



The School Board of Broward County, Florida
Operational Review of
Facilities and Construction Management

June 21, 2012

Prepared By:



Assurance ■ Tax ■ Consulting

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June 21, 2012

Patrick Reilly
Chief Auditor
School Board of Broward County
600 S. E. 3rd Avenue Ft. Lauderdale, FL 33301

Dear Mr. Reilly:

Pursuant to our engagement letter dated February 29, 2012, we have performed an Operational Review of the Facilities and Construction Management department, including specific control and compliance testing procedures for the Parkway Middle School and Walker Elementary School projects.

Our report is organized in the following sections:

- **Executive Summary** – The executive summary is a concise outline of our detailed findings included in this report.
- **Background** – This section provides a brief overview of the key departments in the construction process and common definitions used throughout this report.
- **Objectives and Approach** – The objectives and approach are expanded upon in this section, which provides an outline of the various phases of our review.
- **Specific Procedures and Results** – Detailed results of the procedures are described more fully. The sufficiency of these procedures is solely the responsibility of the parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures performed either for the purpose for which this report has been requested or for any other purpose.

As described in our objectives and approach, the findings and conclusions are based on our analysis of the processes, documents, records, and information provided to us by management. If our scope had been expanded, including performance of additional procedures and / or sample sizes in the period under review, it may have resulted in findings of questionable or inappropriate transactions. We reserve the right to supplement our findings in the event of any of these circumstances. We offer no assurances that schemes or fraudulent activities have not or are currently not being perpetrated by any person within the District. In considering our recommendations, the District should consult with its attorney for the contract related proposed changes.

We would like to thank the Facilities and Construction Management and the Office the of the Chief Auditor departments for their assistance during this Review.

Respectfully submitted,



McGladrey LLP

Executive Summary

EXECUTIVE SUMMARY

Design and Construction Oversight and Management Processes

We have conducted our Operational Review of the Facilities and Construction Management (F&CM) department utilizing nine (9) sub-processes and areas as outlined in our engagement letter. Our compliance testing was focused on the Parkway Middle School and Walker Elementary School projects, as well as overall departmental policies and procedures for each of the processes in scope.

What our procedures revealed was a general lack of consistency between the F&CM's current policies and what we have identified as best practice in the industry. The matrix below outlines the Risk Ratings for each observation and identifies whether the observation is related to compliance or a best practice. This evaluation addresses the severity of the observation and the potential impact on the operations. Items are rated as High, Moderate, or Low.

- *High – Risk Items* are considered to be of immediate concern and could cause significant operational issues if not addressed in a timely manner.
- *Moderate – Risk Items* may also cause operational issues and do not require immediate attention, but should be addressed as soon as possible.
- *Low – Risk Items* could escalate into operational issues, but can be addressed through the normal course of conducting business.

Sub-Process / Area	Risk Rating and Number of Process Observations			
	High	Moderate	Low	Total
Architectural Contract Development		4		4
Design Oversight	1	2		3
Construction Contract Development	9	3	1	13
Guaranteed Maximum Price Development	2	1		3
Project Scheduling			2	2
Payment Application Review and Approval	5	1	1	7
Change Order Review and Approval	4	1		5
Owner Project Management	1	1	2	4
Closeout	2			2
Total	24	13	6	43
Observation Type	High	Moderate	Low	Total
Compliance Observation	5		2	7
Best Practices Observation	19	13	4	36

EXECUTIVE SUMMARY - CONTINUED

Design and Construction Oversight and Management Processes – continued

The Design and Construction Oversight and Management Processes matrix reveals that 47% of observations relate to the Construction Contract Development and Pay Application Review processes. These observations generally arose from variances between F&CM's current policies and procedures and those policies and procedures we recognize as best practices in the industry. In light of this, the following Exhibits have been included in this report to help facilitate F&CM's implementation of our best practice recommendations and to help reduce the gap between industry best practices and current policy:

- Exhibit A: Pay Application Review Checklist
- Exhibit B: Redlined Construction Manager at Risk Agreement
- Exhibit C: Redlined Design Build Lump Sum Agreement
- Exhibit D: Redlined Continuing Services Lump Sum Agreement
- Exhibit E: Redlined Architectural Agreement
- Exhibit F: Redlined Continuing Service Architectural Agreement
- Exhibit G: Schedule of Values Template

We also included additional language modifications that in our experience will put the F&CM in a stronger contractual position. These additional contract modifications did not warrant individual observations but have been noted throughout the redlined document.

The compliance matters relate to deficiencies in the detailed reconciliation and review of pay applications and change orders. F&CM can adequately address these observations through their implementation of the recommendations found in the detailed results section below and in conjunction with the attached Exhibits.

In conjunction with our compliance and best practice procedures, we reviewed various reports issued by the Broward School District's Office of the Chief Auditor. Through these reviews, we noted that the Office of the Chief Auditor had previously documented various observations similar to those identified during our review. Examples of these similar observations include:

- Observation 6 – CM involvement in the Design Phase
- Observation 9 – Buyout Savings Reconciliation – Bid Phase
- Observation 11 – General Conditions – Not-to-Exceed
- Observation 12 – Applications for Payment to the Construction Manager
- Observation 21 – General Conditions and Labor Negotiation
- Observation 23 – Subcontracts – Bid Tabulation Review / Buyout Reconciliation
- Observation 26 – Records Management
- Observation 29 – Pay Application Review Responsibility

We recommend the F&CM take additional consideration to ensure these observations are remediated in a timely manner.

Potential Cost Avoidance – Best Practices

During our review, we identified instances where we believe F&CM could have avoided costs had certain best practices been implemented. The Potential Cost Avoidance observations below can be addressed through implementation of our Construction Contract and Guaranteed Maximum Price negotiation recommendations proposed in this report for future projects.

EXECUTIVE SUMMARY - CONTINUED

Potential Cost Avoidance – Best Practices – continued

The following is a summary of our quantifiable results as detailed in the Potential Cost Avoidance section of this report.

Project / Avoidance Criteria	Total
Parkway Middle School	
1. Construction Manager's Fee - in excess of industry standard	\$ 400,732
2. CM Fee on Unused Contingency	34,527
3. General Conditions / CM Labor - in excess of industry standard	329,217
4. Change Order - CM's Fee in excess of industry standard	3,546
Project Total	\$ 768,022
Walker Elementary School	
1. Construction Manager's Fee - in excess of industry standard	\$ 410,134
2. Reimbursement of CM Fee on Unused Contingency	1,513
3. General Conditions / CM Labor - in excess of industry standard	260,687
Project Total	\$ 672,334
Total	\$ 1,440,356

The actual cost avoidance amounts realized would be subject to the negotiation process with the Construction Manager / Design Builder. The above quantification represents what we have observed in the industry and reflects our actual experience in the negotiation process with similar projects. It should be noted that the negotiation procedures for these two projects was performed circa 2008 and therefore would have been subject to the economic and industry conditions of that time.

Contract Delivery Method Analysis

During our review procedures, we noted that F&CM utilized the CM at Risk Delivery Method for several design reuses that may have been more appropriate under a Lump Sum type Delivery Method. We have provided the Facilities and Construction Management department with our rationale and criteria in their selection of the following Contract Delivery Methods.

- Lump Sum / Hard Bid – competitively bid
- Lump Sum / Prepriced – noncompetitive bid
- Construction Manager (CM) at Risk – with a Guaranteed Maximum Price (GMP)
- Design Build (DB) – with a Guaranteed Maximum Price

Through our interviews at F&CM, we identified a common thread of displeasure with the Construction Manager at Risk Delivery Method amongst personnel. While it is clear that no single Delivery Method is perfectly suited for all projects or Contract Owners, it is the responsibility of the Owner to develop (1) appropriate evaluation procedures for identifying their objectives and goals for a specific project, (2) analyzing their internal resources and (3) addressing their internal risk appetite for selecting an appropriate Delivery Method. It is our experience that the CM at Risk Delivery Method can increase the quality and efficiency of a project while still mitigating the Contract Owner's cost risk if the Contract Owner has the necessary internal resources or access to external resources such as consultants who specialize in the relevant areas to manage such an agreement. The common thread of displeasure with the CM at Risk Method coupled with the observations and cost avoidances identified in this report indicate a potential lack of resources around proper method selection and appropriate implementation of the selected method.

The detailed Contract Delivery Method Analysis section of this report analyzes all of the methods listed above and the Risk Factors F&CM should consider when selecting the Contract Delivery Method and was developed to assist F&CM management in this selection process.

EXECUTIVE SUMMARY - CONTINUED

Project Interface and Internal Structure Analysis

As a part of our operational review, we performed an evaluation of the Facilities and Construction Management departments' internal structure. Based on interviews with management and our review of the internal structure, we proposed modifications to the existing structure. These proposed modifications would retain only the necessary operational (construction phase) communication lines between the Project Manager and the Architect / Professional Consultant, while increasing the Design Services and Contracts / Cost Estimation's involvement in the processes. This would allow Design Services and Contracts / Cost Estimation's specific technical knowledge to be utilized since it may be better suited than the skill set of a Project Manager.

Our experience in the industry shows that many comparable entities do not have access to the depth of internal resources that the Broward County School District Facilities and Construction Management department has at their disposal. Many public and private sector Facilities departments manage large construction projects without an internal design team or cost estimation function. Based on the current structure as outlined in the detailed structural analysis section, we observed that F&CM could improve the effectiveness of communications and increase cost savings measures by involving the Design Services and Contracts / Cost Estimation departments more frequently in a number of the processes we reviewed. Matching the expertise of internal Architects, Cost Estimators, and Project Managers with the analogous outsourced function can help facilitate improved communications and cost savings

The Project Interface and Internal Structure Analysis section of this report outlines in greater detail our specific recommendations related to these proposed modifications and are presented for F&CM's consideration.

Background

BACKGROUND

Roles and Responsibilities

The following departments play key roles in the facilities and construction management processes:

Facilities and Construction Management (F&CM)

The Facilities and Construction Management department is responsible for providing project management services during all phases of construction, from design and pre-construction to inspection and closeout. This is generally accomplished by contracting with professional firms for all design, construction and other contract services and monitoring the projects until completion.

Capital Payments

The Capital Payments Group assists Facilities with construction by tracking purchase orders and reviewing / processing monthly applications for payment.

Common Definitions

Some common definitions for construction terminology used throughout this report are as follows:

1. Owner – refers to the Owner of the construction project (i.e., Broward County School District). We utilize this term interchangeably with “F&CM” throughout the report. Where we specifically want to refer to the Board or a specific department within the District, such as Design Services, Project Management, or Capital Payments, we use the specific name.
2. Project Budget – refers to the District’s funds budgeted for the project including the construction budget and all other fees, land acquisition costs, furnishings, equipment and other costs necessary to complete the project.
3. Construction Budget – refers to the District’s budget for construction of the project, including Construction Manager management fees, costs of the work and contingencies. This also includes direct purchases made by the District. The construction budget is not the same as the contractor’s Guaranteed Maximum Price.
4. Guaranteed Maximum Price (GMP) – refers to a written estimate by the contractor of the maximum price the District will pay for construction of the planned project.
5. Owner Direct Purchases (DOP / ODP) – refers to direct purchase of materials by the District for the purpose of sales tax savings. The District may choose to purchase various construction materials, supplies and equipment that may be part of a subcontract directly from the vendor. The subcontract amounts, and subsequently the GMP, are reduced by the amount of the Purchase Order (PO) expended, plus all applicable sales taxes, resulting in savings to the District.
6. Contingency – refers to funds included in a budget to allow for defraying the expense of unforeseen circumstances in a construction project.
7. Contingency Use Directive (CUD) – refers to the form used by F&CM for authorizing the use of contingency funds.
8. General Conditions – refers to direct cost items paid by the contractor that are not included in subcontracts or the negotiated fixed fees. Typical items include direct labor, equipment rental, office expenses, insurance, telephone service, utilities, etc. These costs are also referred to as “general requirements” and are the costs incurred by the contractor to manage the project.
9. Payment Application (Pay App) – the invoice submitted by the contractor for payment, including a detailed Schedule of Values (SOV) of the approved GMP and the various components of the costs of the work.
10. Retainage – refers to funds withheld from a construction contract until completion of the project, or some other agreed upon date. The amounts are withheld to provide the District with assurances for the quality of the work. Florida Statute 218.735 and 255.078 outline the requirements for payment of construction contracts for local government entities and for public lands and property, including allowable retainage.
11. Buyout or Buyout Savings – refers to the process of reconciling the original estimated cost of trade / subcontract work (as presented in a GMP) with what was contractually agreed to between the contractor and its subcontractors.

Objectives and Approach

OBJECTIVES AND APPROACH

Objectives

The objective of this engagement was to perform a review of the Facilities Department for select processes in order to:

- Identify opportunities for process and internal controls improvement
- Identify and recommend areas for best practice, including benchmarking

Services and Scope of Work

Operational Review: Internal Controls Review & Compliance Testing

Our work plan for the following major processes included review and testing of internal controls, tests of compliance with District policies & procedures, and Florida Statutes for two projects (as applicable*):

1. Architect contract development
2. Design Oversight*
3. Contractor contract development
4. GMP Development Process / Construction Budget
5. Project Scheduling, including critical path*
6. Owner Project Management*
7. Pay Application Review and Approval*
8. Change order review and approval*
9. Project Closeout*

Benchmarking / Best Practices

The following benchmarking and best practices were applied by sampling projects of different sizes, complexity, and structure.

1. Cost avoidance – identification and recommendations
2. Industry ratio comparisons
3. Comparing the District to other School Districts (or other entities)
4. Recommendations related to existing Policies and Procedures Manuals
5. Recommend improvements to existing Architect and Construction contracts

Approach

Phase One - Project planning and scoping

Phase 1 was performed to create an overall plan for the work that was performed. The purpose of this phase was to understand aspects of your business in general and for the scoped processes listed above.

Our risk assessment procedures were conducted in a top-down approach that allowed our team to partner with you in identifying and addressing risk. Our methodology addressed business risk in relation to your critical success factors and strategic business objectives. This helped us align the review with the relative importance of risk factors within your organization.

OBJECTIVES AND APPROACH - CONTINUED

Approach - continued

Major work steps:

- Agreed with the client on the specific scope and nature of work, fees and other arrangements and reached an approved engagement contract.
- Established communication protocols, including engagement logistics and information requests.
- Interviewed senior management and key process owners about the business risks.
- Determined the various sub-processes / categories that contain the greatest risk.
- Created a schedule and detailed workplan for the engagement.
- Scheduled & assigned the project team to perform the various tasks.

Phase Two - Design adequacy assessment

The primary objective of this phase was to document the process including the design of the control activities within the various business functions / processes.

Major work steps:

- Gained an understanding of the individual in scope business processes, functions and department. The team gained this understanding by conducting a facilitated session and process walkthroughs with the process owner and other selected staff.
- Developed documentation that highlights what risks are prevalent, their impact to the overall control structure and the control activities in place to mitigate the risks.
- Developed recommendations for remediation of any design gaps or other improvement opportunities identified.
- Gathered data for benchmarking and best practices analysis.

Phase Three - Compliance testing and benchmark analysis

During this phase, we performed transactional testing to assess compliance in the processes / areas noted above.

Major work steps:

- Created a work plan, including sampling methodology.
- Requested transaction documents, data or evidence.
- Executed compliance tests and benchmark analysis, preserving appropriate documentation.
- Analyzed results and determined findings.
- Prior to completing fieldwork, we discussed initial findings and potential recommendations with management.

Phase Four – Reporting

At the conclusion of our review, we summarized our results into one report and conducted an exit conference with Facilities and Construction Management and the Office of the Chief Auditor to discuss our findings, including:

- Calculation of any adjustments
- Draft report – compliance observations and recommendations for process and control improvements
- Meetings with process owners and management
- Identifying areas that may commend additional procedures and follow-up

Note: We are not responsible for the actual implementation of any of our recommendations or to act or function in any way as to make management decisions.

Design and Construction Oversight and Management Processes

The following section of the report details specific observations and recommendations identified as a result of our procedures. Compliance testing was limited to the Parkway Middle School (\$19M GMP) and Walker Elementary School (\$10M GMP) projects, as well as overall departmental policies and procedures for each of the processes in scope. The table below outlines the Risk Rating for each observation, identifies whether the observation is related to compliance or a best practice, and includes the specific recommendation suggested to address the observation.

As described in our objectives and approach, the observations and recommendations identified below are based on our analysis of the processes, documents, records, and information provided to us by management. Our procedures consisted of review and testing of internal controls, tests of compliance with F&CM policies and procedures, compliance with Florida Statutes, and benchmarking / best practices analysis to comparable entities. The results of these procedures have been detailed below.

Architectural Contract Development Process

Rating	Observation	Recommendation	Management Responses
Moderate	1. Right to Audit Provisions – Best Practice		
	<p>During our review of the Professional Services Agreement between the School Board of Broward County, FL and Project Consultant for Professional Services, Article 10.3 Project Consultant's Accounting Records and Right to Audit Provisions, we noted that the contract does not clearly define auditable records, parties bound and there is not an audit threshold included.</p> <p>The lack of a stronger Right to Audit clause can result in:</p> <ul style="list-style-type: none"> • CM refusal to provide certain documents • Limitations in the breadth and scope of what is auditable • Incurrence of unnecessary and excessive expenses 	<p>We recommend F&CM amend the contract to include language that more clearly defines what is an auditable record, who is bound by the right to audit clause, and include a clause that requires the Architect to pay for audit fees should the audit reveal findings over a threshold amount.</p> <p>Please refer to our redlined contract templates to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Architectural Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	2. Direct Personnel Expense – Best Practice		
	<p>During our review of the Professional Services Agreement between the School Board of Broward County, FL and Project Consultant for Professional Services, Article 5.3 Direct Personnel Expense and Article 5.7 Fees for Supplemental Services, we identified areas for improvement in the language regarding negotiated labor rates and related markup for work performed outside of the scope of Basic Services.</p>	<p>We recommend F&CM amend the contract to include language that requires a breakout between salary and each fringe category, defines fee markup as a percentage of raw labor, and removes the clause allowing overtime charges. These changes would make the negotiated hourly rates more auditable, thereby allowing the Owner to more effectively determine if the rates are fair and appropriate.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
Moderate	3. Reimbursable Expenses – Best Practice		
	<p>During our review of the Professional Services Agreement between the School Board of Broward County, FL and Project Consultant for Professional Services, Article 5.6 Fees for Reimbursables, we identified areas for improvement in the language regarding allowable reimbursable expenses.</p> <p>The lack of a well defined reimbursable expense clause can result in the Owner reimbursing for:</p> <ul style="list-style-type: none"> • Costs that are disallowable • Inadequately supported charges • Excessive fees 	<p>We recommend F&CM amend the contract to include language that caps reimbursable travel mileage and disallows long distance and cell phone charges, overtime charges, discretionary employee benefits and fee markup on reimbursable expenses.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Architectural Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	4. Payment for Supplemental Services / Reimbursables – Best Practice		
	<p>During our review of the Professional Services Agreement between the School Board of Broward County, FL and Project Consultant for Professional Services, Article 6.2 Payment for Supplemental Services / Reimbursables, we identified areas for improvement in the language regarding required supporting documentation.</p>	<p>We recommend F&CM amend the contract to include language that more explicitly defines what supporting documentation the Architect is required to submit to the Owner with their billings. This will ensure that the Project Consultant understands what the Owner needs to have in order to process the billing, and will prevent delays in payment.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
<p>During our review (and redlining), of the F&CM's Architectural Contracts, we identified additional contract language that in our experience could be modified to put the Owner in a stronger contractual position under various circumstances. These modifications were not deemed significant enough to include in this report as an individual observation, but have been noted throughout the redlined document.</p> <p>We recommend the F&CM consider these proposed improvements in association with those explicitly stated in Observations 1 – 4 above.</p>			

Design Oversight Process (Reuse of plans)

Rating	Observation	Recommendation	Management Responses
Moderate	5. Documented “Lessons Learned” – Best Practice		
	<p>During interviews with various Facilities employees, we noted that recommendations for improvements and “lessons learned” specifically related to the reuse of designs were not documented and shared with other design team members, project managers or staff for future projects. During our procedures related to the development of this observation, we also identified a significant time delay between substantial completion (October 1999) on the Westwood Heights ES prototype and the certificate of final inspection (August 2011). This has been documented in association with Observation 42 below.</p> <p>Failure to document previously identified errors and omissions, design and construction rework, budget overruns and schedule delays on a design reuse may result in the same mistakes on future projects.</p>	<p>Projects which encompass the reuse of plans provide an even greater opportunity to take advantage of the lessons obtained from prior experience.</p> <p>We recommend that F&CM:</p> <p>Develop a “Lessons Learned” process including the following steps:</p> <ul style="list-style-type: none"> • Have staff document project issues, challenges and solutions throughout the phases of each project • Schedule meetings at key project milestone dates during the design and construction phases with the Project Team to discuss what design and construction challenges they have experienced on their projects • Conduct the meetings using a standard meeting agenda with the Project Team and document all findings • Gather feedback from Administrators, Architects, Project staff and end users after the school project opening for considerations and use in future projects. <p>For our recommendation related to the time delay between substantial completion and final inspection on the Westwood Heights ES project, refer to Observation 42 below.</p>	<p>Response: F&CM has implemented a Post-Occupancy Evaluation process to provide feedback as to how the facility is functioning, its maintainability and space efficiency.</p> <p>This activity occurs at the end of the first year or early into the second year of the operation of a new facility. The process has two stages: Online Post Occupancy Pre Visitation Survey and a walk-through conducted by a visiting team of District and area staff, and the Parent Teacher Association (PTA).</p> <p>During the course of a project, the Project Team meets to review progress on the project at milestone dates throughout the design and construction phases.</p> <p>F&CM will review the recommendations and examine the current practices for improvements where necessary.</p> <p>F&CM agrees with the recommendation, as defined in Observation 42. Although not as timely as desired, F&CM currently has procedures in place to close out projects. Improvements are being made to compress the current timeframe between Substantial Completion and Final Completion. Working more closely with the Building Department and Capital Budget have resulted in the close-out process being executed more efficiently.</p>

Design Oversight Process (Reuse of plans) - continued

Rating	Observation	Recommendation	Management Responses
Moderate	5. Documented “Lessons Learned” – Best Practice - continued		
			ECD: Completed and an Ongoing Process Responsible Party: Director, Portfolio Management

Design Oversight Process (Reuse of plans) - continued

Rating	Observation	Recommendation	Management Responses
Moderate	6. CM Involvement in the Design Phase – Best Practice		
	<p>Through our procedures, we identified that for the Walker Elementary School Cafeteria reuse, the Construction Manager was not involved in the Design phases of the project.</p> <p>Late or lack of involvement of the CM during the Design Phase may result in missed opportunities for cost savings and avoidance through constructability reviews, cost estimate reconciliations and value engineering (for further discussions see the Contract Delivery Method Analysis section of this report).</p>	<p>We recommend that F&CM award GMP Contracts with Pre-construction services to the CM as early in the Design Phase as Phase I, schematic design.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Design Oversight Process (Reuse of plans) - continued

Rating	Observation	Recommendation	Management Responses
High	7. Design Reuse Fees (Prototype vs Reuse) – Best Practice		
	<p>During our review, Facilities and Construction Management was able to provide total Architectural costs, but unable to provide the disaggregation between site adaptation, code modifications, and reuse fees.</p> <p>Analysis of the data that was provided revealed that 29% (4 of the 14 reuse projects) had higher Architectural fees than the original prototype design. We also identified that the average cost of the reuse projects was approximately 77% of the original prototype cost.</p>	<p>Industry standards indicate the average reuse of a design results in Architectural Fee cost savings of approximately 40%. Without the proper disaggregation of fees (as was requested), a proper analysis cannot be conducted to determine why the expected Architectural Fee cost savings was not achieved.</p> <p>We recommend F&CM implement procedures to obtain and analyze the referenced data to determine why the expected cost savings were not obtained. Further, going forward, this will enable Management to perform a cost benefit analysis as to the effectiveness of reusing designs based on the original prototype for similar projects.</p>	<p>Response: Westwood Heights ES is the prototype and Broward Estates ES was the first reuse of the prototype. The reuse fee for Broward Estates ES and all subsequent reuses of the prototype is \$123,984. The total fees paid to the project consultant for each reuse exceeds the reuse fee. The excess fees were necessary to compensate the project consultant for Site Adaptation, Code Compliance, revised District Design and Material Standards, Supplemental Services, Reimbursable Services, and Additional Basic Services provided at the request of the Owner. The Additional Basic Services were usually related to work necessitated to provide for continued facilities such as parking areas and playgrounds displaced by the location of the new building. In some case Additional Basic Services resulted from Owner requested scope unrelated to the new building such as re-roofing, IAQ renovation, ADA compliance, life safety systems, and other funded projects assigned to the project consultant out of convenience. This practice, commonly referred to as “scope creep” was discontinued January 29, 2007 by the Deputy Superintendent. Prior to the issuance of the procedural change project managers were able to add scope without the Deputy Superintendent’s approval. The revised procedure requires the Deputy Superintendent’s approval to add scope to an existing contract.</p>

Design Oversight Process (Reuse of plans) - continued

Rating	Observation	Recommendation	Management Responses
High	7. Design Reuse Fees (Prototype vs Reuse) – Best Practice - continued		
			<p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process

Rating	Observation	Recommendation	Management Responses
High	8. Disclosure of Related Party Relationships – Best Practice		
	<p>During our review of the Agreement between Owner and Construction Manager, Article 3.4 Bidding and Awarding Phase, we noted that the contract did not require the Construction Manager to disclose any related party relationships with bidding subcontractors.</p>	<p>We recommend F&CM amend the contract to include language requiring the Construction Manager to disclose any related party relationships to the Owner prior to awarding the subcontract.</p> <p>Related party relationships between the Construction Manager and the subcontractor heighten the risk for collusion and overcharges to the Owner. By requiring the Construction Manager to disclose these relationships, the Owner can monitor them more effectively.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
High	9. Buyout Savings Reconciliation – Bid Phase – Best Practice		
	<p>During our review of the Agreement between Owner and Construction Manager, Article 3.4 Bidding and Awarding Phase, we noted that the contract did not require the Construction Manager to submit to the Owner a buyout reconciliation of all subcontracts commitments.</p>	<p>We recommend F&CM amend the contract to include language requiring the Construction Manager to submit to the Owner a buyout reconciliation of all subcontract commitments. Furthermore, this result should be presented in the schedule of values so that the net buyout adjustment is shown in the Owner Savings / Buyout line of the schedule</p> <p>Requiring a buyout reconciliation and reviewing it against supporting documentation will enable the Owner to monitor project savings more effectively.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	10. Buyout Savings Reconciliation – Monthly Reconciliation – Best Practice		
	<p>During our review of the Agreement between Owner and Construction Manager, Article 6.1 Guaranteed Maximum Price for Construction, we noted that the contract did not require the Construction Manager to submit to the Owner a buyout reconciliation monthly (as applicable).</p>	<p>The buyout savings account on the Schedule of Values should be adjusted monthly as subcontracts are awarded during the construction period through use of a Change Order. The Construction Manager should submit documentation to the Owner to support the original buyout reconciliation, as well as support for each change to the buyout reconciliation thereafter. This documentation should be reviewed by the Owner as part of the pay application review process.</p> <p>Requiring a buyout reconciliation and reviewing it against supporting documentation will enable the Owner to monitor project savings more effectively.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	11. General Conditions as a Reimbursable Not-to-Exceed Cost – Best Practice		
	<p>During our review of the Agreement between Owner and Construction Manager, Article 7.1.04 General Conditions for Construction Phase, we noted that General Conditions is a negotiated sum paid to the Construction Manager rather than a Not-to-Exceed, reimbursable cost.</p>	<p>We recommend F&CM amend the contract to include industry standard language (in line with the Standard AIA Contract) that sets General Conditions as a reimbursable not-to-exceed cost.</p> <p>By reimbursing the Construction Manager for General Conditions based on actual costs incurred and paid, rather than negotiating a Lump Sum, the Owner can ensure that they do not over pay the Construction Manager for costs that were never actually incurred.</p> <p>Please refer to Observation #22 for additional information, our redlined contract template to see our suggested wording changes, and Cost Avoidance observation #3 for both the Parkway and Walker projects, which outlines how the F&CM can avoid potential cost of approximately \$590,000 on future comparable projects.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	12. Applications for Payment to the Construction Manager – Best Practice		
	<p>During our review of the Agreement between Owner and Construction Manager, Article 8 Payments to the Construction Manager, we identified areas for improvement to the requirements of the payment application process.</p>	<p>We recommend F&CM amend the contract to include language that requires proper support for each pay application including a reconciled job cost report, rights of Owner to withhold, requirement of the Construction Manager to pay the Subcontractors within 7 days of receipt of payment from Owner, and certain conditions to be met before final payment is released.</p> <p>Incorporating these best practices into the contract will ensure that the expectations of the Owner are clearly communicated to the Construction Manager, and will allow the Owner to contractually require desired processes.</p> <p>Please refer to Observations #29 & 30 for additional information, and our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	13. Construction Manager's Fees – Best Practice		
	<p>During our review of the General Conditions of the CM Agreement, Article 25 Construction Manager's Fees, we identified areas for improvement to the language that describes the Construction Manager's Fees (Overhead and Profit Fees).</p>	<p>We recommend F&CM amend the contract to calculate CM Fees based on a percentage of Cost of Work, rather than negotiating a lump sum in the GMP and allowing for adjustments under certain circumstances. These fees should be negotiated at the time of the GMP; not at the execution of the Construction Contract.</p> <p>By making the CM fees a product of a well-defined cost of work, the Owner can avoid possible contention in negotiation of fees during the construction phase of a project.</p> <p>Please refer to our redlined contract template to see our suggested wording changes, and Cost Avoidance Observation #1 (Parkway and Walker) which outlines how the F&CM can avoid potential costs of \$810,000 on future comparable projects.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	14. Cost of the Project – Best Practice		
	<p>During our review of the General Conditions of the CM Agreement, Article 26 Cost of the Project, we identified areas for improvement to the language that describes the Cost of the Project.</p>	<p>We recommend F&CM amend the contract to expand the definition of the Cost of the Project by including language defining how to price CM-owned equipment, defining how to account for scrap and cash discounts and third party equipment rentals, requiring rent-to-own analyses, limiting cell phone and travel expenses, and defining what types of labor-related expenses are reimbursable. F&CM should also amend the contract to exclude certain items from the Cost of the Project such as discretionary fringe benefits, overtime charges not previously approved by Owner, costs outside of industry benchmarks and expenses due to negligence or misconduct.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
High	15. Change Orders, Extra Work and Claims – Best Practice		
	<p>During our review of the following contract templates used by F&CM:</p> <ul style="list-style-type: none"> General Conditions of the CM Agreement, Article 27 Change Orders and Construction Change Directives Design Build, Document 00700, General Conditions of the Contract, Article 35 Change Orders <p>We identified areas for improvement in the language defining and pricing changes in the work.</p>	<p>We recommend F&CM amend the contract to expand the language defining the cost of a change. These amendments should outline the specifics regarding each available method for computing a change order, address how to calculate markup for each available method and include specific markup limitations for all contractor tiers.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	16. Right to Audit Provisions – Best Practice		
	<p>We reviewed the following construction contract templates used by F&CM:</p> <ul style="list-style-type: none"> General Conditions of the CM Agreement, Article 44 Right to Audit Provisions Design Build, Document 00700, General Conditions of the Contract, Article 46 Right to Audit Provisions Agreement for Open End Services, Article 9.3.1 Project Consultant's Accounting Records and Right to Audit Provisions <p>We identified areas for improvement in the language addressing the details of the Owner's Right to Audit.</p> <p>The lack of a strong Right to Audit clause can result in:</p> <ul style="list-style-type: none"> Refusal to provide certain documents Limitations in the breadth and scope of what is auditable Incurrence of unnecessary and excessive expenses 	<p>We recommend F&CM amend the contract to include language that more clearly defines what is an auditable record, who is bound by the right to audit clause, and include a clause that requires the Construction Manager to pay for audit fees should the audit reveal findings over a threshold amount.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
Low	17. Lump Sum Contract Pricing – RSMeans – Best Practice		
	<p>During our review, we observed that for Continuing Service Lump Sum agreements, F&CM is utilizing RSMeans for pricing the projects. The RSM pricing for each project is then multiplied by an adjustment factor that was negotiated at the origination of the CS agreement.</p> <p>Based on industry practice and our experience, RSMeans is an effective tool for evaluating the reasonableness and completeness of cost proposals, rather than as a means for pricing the projects. However, as noted F&CM instructs the continuing service contractors to use RSMeans as the sole method to price their lump sum proposals.</p>	<p>We recommend that F&CM direct continuing service contractors to present Lump Sum proposals without utilizing RSMeans as the pricing source of their estimate.</p> <p>By utilizing RSMeans as the pricing model for Lump Sum projects, F&CM may incur costs that could be avoided or reduced by specific contractors. For example, RSMeans does not take into consideration potential cost savings related to lower prices due to existing contractor inventory, an individual contractor's compensation structure and any contractor owned depreciated equipment.</p> <p>Upon receipt of the contractor's proposal, F&CM should continue to utilize RSMeans as an effective tool to evaluate the reasonableness and completeness of the cost proposals</p> <p>See our attached Lump Sum contract redline, Exhibit D, for proposed contract language related to this recommendation.</p>	<p>Response: The District solicits competitive pricing utilizing the RS Means guideline by evaluating factors in the solicitation of bids. Award of contracts is based upon the lowest factor of 1.00 or less. It also includes the location factor. In today's market the lowest factor is 0.57. In other words, the District is enjoying a 43% discount on the allowable costs in RS Means.</p> <p>There are certain criteria determined in the selection of the Construction Services Minor Projects delivery system. The criteria include cost parameters and consideration of the urgency of the work.</p> <p>Additionally, the Cost Estimator reviews quantities, market availability and costs, as well as any other pertinent information to optimize savings.</p> <p>F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	18. Lump Sum Contract Pricing - Cost Estimator Override – Best Practice		
	<p>Through interviews with Facilities and Construction Management personnel, we noted that during Lump Sum Contract negotiations, significant disagreements in cost between the Cost Estimation department and the final proposal accepted by Project Management from the Contractor are not communicated to the School Board.</p> <p>Subsequent to the preparation of an internal cost estimate, project management may complete a “How to Proceed” memorandum should they feel the proposing contractor’s estimate is more appropriate. Based on our interviews, current F&CM policy allows for this memorandum to be filed. This policy is currently being followed. It requires the “How to Proceed” memorandum to be signed by only the project manager. It is also our understanding based on our interviews and inspection of Board items that the memo is not presented to the School Board when a proposal is submitted for approval.</p>	<p>We recommend that if the project manager accepts the contractor’s proposal and there is a quantified disagreement between the internal cost estimation department and the contractor’s proposal greater than \$50,000, a formal report should be prepared indicating the reasons for disagreement. This report should be submitted to the School Board for review in association with the request for approval of the proposal.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>

Construction Contract Development Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	19. Direct Personnel Expense – Best Practice		
	<p>During our review of the Agreement for Open End Services Article 5.3 Direct Salary Expense, we identified areas for improvement in the language regarding negotiated labor rates and related markup.</p>	<p>We recommend F&CM amend the contract to include language that requires a breakout between salary and each fringe category, defines fee markup as a percentage of raw labor, and removes the clause allowing overtime charges. These changes would make the negotiated hourly rates more auditable, thereby allowing the Owner to more effectively determine if the rates are fair and appropriate.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility.</p> <p>ECD: January 2013</p> <p>Responsible Party:—Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
Moderate	20. Reimbursable Expenses – Best Practice		
	<p>During our review of the Agreement for Open End Services Article 5.5 Fees for Reimbursables, we identified areas for improvement in the language regarding allowable reimbursable expenses.</p> <p>The lack of a well defined reimbursable expense clause can result in the Owner reimbursing for:</p> <ul style="list-style-type: none"> • Costs that are disallowable • Inadequately supported charges • Excessive fees 	<p>We recommend F&CM amend the contract to include language that caps reimbursable travel mileage and disallows long distance and cell phone charges, overtime charges, discretionary employee benefits and fee markup on reimbursable expenses.</p> <p>Please refer to our redlined contract template to see our suggested wording changes.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>ECD: January 2013</p> <p>Responsible Party:—Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>
<p>During our review (and redlining), of the F&CM's Construction Contracts, we identified additional contract language that in our experience could be modified to put the Owner in a stronger contractual position under various circumstances. These modifications were not deemed significant enough to include in this report as an individual observation, but have been noted throughout the redlined document.</p> <p>We recommend the F&CM consider these proposed improvements in association with those explicitly stated in Observations 8 – 20 above.</p>			

Guaranteed Maximum Price (GMP) Development Process

Rating	Observation	Recommendation	Management Responses
High	21. General Conditions and Labor Negotiation – Best Practice		
	<p>During our review we noted that for both Parkway Middle School and Walker Elementary School, the development of the GMP process included a lump sum negotiation of General Conditions and Labor (Construction Phase Fee). Based on our discussions with Contracts and Cost Estimation no supporting schedules outlining what made up these sums are obtained or reviewed for reasonableness or accuracy by F&CM. In addition, by negotiating general conditions as a lump sum, the owner does not share in any savings.</p> <p>One of the significant benefits of a cost plus fee contract, as was used for these projects, is that the Owner can and should require the CM to provide a detailed breakdown of the actual cost estimate for General Conditions and Labor. These estimates can be reviewed by the Owner and then approved as a not-to-exceed amount in the GMP, rather than a lump sum. This process is consistent with Industry practice and our own experience in reviewing numerous CM at risk contracts, with a GMP.</p> <p>Lack of proper review of this data can result in the following:</p> <ul style="list-style-type: none"> • Payment for General Conditions not incurred by the CM • Payment for Labor at rates greater than actual cost • Excessive Labor Burden rates • Payment for contractually disallowable items 	<p>In association with Observation #12 above, we recommend F&CM obtain from the CM, a detailed breakdown of General Conditions, Labor, and Labor Burden. This information should be reviewed in detail by F&CM to assess for reasonableness, contractual compliance and accuracy.</p> <p>Once an appropriate evaluation has been performed, this breakdown should be negotiated as a not-to-exceed balance, subject to reimbursement at actual cost during the course of the project.</p> <p>Potential cost avoidance has been computed in the Cost Avoidance section of this report for the Parkway and Walker projects in an effort to quantify the future potential benefit obtained by F&CM on comparable projects if this recommendation is implemented.</p> <p>Due to the significant potential for overpayments as a result of this form of negotiation (as evidenced by Cost Avoidance Observations #3 for Parkway and Walker below, which note approximately \$590,000 of potential cost avoidance), we recommend F&CM review the contract in consultation with its legal counsel to consider if it should exercise the contractual Right to Audit provision. It is our observation that due to the reimbursable nature of a CM at Risk Agreement, and the fact that the contract does not explicitly state the negotiated sums are “fixed”, exercising the Right to Audit provision is appropriate and General Conditions / Labor would be auditable under this Article for both the Parkway and Walker projects.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Guaranteed Maximum Price (GMP) Development Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	22. Subcontracts – Related Party Identification – Best Practice		
	<p>During our review, we noted that there is no formal policy addressing the identification of subcontractors or materials vendors that are affiliates of, or are a related party to the Construction Manager.</p> <p>The failure to identify a related party relationship between the Construction Manager and a subcontractor or materials supplier can result in:</p> <ul style="list-style-type: none"> • Duplication of fees paid by the Owner • Competitive bidding deficiencies • Negative public reputation as a result of bidding deficiencies 	<p>In association with Observation #8 above, we recommend F&CM implement a policy to formally check all subcontractors and material vendors for common ownership or an equity relationship with the Construction Manager.</p> <p>This recommendation can be accomplished by subjecting the subcontractor bid tabulation list and the direct owner purchase vendor listing to a simple search procedure through an online resource (such as corporationwiki©).</p>	<p>Response: F&CM agrees that a formal policy addressing the identification of subcontractors or materials vendors that are affiliates of, or are a related party to the Construction Manager should be implemented.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Guaranteed Maximum Price (GMP) Development Process - continued

Rating	Observation	Recommendation	Management Responses
High	23. Subcontracts – Bid Tabulation Review / Buyout Reconciliation – Best Practice		
	<p>During our review of the selected projects, we noted that there was no written documentation to indicate that the subcontractor bid packages and / or subcontractor bid tabulations were reviewed by F&CM. Project Management stated that their presence at the bid openings were sufficient to preclude any errors or deficiencies in the process.</p> <p>Lack of proper review procedures and documentation around the CM's selection of subcontractors may result in the following:</p> <ul style="list-style-type: none"> • Selection of subcontractors that F&CM has had problems within previous dealings (financial viability, work performance etc.) • Potential Bid-rigging – CM controls the specifications and scoping information, preventing equal opportunity bidding • Inability to accurately, independently track buyout savings • Competitive Bid P & P / FS Statutes • Negative public reputation as a result of bidding deficiencies <p>Violation of District Policy and the Florida Statutes regarding the competitive bid process – lowest responsive bidder is not chosen.</p>	<p>In association with Observations #10 & 11 above, we recommend F&CM implement a policy which includes the following:</p> <ul style="list-style-type: none"> • Written approval of subcontractor bid tabulation sheets • Formal, independent reconciliation of bid tabulation sheets with the GMP • Formal, independent reconciliation of bid tabulation sheets with awarded subcontracts • Contractual requirements as outlined in Observations #10 & 11 	<p>Response: F&CM agrees that best practices should be implemented to avoid excess costs by reviewing, tabulating, and confirming award to the low bidder. Implementation of this process will necessitate either additional staff or outsourcing.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction, and Manager, Design and Construction Contracts</p>

Project Scheduling Process

Rating	Observation	Recommendation	Management Responses
Low	24. Project Procurement Schedules – Best Practice		
	<p>During our review, we noted that project materials procurement schedules are not developed to establish the timeline for the procurement required to ensure on time project delivery. Project Managers currently address materials procurement (according to F&CM policy) through project meetings but do not require the referenced schedules from the Construction Manager.</p> <p>Lack of written procurement schedules can lead to critical schedule delays and increased project costs.</p>	<p>We recommend that project management request from the contractor, a material procurement schedule in addition to the critical path as another means of ensuring timely delivery of services.</p> <p>This schedule will provide the project manager with another tool for evaluating lead times and the resulting effect on the critical path of the project should a materials purchase be delayed.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>
Low	25. Dollar Value Time Graphs – Compliance		
	<p>As a product of payment application review procedures, we noted that the Dollar Value Time Graphs required by Article 8.12 of the Construction Management Agreement for both Parkway Middle School and Walker Elementary School were not delivered with each application for payment.</p> <p>Not obtaining the contractual Dollar Value Time Graphs can prevent F&CM from adequately monitoring scheduling / percentage of completion and could result in advanced billing on applications for payment.</p>	<p>We recommend that F&CM enforce this Article of the Agreement going forward as a beneficial means of schedule monitoring. The required graph consecutively tracks the percentage of completion of both the Application for Payment's dollar value attained and the contract time based on calendar days, all coinciding with the date of the application for payment.</p>	<p>Response: F&CM agrees with the recommendation</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>

Payment Application Review and Approval Process

Rating	Observation	Recommendation	Management Responses
Low	26. Records Management - Compliance		
	<p>During our review of applications for payment, we noted instances of incomplete or noncurrent records in the Records Management department.</p> <p>Parkway: We noted on 5 out of 27 applications for payment that the Records Management department was maintaining an application that had been revised prior to payment.</p> <p>Walker: We noted on 5 out of 21 applications for payment that the Records Management department was maintaining an application that had subsequently been revised prior to payment. We also noted 2 of 22 contingency use directives could not be found in the Records Management department. These documents ended up being obtained from the 3rd party consultant used on the project because they could not be located at F&CM.</p> <p>Upon further review, we identified that modifications have been made to the applications for payment by the Capital Payments Group, and the revised versions had not been submitted. The contingency use directives had not been submitted to Records Management and had to be obtained from the Project Manager.</p> <p>Failure to retain final executed copies of documentation in Records Management can result in discrepancies at project closeout, potential findings if the project is subject to State audit, and unnecessary confusion during or after the project when the documents are pulled for managerial decision making.</p>	<p>We recommend that F&CM implement procedures to ensure that all final documents, as revised, are submitted to Records Management upon their completion from both the Capital Budget Department (Capital Payments Group) and the Project Management team.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>The Capital Budget Department (Capital Payments Group) agrees with this recommendation and will implement a practice to electronically transmit all processed invoices to the Records Retention group starting July 1, 2012.</p> <p>ECD: May 2013</p> <p>Responsible Party: Manager, Design and Construction Contracts and Capital Budget Department (Capital Payments)</p>

Payment Application Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	27. Lack of Supporting Documentation for General Conditions and Labor – Best Practice		
	<p>Through interviews with Facilities and Construction Management personnel and review of the monthly pay applications for both the Walker and Parkway projects, we noted F&CM does not require the CM to provide support for general conditions and CM labor. Instead, F&CM negotiates these amounts as a lump sum and allows them to be billed in monthly applications for payment based on the project's current percentage of completion.</p> <p>Lack of proper supporting documentation can result in the following:</p> <ul style="list-style-type: none"> • Payment for General Conditions not incurred by the CM • Payment for Labor at rates greater than actual cost • Excessive Labor Burden rates • Payment for contractually disallowable items 	<p>In association with Observations #14 & 23, we recommend F&CM require the CM to provide appropriate documentation to support costs billed as actual costs incurred. The Capital Payments Group should agree all billed amounts to appropriate supporting documentation. Project Managers should verify that costs billed are allowable and appropriate per the Contract. All parties involved in the pay application review process should have a working knowledge of the contract, allowable and disallowable costs.</p> <p>F&CM should not approve a pay application until Capital Payments reviews and approves all charges and supporting documentation. This review process will significantly mitigate the risk of overcharges to F&CM.</p> <p>Examples of appropriate supporting documentation for major categories of costs include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Third party invoices • Subcontractor applications for payment for General Conditions items (as applicable) • Certified payroll or equivalent for Construction Manager labor <p>Furthermore, we recommend that F&CM require the CM to submit bridging documents. Bridging documents enable F&CM to easily identify which costs in the Schedule of Values are supported properly. A Pay Application Checklist (Exhibit A) has been attached to this report to assist F&CM in their implementation of this recommendation.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>The Capital Budget Department (Capital Payments) agrees with this recommendation and will review supporting cost documentation for accuracy once these changes are incorporated into the District's contracts. The revised process that is established should meet the time constraints of the prompt payment act established in Statute.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Payment Application Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	28. Lack of Supporting Documentation for Subcontract Costs - Compliance		
	<p>Through interviews with Facilities and Construction Management personnel and review of the Parkway and Walker projects, we noted 7 instances of inadequate or incomplete support for subcontracted costs out of the 48 applications for payment we reviewed. This inadequate / incomplete support consisted of supporting documentation that did not agree to the schedule of values, or a schedule of value line item was billed but no third party support was included in the application.</p> <p>Failure to perform a complete review of pay applications before issuing payment may result in over / early payment to the CM.</p>	<p>We recommend F&CM require the CM to provide appropriate documentation to support costs billed as actual costs incurred. The Capital Payments Group should agree all billed amounts to appropriate supporting documentation as a part of their review. Project Managers should verify that costs billed are allowable and appropriate per the Contract. All parties involved in the pay application review process should have a working knowledge of the contract, allowable and disallowable costs.</p> <p>F&CM should not approve a pay application until Capital Payments reviews and approves all charges and supporting documentation for subcontracted (and GC / Labor as noted above) costs. This review process will significantly mitigate the risk of overcharges to F&CM.</p> <p>Furthermore, we recommend that F&CM require the CM to submit bridging documents. Bridging documents enable F&CM to easily identify which costs in the Schedule of Values are supported properly.</p>	<p>Response: F&CM will evaluate the recommended contractual modifications in consultation with legal counsel to determine feasibility of implementation.</p> <p>The Capital Budget Department (Capital Payments) agrees with this recommendation and will review supporting cost documentation for accuracy. The process that is established should meet the time constraints of the prompt payment act as established in Statute.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Payment Application Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	29. Pay Application Review Responsibility – Best Practice		
	In association with Observations #27 & 28, we noted a general misunderstanding or significant “gaps” in departmental responsibilities in the pay application review process. As noted in Observation #29, this led to the failure to perform necessary reconciliations and reviews on 7 out of 48 applications that are specifically designed to mitigate the risk of overpayment.	We recommend F&CM utilize a checklist to document reviews and reconciliations performed throughout the pay application review process. This checklist will serve both as documentation of work performed and as a reference to employees, helping ensure proper review and support of all payments. A Pay Application Checklist (Exhibit A) has been attached to this report to assist F&CM in implementing this recommendation.	<p>Response: F&CM agrees with the recommendation, however, further review is necessary to identify areas where “gaps” may have occurred.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Director, Capital Budget</p>
High	30. Schedule of Value Modification Tracking – Compliance		
	<p>During our review procedures, we identified monthly line item shifting within the schedule of values on the payment application. Through our interviews and procedures, it was determined Project Managers (and other pay application reviewers) are not approving or reviewing support for the transfer of amounts among line item categories in the GMP / Schedule of Values. Article 8.1 of the CM at Risk Agreement states that the CM may only modify the schedule of values for subcontracts (related to buyout), approved change orders and change directives.</p> <p>Allowing the Construction Manager to freely reclassify line items in the schedule of values can result in an increased complexity to the buyout reconciliation process, as well as the unauthorized use of Owner savings by the CM.</p>	<p>In association with Observations #12, 28, and 29, we recommend that F&CM institute a policy requiring Project Management to obtain from the CM a monthly reconciliation of all movement within the schedule of values and that this document be approved by F&CM in writing.</p> <p>As a part of this reconciliation, we recommend the Construction Manager be required to provide any and all supporting documentation reasonably required by the Owner as evidence of any buyout savings identified as a part of the requested schedule of values reclassification.</p> <p>Exhibit G: Schedule of Values Template has been provided to assist the F&CM in the implementation of this recommendation.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Director, Capital Budget</p>

Payment Application Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	31. Direct Owner Purchases – Shipping Documentation – Best Practice		
	<p>Through interviews with Capital Payments personnel and inspection of direct owner purchases supporting documentation, we noted that current policy is being followed and requires a matching between the direct owner purchase order and the resulting invoices. However it does not require matching the invoices with the shipping documentation obtained from the delivery of the materials at the construction site.</p> <p>Lack of proper matching of these documents can result in F&CM paying for incorrect quantities or nonconforming materials.</p>	<p>We recommend F&CM implement procedures requiring the matching of shipping documents obtained at the time of delivery, to the invoices submitted to Capital Payments.</p>	<p>Response: F&CM agrees with the recommendation</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Director, Capital Budget</p>
Moderate	32. Direct Owner Purchases - Reconciliation – Best Practice		
	<p>During our review, we noted that the Capital Payments personnel responsible for reviewing monthly applications for payment are not required to attach the internal Direct Owner Purchase Order log to the application as a part of their review.</p> <p>By not attaching this log to the pay application, the subsequent reviewer has no means of identifying that the task was performed, or if the balance is accurate.</p> <p>Improper reconciliation or nonperformance of this reconciliation could result in the payment of both invoices and subcontractors (duplication).</p>	<p>We recommend that F&CM implement a policy requiring the Capital Payments personnel responsible for the primary review of the pay application to print and attach the internal DOP log as evidence of their review. This log should be circulated as a part of the pay application for the required additional review procedures and to Records Management for monthly filing.</p>	<p>Response: There is a “sign-off” by Capital Payments that is currently in place; however, F&CM will review the recommendation to strengthen the practice.</p> <p>All contractors will be required to submit a monthly reconciliation of purchases made under the DOP. This will be included in the payment application and reconciled with Capital Payment's internal log by Capital Payments staff. A final copy of the payment application and reconciled purchase log will be filed in the Project Records.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Change Order Review and Approval Process

Rating	Observation	Recommendation	Management Responses
High	33. Change Order Supporting Documentation - Compliance		
	<p>During our review, we noted change order or contingency use directive supporting documentation that contained mathematical errors totaling \$1,205 on the Walker project (change orders #1 & 2) and \$5,274 on the Parkway project (CUD #01R1).</p> <p>Based on inspection and inquiry, a review of this supporting documentation was conducted according to policy, the mathematical errors were not identified by personnel. These errors resulted in overpayments as noted above.</p>	<p>We recommend that as a part of change order review procedures, the Capital Payment staff reconcile and recalculate all relevant supporting documentation to prevent such errors.</p> <p>Further, we recommend F&CM contact the Construction Managers for both projects to obtain the overpayments.</p>	<p>Response: F&CM and Capital Payments will review the supporting documentation provided to identify areas where errors may have occurred. F&CM and Capital Payments will review the procedures in place and will review the recommendation.</p> <p>The Capital Budget Department (Capital Payments) agrees with this recommendation and will review supporting cost documentation for accuracy for both CUD and Change Orders.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Change Order Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	34. Construction Manager's Fee on Change Orders – Best Practice		
	<p>During our review of change orders and F&CM's construction contracts, we noted the Construction Manager's fee (and bond) percentage applied to change orders was 12% and 10% for Parkway and Walker, respectively.</p> <p>Allowing for a larger fee on change orders than what was negotiated for Overhead & Profit in the original GMP may incentivize the CM to withhold items from the GMP and present them later by change order. In this case, F&CM did not negotiate Overhead & Profit as a percentage in the GMP, but as indicated in the Cost Avoidance section of this report, effective CM fees were found to be below the contractual change order markup percentages noted above.</p>	<p>We recommend that F&CM limit Construction Manager's fee on change orders to that of the percentage negotiated for Construction Manager's fee on the project as a whole. We also recommend that bonds and insurance for change orders be billed at actual cost, not as a percentage of the change order.</p> <p>These recommendations coincide with Observation #14 above, and have been quantified in the Potential Cost Avoidance section below.</p>	<p>Response: F&CM agrees that in today's market lower rates may apply. During negotiations of the subject contracts the market demanded higher rates.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Manager, Design and Construction Contracts</p>

Change Order Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	35. Cost Estimation / Contracts exclusion from Change Order review – Best Practice		
	<p>Through our interviews with Facilities and Construction Management personnel, we noted that the Contracts and Cost Estimation department has been excluded from the change order review process.</p> <p>Through our interviews with F&CM personnel, Cost Estimation was removed from the change order review process due to efficiency concerns. F&CM established the Project Management Counsel (PMC) to review change orders in substitution of the Cost Estimation department.</p>	<p>It is our experience in the industry that there is significant financial benefit to the Owner in obtaining an independent review of change orders from someone with the appropriate skill set especially for significant change orders over an established threshold.</p> <p>We recommend that F&CM develop a process for reviewing change orders over an established threshold that includes involvement from the Contracts and Cost Estimation department. Further, we recommend F&CM conduct a facilitative session between Project Management and Contracts / Cost Estimation to determine how this can be accomplished without compromising project scheduling.</p> <p>Discussions related to the benefits of implementing this type of process can be found in the Project Interface and Internal Structure Analysis section of the report located below.</p>	<p>Response: Although we concur with the recommendation to involve CE staff in the Change Order review process, staffing limitations, leading to a significant backlog, forced staff to abandon this practice. It is important to note that those change orders that exceed \$100,000 and any change order that is done internally and does not align with the PM council's review, is by policy, sent to a third party cost estimating firm for validation.</p> <p>Future organizational changes may be able to address the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>

Change Order Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	36. Design Services involvement in Change Order review – Best Practice		
	<p>Through our interviews with Facilities and Construction Management personnel, we noted that the Design Services department has limited involvement in the change order review process. Through these interviews, F&CM personnel involved in the process noted that Design Services was used occasionally for this review, but no indication was given as to when involvement was actually required, if ever.</p>	<p>It is our experience in the industry that there is significant financial benefit to the Owner in obtaining an independent review of change orders from someone with the appropriate skill set.</p> <p>We recommend that F&CM develop a process for reviewing change orders that includes regular involvement from the Design Services department for change orders over an established threshold.</p> <p>Discussions related to the benefits of implementing this type of process can be found in the Project Interface and Internal Structure Analysis section of the report located below.</p>	<p>Response: Design Services staff involvement in the change order review process occurs at the level above the PM Council, when all Board items are reviewed by the Agenda Preparation Group (APG).</p> <p>This group meets approximately three weeks prior to each Board Meeting and reviews each change order. Representatives include the Office of the Chief Auditor, General Counsel, Senior Architect, Senior Project Manager, the Executive Director, Facilities Design and Construction, Chief Building Official, Capital Budget Office, and the Deputy Superintendent.</p> <p>Earlier involvement in the process occurs on an “as needed” basis due to the significant backlog in the department.</p> <p>Chief Auditor's Comment: The Office of the Chief Auditor (OCA) attends Agenda Preparation Group Meetings as a non-voting observer. The OCA will seek clarification on agenda item issues that come to our attention and to bring those concerns to the attention of the Deputy Superintendent of Facilities & Construction Management Division and the Project Management Team. Any action or non-action taken on those issues are the responsibility of the Facilities & Construction Management Division.</p>

Change Order Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
Moderate	36. Design Services involvement in Change Order review – Best Practice - continued		
			ECD: Immediately Responsible Party: Executive Director, Facilities Design and Construction

Change Order Review and Approval Process - continued

Rating	Observation	Recommendation	Management Responses
High	37. Contingency Use Directive Reconciliation - Compliance		
	<p>During our review, we were unable to reconcile the Contingency Use Directives (CUDs) provided by the Records Management department with the amount reflected on the final application for payment on the Walker Elementary School project.</p> <p>Lack of this CUD reconciliation can result in F&CM paying for unauthorized CUDs or not receiving the full amount of savings F&CM is entitled to at project closeout.</p>	<p>We recommend as a part of CUD review procedures, the Project Manager or Capital Payments staff reconcile approved CUDs with those reflected in the pay application.</p>	<p>Response: F&CM agrees with the recommendation and currently engages in this practice.</p> <p>The Capital Budget Department (Capital Payments) agrees with this recommendation, however, the contractor should provide a CUD reconciliation log with the payment application and Capital Payments staff will review and reconcile with District records.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Owner Project Management Process

Rating	Observation	Recommendation	Management Responses
Moderate	38. Pre-Project Facilitative Session – Best Practice		
	<p>During our review, we noted that F&CM does not currently conduct a meeting between the Capital Payments staff, Contracts, Project Manager, Architect, Construction Manager's PM and Construction Manager's Project Accountant to discuss proper change order, CUD, pay application procedures / supporting documentation requirements.</p> <p>Lack of a pre-project facilitative session can result in:</p> <ul style="list-style-type: none"> • Incomplete supporting documentation on pay applications, CUDs, change orders • Disorganized pay application, CUDs, or change order documents • Delay of payments to the CM 	<p>We recommend F&CM hold a meeting no later than prior to the submission of the first pay application, in order to set the expectations of what will be required from the Construction Manager to receive payment for services performed, change orders or CUDs. These requirements should fall in line with Observations #29, 30, 31 and 35.</p>	<p>Response: F&CM currently conduct Pre-construction meetings, however, Capital Payment personnel are not present. F&CM and Capital will review the recommendation for feasibility.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction and Capital Budget Department (Capital Payments)</p>

Owner Project Management Process - continued

Rating	Observation	Recommendation	Management Responses
Low	39. Field Mobility Device – Best Practice		
	<p>During interviews with Facilities and Construction Management, it was communicated that inefficiencies exist in overall project management due to the lack of proper field / site information technology hardware.</p>	<p>We recommend F&CM consider the implementation of iPads or another form of tablet device for Project Management team members (resources permitting). Through our procedures we have been able to determine that F&CM's current project management software (Prolog) supports compatibility with tablet devices such as the iPad.</p> <p>Through the use of this device, Project Managers can save time by not having to return to their office to obtain job information and they can maintain better communications on site by having instant access to drawings, emails and other relevant job data.</p> <p>This Observation should be considered in conjunction with Observation #40 below.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Tentative based on budget</p> <p>Responsible Party: Deputy Superintendent, Facilities and Construction Management</p>

Owner Project Management Process - continued

Rating	Observation	Recommendation	Management Responses
Low	40. Project Management Software Training – Best Practice		
	<p>During interviews with Facilities and Construction Management, we identified apparent inefficiencies in the project management process due to the lack of integration between F&CM's primary project management software (Prolog) and other software (specifically MS Word).</p>	<p>Through our research and discussions with the team at Meridian Systems (Prolog), they indicated that their system is compatible with the referenced software in the Microsoft Office Suite and that MS Word template integration can be obtained as a part of their service.</p> <p>Meridian Systems indicated that the implementation and integration of tablets (iPad) into their current Prolog system is achievable and that they offer training services related to the use of their software in this capacity.</p> <p>Prolog is the leading information technology project management tool on the market and in that light, we recommend that F&CM contact Meridian Systems to address current integration concerns as well as to discuss the implementation of a tablet-based field mobility system.</p> <p>This Observation should be considered in conjunction with Observation #39 above.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Tentative based on budget</p> <p>Responsible Party: Deputy Superintendent, Facilities and Construction Management</p>

Owner Project Management Process - continued

Rating	Observation	Recommendation	Management Responses
High	41. Project Management Review of Third Party Consultant Information – Best Practice		
	<p>During interviews with F&CM, we identified that the evaluation of the detailed data provided by 3rd party consultants for cost estimation, change orders, CUDs, buyout, etc... is the sole responsibility of Project Management. A letter summarizing the consultant's conclusions is circulated and maintained, but detailed supporting documents are not independently reviewed, evaluated, or obtained by any other party at F&CM.</p> <p>This lack of segregation of duties in the decision making and evaluation process creates an environment where internal resources may not be utilized to their full extent and an overreliance on external resources may develop.</p>	<p>We recommend F&CM implement procedures requiring the Cost Estimation department be involved in the evaluation of this information, and that the information be filed with Records Management.</p> <p>This recommendation should be considered in association with the Project Interface and Internal Structural analysis included in this report</p>	<p>Response: The use of third party cost estimators has grown out of necessity due to the loss of one internal CE position that was not filled and the loss of another very qualified CE due to the “bumping” process. This created a ramp up period that led to a large backlog of work and concern over delays due to the review process.</p> <p>Based upon this finding, staff intends to fill the vacant position with a qualified person and intends to align the CE function with project management in the new organizational structure. As such, the CE staff would be closer to the PM review function and will be added as a step, or included in the change order review process.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>

Project Closeout Process

Rating	Observation	Recommendation	Management Responses
High	42. Final Change Order Review - Timing – Best Practice		
	<p>During our review, we noted that on the Walker project Final Completion (as contractually defined) was achieved on September 20, 2010, but final acceptance was not submitted to the School Board until March 20, 2012 (1 year and 6 months later).</p> <p>The delay in delivery of final acceptance documents to the School Board was due to the negotiation of final change orders and obtaining all closeout documentation. The lack of closeout documentation and final change order approval prevented the Architect from issuing the Certificate of Final Inspection (Office of Education Facilities (OEF) Form 209) in a timely manner. Based on our review, although the proper documentation was not obtained in a timely manner, current F&CM policy was adhered to by first obtaining all referenced documentation prior to Board submission.</p>	<p>We recommend that F&CM implement procedures requiring Project Managers to obtain all project closeout documentation and final change order resolution within 60 days of beneficial occupancy / final completion.</p>	<p>Response: F&CM agrees with the recommendation.</p> <p>ECD: Immediately</p> <p>Responsible Party: Executive Director, Facilities Design and Construction</p>
High	43. Errors and Omissions Resolution - Compliance		
	<p>During our review of the Walker Project, F&CM was unable to provide evidence that \$5,757 of change orders identified as Errors and Omissions on the Walker project were properly credited back to F&CM from the Architect.</p>	<p>We recommend F&CM implement procedures to track errors and omissions. Further, we recommend as a part of project closeout, F&CM require Project Management submit documentation evidencing how the identified errors and omissions were resolved with the Architect.</p>	<p>Response: F&CM currently has a procedure in place that assesses damages resulting from consultant errors or omissions at final closeout of the project consultant's contract and before final payment – in accordance with standard procedure. Resolution of the errors and omissions on the Walker ES project is pending.</p> <p>ECD: Complete and Ongoing</p> <p>Responsible Party: Executive Director, Facilities Design and Construction Manager, Design and Construction Contracts</p>

Cost Avoidance

COST AVOIDANCE

During our review, we identified instances where we believe F&CM could have avoided costs had certain best practices been implemented. These Potential Cost Avoidance observations below can be addressed through implementation of our Construction Contract and Guaranteed Maximum Price negotiation recommendations. We have performed various potential cost avoidance computations that were identified during our onsite testing procedures of the Parkway Middle School and Walker Elementary School Projects.

Procedures

Our analysis was conducted based on our experience in the industry with comparable entities and construction projects. The two referenced projects were compared to standards in the industry for various categories of work such as:

- General Conditions
- General Requirements
- Construction Manager Team Labor
- Construction Management Fee
- Change Orders
- Insurance & Bonds

Executive Summary

The following is a summary of our quantifiable results as detailed in the Potential Cost Avoidance Observations and Recommendations section of this report on the pages below.

Project / Avoidance Criteria	Total
Parkway Middle School	
1. Construction Manager's Fee* - in excess of industry standard	\$ 400,732
2. CM Fee on Unused Contingency	34,527
3. General Conditions / CM Labor - in excess of industry standard	329,217
4. Change Orders - CM's Fee in excess of industry standard	3,546
Project Total	\$ 768,022
Walker Elementary School	
1. Construction Manager's Fee - in excess of industry standard	\$ 410,134
2. CM Fee on Unused Contingency	1,513
3. General Conditions / CM Labor - in excess of industry standard	260,687
Project Total	\$ 672,334
Total	\$ 1,440,356

*Includes Preconstruction

The actual cost avoidance amounts realized would be subject to the negotiation process with the Construction Manager / Design Builder. The above quantification represents what we have observed in the industry and reflects our actual experience in the negotiation process with similar projects. It should be noted that the negotiation procedures for these two projects was performed circa 2008 and therefore would have been subject to the economic and industry conditions of that time.

Recommendations / Results

We recommend F&CM review the observations and avoidance suggestions in the detailed analysis below and consider these items for future implementation.

COST AVOIDANCE - CONTINUED

Parkway Middle School Observation / Recommendation																																																		
1. Construction Manager's Fee – In excess of industry standard																																																		
<p>During our review, we identified that the Construction Manager's Fee for Preconstruction, Overhead and Profit on the Parkway Middle School project was effectively 8.32% of the Cost of Work. We noted that F&CM negotiated fee parameters with the Construction Manager in accordance with their current internal policies and procedures. However, it is our experience that Preconstruction and Overhead & Profit percentages are less than the parameters set forth by F&CM. Industry standards for Preconstruction and Overhead & Profit are 1% and 5% respectively (6% total) for construction projects of this size, when utilizing the CM at Risk Contract Delivery Method.</p> <p>Below is a quantification of the identified variance:</p>																																																		
<table> <tr> <th>Description</th><th>Rate</th><th>Amount</th></tr> <tr> <td>Cost of Work (GMP - Fees - Contingency)</td><td></td><td>\$ 17,272,342</td></tr> <tr> <td>Actual Fees:</td><td></td><td></td></tr> <tr> <td> Pre-Design Phase</td><td></td><td>\$ 75,000</td></tr> <tr> <td> Design Phase</td><td></td><td>75,000</td></tr> <tr> <td> Bidding and Award Phase</td><td></td><td>70,000</td></tr> <tr> <td>Total Actual Preconstruction Fees</td><td>1.27%</td><td>220,000</td></tr> <tr> <td>Industry Standard Preconstruction Fee</td><td>1.00%</td><td>172,723</td></tr> <tr> <td>Variance from Preconstruction Standard</td><td></td><td>\$ 47,277</td></tr> <tr> <td>Actual Fees:</td><td></td><td></td></tr> <tr> <td> Warranty Phase</td><td></td><td>\$ 19,276</td></tr> <tr> <td> Overhead & Profit</td><td></td><td>1,197,796</td></tr> <tr> <td>Total Actual Construction Phase Fees</td><td>7.05%</td><td>1,217,072</td></tr> <tr> <td>Industry Standard Overhead and Profit Fee</td><td>5.00%</td><td>863,617</td></tr> <tr> <td>Variance from Construction Phase Standard</td><td></td><td>\$ 353,455</td></tr> <tr> <td>Quantified Variance from Industry Standard</td><td></td><td>\$ 400,732</td></tr> </table>			Description	Rate	Amount	Cost of Work (GMP - Fees - Contingency)		\$ 17,272,342	Actual Fees:			Pre-Design Phase		\$ 75,000	Design Phase		75,000	Bidding and Award Phase		70,000	Total Actual Preconstruction Fees	1.27%	220,000	Industry Standard Preconstruction Fee	1.00%	172,723	Variance from Preconstruction Standard		\$ 47,277	Actual Fees:			Warranty Phase		\$ 19,276	Overhead & Profit		1,197,796	Total Actual Construction Phase Fees	7.05%	1,217,072	Industry Standard Overhead and Profit Fee	5.00%	863,617	Variance from Construction Phase Standard		\$ 353,455	Quantified Variance from Industry Standard		\$ 400,732
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<p>Refer to Observations #13 & 23 of the Design and Construction Oversight and Management section of this report for our recommendation related to this Cost Avoidance Observation. By reducing the fee structure ceiling, F&CM could significantly reduce such fees for Construction Management services. If F&CM had negotiated the proposed combined industry standard 6% rate, the cost of this project would have been reduced by \$400,732.</p>																																																		
2. Reimbursement of CM Fee on Unused Contingency																																																		
<p>The most recent application for payment (Pay App #27, thru January 25, 2012) obtained during our review indicated that approximately \$690,543 of contingency remains unused on this project. Under standard industry practice, when an Overhead & Profit percentage is negotiated in the GMP, any Overhead & Profit fee computed on unused contingency funds is credited back to the Owner at project closeout.</p> <p>If F&CM had implemented the industry standard scenario (5% Overhead & Profit) and the contingency account maintains its current balance through project closeout, F&CM would be entitled to receive a credit of 5% of the unused balance or \$34,527 (5% x \$690,543). Under the current contract, Overhead & Profit does not seem to have a quantifiable link to the contingency account. The District may consult with legal counsel to determine if there is any opportunity to receive this credit.</p> <p>Refer to Observations #13 & 23 of the Design and Construction Oversight and Management section of this report for our recommendation. This will allow F&CM to obtain a credit for the related fee percentage of any unused contingency.</p>																																																		

COST AVOIDANCE - CONTINUED

Parkway Middle School Observation / Recommendation																													
3. General Conditions / CM Labor – In excess of industry standard																													
<p>During our review, we identified that F&CM negotiated General Conditions (GC) and Construction Manager Labor (referred to as Construction Phase Fee by F&CM) as a Lump Sum, based on specific parameters set forth by District Management. We noted that F&CM negotiated these parameters in accordance with their current internal policies and procedures. However, it is our experience that best practice in the industry is not to negotiate General Conditions and Construction Manager Labor as a Lump Sum. This method is an industry best practice and typically results in General Conditions / Construction Manager Labor totaling approximately 8% of the GMP (less fees) for construction projects of this size.</p> <p>Below is a quantification of the identified variance:</p>																													
<table> <tr> <th>Description</th><th>Rate</th><th>Amount</th></tr> <tr> <td>GMP (less Fees)</td><td></td><td>\$ 17,962,885</td></tr> <tr> <td>Actual:</td><td></td><td></td></tr> <tr> <td> Construction Phase Fee</td><td></td><td>1,414,311</td></tr> <tr> <td> General Conditions</td><td></td><td>351,937</td></tr> <tr> <td></td><td>9.83%</td><td>1,766,248</td></tr> <tr> <td>Industry Standard GC / Labor</td><td>8.00%</td><td>1,437,031</td></tr> <tr> <td></td><td></td><td>1,437,031</td></tr> <tr> <td>Quantified Variance from Industry Standard</td><td></td><td>\$ 329,217</td></tr> </table>			Description	Rate	Amount	GMP (less Fees)		\$ 17,962,885	Actual:			Construction Phase Fee		1,414,311	General Conditions		351,937		9.83%	1,766,248	Industry Standard GC / Labor	8.00%	1,437,031			1,437,031	Quantified Variance from Industry Standard		\$ 329,217
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<p>Refer to Observation #27 in the Design and Construction Management Process section of this report for our recommendation. If F&CM had applied the industry best practice method for General Conditions and Construction Manager Labor, the cost of this project could potentially have been reduced by \$329,217.</p>																													
4. Change Order – Construction Manager's Fee in excess of industry standard																													
<p>During our review, we identified that F&CM's contract with the Construction Manager allowed for a 12% markup for Overhead & Profit and Bonds on all increases in the work greater than \$100,000. Allowing for a larger fee on change orders than what was negotiated for Overhead & Profit in the original GMP may incentivize the CM to withhold items from the GMP and present them later by change order. In this case, F&CM did not negotiate Overhead & Profit as a percentage in the GMP, but as noted in Observation #1 of this section, the effective percentage in the GMP was 7.05%. The industry standard for Overhead & Profit on change orders is approximately 5% of the cost of the change, plus the ACTUAL cost of any insurance and bonding associated with the change.</p> <p>As of the date of our testing, there had only been one change order for this project increasing the cost of work. Actual Overhead & Profit for that change order totaled \$6,078 at 12%. If F&CM had utilized a 5% maximum Overhead & Profit percentage for this change F&CM could have avoided costs of \$3,546.</p> <p>Refer to Observation #35 in the Design and Construction Management Process section of this report for our recommendation.</p>																													

COST AVOIDANCE - CONTINUED

Walker Elementary School Observation / Recommendation																																
1. Construction Manager's Fee – In excess of industry standard																																
<p>During our review, we identified that the Construction Manager's Fee for Overhead and Profit on the Walker Elementary School project was effectively 9.65% of the Cost of Work. We noted that F&CM negotiated fee parameters with the Construction Manager in accordance with their current internal policies and procedures. However, it is our experience that typical Overhead & Profit percentages are less than the parameters set forth by F&CM. Industry standard for Overhead & Profit is 5% for construction projects of this size, utilizing the CM at Risk Contract Delivery Method.</p> <p>Below is a quantification of the identified variance:</p>																																
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Description	Rate	Amount																														
Cost of Work (GMP - Fees - Contingency)		\$ 8,820,235																														
Actual Fees:																																
Bidding and Award Phase		35,000																														
Warranty Phase		25,000																														
Overhead & Profit		791,146																														
Total Fees	9.65%	851,146																														
Standard Overhead and Profit Fee	5.00%	441,012																														
Total Fees - industry standard		441,012																														
Quantified Variance from Industry Standard		\$ 410,134																														
<p>Refer to Observations #13 & 23 of the Design and Construction Oversight and Management section of this report for our recommendation. If F&CM had negotiated the suggested 5% rate, the cost of this project would have been reduced by \$410,134.</p>																																
2. Reimbursement of Fee on Unused Contingency																																
<p>Final closeout reconciliations obtained during our review indicated that approximately \$30,264 of contingency remained unused and was credited back to F&CM. Under standard industry practice, when an Overhead & Profit percentage is negotiated in the GMP, any Overhead & Profit fee computed on unused contingency funds is also credited back to the Owner at project closeout.</p> <p>If F&CM had implemented the industry standard scenario (5% Overhead & Profit), F&CM would be entitled to receive a credit of 5% of the unused balance or \$1,513. Due to the fact that under F&CM's current contract, Overhead & Profit does not have a quantifiable link to the contingency account, there is no opportunity for F&CM to receive this credit.</p> <p>Refer to Observations #13 & 23 of the Design and Construction Oversight and Management section of this report for our recommendation. This will allow F&CM to obtain a credit for the related fee percentage of any unused contingency.</p>																																

COST AVOIDANCE - CONTINUED

Walker Elementary School Observation / Recommendation		
3. General Conditions / CM Labor – In excess of industry standard		
<p>During our review, we identified that F&CM negotiated General Conditions (GC) and Construction Manager Labor (referred to as Construction Phase Fee by F&CM) as a Lump Sum, based on specific parameters set forth by District Management. We noted that F&CM negotiated these parameters in accordance with their current internal policies and procedures. However, it is our experience that best practice in the industry is not to negotiate General Conditions and Construction Manager Labor as a Lump Sum. This method is an industry best practice and typically results in General Conditions / Construction Manager Labor totaling approximately 8% of the GMP (less fees) for construction projects of this size.</p> <p>Below is a quantification of the identified variance:</p>		
Description	Rate	Amount
GMP (less Fees)		\$ 9,015,235
Actual:		
Construction Phase Fee		744,050
General Conditions		237,856
	10.89%	981,906
Industry Standard GC / Labor	8.00%	721,219
		721,219
Quantified Variance from Industry Standard		\$ 260,687

Refer to Observation #27 in the Design and Construction Management Process section of this report for our recommendation. If F&CM had applied the industry standard method for General Conditions and Construction Manager Labor, the cost of this project could potentially have been reduced by **\$260,687**.

Contract Delivery Method Analysis

CONTRACT DELIVERY METHOD ANALYSIS

Delivery Methods Summary

Based on our experience, we have evaluated the following Delivery Methods utilized by Contract Owners we have encountered:

1. Lump Sum / Hard Bid – competitively bid
2. Lump Sum / Negotiated – noncompetitive bid
3. Construction Manager (CM) at Risk – with a Guaranteed Maximum Price (GMP)
4. Design Build (DB) – with a Guaranteed Maximum Price

Some Contract Owners have developed hybrid forms of these base methods, but for the purposes of this paper, only the basic methods will be addressed.

Risk Factors to Consider

The following are a list of factors that we recommend the Contract Owner consider when evaluating which Delivery Method is most appropriate for a selected project:

Cost / Size

The justification of the use of taxpayer funds for construction projects typically makes cost one of the highest rated factors for public sector entities. The Contract Owner must not only consider the initial cost of construction, but also conduct a life cycle analysis. It is important to consider Cost / Size in selecting a Delivery Method because different methods allow for different degrees of Owner involvement. Contract Owner involvement typically has a direct relationship with this factor (i.e. the larger the project, the more involvement).

Complexity / Scope

The Contract Owner should evaluate the design complexity of a given project prior to selecting a Delivery Method due to the fact that certain methods are better equipped to guard against constructability issues, change orders and other pitfalls of a complex design. A project with a simple or prototype design should be taken into consideration when selecting the best form of Delivery Method. It is also important for the Contract Owner to assess if the scope of the project is well defined at the time of Contract execution or it is subject to Contract Owner driven changes. If the scope of a project is well defined, certain Delivery Methods will be more conducive and cost effective than others.

Timing / Schedule

The duration of a project or the existence of strict deadlines can be an important factor in determining which type of Delivery Method best fits a specific project. Since increased Contract Owner involvement is built into certain Delivery Methods, a deadline oriented project that needs constant scheduling checks may be better suited for that type of method. In addition, there are certain forms of delivery methods that support a “fast track” project or a project that is on an accelerated schedule.

Risk / Responsibility

The different Delivery Methods listed above all contain varying degrees of risk allocation between the Contractor and the Contract Owner. Finding the method that most equally disseminates that risk will likely result in the most cost efficient and timely project. Risk for the purposes of this paper include factors such as cost risk, insurance risk, project management responsibilities, scheduling responsibility, design criteria risk, etc. If one party under the agreement holds significantly more risk or responsibility over the other, it is likely that each party will act in their own best interest to the detriment of the project.

Contract Owner Resources

The skill and availability of the Contract Owner's facilities department should play a significant role in selecting the most appropriate Delivery Method. The Contract Owner must consider factors such as their current project load, size of their project management team, capability / skill of their project management team, availability and skill of internal design resources, availability and skill of internal cost estimation resources, and access to third party assistance in the event of a lack in any of these internal resources. Certain Delivery Methods are more adept at mitigating an identified lack of skill or availability within the Contract Owner's facilities department than others. This may result in the selection of an alternate method when this analysis is performed.

CONTRACT DELIVERY METHOD ANALYSIS - CONTINUED

Delivery Methods Detailed Discussion

The following section breaks down, in narrative form, the pros and cons of each of the four Delivery Methods as well as which situations are the most conducive to utilizing each method. Please also refer to page #4 for a matrix developed to aid the Contract Owner in selecting a Delivery Method.

Lump Sum / Hard Bid

The Lump Sum / Hard Bid Delivery Method is typically the method of choice under the following scenarios:

- The scope of services is set and well defined
- The drawings and specifications are complete, accurate, and are subject to very limited change for the duration of the project
- The project schedule allows for the owner to award based on competitive bids.
- The Contract Owner has a well defined bidding process within a strong control environment
- The Contract Owner can reasonably obtain a minimum of 3 bids from reputable, prequalified contractors
- The Contract Owner has personnel with the skill to identify scope gaps between bids and design criteria / drawings
- The Contract Owner has adequate project management capability to reasonably assess percentage of completion and project scheduling on a monthly basis
- The Contract Owner does not have an adequate internal cost estimation function
- The Contract Owner does not have the internal project accounting availability or skill to perform detailed review of supporting invoices on monthly applications for payment (as required by other Delivery Methods)
- The Contract Owner desires protection against rising market costs
- The Contract Owner has experience with similar projects (prototype design, similar scoped projects, etc.)

The Lump Sum, competitively bid, Delivery Method is not suggested for complex projects, projects with unique state of the art design, large projects, projects with accelerated schedules, or extended duration projects. One of the largest risks with the Lump Sum / Hard Bid delivery method is the potential for significant change orders. This risk can be mitigated through a well defined scope of work, the identification of gaps in the scope and bids received, and a Contract Owner that does not initiate changes to the original design.

CONTRACT DELIVERY METHOD ANALYSIS - CONTINUED

Lump Sum / Negotiated

The Lump Sum / Negotiated (noncompetitively bid) Delivery Method can be utilized in many of the same scenarios as the Lump Sum / Hard Bid method, and shares many of the same benefits. However, this method should **only** be used when the Contract Owner's facilities department has a strong internal cost estimation function (or external resource) to evaluate the costs of a proposal before the final lump sum is negotiated. This method is somewhat more flexible than the Hard Bid method in that revisions to the initial design are mitigated by stronger controls over change orders. Since it is assumed the use of this Delivery Method is partnered with a strong cost estimation function, the estimation department should have the necessary skills to address change order pricing more effectively than under a Hard Bid scenario where a similar estimation function might not be available. This type of Delivery Method may also be beneficial in design reuse scenarios when the Contract Owner has strong historical cost analysis to utilize as a basis for pricing. The price for this agreement is based upon the negotiations with the contractor. Therefore, a reasonable price is dependent upon the contractor negotiating in good faith and providing current accurate and complete cost information.

Construction Manager at Risk (with a GMP)

The CM at Risk Delivery Method can increase the quality and efficiency of a project while still mitigating the Contract Owner's cost risk if the Contract Owner has the necessary internal resources or access to external resources such as consultants who specialize in the relevant areas to manage such an agreement. The CM at Risk Delivery Method would most likely be a more appropriate delivery method than a Lump Sum agreement under the following scenarios:

- The design of the project is complex and requires input / feedback from the contractor prior to delivery of 100% construction documents
- The potential exists for unforeseen conditions that could require specific expertise and collaboration with the design team
- The project is large and expected to be completed over a long duration due to design complexities
- The project is unique to the Contract Owner and no or limited historical costing data is available
- The Contract Owner has a strong prequalification process
- The Contract Owner has access to adequately skilled internal or external resources to perform detailed reviews of source documentation during the negotiation of the GMP.
- The Contract Owner has access to adequately skilled internal or external resources to track and recover buyout savings throughout the course of the project.
- The Contract Owner has adequately skilled resources (or access to third party resources) to perform detailed review of monthly applications for payment including but not limited to, subcontractor pay apps, general conditions invoices, Construction Manager certified labor reports, etc.
- The Contract Owner believes market factors may drive materials and labor costs down over the duration of the project
- The facilities department of the Contract Owner has limited resources for onsite project management
- The Contract Owner does not have a highly skilled internal cost estimation department
- The project is on a fast track or accelerated schedule

CONTRACT DELIVERY METHOD ANALYSIS - CONTINUED

Construction Manager at Risk (with a GMP) continued...

Contract Owners may determine the CM at Risk Delivery Method is the most appropriate model for their construction project because of its size or complexity, but feel they do not have the internal resources to properly manage this type of Agreement. In these instances, many Owners reach out to third party consultants to mitigate the risk of mismanagement. There are numerous resources available, from Owner's Representatives to Risk Management Consultants, whose businesses are specifically tailored for the purpose of helping Contract Owners navigate the complexities of Guaranteed Maximum Price projects. For large, multifaceted projects in which Contract Owners do not have adequate internal resources, we recommend the utilization of one of these skilled professionals. In our experience, a CM at Risk project can be equally or more cost effective than a Lump Sum contract, but only if the Contract Owner has access to manage it properly.

Design Build (with a GMP)

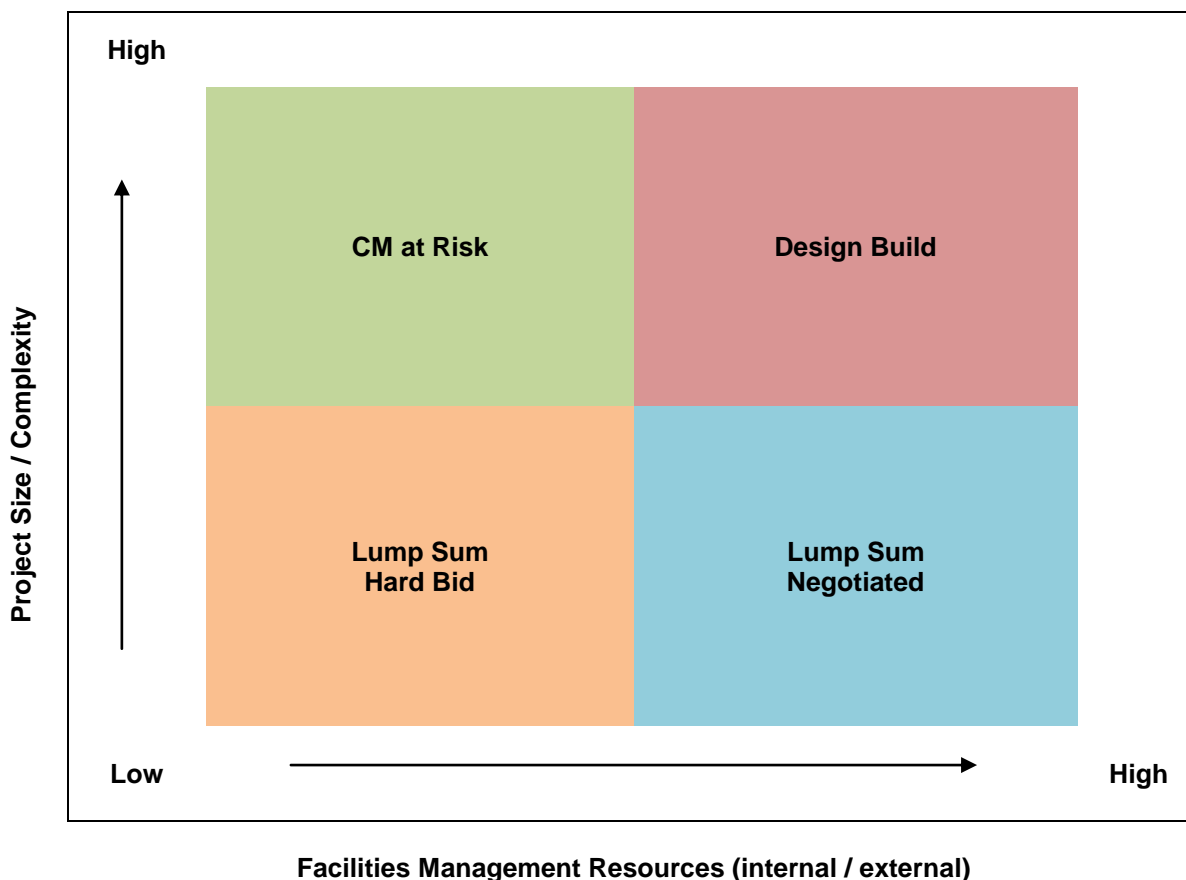
The Design Build Delivery Method can be utilized in many of the same scenarios as the CM at Risk method, and shares many of the same benefits. One theoretical benefit of the Design Build method is that project quality and efficiency should be improved due to knowledge sharing between the design and construction teams from conceptual design through 100% construction documents (since they are under the same entity). This integration should, in theory, reduce preconstruction costs, assist in scheduling efficiencies and mitigate most constructability issues. Another benefit is that under the Design Build method, the Contract Owner has only a single contractual relationship, passing the various risks of management and design on to the DB. This transference of risk typically results in an increase in fees paid to the Design Builder (versus the CM at Risk fee structure).

Design Build contracts can limit the Contract Owner's involvement in the design phase of a project, which can result in contractors making design decisions outside of their area of expertise or decisions that don't align with the needs / desires of the Contract Owner. A Design Build project requires the Contract Owner to perform all of the same information reviews and processing procedures as a CM at Risk without the assistance of a 3rd party Architect acting on their behalf. Therefore it is possible that a Design Build should not be the method of choice for an Owner that does not have the skilled resources to manage this type of agreement. As mentioned above, many Contract Owners reach out to third parties such as Owner's Representatives or Risk Management Consultants to mitigate the risk of mismanagement due to lack of internal resources. In our experience, a well managed Design Build project typically results in high quality, timely construction at a moderate increase of cost to the Owner. Generally this form of delivery method will cost more than the others due to the increased risk accepted by the contractor. This form of delivery method can also be used for projects that are on a "fast track" schedule.

CONTRACT DELIVERY METHOD ANALYSIS - CONTINUED

Delivery Method Selection Matrix

The following matrix is an illustrative tool that can be used to assist the Contract Owner in selecting a Delivery Method based on project size / complexity and the availability and skill of facilities personnel / resources.



Implementation

It is clear that no single Delivery Method is perfectly suited for all projects or Contract Owners. It is the responsibility of the Owner to develop appropriate evaluation procedures for identifying their objectives and goals for a specific project, analyzing their internal resources and addressing their internal risk appetite for selecting an appropriate Delivery Method. In situations where the Contract Owner has limited experience or a lack of internal resources to perform an appropriate pre-method selection evaluation, it is recommended the Owner consider appropriate external resources for assistance. An experienced external resource can help in this evaluation process and guide the Owner into the most efficient and cost-effective type of contract.

Project Interface and Internal Structure Analysis

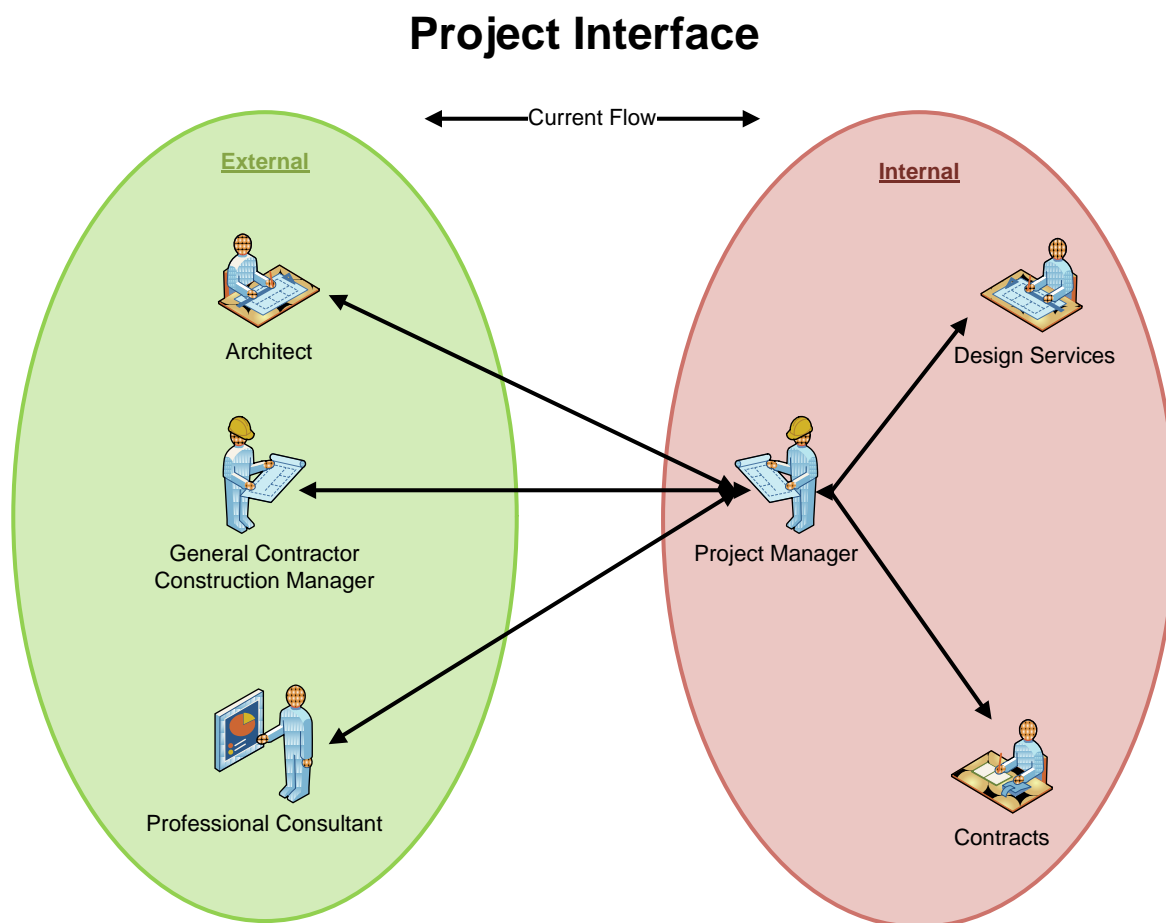
PROJECT INTERFACE AND INTERNAL STRUCTURE ANALYSIS

Procedures

As a part of our review, McGladrey conducted an analysis of the internal structure of the Facilities and Construction Management Division that included the following evaluation procedures:

- Contrast with other comparable entities (public sector)
- Comparison to benchmark entities (public and private sector)
- Evaluation of the use of internal and external resources
- Critical analysis of the ramifications of process adjustments to the current structure
- Identification of best practices suitable for implementation

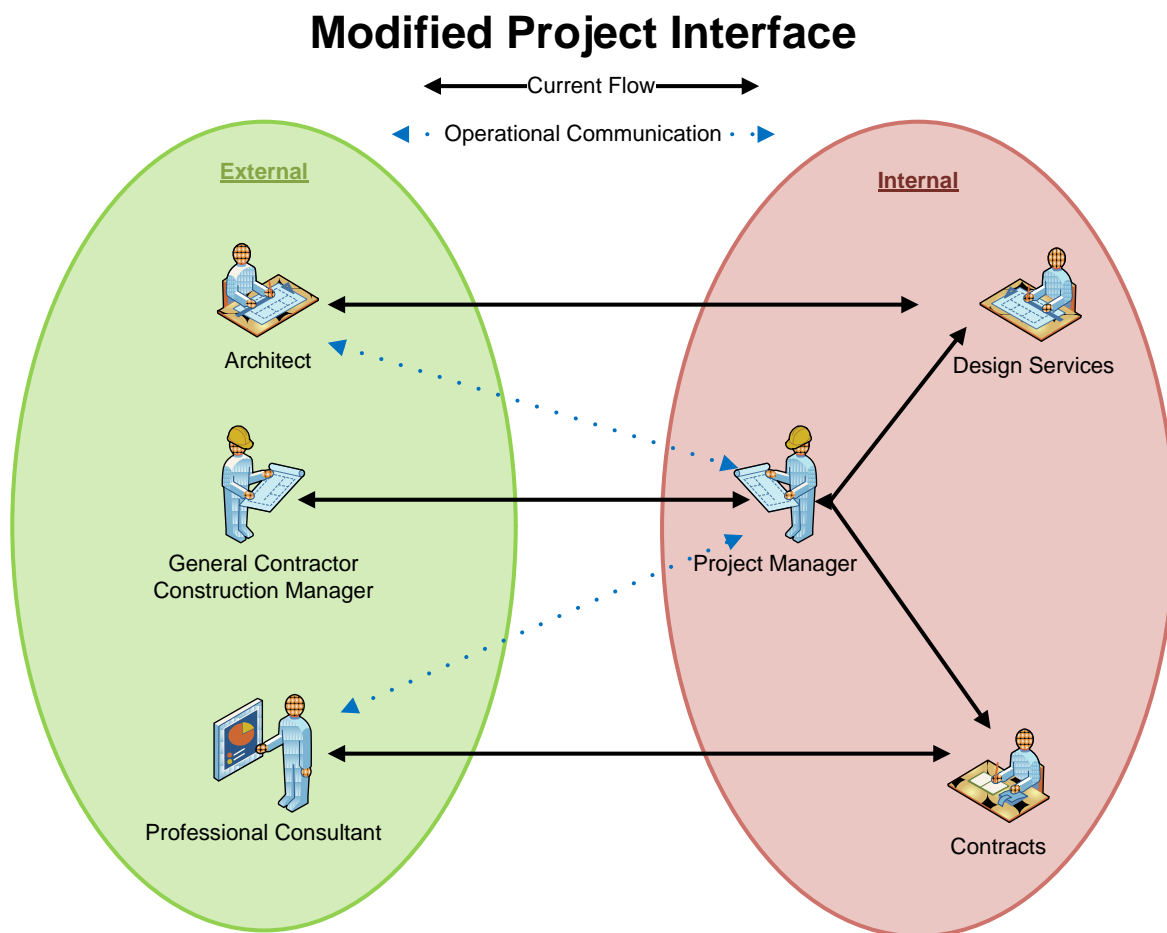
Through observation, inspection and inquiry, it is our understanding that the current structure of the communications flow on construction projects is effectively represented in the illustration below. We are aware there are certain deviations from the illustrated structure within specific processes, but it is our opinion that this is the most accurate, high-level reflection of communications as it was conveyed to us in interviews with each respective process owner.



PROJECT INTERFACE AND INTERNAL STRUCTURE ANALYSIS - CONTINUED

Analysis

Relevant experience in the industry shows that many comparable entities do not have access to the depth of internal resources that the Broward County School District Facilities and Construction Management department has at their disposal. Many public and private sector Facilities departments manage large construction projects without an internal design team or cost estimation function. Based on the current structure as outlined above, it is our observation that F&CM could improve the effectiveness of communications and increase cost savings measures by involving the Design Services and Contracts / Cost Estimation departments more frequently in a number of the processes we reviewed. Matching the expertise of internal Architects, Cost Estimators, and Project Managers with the analogous outsourced function can help facilitate improved communications and cost savings measures previously noted. Proposed modification to the current structure can be found in the illustration below:



Modification Summary

The proposed modifications to the Project Interface would retain only the necessary operational (construction phase) communication lines between the Project Manager and the Architect / Service Provider, while increasing the Design Services and Contracts / Cost Estimation's involvement in the processes where their specific technical knowledge could be utilized and might be better suited than the skill set of a Project Manager. The projected benefits of this modification and implementation examples can be found on the pages below.

PROJECT INTERFACE AND INTERNAL STRUCTURE ANALYSIS - CONTINUED

Benefits of Modification – Contracts / Cost Estimation

Cost Savings – Contracts / Cost Estimation

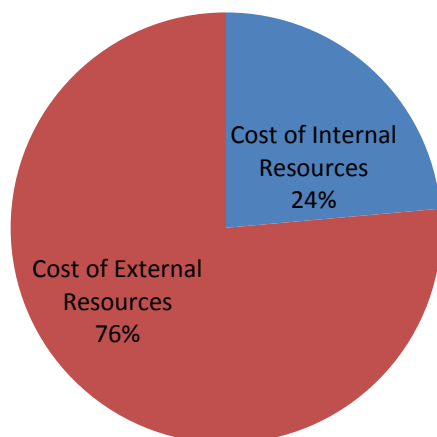
Through our review, we obtained the following expenditure data from the Capital Payments Group as it relates to F&CM's expenditures to third party consultants for cost estimation, buyout / savings reconciliations, closeout, change order review and other various functions. Based on our interviews with F&CM personnel, each consultant below can perform the various tasks described above. The Contracts department is responsible for the rotation of services between consultants (i.e. Contracts disseminates requests for the use of consultants amongst those currently under contract).

3rd Party Consultant	Fiscal Year Expenditures			
	2009	2010	2011	2012
CMS	\$ 288,410	\$ 147,040	\$ 243,220	\$ 208,689
ONMN&J	5,000	720	1,000	6,720
James Tucker	299,300	238,020	37,500	
PBS&J				16,318
	<u>\$ 592,710</u>	<u>\$ 385,780</u>	<u>\$ 281,720</u>	<u>\$ 231,727</u>

Based on observation, inspection and inquiry, it is our understanding that the decision to use a third party consultant is the discretion of the Project Manager for each respective construction project (subject to the normal approval procedures). It is also our understanding that the information / reports obtained from the selected third party consultant is delivered to and evaluated by the Project Manager only. This lack of segregation of duties in the decision making and evaluation process creates an environment where internal resources may not be utilized to their full extent and an overreliance on external resources may develop.

The following chart represents the average cost disaggregation between internal and external cost estimation services at Broward County School District. The data shows the allocation between sources for cost estimation, buyout / savings reconciliations, closeout, change order review and other various functions included under "Cost Estimation", as represented to us by the Capital Payments Group. The percentages are based on quantifiable outsourcing costs versus internal labor costs; i.e. annually, FC&M spends 76% of Cost Estimation funds on external resources while 24% of those costs are incurred in-house.

Cost Estimation



PROJECT INTERFACE AND INTERNAL STRUCTURE ANALYSIS - CONTINUED

Recommendation / Results

Under the Modified Project Interface proposed on the page above, the decision to utilize third party consultants and the evaluation of their information / reports would be performed through the Contracts / Cost Estimation department. This would provide the Contracts and Cost Estimation Department the opportunity to self perform certain functions for which they have the appropriate skill set rather than incur the cost of outsourcing. The proposed structure would also provide F&CM's internal resources the opportunity to identify duplication of work or instances where a third party consultant is being paid for something that is already being done internally (something that could be unknown or overlooked by a Project Manager). This recommendation should be considered in association with Observation #36 as noted in the Design and Construction Management Processes section above.

Benefits of Modification – Design Services

Cost Savings – Design Services

A Contract Owner should understand that while their external Architect performs certain cost mitigation functions, they still have significant interests that compete with those of the Owner. Due to these competing interests, it is important whenever possible, to involve F&CM's internal Architectural and Engineering resources for the evaluation of certain portions of a project (such as Change Orders, CUDs, RFIs, etc). Based on observation, and inquiry, it is our understanding that the Design Services department has limited involvement in a given construction project beyond Phase III, 50% construction documents (Reference Observation #37 as noted in the Design and Construction Management Processes section above).

Recommendation / Results

Under the Modified Project Interface proposed above, communications related to RFIs, Change Orders, CUDs, and any other processes determined by F&CM that would be better handled by an Architect / Engineer (rather than a Project Manager), should be routed through the Design Services Department for primary evaluation. It is our understanding, through experience in the industry, that internal Architects / Engineers provide a more objective form of entitlement review and cost avoidance analysis than outside consultants, and they maintain a unique technical skill set that allows them to identify things that could be overlooked by Project Management. By involving the Design Services Team in selected processes, F&CM also increases its opportunity for cost savings opportunities such as identification of Errors and Omissions that might otherwise be accepted as changes to the work (increased costs).

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