

OFFICE OF THE SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

**SECURE DOCUMENT STORAGE FACILITY  
BAGHDAD, IRAQ**

**SUSTAINMENT ASSESSMENT**

**SIGIR PA-08-166  
OCTOBER 20, 2009**



## Secure Document Storage Facility

### Summary of Report: PA-08-166

### 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. To accomplish the objective, the assessment team determined whether this Iraq Relief and Reconstruction Fund (IRRF) project was at full capability or capacity when accepted by the U.S. government, when transferred to Iraqi operators, and during the site inspections on February 3, March 11, and September 27, 2009.

### What SIGIR Recommends

Gulf Region Central of the U.S. Army Corps of Engineers required the contractor to take corrective actions on the construction deficiencies SIGIR identified. As a result, this report does not contain any recommendations for further action.

Though 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 report.

### What SIGIR Found

SIGIR conducted three separate on-site inspections of the Secure Document Storage Facility in Baghdad, Iraq.

The overall objective of this \$1.9 million IRRF-funded project was to provide a Secure Document Storage Facility for the Iraqi High Tribunal (IHT). Half of the facility would provide secure rooms to store sensitive war crimes documentation that has been or will be used for prosecution of former regime members for crimes against humanity; the other half would provide open office and administrative space for IHT staff.

During the construction of this project, the contractor experienced two work stoppages resulting from a structural failure and the contractor's failure to construct the facility in accordance with the structural improvement plan developed after the structural failure.

SIGIR's first site visit identified construction deficiencies, such as cracks in the interior and exterior walls; tile buckling in the bathrooms; door frame damage; loose heating, ventilation, and air-conditioning (HVAC) duct insulation; roof leaks; and fire alarm system malfunctions. SIGIR notified the U.S. Army Corps of Engineers (USACE) Gulf Region Central (GRC), who required the contractor to remedy the warranty issues.

Regarding the HVAC and door frame issues, GRC concluded that the air-conditioning issue was not covered under the contractor's warranty because of the "tampering, poor maintenance and unskilled personnel working on this equipment"; and the door frames reattached by IHT maintenance personnel were a "user modification and not a warranty item."

On the final site inspection, SIGIR determined that the contractor had remedied the previously identified warranty deficiencies.

The facility manager stated that the IHT was very happy with this facility, which will continue to play a vital role in providing a secure place to store critical documents to be used at upcoming trials of former regime members.





## SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

October 20, 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 Sustainment Assessment of the Secure Document Storage  
Facility, Baghdad, Iraq (SIGIR Report Number PA-08-166)

We are providing this report for your information and use. It addresses the current status of construction of the Secure Document Storage Facility, Baghdad, Iraq. This assessment was made to provide you and other interested parties with real-time information on a relief and reconstruction project and to determine whether the project was operating at the capacity stated in the original contract.

Gulf Region Central of the U.S. Army Corps of Engineers required the contractor to take corrective actions on the construction deficiencies SIGIR identified. As a result, this report does not contain any recommendations for further action. Though 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 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](mailto: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](mailto:publicaffairs@sigir.mil) or at 703-428-1100.

A handwritten signature in black ink, appearing to read "Stuart Bowen, Jr.", followed by a period.

Stuart W. Bowen, Jr.  
Inspector General

# Special Inspector General for Iraq Reconstruction

SIGIR PA-08-166

October 20, 2009

## Secure Document Storage Facility Baghdad, Iraq

### Synopsis

**Introduction.** The Office of the Special Inspector General for Iraq Reconstruction (SIGIR) is assessing projects funded under the Iraq Relief and Reconstruction Fund (IRRF) program to provide real-time information on relief and reconstruction to interested parties to enable appropriate action, when warranted.

**Project Assessment Objective.** The objective of the project assessment was to determine whether the project is operating at the capacity provided for in the contract. To accomplish this objective, SIGIR determined whether or not the facility was operating at full capability or capacity when accepted by the U.S. government, when transferred to Iraqi operators, and during the site inspections on 3 February 2009, 11 March 2009, and 27 September 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 one auditor/inspector.

**Project Objective.** The overall objective of this \$1.9 million IRRF-funded project was to provide a Secure Document Storage Facility (SDSF) for the Iraqi High Tribunal (IHT).<sup>1</sup> Half of the facility will provide secure rooms to store sensitive war crimes documentation that has been or will be used for prosecution of former regime members for crimes against humanity; the other half would provide open office and administrative space for IHT staff.

**Conclusions.** On 9 February 2008, the U.S. Army Corps of Engineers, Gulf Region Central (GRC) transferred ownership of the SDSF to the Regime Crimes Liaison Office (RCLO), which is responsible for providing technical and logistical assistance to the IHT. The Transfer and Acceptance Letter, signed by GRC and RCLO representatives, stated:

*“The asset(s) or services listed herein have been completed in accordance with the contract documents except as noted in the attached documents, if any. This contract was awarded and completed under contingency circumstances and that all available project deliverables have been turned over to the appropriate facility representative(s).”*

*Beneficial occupancy of this asset was achieved on 9 February 2008 and was turned over to the appropriate asset/facility managers. The Government/Facility Representatives retain all rights under the “Warranties Clause” of the Contract.”*

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<sup>1</sup> The IHT, initially referred to as the “Iraqi Special Tribunal,” was established by order of the Coalition Provisional Authority in December 2003. As the tribunal’s creation involved the introduction of international crimes into Iraqi law, many legal experts questioned the validity of the tribunal’s establishment. The tribunal was re-established under Iraqi law and renamed in October 2005. The tribunal has jurisdiction over Iraqis and Iraqi residents alleged to have committed genocide, crimes against humanity, war crimes, and violations of certain Iraqi laws between 17 July 1968 and 1 May 2003.

Project file documentation did not include either the final inspection performed by the GRC International Zone (IZ) Resident Office or an attached document with any noted deficiencies and punch list items outstanding. In addition, the project file lacked any photographs of the facility on the day of the final inspection to document either the correction of previous/outstanding deficiencies or the condition of the facility at turnover.

According to GRC IZ turnover documentation, the warranty period for this project expired on 9 February 2009.

During the construction of this project, the contractor experienced two work stoppages resulting from a structural failure and the contractor's failure to construct the facility in accordance with the structural improvement plan developed after the structural failure. SIGIR reviewed the contractor's initial design submittal and identified the following two significant omissions that contributed to the initial failure of the structure and the subsequent need for reinforcing:

- The original design calculations indicate that the center of the frame was to be supported with a column, but the contractor's original drawings omit any support at the center of the frame.
- The design calculations for the steel frame make the assumption that there is no moment transfer<sup>2</sup> between the steel column base and the reinforced-concrete pedestal. This configuration is typical for moment frame<sup>3</sup> construction; however, restraint of the column bases must be provided. The foundation details do not provide any method for lateral restraint.

Further, SIGIR identified an issue with the load criteria for the project. In a review of the contractor's engineering design calculations, GRC identified issues with the original design loads for the building. The original design live load<sup>4</sup> for the building was set at 5 pounds per square foot (psf). The design engineer justified this design load by incorrectly categorizing the structure as "fabric construction supported by a light weight rigid skeleton structure." The correct design load for this type of structure, as identified by GRC, is 20 psf. The increase in live load by a factor of four would significantly affect the design of the structure.

On 26 July 2007, a GRC structural engineer performed an inspection of the construction to date. An observation report identified several construction deficiencies, and all structural work again stopped while the contractor performed another structural evaluation. In September 2007, the contractor presented GRC with structural improvements, including a structural analysis that indicated the proposed improvements would provide a stable structure under eight different loading conditions. The proposal included a row of columns to be constructed along the centerline of the facility, as well as

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<sup>2</sup> The word "moment" in the term moment frame refers to the moment of inertia placed on a building when in wind or earthquake conditions. A building faces two primary types of inertia. One is outer inertia caused by wind pressure. This is the same pressure applied to a person if they are standing in a strong wind. Inner inertia, like that from an earthquake, comes from the ground up. A person feels similar inertia when standing on a train that takes off quickly and they are shaken from the feet up. And, importantly in Iraq, moment would also occur in the event of lateral explosion against a structure.

<sup>3</sup> A moment frame is a box-shaped frame with special moment connections or joints that help in the resistance of wind and earthquake damage. The frame helps a building to flex as necessary to remain the building's integrity.

<sup>4</sup> The weight of everything superimposed on, or temporarily attached to, a structure (people, machinery and equipment, furniture, appliances, etc.) but not that of the material utilized in its construction or of anything permanently attached to it.

other strengthening improvements, such as corner bracing, cross bracing, and a strongback<sup>5</sup> wall.

On 3 February 2009, SIGIR conducted an on-site assessment of the project. At the time of the site assessment, the IHT had occupied the facility for almost a year. SIGIR observed IHT personnel conducting daily business, including researching and preparing for future criminal trials. The SDSF facility manager stated that due to the number of upcoming criminal trials, the size of the IHT workforce increased from approximately 100 to 200 personnel; however, the SDSF provided enough working space for the increased personnel. At the time of the site visit, only one storage vault was being utilized to store evidence. According to the SDSF facility manager, most of the evidence to be used at current or future trials was still being kept at another location. In order to carefully process and log the voluminous amount of important evidence, it was being transferred incrementally to the SDSF. The IHT converted the remaining storage vault rooms into additional office space and a museum.

SIGIR's first site visit identified construction deficiencies, such as cracks in the interior and exterior walls; tile buckling in the bathrooms; loose heating, ventilation, and air-conditioning (HVAC) duct insulation; roof leaks; and fire alarm system malfunctions. In addition, the SDSF facility manager stated that additional construction deficiencies existed, such as non-operational HVAC units and interior/exterior door-frame damage. The SDSF facility manager stated that the contractor provided used HVAC units and poorly installed door frames; this resulted in the door and frame falling off. The SDSF facility manager stated that two HVAC units became non-operational shortly after the IHT took occupancy. The IHT made numerous telephone calls to the contractor to correct the units, but the contractor never responded, according to the SDSF facility manager. As the stifling summer heat approached, IHT maintenance personnel attempted to repair the units.

As SIGIR's site visit occurred only days before the contractor's warranties expired, SIGIR notified GRC about these construction deficiencies. GRC representatives visited the SDSF, and on 7 March 2009, directed the contractor to remedy these warranty items:

1. Repair the floor in all four bathrooms.
2. Repair the HVAC duct insulation and reconnect the flex duct to the registers.
3. Repair the metal seam by caulking and replace one fastener to correct the small roof leak.
4. Reset and trouble-shoot the facility fire alarm.

GRC gave the contractor a deadline of 17 March 2009 to remedy the warranty issues.

Regarding the HVAC and door frame issues, GRC concluded that the air conditioning issue was not covered under the contractor's warranty because of the "tampering, poor maintenance and unskilled personnel working on this equipment;" and the door frames reattached by IHT maintenance personnel were a "user modification and not a warranty item." SIGIR could not determine the causes for the non-operational HVAC units or door frame damage for two reasons:

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<sup>5</sup> A fastener system for securing a reinforcing beam or the like to a poured concrete structural member includes an anchor to be set in poured concrete with an exposed handle portion free of said concrete, and a shaft with a slotted end for receiving the handle portion.

- There was no final inspection report documenting the complete testing of the HVAC system (including the operation of each zone for a specified period of time).
- The contractor-installed door frames were covered with plaster.

Since the SDSF facility manager acknowledged that IHT maintenance personnel performed repairs of the HVAC units and door frames rather than having them done by contractor representatives, the warranty for each item is no longer valid.

On 27 September 2009, SIGIR performed a follow-up site inspection and determined that the contractor had remedied the previously identified warranty deficiencies. The SDSF facility manager stated that the GRC IZ Resident Office did an excellent job of requiring the contractor to return to the facility three times to ensure that each warranty issue was adequately addressed. The IHT used its own funding to correct some of the other issues not covered by the warranty, such as the HVAC units and the interior/exterior doors.

The SDSF facility manager told SIGIR that the IHT was very happy with this facility, which will continue to play a vital role in providing a secure place to store critical documents to be used at upcoming trials of former regime members.

**Recommendations.** Because GRC required the contractor to correct the construction deficiencies SIGIR identified, the draft report did not contain any recommendations for further action and comments on the draft report were not required.

**Management Comments.** Though 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 concurrence with the draft report by the Gulf Region Division of the U.S. Army Corps of Engineers and Multi-National Force – Iraq. No additional comments are necessary.

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# **Introduction**

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## **Objective of the Project Assessment**

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

## **Pre-site Assessment Background**

### **Contract, Costs and Payments**

On 16 June 2006 the U.S. Army Corps of Engineers (USACE), Gulf Region Central (GRC) awarded Contract W917BG-06-C-0140—a design/build, firm-fixed-price contract for \$1,800,569.98 to SIMA International. The period of performance to complete the construction of the facility was 120 days from the issuance of the Notice to Proceed, which GRC issued on 26 July 2006. Consequently, the project was to be completed by 23 November 2006.

On 22 February 2008, the contractor submitted a request for equitable adjustment (REA) for \$1,535,005.69 for various changes to the contract's Bill of Quantities. The GRC reviewed the contractor's REA and awarded the contractor \$116,234.00 on 8 January 2009.

### **Project Objective**

The objective of the project was to provide a Secure Document Storage Facility (SDSF) for the Iraqi High Tribunal (IHT).<sup>6</sup>

### **Background**

The IHT benefited from a wealth of Iraqi government documents captured during the war. Prior to this project, most of the war crimes documentation against the former regime was kept under the control of the U.S. military at a Secure Evidence Unit outside the International Zone (IZ). However, when the U.S. military scaled down the number of troops and bases in Iraq, the need arose to identify a safe environment to maintain these critical documents. In 2006, this project was envisioned to bring the war crimes documentation previously stored outside of Baghdad to a secure location near the IHT Courthouse. The close proximity of this secure facility will provide prosecutors with a safe environment to store documentation until it is necessary for specific trials.

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<sup>6</sup> The IHT, initially referred to as the "Iraqi Special Tribunal," was established by order of the Coalition Provisional Authority in December 2003. As the tribunal's creation involved the introduction of international crimes into Iraqi law, many legal experts questioned the validity of the tribunal's establishment. The Tribunal was re-established under Iraqi law and renamed in October 2005. The tribunal has jurisdiction over Iraqis and Iraqi residents alleged to have committed genocide, crimes against humanity, war crimes, and violations of certain Iraqi laws between 17 July 1968 and 1 May 2003.

This 2,500 square meter (m<sup>2</sup>) facility will be divided into two parts. Half of the facility will provide secure rooms to store sensitive war crimes documentation that have been or will be used for prosecution of former regime members for crimes against humanity; while the other half will provide open office and administrative space for IHT staff.

### **Pre-construction Description**

The description of the facility (pre-construction) was based on information obtained from the GRC project file. The 0.36 hectare<sup>7</sup> SDSF project site is located in a vacant lot in the IZ across the street from the New Embassy Compound. The project site had trees, bushes, brush, and litter that needed to be excavated and cleaned up prior to the start of construction activities. The project site will be adjacent to the IHT's main administrative and judicial courthouse.

### **Statement of Work**

The Statement of Work (SOW) required the contractor to design and construct a secure facility to store critical war crimes documentation and provide the IHT administrative staff sufficient space to work. The SOW required the construction of the following:

- a 2,500m<sup>2</sup> facility with four rooms for storage, latrines and plumbing, climate control, and lighting outlets
- 3 meter (m) high T-walls enclosing the entire site
- parking spaces
- a vehicular entrance and exit

### **Project Design and Specifications**

The SOW broke down the work into these levels of effort:

- site work
- structural work
- architectural work
- HVAC work
- plumbing work
- fire alarm
- electrical work

The civil works consisted of site preparation by grading, excavating, and placing underground utilities, driveways with a parking area and a compound wall. The structural work comprised foundations, columns, beams, structural slab, erection of steel frame and related elements. The architectural work included the partition walls, doors and windows, flooring, finishing, and non-structural metal and carpentry work.

The electrical and mechanical works consisted of supplying material, installation of components, and operational testing of all electrical items, such as distribution boards, ceiling and exhaust fans, interior and exterior lighting, and outlets.

No technical specifications were provided with the contract or with the contractor's submittals. Technical specifications are required to designate the quality and capacity of

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<sup>7</sup> A hectare is a unit of area equal to 10,000 square meters or one square hectometer and commonly used for measuring land area.

systems to be incorporated into the project. Technical specifications typically designate types and strengths of materials, minimum design standards, erection and placement tolerances, and required construction practices.

GRC provided SIGIR with the contractor's initial and revised design submittals. Since the construction of the initial design resulted in an immediate structural failure (and the need for a revised submittal), SIGIR will address the adequacy of both designs in the Site Progress During Construction section of this report.

## Site Progress During Construction

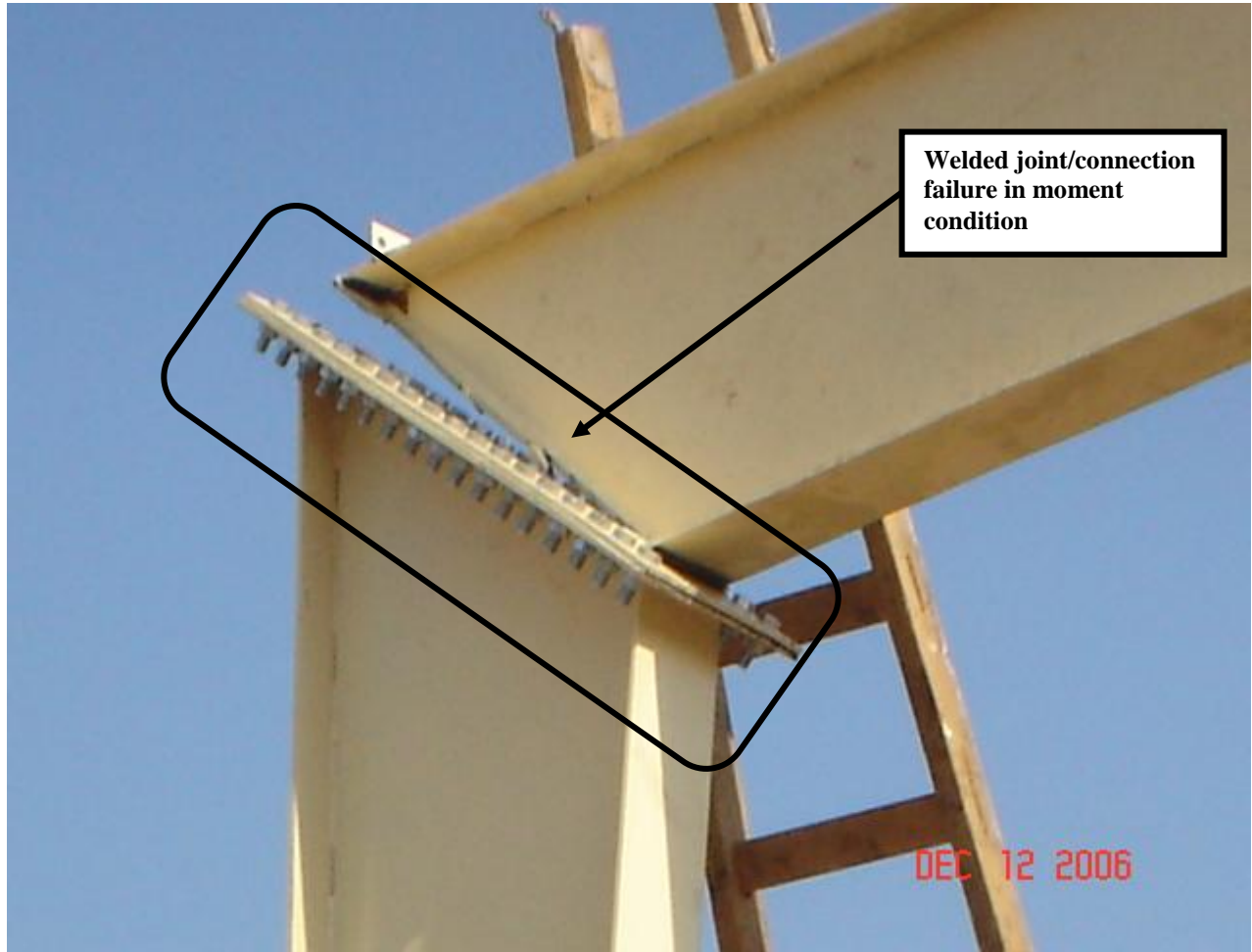
The contractor provided the initial design submittal in June 2006, which included plans for internal partitions, tie beam layout, footing layout, columns implantation, vault cover slab, steel frame, transverse steel beams, and a generator room. In July 2006, the contractor attached a crude layout plan to a memorandum for record and also separately provided building elevations and the ceiling plan. The contractor did not provide the refined general layout plan until April 2007.

### First Work Stoppage (December 2006 Structural Failure)

According to project file documentation, the contractor started work on 10 August 2006. At the beginning of the project, the contractor appeared to make steady progress. However, upon reviewing the project file photographs for the installation of steel columns, SIGIR immediately noticed that the contractor's beam span was far too long (Site Photo 1). SIGIR's concern was confirmed when the contractor initially placed the roof members and a structural failure occurred (Site Photo 2).



Site Photo 1. Initial construction of the steel columns prior to the structural failure (Courtesy of GRC)



**Site Photo 2. Structural failure resulting from contractor's inadequate initial design (Courtesy of GRC)**

SIGIR reviewed the contractor's initial design. It appeared that the contractor failed to coordinate the design information with the drawings released for construction, which resulted in at least two significant omissions contributing to the initial failure of the structure and the subsequent need for reinforcing:

1. The original design calculations indicate that the center of the frame was to be supported with a column, but the contractor's original drawings omit any support at the center of the frame.
2. The design calculations for the steel frame make the assumption that there is no moment transfer<sup>8</sup> between the steel column base and the reinforced-concrete pedestal. This configuration is typical for moment frame<sup>9</sup> construction; however,

<sup>8</sup> The word "moment" in the term moment frame refers to the moment of inertia placed on a building when in wind or earthquake conditions. A building faces two primary types of inertia. One is outer inertia caused by wind pressure. This is the same pressure applied to a person if they are standing in a strong wind. Inner inertia, like that from an earthquake, comes from the ground up. A person feels similar inertia when standing on a train that takes off quickly and they are shaken from the feet up. And, importantly in Iraq, moment would also occur in the event of lateral explosion against a structure.

<sup>9</sup> A moment frame is a box-shaped frame with special moment connections or joints that help in the resistance of wind and earthquake damage. The frame helps a building to flex as necessary to remain the building's integrity.

restraint of the column bases must be provided. The foundation details do not provide any method for lateral restraint.

In addition, no provision was made for lateral stability of the structure in the longitudinal axis. Concrete masonry unit (CMU) walls were constructed between the proposed columns; if properly constructed, the CMU walls could have been used as a lateral-load resisting mechanism (shear wall). However, because this issue was neglected during the design of the facility, no provisions were made during construction to utilize the wall, and no load-resisting system was provided later with the initial construction.

SIGIR also identified an issue with the load criteria for the project. In a review of the contractor's engineering design calculations, GRC identified issues with the original design loads for the building. The original design live load<sup>10</sup> for the building was set at 5 pounds per square foot (psf). The design engineer justified this design load by incorrectly categorizing the structure as "fabric construction supported by a light weight rigid skeleton structure." The correct design load for this type of structure, as identified by GRC, is 20 psf. The increase in live load by a factor of four would significantly affect the design of the structure.

After the December 2006 structural failure, the contractor performed an evaluation and proposed a revised design in January 2007. Specifically, the contractor proposed reinforcing the structure to accommodate the design deficiencies. The proposed solution consisted of the following:

- adding coverplates and stiffeners to the steel frame (Figure 1)
- placing collar ties at each frame
- adding an additional column at the center of each frame
- providing a lateral-load resisting system for the structure (Figure 2)

It appeared that the additional reinforcement addressed the structural issues with the main steel framing; however, the additional support columns may have created issues with the other structural elements. The initial design calculations do not appear to include the additional load from the steel framing. Since the bay spacing<sup>11</sup> for the metal building does not align with the column spacing for the reinforced-concrete beam, the additional steel support columns are located at various points along the reinforced-concrete beam span. This lack of alignment creates additional bending and shear in the concrete beam. No additional calculations were provided to determine if the reinforced-concrete beam has adequate capacity to carry the additional load from the steel framing.

CMUs were used to create a partition wall beneath the reinforced-concrete beam. The plans do not indicate whether the wall is structural, and the load-carrying capacity of the wall is not known. However, since the design plans use a reinforced-concrete beam to carry the loads from the vault roof instead of directly on the wall, it is apparent that the wall was not intended to be load bearing.

### *Pre-engineered Metal Building*

The contract required the contractor to construct a pre-engineered metal building for the project. However, the contract did not provide a complete list of specifications, such as

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<sup>10</sup> The weight of everything superimposed on, or temporarily attached to, a structure (people, machinery and equipment, furniture, appliances, etc.) but not that of the material utilized in its construction or of anything permanently attached to it.

<sup>11</sup> Pre-engineered Steel building definition of bay spacing is the distance from centerline to centerline of two interior columns.

the overall length and span, clear span, ceiling height, roof pitch, location, number and size of openings, and required loading.

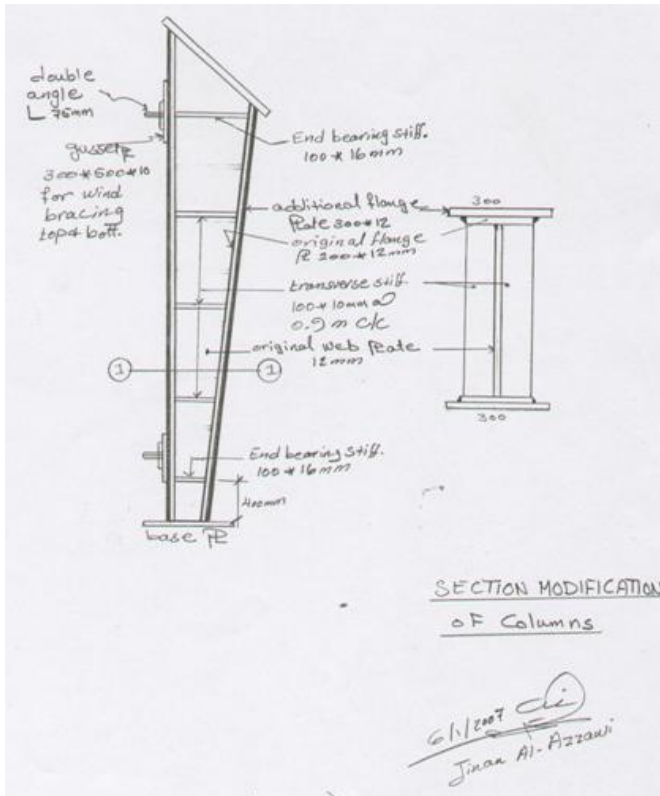


Figure 1. Strengthening columns

(Figures courtesy of GRC)

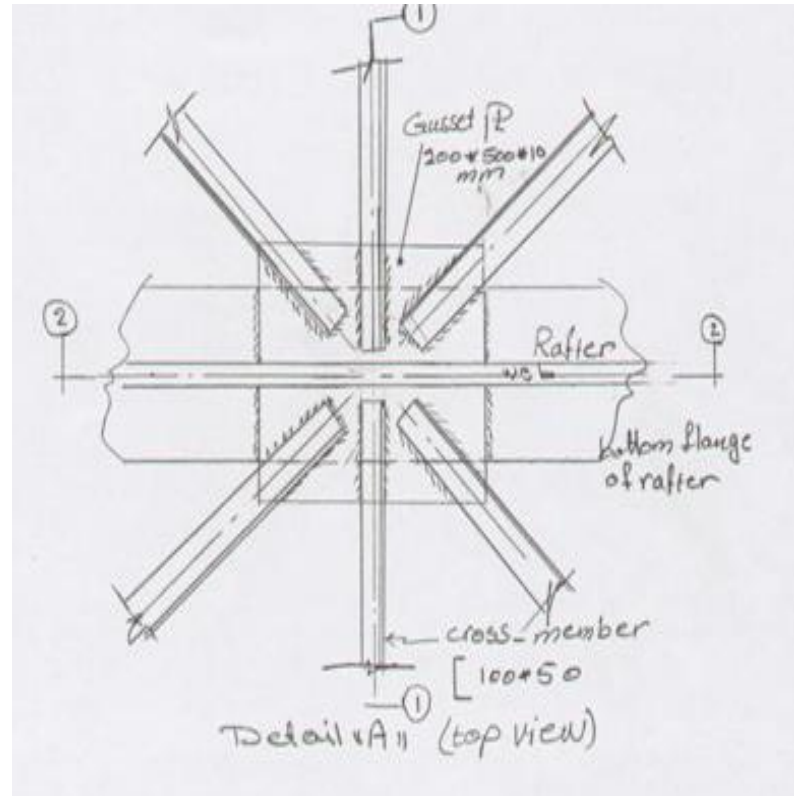


Figure 2. Additional bracing

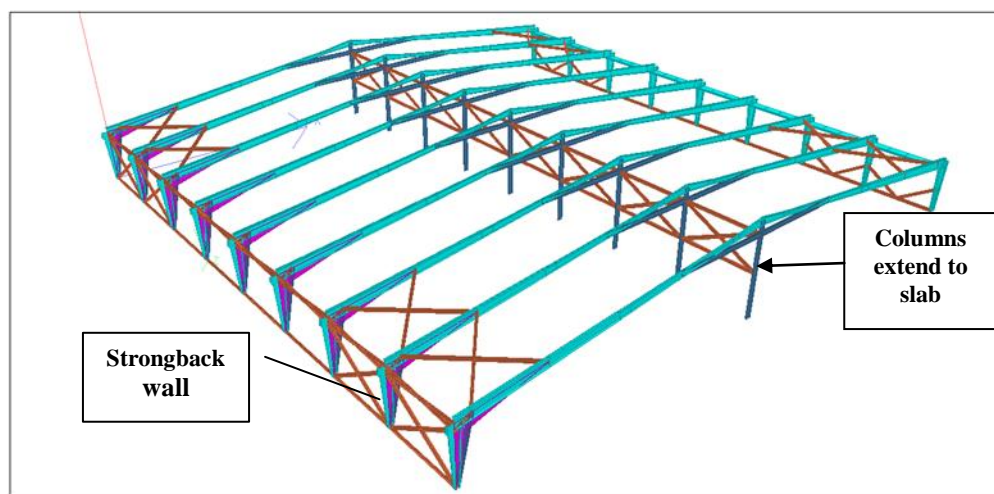
The term “pre-engineered building” generally refers to a building that is designed, fabricated, and shipped to a site and requires minimal on-site fabrication to construct. This type of building is generally designed with minimal input from the customer (and/or end user), such as the above-mentioned missing specifications. The building manufacturer is typically responsible for the design, fabrication, and shipping. To keep such buildings inexpensive, they are generally configured as moment frames<sup>12</sup> with variable cross sections to resist outer and inner inertia.

For this project, the contractor procured a “pre-engineered” building in the generic sense of the term; the building was completely fabricated offsite and assembled at the project site with minimal fabrication. However, it appeared that the contractor coordinated the design of the building because the configuration of the fabricated steel members appeared to indicate some level of design which would reduce the cost of the building. After the structural failure that occurred in December 2006 during the initial placement of the roof members, it became readily apparent that the structure, as fabricated, did not conform to the engineering analysis and was inadequate.

<sup>12</sup> A moment frame is a box-shaped frame with special moment connections or joints that help in the resistance of wind and earthquake damage. The frame helps a building to flex as necessary to remain the building's integrity.

### Second Work Stoppage (July 2007 Construction)

The contractor provided a revised design submittal in January 2007 to correct the design deficiencies that led to the structural failure. In July 2007, the GRC quality assurance (QA) representative documented examples of the building not being constructed in accordance with the planned structural improvements of January 2007. On 26 July 2007, a GRC structural engineer performed an inspection of the construction to date. The GRC structural engineer issued an observation report, which identified several construction deficiencies; all structural work again stopped while the contractor performed another structural evaluation. In September 2007, the contractor presented GRC with structural improvements, including a structural analysis indicating that the proposed improvements would provide a stable structure under eight different loading conditions. The proposal included a row of columns to be constructed along the centerline of the facility, as well as other strengthening improvements, such as corner bracing, cross bracing, and a strongback<sup>13</sup> wall (Figure 3).



**Figure 3. Three-dimensional model of contractor-proposed improvements (Courtesy of GRC)**

Figure 3 illustrates the proposed new steel columns along the centerline, extending to the floor. However, by this time, the interior vault rooms had already been constructed, including a reinforced-concrete beam and partition wall running the length of the building, beneath the centerline of the steel frames. Based upon review of the October 2007 QA reports, it appeared that the contractor performed a modified approach to placing the columns. A base plate was placed on the top of the reinforced-concrete beam, and the columns were welded to the base plate (Site Photo 3). Consequently, this model and corresponding structural analysis do not account for the additional load to the reinforced-concrete beam, supporting columns, and foundation.

A concrete masonry partition wall is located beneath the reinforced-concrete beam (Figure 4). If the reinforced-concrete beam deflects under load, some load sharing between the beam and the wall will occur. Reviewing the daily QA reports, SIGIR identified that the blocks used to create this wall were of poor quality, which by themselves, would be of questionable capacity to hold any significant load. The presence

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<sup>13</sup> A fastener system for securing a reinforcing beam or the like to a poured concrete structural member includes an anchor to be set in poured concrete with an exposed handle portion free of said concrete, as well as a shaft with a slotted end for receiving the handle portion.

of the beam indicates that the original designer did not anticipate the wall to be a structural element.



Site Photo 3. Base plate and columns (Courtesy of GRC)

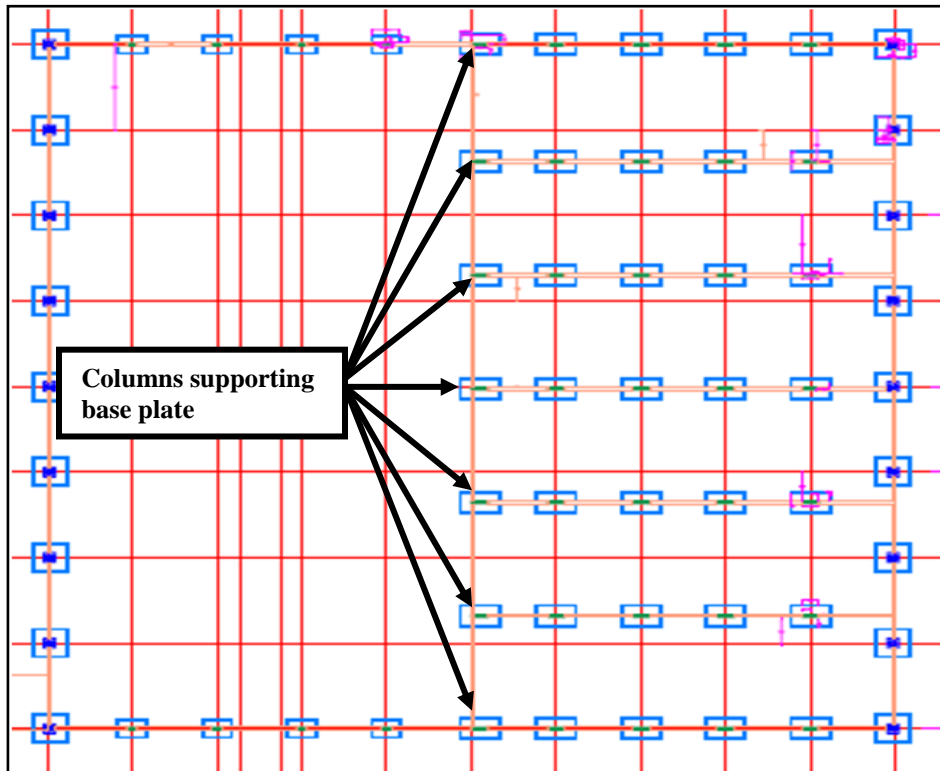


Figure 4. Poured concrete columns within block wall (Courtesy of GRC)



## **Condition of Facility at Turnover**

According to a Memorandum for Record (MFR), dated 9 February 2008, the USACE GRC IZ Resident Office stated the following:

*“As the authorized agent of the U.S. Army Corps of Engineers, the GRC-IZ Resident Office, SIMA International S.A.R.L. Company, or their representatives, we do hereby attest that a final inspection performed on the work required for the subject contract and the contract requirements have been met. Any noted deficiencies and punch list items that still require correction and/or replacement are noted on the attached appendix, if any.*

*The parties acknowledge that the work performed under the subject contract meets the standards set forth in the contract plans and specifications and that all warranty, as-built drawings, operating manuals, etc. (as appropriate) will be signed for and turned over to the appropriate representatives.”*

The contractor and the GRC IZ representatives signed the MFR.

Project file documentation contained neither the final inspection performed by the GRC IZ Resident Office nor an attached appendix with any noted deficiencies and punch list items outstanding. In addition, the project file lacked any photographs of the facility on the day of the final inspection to document either the correction of previous/outstanding deficiencies or the condition of the facility at turnover.

Further, on 9 February 2008, the GRC IZ office transferred ownership of this project to the Regime Crimes Liaison Office (RCLO), which is responsible for providing technical and logistical assistance to the IHT, stating the following:

*“The asset(s) or services listed herein have been completed in accordance with the contract documents except as noted in the attached documents, if any. This contract was awarded and completed under contingency circumstances and that all available project deliverables have been turned over to the appropriate facility representative(s).*

*Beneficial occupancy of this asset was achieved on 9 February 2008 and was turned over to the appropriate asset/facility managers. The Government/Facility Representatives retain all rights under the “Warranties Clause” of the Contract.”*

According to GRC IZ turnover documentation, the warranty period for this project expired on 9 February 2009.

## **Site Assessment**

On 3 February 2009, 11 March 2009, and 27 September 2009, SIGIR performed on-site assessments of the SDSF project, accompanied by a RCLO representative and the SDSF facility manager. Since the project site is in the IZ, SIGIR was able to visit the site three times and had sufficient time to assess the entire project. At the time of the initial site visit, the IHT had occupied the facility for almost a year. SIGIR observed IHT personnel conducting daily business, including researching and preparing for future criminal trials. The SDSF facility manager stated that because of the number of upcoming criminal trials, the IHT workforce increased from approximately 100 to 200 personnel; however, the SDSF provided enough working space for the increased personnel.

### Storage Vaults

The SOW required that half of the 2,500m<sup>2</sup> building would consist of storage vaults to safely and securely maintain critical paperwork and evidence to be used at upcoming criminal trials. The SOW also required four 12.5m x 25m storage vaults with masonry walls and concrete ceilings. However, a July 2006 MFR stated that “both the customer and the contractor have agreed that 6 storage rooms instead of the specified 4 storage rooms would provide more functional space.” As a result, the final design and construction comprised six storage vaults (Figure 5).

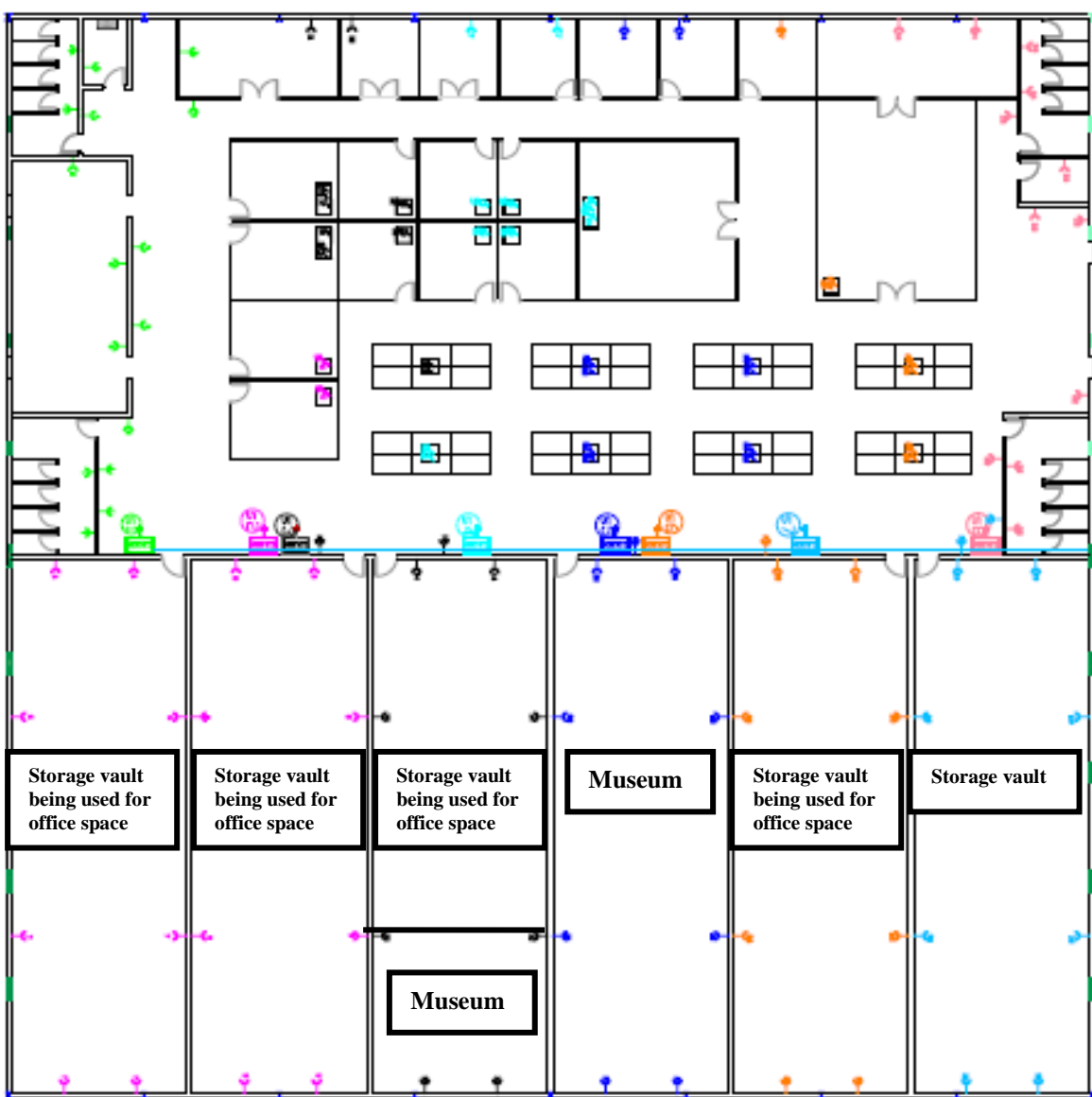


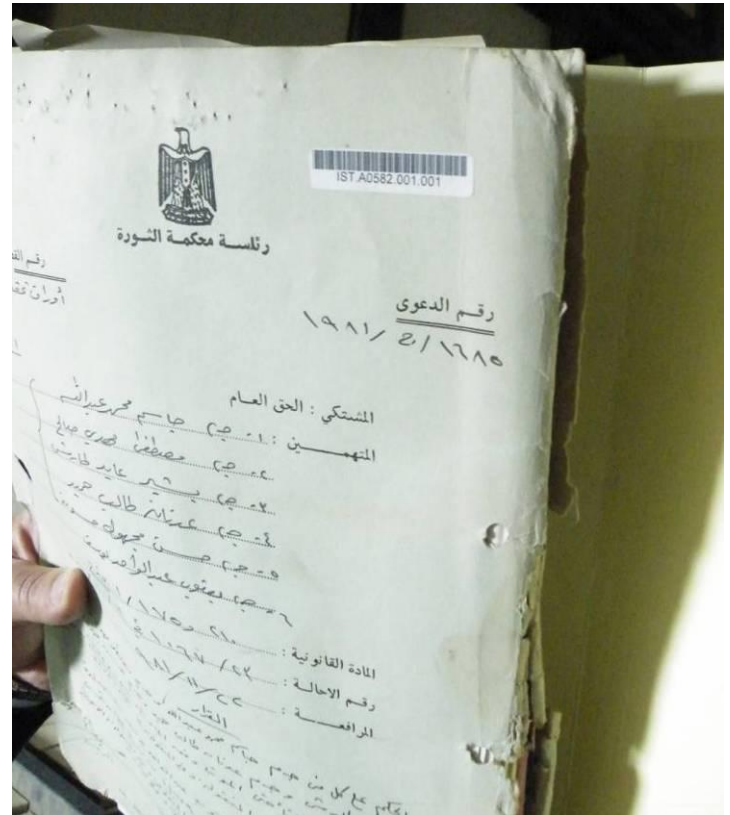
Figure 5. Interior layout of the SDSF (Courtesy of GRC)

SIGIR inspected all six storage vaults. At the time of the site visits, only one of the storage vaults was being used to store evidence. According to the SDSF facility manager, most of the evidence was still being kept at another location. In order to carefully process and log the voluminous amount of important evidence, it was being

transferred incrementally to the SDSF. The storage vault rooms were rectangular shaped with only one entrance/exit door. The SDSF facility manager showed SIGIR the one vault room that is currently storing all of the facility’s evidence. This room consisted of metal shelving units filled with boxes of documents (Site Photo 4). According to the SDSF facility manager, the U.S. Department of Justice and the Federal Bureau of Investigation assisted IHT representatives with the proper handling of evidence. For example, each document received is given a unique record identifier number and a computer barcode (Site Photo 5).



Site Photo 4. Documents stored within the SDSF storage vault room



Site Photo 5. Individual document within the SDSF storage room

The SDSF facility manager stated that the IHT has remodeled the other five storage vault rooms to accommodate the additional personnel. For example, three complete storage vault rooms and part of another have desks and chairs for IHT personnel (Figure 5).

### Museum

According to the SDSF facility manager, the IHT authorized and funded the remodeling of one storage vault room and a portion of another room into a museum. This museum will be a testament to the former regime’s 30-year reign of terror. For example, critical pieces of evidence produced for the Al Anfal Campaign trial will be made available, such as one document which stated the following (Site Photo 6):

*“All persons captured in those [Kurdish] villages shall be detained and interrogated by the security services and those between the ages of 15 and 70 shall be executed after any useful information has been obtained from them...”*

The museum will also have desks dedicated to presenting audio evidence from the multiple genocide trials conducted. One audio recording is that of Ali Hassan al-Majid<sup>14</sup>, who stated the following:

*“I will attack them [the Kurds] with chemical weapons and kill them all. What will they, the international [community] say?”*

The museum also displays a model of the farm house and spider hole where Saddam Hussein was captured by Coalition forces in December 2004 (Site Photo 7).

The IHT placed wood paneling on the walls of the storage vault, added new tile to the floor, and created an exquisite rear door.



Site Photo 6. Interior view of museum



Site Photo 7. Life-size replica of the spider hole where Saddam Hussein was found

### Latrines

The SOW required the construction of four masonry wall 4.6m x 4.6m latrines—two male and two female (one eastern-style and one western-style toilet in each latrine). SIGIR visited all four latrines. SIGIR identified low-quality (not durable) sink fixtures leaking in two of the latrines. In addition, SIGIR noticed that the tile floors were either cracked or buckled due to poor installation (Site Photo 8). The SDSF facility manager stated that the hot water heater in one of the male latrines consistently burned out, even after the IHT replaced it. SIGIR inspected the hot water heater but could not determine if the problem was inferior hot water heaters or a more serious wiring issue.

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<sup>14</sup> Saddam Hussein’s cousin, also referred to as “Chemical Ali.”



**Site Photo 8. Example of tile cracking and buckling inside SDSF latrine**

### Door Frames

Throughout the SDSF, SIGIR observed significant damage to the interior and exterior door frames (Site Photo 9). According to the SDSF facility manager, the original doors used were too heavy and the door assembly fell out of the wall, which caused damage to the surrounding walls. The SDSF facility manager stated that IHT maintenance personnel were able to reattach the door, but at the time of the site visit, the surrounding walls had not been repaired.

In addition, the SDSF facility manager stated that one of the two rear security doors was unusable because the outside concrete walkway restricted the door swing. SIGIR attempted to open this door; however, it opened only approximately six inches before it became stuck (Site Photo 10).

GRC representatives later visited the SDSF to evaluate the door frame issue. According to GRC, the IHT stated that it had replaced the original metal door frames. The IHT stated that the original door frames could not handle to the load of the doors and that was the justification for replacing the original door frames. According to GRC: “new frames were not completely patched in at the time of the inspection but are handling the weight

of the original doors.” Therefore, GRC considered this a user modification and not a warranty item.

SIGIR did observe damage to both interior and exterior door frames. Site Photo 9 shows a poorly installed door frame. The frame anchor is not embedded into the concrete block wall securely; instead, it is outside the block wall, which left the door frame being secured by the plaster covering the block wall. The door frame is too heavy for the plaster and eventually cracked the plaster and fell off. The SDSF facility manager stated that IHT maintenance personnel had reattached several door frames throughout the facility; therefore, SIGIR could not assess the quality of the contractor’s door frame installation. (The door frames that did not fall off were still covered with plaster; the door frames that did fall off had been reattached by IHT maintenance personnel.)



Site Photo 9. Interior door damage



Site Photo 10. Door unable to fully swing open

### HVAC System

The SOW originally required a single 100-ton HVAC unit for the entire facility. However, after the contract was awarded, GRC decided that “for maintenance and repair purposes it is not prudent to have only one unit. The contractor will evaluate dividing the building into zones and provide one, sized, split HVAC unit per zone.” The contractor’s design submittal shows four units providing climate control for the facility in four zones.

According to the SDSF facility manager, the air-conditioning system has been the most significant issue with the facility. The SDSF facility manager believed that the contractor provided used air conditioners, two of which did not work shortly after the IHT took occupancy of the facility. The SDSF facility manager opened the air-conditioning units and pointed out soldering and welding, which he believed proved that the contractor provided previously used units (Site Photos 11-13). At the time of the first site visit, the SDSF facility manager told SIGIR that all four units did not work. The SDSF facility manager stated that when the air-conditioning units did not work, numerous telephone calls were made to the contractor to correct the units. According to the SDSF facility manager, the contractor never responded. As the intense heat of summer approached, the necessity of operational air-conditioning units became paramount; consequently, IHT maintenance personnel decided to “repair” the units.

GRC representatives visited the SDSF to evaluate the air-conditioning unit issue. Since the IHT acknowledged attempting to repair the air-conditioning units, GRC concluded that the air-conditioning issue was not covered under the contractor’s warranty due to the “tampering, poor maintenance and unskilled personnel working on this equipment.”

Project file documentation lacked a detailed final inspection report documenting the testing of the HVAC system, including the operation of each zone for a specified period of time. Without a detailed report on the HVAC system, SIGIR could not determine the cause of the soldering and welding currently visible on the HVAC units (either the contractor providing used units or the IHT maintenance personnel making repairs). However, SIGIR does agree with GRC’s conclusion that the warranty is no longer valid because IHT personnel rather than contractor representatives repaired the units.



**Site Photos 11 and 12. Soldering done on HVAC units**



**Site Photo 13. Welding done on HVAC unit**

In addition, the SDSF facility manager stated that the entrance room did not have any HVAC vents; consequently, this room becomes unbearably hot in the summer. Upon entering this room, SIGIR observed no air-vent drops. After reviewing the contractor's as-built drawings, SIGIR noticed that the HVAC load-distribution plan did not identify this particular room; consequently, no air-vent drops were placed.

#### *Interior and Exterior Wall Cracks*

SIGIR observed numerous large cracks to the interior and exterior walls throughout the facility (Site Photo 14). GRC inspected the interior walls and stated that the "cracks in the plaster are caused by expansion and contraction of the plaster. The cracks extend only through the plaster not into the structure." Therefore, GRC did not view the wall cracks as warranty items. However, the cracks are an indication of poor-quality construction; considering that the wall cracks occurred before the facility was even one year old, SIGIR is concerned that these cracks will continue to spread and new cracks will emerge. SIGIR believes that the wall cracks should be addressed under the warranty.





**Site Photo 14. Example of cracking of interior wall**

### Fire Alarm System

The SOW required the installation of an electronic fire alarm system, including a manual pull station, hard-wired heat detectors, hard-wired ionized smoke detectors, and portable dry-chemical fire extinguishers.

The SDSF facility manager stated that the fire alarm system was not properly installed. For instance, the fire alarm would frequently activate for no reason. During the first SIGIR site visit, the fire alarm activated even though there was no fire or smoke in the facility. SIGIR observed several IHT personnel smoking inside this facility; therefore, IHT personnel could have tampered with the fire alarm system in order to smoke inside.

### Warranties

The first SIGIR site visit on 3 February 2009 identified several potential warranty issues, such as buckling tiles in the bathroom and wall cracks throughout the facility. According to the SDSF facility manager, the contractor would not respond to any requests made by IHT. Since the contractor's warranty expired on 9 February 2009, SIGIR contacted GRC, as the construction manager of this project, to alert them to potential warranty issues.

On 14 February 2009, the GRC Deputy Resident Engineer and quality assurance (QA) representative conducted a site visit at the SDSF to determine if warranty issues existed. On 7 March 2009, GRC issued a letter directing the contractor to remedy these warranty issues:

1. Repair the floor in all four bathrooms.
2. Repair the HVAC duct insulation and reconnect the flex duct to the registers.

3. Repair the metal seam by caulking and replace one fastener to correct the small roof leak.
4. Reset and trouble-shoot the facility fire alarm.

GRC gave the contractor a deadline of 17 March 2009 to remedy the warranty issues.

In addition, GRC stated that it would work with the contractor to contact the HVAC manufacturer's representative and request a visit to the SDSF to assess the HVAC equipment and submit a formal report on the condition of the equipment and the necessary repairs. However, GRC also stated that "due to the actions of the occupants and their maintenance staff, any needed repairs to these HVAC units will not be covered under the Warranty."

### **Follow-up Site Visits**

On 11 March 2009 and 27 September 2009, SIGIR conducted follow-up site inspections of the SDSF to determine if the contractor had corrected the deficiencies required under the warranty provision of the contract.

During the 11 March 2009 site visit, SIGIR observed the contractor in the process of repairing the floor in one of the four bathrooms. The contractor had not addressed the remaining deficiencies.

However, during the 27 September 2009 site visit, SIGIR toured the entire facility and determined that the contractor had remedied the previously identified warranty deficiencies (Site Photo 15). The SDSF facility manager stated that the GRC IZ Resident Office did an excellent job of requiring the contractor to return to the facility three times to ensure that each warranty issue was adequately addressed.



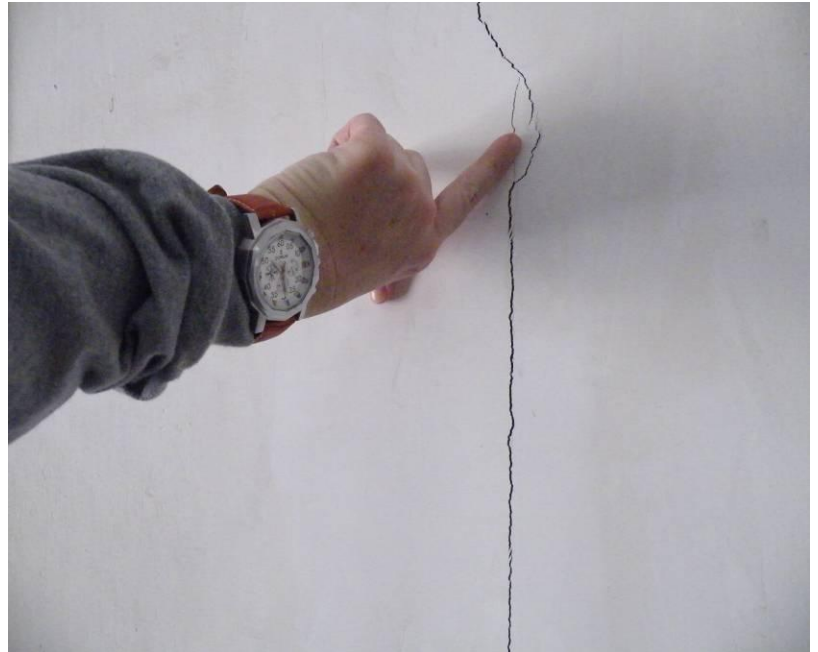
**Site Photo 15. Contractor replaced previously cracked and buckling floor tiles (See Site Photo 8 for original condition of bathroom floor.)**

### IHT-funded Repairs

In addition, the IHT used its own funding to correct some of the other issues not covered by the warranty, such as the HVAC units and interior/exterior doors. The IHT purchased several condensers, which remedied the HVAC unit problems; purchased a small air-conditioning unit for the room without air vents; and purchased and installed quality security doors and frames (Site Photo 16). SIGIR noted several wall cracks; however, the SDSF facility manager stated that the IHT maintenance personnel will continue to patch the wall cracks as they appear (Site Photo 17).



Site Photo 16. Newly installed security door funded by the IHT



Site Photo 17. Wall crack again appearing even after IHT patched it (see Site Photo 14 for original wall crack)

Overall, the SDSF facility manager stated the IHT was very happy with this facility, which will continue to play a vital role in providing a secure place to store critical documents to be used at upcoming trials of former regime members.

## Conclusions

On 9 February 2008, the U.S. Army Corps of Engineers Gulf Region Central (GRC) transferred ownership of the SDSF to the Regime Crimes Liaison Office (RCLO), which

is responsible for providing technical and logistical assistance to the IHT. The Transfer and Acceptance Letter, signed by GRC and RCLO representatives, stated:

*“The asset(s) or services listed herein have been completed in accordance with the contract documents except as noted in the attached documents, if any. This contract was awarded and completed under contingency circumstances and that all available project deliverables have been turned over to the appropriate facility representative(s).*

*Beneficial occupancy of this asset was achieved on 9 February 2008 and was turned over to the appropriate asset/facility managers. The Government/Facility Representatives retain all rights under the “Warranties Clause” of the Contract.”*

Project file documentation did not include either the final inspection performed by the GRC International Zone (IZ) Resident Office or an attached document with any noted deficiencies and punch list items outstanding. In addition, the project file lacked any photographs of the facility on the day of the final inspection to document either the correction of previous/outstanding deficiencies or the condition of the facility at turnover.

According to GRC IZ turnover documentation, the warranty period for this project expired on 9 February 2009.

During the construction of this project, the contractor experienced two work stoppages resulting from a structural failure and the contractor’s failure to construct the facility in accordance with the structural improvement plan developed after the structural failure. SIGIR reviewed the contractor’s initial design submittal and identified the following two significant omissions that contributed to the initial failure of the structure and the subsequent need for reinforcing:

- The original design calculations indicate that the center of the frame was to be supported with a column, but the contractor’s original drawings omit any support at the center of the frame.
- The design calculations for the steel frame make the assumption that there is no moment transfer<sup>15</sup> between the steel column base and the reinforced-concrete pedestal. This configuration is typical for moment frame<sup>16</sup> construction; however, restraint of the column bases must be provided. The foundation details do not provide any method for lateral restraint.

Further, SIGIR identified an issue with the load criteria for the project. In a review of the contractor’s engineering design calculations, GRC identified issues with the original design loads for the building. The original design live load<sup>17</sup> for the building was set at 5 pounds per square foot (psf). The design engineer justified this design load by

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<sup>15</sup> The word "moment" in the term moment frame refers to the moment of inertia placed on a building when in wind or earthquake conditions. A building faces two primary types of inertia. One is outer inertia caused by wind pressure. This is the same pressure applied to a person if they are standing in a strong wind. Inner inertia, like that from an earthquake, comes from the ground up. A person feels similar inertia when standing on a train that takes off quickly and they are shaken from the feet up. And, importantly in Iraq, moment would also occur in the event of lateral explosion against a structure.

<sup>16</sup> A moment frame is a box-shaped frame with special moment connections or joints that help in the resistance of wind and earthquake damage. The frame helps a building to flex as necessary to remain the building's integrity.

<sup>17</sup> The weight of everything superimposed on, or temporarily attached to, a structure (people, machinery and equipment, furniture, appliances, etc.) but not that of the material utilized in its construction or of anything permanently attached to it.

incorrectly categorizing the structure as “fabric construction supported by a light weight rigid skeleton structure.” The correct design load for this type of structure, as identified by GRC, is 20 psf. The increase in live load by a factor of four would significantly affect the design of the structure.

On 26 July 2007, a GRC structural engineer performed an inspection of the construction to date. An observation report identified several construction deficiencies, and all structural work again stopped while the contractor performed another structural evaluation. In September 2007, the contractor presented GRC with structural improvements, including a structural analysis that indicated the proposed improvements would provide a stable structure under eight different loading conditions. The proposal included a row of columns to be constructed along the centerline of the facility, as well as other strengthening improvements, such as corner bracing, cross bracing, and a strongback<sup>18</sup> wall.

On 3 February 2009, SIGIR conducted an on-site assessment of the project. At the time of the site assessment, the IHT had occupied the facility for almost a year. SIGIR observed IHT personnel conducting daily business, including researching and preparing for future criminal trials. The SDSF facility manager stated that due to the number of upcoming criminal trials, the size of the IHT workforce increased from approximately 100 to 200 personnel; however, the SDSF provided enough working space for the increased personnel. At the time of the site visit, only one storage vault was being utilized to store evidence. According to the SDSF facility manager, most of the evidence to be used at current or future trials was still being kept at another location. In order to carefully process and log the voluminous amount of important evidence, it was being transferred incrementally to the SDSF. The IHT converted the remaining storage vault rooms into additional office space and a museum.

SIGIR’s first site visit identified construction deficiencies, such as cracks in the interior and exterior walls; tile buckling in the bathrooms; loose heating, ventilation, and air-conditioning (HVAC) duct insulation; roof leaks; and fire alarm system malfunctions. In addition, the SDSF facility manager stated that additional construction deficiencies existed, such as non-operational HVAC units and interior/exterior door-frame damage. The SDSF facility manager stated that the contractor provided used HVAC units and poorly installed door frames; this resulted in the door and frame falling off. The SDSF facility manager stated that two HVAC units became non-operational shortly after the IHT took occupancy. The IHT made numerous telephone calls to the contractor to correct the units, but the contractor never responded, according to the SDSF facility manager. As the stifling summer heat approached, IHT maintenance personnel attempted to repair the units.

As SIGIR’s site visit occurred only days before the contractor’s warranties expired, SIGIR notified GRC about these construction deficiencies. GRC representatives visited the SDSF, and on 7 March 2009, directed the contractor to remedy these warranty items:

1. Repair the floor in all four bathrooms.
2. Repair the HVAC duct insulation and reconnect the flex duct to the registers.
3. Repair the metal seam by caulking and replace one fastener to correct the small roof leak.

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<sup>18</sup> A fastener system for securing a reinforcing beam or the like to a poured concrete structural member includes an anchor to be set in poured concrete with an exposed handle portion free of said concrete, and a shaft with a slotted end for receiving the handle portion.

4. Reset and trouble-shoot the facility fire alarm.

GRC gave the contractor a deadline of 17 March 2009 to remedy the warranty issues.

Regarding the HVAC and door frame issues, GRC concluded that the air conditioning issue was not covered under the contractor's warranty because of the "tampering, poor maintenance and unskilled personnel working on this equipment;" and the door frames reattached by IHT maintenance personnel were a "user modification and not a warranty item." SIGIR could not determine the causes for the non-operational HVAC units or door frame damage for two reasons:

- There was no final inspection report documenting the complete testing of the HVAC system (including the operation of each zone for a specified period of time).
- The contractor-installed door frames were covered with plaster.

Since the SDSF facility manager acknowledged that IHT maintenance personnel performed repairs of the HVAC units and door frames rather than having them done by contractor representatives, the warranty for each item is no longer valid.

On 27 September 2009, SIGIR performed a follow-up site inspection and determined that the contractor had remedied the previously identified warranty deficiencies. The SDSF facility manager stated that the GRC IZ Resident Office did an excellent job of requiring the contractor to return to the facility three times to ensure that each warranty issue was adequately addressed. The IHT used its own funding to correct some of the other issues not covered by the warranty, such as the HVAC units and the interior/exterior doors.

The SDSF facility manager told SIGIR that the IHT was very happy with this facility, which will continue to play a vital role in providing a secure place to store critical documents to be used at upcoming trials of former regime members.

## **Recommendations**

Because GRC required the contractor to correct the construction deficiencies SIGIR identified, the draft report did not contain any recommendations for further action and comments on the draft report were not required.

## **Management Comments**

Though 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 concurrence with the draft report by the Gulf Region Division of the U.S. Army Corps of Engineers and Multi-National Force – Iraq. No additional comments are necessary.

## **Appendix A. Scope and Methodology**

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SIGIR performed this project assessment from December 2008 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 one auditor/inspector.

In performing this project assessment, SIGIR:

- Reviewed documentation, including contracts, contract modifications, notice to proceed, Statement of Work, and quality assurance/quality control reports;
- Reviewed the design package (plans) and photographs documenting construction progress;
- Interviewed personnel from the U.S. Army Corps of Engineers Gulf Region Central and Regime Crimes Liaison Office; and
- Conducted three on-site assessments and documented results at the Secure Document Storage Facility project in the International Zone, Baghdad, Iraq.

## **Appendix B. Acronyms**

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CMU	Concrete Masonry Unit
GRC	Gulf Region Central
HVAC	Heating, Ventilation, and Air Conditioning
IHT	Iraqi High Tribunal
IRRF	Iraq Relief and Reconstruction Fund
IZ	International Zone
m	Meter
m <sup>2</sup>	Square Meter
MFR	Memorandum for Record
psf	Pounds per Square Foot
QA	Quality Assurance
RCLO	Regime Crimes Liaison Office
SDSF	Secure Document Storage Facility
SIGIR	Special Inspector General for Iraq Reconstruction
SOW	Statement of Work
USACE	U.S. Army Corps of Engineers



## **Appendix C. Report Distribution**

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### **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 and Subcommittees, Chairman and Ranking Minority Member**

### **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 D. 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:

Kevin O'Connor

Shawn Sassaman, P.E.

Yogin Rawal, P.E.