedestrian and vehicle gates in the perimeter security fence. The pedestrian entrances required bollards (safety guards) on their exterior to prevent vehicles from being driven directly into the market area. SIGIR noted that the bollards were constructed in the same general configuration as indicated on the plans (Site Photo 14).

The pedestrian and vehicular gates were constructed with a locking mechanism as required in the SOW, and the gates were generally the same height as the security fence. The SOW required the vehicular and pedestrian gates to be topped with four strands of barbed wire, similar to the specifications for the security wall. SIGIR noted that the pedestrian and vehicular gates were not topped with any barbed wire.



Site Photo 14. Bollards and pedestrian gate

Corrals

The SOW required the contractor to construct six animal corrals. Because of time limitations, SIGIR was unable to physically inspect the corrals; however, SIGIR did verify the existence of some of the corrals (Site Photo 15).



Site Photo 15. Animal corrals

Bathrooms

The SOW required the construction of two restrooms, including:

- one male side
- one female side
- one water fountain for each toilet
- one ventilation window in each restroom
- one steel door for each water closet

SIGIR observed the construction of two restrooms—one designated for males and one for females. The restrooms included typical eastern-style toilets in individual stalls with ventilation windows and steel doors (Site Photo 16). Lavatories were provided in the restrooms.

At the time of SIGIR's site visit, there was no water service to the restrooms. According to the market manager, the contractor connected the restrooms to the existing municipal water supply line. However, the contractor later disconnected the municipal water supply line to the restrooms. The market manager claimed that the contractor was trying to extort money from the shop owners to restore water service to the restrooms. SIGIR performed the inspections that it could in the time available and could not validate the assertion that the contractor had disconnected the municipal water supply line to the restrooms. The municipal water line was underground and there was no apparent disturbance of the ground around the Ammana Market.



Site Photo 16. Restroom stall

The SOW required the contractor to install backflow preventers on the water supply to the restrooms. However, SIGIR was unable to find evidence that the backflow preventers were installed.

Drainage

The SOW required the contractor to provide drainage gutters for the project. The drainage gutters were to consist of a V-channel slope and were to have steel perforated covers.

During the site visit, SIGIR identified drainage gutters in the concrete slab around the perimeter of the market courtyard. The drainage gutters consisted of a V-channel slope and allowed drainage to flow to the cast iron inlet grate (Site Photo 17). Because of time constraints, SIGIR was unable to determine whether the inlets were connected to a larger drainage system.



Site Photo 17. Gutter inlet

The drainage gutters were not covered with a perforated cover as required in the SOW. However, the use of perforated covers could be problematic. Perforated covers on the drainage channels would likely become clogged with debris, reduce their effectiveness, and require continual maintenance.

Conclusions

Before the site visit, SIGIR reviewed the project's Statement of Work (SOW) and the project's design documentation, which were provided by Multi-National Corps-Iraq (MNC-I). Before starting construction, the contractor was required to provide shop drawings, a work breakdown structure or timeline, and samples of each material to be used. MNC-I provided a detailed SOW for the project, and the contractor provided the project timeline with the contractor's proposal, which included a general site plan. However, MNC-I advised SIGIR that its project file did not contain the contractor's shop drawings, design calculations, or material lists.

After reviewing the available project file documentation, SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market.

According to the MNC-I project file documentation, the U.S. government accepted this project from the contractor on 1 December 2008. The contractor's performance evaluation stated the following:

"The [local contractor] completed the project satisfactorily. They responded quickly to any guidance or requests made by coalition forces."

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Division-Baghdad and representatives from the embedded Provincial Reconstruction Team and MNC-I.

Because of security concerns, the total time available on site was approximately 30 minutes. Consequently, SIGIR performed only an expedited assessment of the areas available; a complete review of all work completed was not possible.

SIGIR identified several areas of concern about the contractor's performance, specifically noting these construction deficiencies:

- The contractor did not install the required brackets and four strands of barbed wire along the top of the security wall.
- The contractor did not install the required four strands of barbed wire on the pedestrian and vehicle gates.
- Electrical wiring was strung along the roof without conduit, and the electrical wiring appeared to be connected to a poorly constructed existing system.
- Construction of the internal electrical system was poor and did not conform to any known code.
- Steel awnings over individual shops appeared to be of weak construction, which may prove problematic under even a limited load.
- There were no SOW-required backflow preventers on the water supply to the restrooms.

In addition, at the time of SIGIR's site visit, there was no water service to the restrooms. According to the market manager, the contractor connected the restrooms to the existing municipal water supply line; however, the contractor later disconnected the municipal water supply line to the restrooms. The market manager claimed that the contractor was trying to extort money from the shop owners to restore water service to the restrooms. SIGIR performed the inspections that it could in the time available and could not validate the assertion that the contractor had disconnected the municipal water supply line to the restrooms. The municipal water line was underground and there was no apparent disturbance of the ground around the Ammana Market.

Despite the construction deficiencies noted above, at the time of the site visit, the market was open for business; merchants were selling goods to the local populace. A section of the interior stalls was enclosed to form a game room for young local residents to play while their parents shopped.. According to the market manager, aside from the water issue, the local merchants are generally pleased with the work performed by the contractor.

Recommendations

SIGIR recommends that Multi-National Corps-Iraq coordinate with Multi-National Division-Baghdad to:

1. Require the contractor to complete all items specified in the SOW, specifically:
 - a. Install the required brackets and four strands of barbed wire along the top of the security wall.
 - b. Install the required four strands of barbed wire on the pedestrian and vehicle gates.
 - c. Enclose the electrical wiring along the roof in conduit.

- d. Correct the internal electrical system to comply with the United States National Electric Safety Code, International Electric Code, or British Standard (BS 7671).
 - e. Ensure that the steel awnings over individual shops are able to withstand wind, rain, and weather loads typical of that in the Baghdad area.
 - f. Install the SOW-required backflow preventers on the water supply to the restrooms.
2. Determine why there was no water service to the restrooms. If the contractor did disconnect the municipal water supply line to the restrooms, require that the contractor reconnect it. If the contractor did not disconnect the municipal water supply line to the restrooms, alert the appropriate representatives of the Government of Iraq of this health issue and the need to have the water supply to the restrooms restored.

Management Comments

SIGIR received comments on the draft of this report from MNC-I concurring with recommendations 1.a., 1.b., 1.f., and 2. MNC-I non-concurred with recommendations 1.c., 1.d., and 1.e. stating that the contract's Statement of Work did not require the recommended actions. MNC-I also noted that it found statements on pages 6 and 14 of the draft report to be contradictory.

Evaluation of Management Comments

SIGIR appreciates the concurrence by MNC-I with recommendations 1.a., 1.b., 1.f. and 2.

The Electrical and Structural Building Standards and Codes section of the contract on page 13 specifies the standards and codes to be used:

“All work shall be in accordance with accepted standards of quality. The contract shall meet uniform facilities code (UFC) standards:

- “1) the minimum requirements of United States National Fire Protection Association (NFPA) 70,*
- “2) the American National Standards Institute (ANSI) C2, and*
- “3) the United States' National Electrical Safety Code (NESC).*

“These standards must be met when it is reasonable to do so with available materials. When conditions dictate deviation, then provisions within the International Electrical Code (IEC) or British Standard (BS 7671) shall be followed. Any deviations from the above shall only be approved by a qualified engineer and contracting officer in writing.”

The standards and codes section of the contract requires the contractor to take the actions specified with respect to the electrical system and the structural building strength of the steel awnings in recommendations 1.c., 1.d., and 1.e. In view of the electrocution injuries and deaths occurring in U.S. constructed facilities in Iraq; SIGIR believes compliance with electrical code requirements—including enclosure of electrical wiring in conduit

and proper, secure mounting of electrical fixtures—is particularly important. SIGIR requests that MNC-I review page 13 of the contract and restate its position with respect to recommendations 1.c., 1.d., and 1.e.

SIGIR revised information on pages 6 and 14 of the report to clarify that although contract specifications did not provide details or requirements for the roof, SIGIR believes that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market because page 13 of the contract specified the standards and codes to be used including the uniform facilities code (UFC).

Appendix A. Scope and Methodology

SIGIR performed this project assessment from February through June 2009 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.

In performing this Project Assessment SIGIR:

- Reviewed contract documentation, including contract W91GET-08-C-0076, Modification P00001, quality management reports, and project closeout documentation;
- Reviewed the design package (plans), Statement of Work, and photographs documenting construction progress;
- Interviewed the Civil Capacity Cell Chief of the Multi-National Division-Baghdad and representatives from Multi-National Corps-Iraq and embedded Provincial Reconstruction Team Falcon; and
- Conducted an on-site assessment on 31 May 2009 and documented results at the Ammana Market project in Majjasim, Iraq.

Scope Limitation. Because of security concerns, SIGIR performed only an expedited assessment. The time allotted for the Ammana Market was approximately 30 minutes; therefore, a complete review of all work completed was not possible.

Appendix B. Acronyms

CERP	Commander's Emergency Response Program
cm	centimeter
m	meter
m ²	square meters
MAAWS	Money As A Weapons System
MNC-I	Multi-National Corps-Iraq
MOA	Memorandum of Agreement
PPO	Project Purchasing Office
SIGIR	Special Inspector General for Iraq Reconstruction
SOW	Statement of Work
UFC	Uniform Facilities Code

Appendix C. MNC-I Comments on Draft Report

**SIGIR DRAFT REPORT
SIGIR 09-171
"Ammana Market Renovation
Majjasim, Iraq"**

**COMMENTS
TO THE DRAFT REPORT**

SIGIR recommends that the Multi-National Corps-Iraq coordinate with the Multi-National Division-Baghdad to (see pages 15-16 of the draft report):

1. Require the contractor to complete all items specified in the SOW, specifically:

a. Install the required brackets and four strands of barbed wire along the top of the security wall.

MND-B RESPONSE: Concur. Unit will engage the contractor to correct the short coming.

b. Install the required four strands of barbed wire on the pedestrian and vehicle gates.

MND-B RESPONSE: Concur. Unit will engage the contractor to correct the short coming.

c. Enclose the electrical wiring along the roof in conduit.

MND-B RESPONSE: Non-Concur with information provided in this report. The SOW does not list the requirement for enclosing the electrical wiring along the roof in the bid packet to contractors, nor the winning bid.

d. Correct the internal electrical system to comply with the United States National Electric Safety Code, International Electric Code, or British Standard (BS 7671).

MND-B RESPONSE: Non-Concur with information provided in this report. Although the SOW and the contractors bid both contain the word Standard, there is no description of the standard in any of the documents.

e. Ensure that the steel awnings over individual shops are able to withstand wind, rain, and weather loads typical of that in the Baghdad area.

MND-B RESPONSE: Non-Concur with information provided in this report. The SOW does not require the roofing system to meet any load requirements.

f. Install the SOW-required backflow preventers on the water supply to the restrooms.

MND-B RESPONSE: Concur. Unit will engage the contractor to correct the short coming.

2. Determine why there was no water service to the restrooms. If the contractor did disconnect the municipal water supply line to the restrooms, require that the contractor reconnect it. If the contractor did not disconnect the municipal water supply line to the restrooms, alert the appropriate representatives of the Government of Iraq of this health issue and the need to have the water supply to the restrooms restored.

Appendix C. MNC-I Comments on Draft Report

MND-B RESPONSE: Concur. Unit will engage with the contractor.

GENERAL COMMENTS ON THE REPORT

1. (U) MNC-I C7

A. On Page 14, the conclusion states, "SIGIR determined that adequate information was provided in the specifications for the contractor to complete the final design and construct the Ammana Market" is contradictory to the statement made on Page 6: "the specifications did not provide any additional details or requirements for the roof."

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Appendix D. Report Distribution

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Senior Advisor to the Secretary and Coordinator for Iraq

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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 E. 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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