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Fort Bend ISD ~ Construction Follow-up Audit

PREPARED AND SUBMITTED BY:

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Fort Bend ISD Construction Management Follow-up Audit

Introduction

In October 2014, Gibson initiated a pre-emptive Construction Management Audit for the Fort Bend Independent School District (FBISD). The purpose of that audit was to evaluate the district's readiness for the bond program that was ultimately approved by voters in November 2014. This audit was completed in March 2015. The resulting audit report contained 11 recommendations to improve FBISD's construction management and bond program management practices.

In March 2015, FBISD selected Jacobs Engineering (Jacobs) to be the district's program manager for the 2014 bond program. In this role, Jacobs will oversee all bond funded projects for the duration of the program. Jacobs and FBISD have been working together on implementing our recommendations, although FBISD is ultimately responsible for implementing the recommendations.

As of February 29, 2016, all of the recommendations made in the initial audit report have been implemented by FBISD (see Table 1).

Table 1. Summary of Results

	Status
Recommendation A.1: Modify board policy and reporting for project changes supported by contract contingency funds.	Complete
Recommendation A.2: Enhance and finalize design and construction procedures manual, and include procedures for working with the bond program manager.	Complete
Recommendation A.3: Finalize contracts and documents to be used for the 2014 bond program and include in the procedures manual.	Complete
Recommendation B.1: Update FBISD design standards for use on internal projects and for incorporation into the program manager's design management process.	Complete
Recommendation B.2: Develop safety and security standards for contractors working at active school sites.	Complete
Recommendation C.1: Enforce responsibility for daily site inspections and the use of daily inspection reports.	Complete
Recommendation C.2: Modify construction progress reports to provide more meaningful information to district management and other stakeholders.	Complete
Recommendation D.1: Change approach for selecting architects and engineers.	Complete
Recommendation D.2: Evaluate construction contracting options with new program manager.	Complete

	Status
Recommendation E.1: Re-engineer invoice processing to maximize the use of current technologies.	Complete
Recommendation E.2: Negotiate the use of the program manager's PMIS for FBISD internal construction project management.	Complete

Source: *Internal Audit of Construction Management*, Gibson Consulting Group, Inc., 2015

The remainder of this report presents more detailed information about the districts efforts to implement the recommendations, the supporting evidence reviewed, and the audit team's independent assessment of the status.

Follow-Up Audit Detailed Results

Each recommendation from the initial audit report is included in the following pages. Under each recommendation, the following information is provided:

- The recommendation
- The management response to the recommendation made in the initial audit report
- The district’s reported status as of the November 2015 implementation progress report provided to the audit team
- The audit team’s assessment of status based on review of documents and interviews with management and staff in the Design and Construction Department.

A. Policies and Procedures

Recommendation A.1: Modify board policy and reporting for project changes supported by contract contingency funds.

***Management Response A1:** Staff supports this recommendation. During the development and update of the district design and construction procedures manual (see Recommendation A.2), staff will seek legal guidance and evaluate best practices in other districts to determine whether it would be appropriate to propose revisions to current policy for board consideration, or whether we simply need to update procedures to clearly define authority for approving the use of contingency funds.*

Fort Bend ISD Status as of November 30, 2015: Not complete

Audit Team’s 2016 Follow-Up Assessment: Complete

The audit team reviewed a new “sample” template for reporting uses of contingency funds; however, no contingency fund reports have been posted on the district web site as of the date of this audit report. This template effectively summarizes the use of contingency funds by type of use, including:

- Code change
- Errors and omissions
- Owner directive
- Unforeseen – unforeseen conditions
- Value engineering

The PMIS (Prolog) will be used to generate contingency reports for bond-funded projects. The total value of combined contingency across all bond projects is \$27,559,797. The district plans to publicly report contingency spending and status at the project level but not program level; however, there are internal plans to monitor program-level contingency spending. This is important so that district leadership and the Board can monitor the overall health of the bond program based on the drawdown of all contingencies combined, which is budgeted for approximately \$27 million. Should the \$27 million be expended at a rapid

rate during the first few years of the program, this would be an early warning indicator that cost issues may escalate to the point of needing additional funds in the later years of the program. School district bond programs as well as construction programs in general typically have change order needs towards the end of the projects. Contingency funds should be maintained to resolve project close-out issues, and not expended early on additional scope changes or other items.

Recommendation A.2: Enhance and finalize design and construction procedures manual, and include procedures for working with the bond program manager.

Management Response A2: *Staff supports this recommendation. Staff will develop a comprehensive design and construction procedures manual incorporating best practices for the effective and efficient management of construction projects, including those managed in-house and those monitored by a program manager. The procedures manual will also include new documents related the use of a program manager and current construction management documents into an easy to use format with proper referencing schema.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

The audit team reviewed the most current "Design and Construction Procedures Manual" dated March, 2016. The manual is comprehensive in scope and addresses the major elements of construction management. The manual is organized into the following five sections:

1. Introduction
2. Design Phase
3. Procurement Phase
4. Construction Phase
5. Post-Construction Phase

The latest update to the districts internal procedures included the description of the Program Manager's role and responsibilities and a schedule for monitoring their performance. This document, in conjunction with the Program Management Plan now in place, will provide the tools necessary for the staff to fully understand their respective responsibilities. Formal performance reviews of program manager performance should be conducted quarterly, and these reviews should be reviewed by district leadership, the Bond Oversight Committee and the Board.

Further, the most recent version of the Jacobs Program Management Plan included a description of their corporate responsibilities, identification of key positions, and roles and responsibilities of the key personnel, as well as budget goals and schedules for all the projects included in the 2014 Bond.

Recommendation A.3: Finalize contracts and documents to be used for the 2014 bond program and include in the procedures manual.

Management Response A3: *Staff supports this recommendation. Staff anticipates the use of both AIA contract forms and FBISD contract forms for 2014 Bond Projects, based on the scope of the project. Staff will continue to consult with legal counsel in developing procedures to govern the use of the various forms, including when it is most appropriate to use each form, and the review process related to each contract form.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

With assistance from the Program Manager, FBISD and their outside counsel have finalized several contracts, including the standard American Institute of Architects (AIA) contracts for design and construction contracts. These documents include appropriate modifications to reflect FBISD's specific needs for all bond and non-bond contracts. The audit team reviewed a sample of executed architectural and engineering contracts and the standard form contract for general contractors to validate that this recommendation has been implemented.

B. Work Standards

Recommendation B.1: Update FBISD design standards for use on internal projects and for incorporation into the program manager's design management process.

Management Response B1: *Staff supports this recommendation. The FBISD board adopted educational specifications and design standards in 2012, and the document should be updated annually, or as new initiatives develop. Staff will develop an administrative procedure and, if necessary, proposed Board Policy that clearly establishes the timeline and process that will be used to update educational specifications on a periodic basis.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

In 2016 the audit team reviewed the updated design standards and found them to be complete. This document should be issued to all architects and engineers currently under contract, and request their input as to the usability of the document as a proper guide for their work. An industry forum review would further guide the district to ensure that the document was not only complete, but adequate to serve the purpose which it was intended to fulfill.

Recommendation B.2: Develop safety and security standards for contractors working at active school sites.

Management Response B2: *Staff supports this recommendation. The district requires contractors to have an identification badge while on FBISD property, but the procedure is not well-documented. Staff will address safety and security standards during the development of the procedures manual.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

As of February 2016 the safety and security standards are complete, and appropriately include safety protocols between contractors and district personnel that establish the following types of information and guidance related to construction activities on active school sites:

- Who a contractor will coordinate with when mobilizing on site (e.g., school principal, FBISD maintenance staff, project manager). *Procedures Manual Section 4, Construction Phase, and in the Campus Principal's Introductory Package, Section 2*
- What hours contractors will be allowed to accept deliveries of major items. In large construction programs deliveries are often made by 18-wheelers that require closing lanes and blocking entrances or exits. This should not be allowed during high traffic periods (e.g., student drop-off and pickup times). *Safety Program Guidelines Manual Section 5.12 and 6.1.*
- Who will coordinate on-site for crane set up and hours of operations for movement of major materials or equipment. This would normally be done after school hours or weekends to minimize risks. *Safety Program Guidelines Manual Section 5.32.*
- If there is an accident, who the first, second, and third points of contact will be at the district. *Safety Program Guidelines Manual Sections 5.4, 5.10, 7.1, and 7.2.*
- Jobsite Hazard Analysis (JHA) and Maintenance of Traffic Plans (MOT). *Safety Program Guidelines Manual Section 5.12, 5.13.*
- General requirements for working on active school sites. *Sections 5.5 and 6.1 of the Safety Program Guidelines Manual.*

The FBISD Bond Delivery Team, including project managers, has received training on the FBISD Safety Guidelines and has been certified in the OSHA (Occupational Safety and Health Organization) 10-hour Safety course. Additionally, the Safety Guidelines are re-visited at each pre-construction meeting with each general contractor.

While not directly related to the audit recommendation, there does not appear to be a dedicated position at FBISD or Jacobs for safety. The Program Manager is not contractually required to provide this position although this was discussed during contract negotiations. In the absence of a Jacobs' position, the district

should consider dedicating one full-time position for monitoring safety at all the sites, and coordinating with contractors, the district police department, fire department (for hot work), and district and school administrators to ensure that construction work is planned and coordinated to minimize the risk of accidents or incidents, particularly at school sites where students and staff are present.

C. Project Controls

Recommendation C.1: Enforce responsibility for daily site inspections and the use of daily inspection reports.

Management Response C1: *Staff supports this recommendation. The new procedures manual will address this practice. Staff will also assess current department staffing to determine availability of resources to fulfill this new expectation. The district will also leverage the partnership of the program manager to provide effective and timely site inspections.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

As of November 2015, FBISD was planning to rely only on general contractors to perform daily inspections on projects. Project managers, would only be responsible for weekly site visits to construction sites. A revised job description for the FBISD project managers, as well as the same job description for Jacobs, do not require daily inspections. Based on a review of the Jacobs' contract, daily inspections are not required, although this was discussed during contract negotiations. Jacobs is also required by contract to visit each construction site at least weekly.

The intent of the audit recommendation was for FBISD to comply with its requirement for its own staff to conduct independent daily site inspections. Daily site inspections by contractors are commonplace, but primarily serve the contractor's benefit to document rain days, when subcontractors are on site, how many workers are on site, and what general activities are occurring. Contractor daily inspections typically do not include quality control.

The Prolog system has an inspection sheet template that can be used to support daily inspections by FBISD and Jacobs' staff. Further, both FBISD and Jacobs' staff have technology (e.g., iPads) to complete daily inspections electronically and remotely, with the ability to attach photographs. The district staff exhibited a concern over the cost of daily inspections, and whether or not the benefit of daily site inspections would exceed that cost (estimated to be greater than \$3 million if provided by Jacobs). Current project managers cannot reasonably be expected to visit each of their construction sites daily and fulfill their additional responsibilities. Additional contracted staff resources would be needed to perform these daily inspections to ensure high quality work.

In February 2016 the Superintendent issued a memorandum which stated that the district was moving forward with creating two new positions that would provide the inspection function as direct hires. The

audit team believes the inspectors should become a liaison to the district's facilities maintenance function to ensure that these important internal stakeholders are represented during the construction process to make sure that a level of quality and consistency in construction is reached not only in architectural finishes but in mechanical systems, electrical work, maintenance access and piping. Accordingly, the district should fill one of these positions with an inspector specialized in mechanical, electrical, and plumbing (MEP). The other position should have a background in architectural, civil and structural engineering to monitor construction of all active school project and communicate with the district's architects and engineers when quality issues surface. This practice will help ensure that the districts projects result in high quality construction and that any issues are addressed quickly before work is covered.

The audit team supports the district's evaluation of the costs and benefits of an inspection function, and believes the hiring of these two new inspector positions will add value to the bond program and meet the spirit if not the letter of the audit recommendation while minimizing costs.

Recommendation C.2: Modify construction progress reports to provide more meaningful information to district management and other stakeholders.

Management Response C2: *Staff supports this recommendation. The implementation of a Program Management Information System (PMIS) will allow FBISD to develop custom reports that will support more timely and effective reporting for the district's various audiences.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

FBISD is using Prolog to generate management reports on all bond program projects. These reports are prepared monthly and are posted to the district's 2014 Bond Program web page. Reports are available on a project and program basis. Appendix A presents an example of the most recent (February 2016) progress report for Sullivan Elementary School. The report includes target and actual schedules of completion, financial information by phase of the project, a high level budget status graph, a scope/comments section, and a current photograph of the site.

The following financial data items are presented in the report:

- a. Original Budget
- b. Budget Changes
- c. Current Budget (a + b)
- d. Original Commitments
- e. Approved Changes
- f. Pending Commitments
- g. Estimate to Complete
- h. Projected Commitments (d + e + f + g)

- i. Project Over/Under (c – h)
- j. Cost to Date
- k. % Expended (j / c)

Additional project level reports are being generated for changes funded by contract contingency funds. (See related comments under Recommendation A.1 regarding contingency reporting.)

The current management reports (including the contingency report template) meet the requirements of the audit recommendation.

D. Contracting

Recommendation D.1: Change approach for selecting architects and engineers.

Management Response D1: *Staff agrees with this recommendation. The use of a pre-approved list is a holdover from the previous administrative team and prior bond programs. Going forward, professional services will be selected based on demonstrated competence through the use of a well-developed procurement process. In regard to the 2014 bond program, staff has issued an RFQ for professional services. Submissions will be selected in partnership with the identified program manager.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team’s 2016 Follow-Up Assessment: Complete

In early 2015, the district released a Request for Qualifications (RFQ) for architectural and engineering services. The RFQ resulted in the selection of 13 firms (out of more than 100 who submitted). Most of the selected firms were assigned to one or more specific projects based on an assessment and scoring of their skills and experience compared to project needs. The audit team reviewed the RFQ, and discussed the selection process with Design and Construction Management and Jacobs on-site Program Manager.

This approach was fundamentally different from the “pre-approved list” of architectural and engineering firms applied during the prior bond program. Under that approach, not all firms selected were used, and those assigned were not necessarily matched to the project most suited to their skills, experience, and capacity. Under the recent RFQ, only one architectural and engineering firm has not yet been assigned to a project.

Recommendation D.2: Evaluate construction contracting options with new program manager.

Management Response D2: *Overall, Staff agrees with this recommendation. Contracting options should be evaluated and determined for each individual project. The District has complied with Board Policy CV (Local) by seeking Board approval of procurement method when methods other than CSP have been used.*

Staff does not concur with the auditor’s statement that “CMAR appears to be more suited for renovation projects and CSP for new construction projects,” as application of this viewpoint does not account for the

various factors that must be considered when determining a procurement method. Many school districts successfully use CMAR for new construction under the right conditions. Further, based on our discussion with other public school districts, in the current market, the use of CSP on new construction has resulted in inadequate or less than desirable competition and lack of interest/response from qualified construction firms. The FBISD Design & Construction Department has used competitive sealed proposal (CSP), job order contracting (JOC), and CMAR to complete construction projects this year.

Staff will address this decision-making process in the newly developed procedures manual, and will work with legal counsel and industry practice leaders to ensure the development of sound procedures.

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

Since the initial audit report, the district gained input from Jacobs and has changed its contracting strategy to the one recommended – the CSP approach has become the default contracting option for new construction projects, while CMAR (Construction Manager at Risk) will be considered for renovation projects. This has been documented in the new procedures manual.

E. Department Efficiency

Recommendation E.1: Re-engineer invoice processing to maximize the use of current technologies.

Management Response E1: *Staff agrees that it is important to leverage technology in the payment of invoices, and will be working with the identified Program Manager to implement a robust, scalable construction management information system.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

The audit team met with FBISD Design and Construction staff to determine if the invoice processing approach had been changed. Since the initial audit, the district has made great strides in streamlining invoice processing. The district now uses Prolog (also see E.2 below) to receive, approve and route invoices electronically. Vendor invoices and supporting documentation are provided in PDF format.

The new process was validated with several FBISD Design and Construction and Jacobs' staff, and the audit team observed the use of the new system and its reporting/tracking capabilities. Some manual intervention is still required to enter the invoice into Oracle/PeopleSoft, the district's financial system, but most of the manual and paper-intensive processes in the Design and Construction Department are now automated.

Recommendation E.2: Negotiate the use of the program manager's PMIS for FBISD internal construction project management.

Management Response E2: *Staff agrees with this recommendation. It is the district's intention to move forward with a non-proprietary PMIS that can be used to track all projects.*

Fort Bend ISD Status as of November 30, 2015: Complete

Audit Team's 2016 Follow-Up Assessment: Complete

Based on the audit team's review of the Program Manager contract, FBISD can use the Program Manager's PMIS (Prolog) and has ownership rights to it. Based on interviews with FBISD staff, the PMIS has been used for several months on bond projects, and the accounting module has been implemented for non-bond projects. It is the intent of the district to roll out full functionality on the non-bond projects during 2016.

FBISD staff received training on Prolog, and has access to on-site Jacobs' resources for technical assistance. Some FBISD staff have been trained more than others; the district should assess Prolog proficiency and determine additional training needs as more modules are rolled out for non-bond projects.

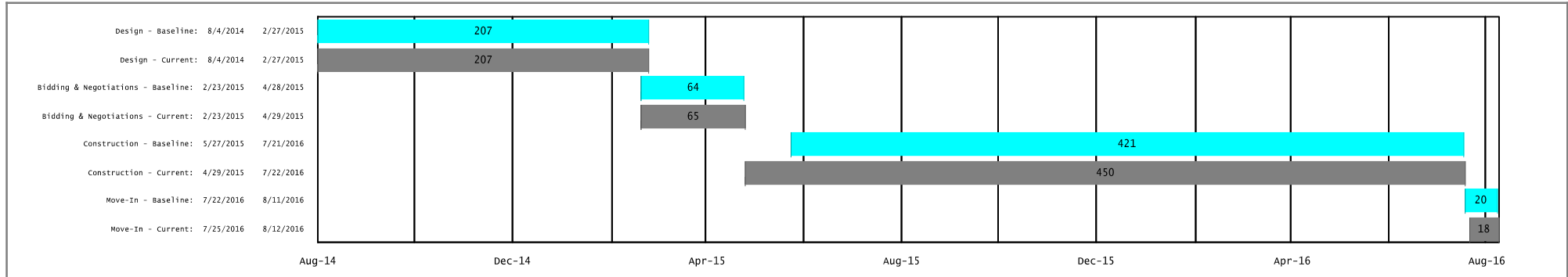
Appendix A – Sample Monthly Report



Project Summary
SULLIVAN ELEMENTARY (#47-RIVERSTONE)
 Phase 1 - BP04



SCHEDULE SUMMARY



Financials include Security Cameras, Keying and Civil if applicable

Description	BUDGET			COMMITMENTS					COST		
	A	B	C=A+B	D	E	F	G	H=D+E+F+G	I=C-H	J	K=J/C
	Original Budget	Budget Changes	Current Budget	Original Commitments	Approved Changes	Pending Commitments	Estimate to Complete	Projected Commitments	Projected Over/Under	Cost To Date	% Expended
Architect & Engineering/Professional Services	\$5,710,596	\$0	\$5,710,596	\$2,985,717	(\$509,643)	\$0	\$577,821	\$3,053,895	\$2,656,701	\$2,019,811	35%
Construction	\$32,238,553	\$0	\$32,238,553	\$31,800,468	\$0	\$0	\$0	\$31,800,468	\$438,085	\$15,543,862	48%
Furniture, Fixtures & Equipment	\$2,579,084	\$0	\$2,579,084	\$0	\$0	\$0	\$3,070,084	\$3,070,084	(\$491,000)	\$0	0%
Site Development	\$241,789	\$19,764	\$261,553	\$261,553	\$0	\$0	\$0	\$261,553	\$0	\$261,553	100%
Administrative and Other Project Costs	\$65,477	\$0	\$65,477	\$0	\$0	\$0	\$1,000	\$1,000	\$64,477	\$0	0%
Project Contingency	\$2,149,238	(\$19,764)	\$2,129,474	\$0	\$0	\$0	\$2,129,474	\$2,129,474	\$0	\$0	0%
Totals	\$42,984,737	\$0	\$42,984,737	\$35,047,738	(\$509,643)	\$0	\$5,778,379	\$40,316,474	\$2,668,263	\$17,825,225	41%

SCOPE/COMMENTS

SCOPE: Construction of a new elementary school in the Riverstone Community for 1,200 students. The school was designed to achieve Leadership in Energy and Environmental Design (LEED) Certified Level.

COMMENTS: Masonry on-going in areas A and B. Exterior window installation has begun in Areas C, D and E. Storefront installation to begin first week in March. Transformer pad complete and Contractor has called for final inspection. Transformer to be set in March. Controlled air to be in place mid-March (temporary power to provide if permanent power is not in place). Finishes will begin after controlled air in place for Areas C, D and E. Framing ongoing in Area B and MEP rough-in on-going for Areas A and B first and second floor. Roofing on-going, all areas dried in, roofer working on flashing and trim.

PROJECT PHOTO



BUDGET /COST STATUS

