



Broward County Public Schools

Internal Audit of Program Management

November 2023



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TRANSMITTAL LETTER

November 8, 2023

Joris Jabouin, Chief Auditor
Broward County Public Schools
600 SE 3rd Avenue, 8th Floor
Fort Lauderdale, Florida 33301

Pursuant to the approved internal audit scope of work, dated March 20, 2023, we hereby submit our internal audit report of the Program Management function. We will present this report to the Audit Committee on November 16, 2023.

Our report is organized in the following sections:

Executive Summary	This section provides a brief background and a summary of the observations related to our internal audit of the Program Management function.
Current Period Observations	This section presents descriptions of the observations noted during our internal audit, recommended actions, as well as responses from the Program Management team.
Prior Observations Follow-Up	This section provides an update and the current status of remediations related to prior noted findings.
PM/OR and CPCM Invoice Testing Results	This section provides the results of our testing of PM/OR and CPCM invoices.
Objectives and Approach	The objectives and approach of the internal audit are explained in this section.

We would like to thank the staff and all those involved in assisting us with this internal audit.

Respectfully Submitted,

RSM US LLP



EXECUTIVE SUMMARY

Background, Objectives and Scope

RSM has provided various operational and construction auditing services through agreement with the District's Office of the Chief Auditor ("OCA") since 2012. In March of 2017, RSM began providing quarterly evaluation reports of the District's Program Management team directly to the District's Office of Capital Programs ("OCP"). During our engagement, we worked closely with OCP and members of the Atkins, and CBRE-Heery Program Management team to improve the District's design and construction control environment and encourage transparency and accuracy in reporting. In November 2018, contractual oversight and management of our work shifted from OCP, back to the OCA. RSM works with OCA on a quarterly basis to define an audit plan for the upcoming quarter.

The objective of our procedures is to verify that the District's Cost and Program Controls Manager ("CPCM" - Atkins) and Program Manager - Owner's Representative ("PM/OR" - AECOM) are providing deliverables and services in conformance with the terms and conditions of their respective agreements/RFP/RFQ. Generally, our procedures include tests of compliance with contracts (CPCM and PM/OR), tests to confirm adherence to District standard operating procedures, and evaluations of alignment with industry leading practices.

Observations

The observations identified during our assessment are summarized on the pages that follow and include management action plans.

Four (4) of six (6) follow-up items remain open, including observations related to the incorporation of contract time modifications in project schedules, PM/OR monthly deliverables, PM/OR and CPCM monthly invoicing, and compliance with contractual construction schedules.

Approach

Our audit approach consisted of the following:

Cycle Audit Procedures

- Obtained and reviewed deliverables submitted in accordance with PM monthly reporting requirements derived from the CPCM RFP
- Reviewed CPCM monthly invoicing for contractual compliance, proper supporting documentation, and mathematical accuracy
- Obtained and reviewed deliverables submitted in accordance with PM monthly reporting requirements derived from PM/OR RFQ
- Reviewed PM/OR monthly invoicing for contractual compliance, proper supporting documentation, and mathematical accuracy
- Performed an analysis of historical PM/OR invoices to evaluate compliance with contractual M/WBE requirements
- Followed up on prior findings, including the following prior observations:
 - Contract Time Modifications and Schedule Updates
 - PM/OR Compliance with Reporting Requirements
 - PM/OR Monthly Invoicing
 - Change Order Process Duration
 - Electronic Signatures on Change Order Forms
 - Monthly Schedule Reporting: Contractual Completion Dates

Reporting

Fieldwork was conducted between September and October 2023. At the conclusion of our procedures, we summarized our findings into this report. We have reviewed the results of our testing with OCA, the CPCM and PM/OR teams, and incorporated management's response herein.

We would like to thank all District team members who assisted us throughout this review.



CURRENT PERIOD OBSERVATIONS



CURRENT PERIOD OBSERVATIONS

INTERNAL AUDIT – PROGRAM MANAGEMENT

OBSERVATION

1. PM/OR M/WBE Compliance

DETAIL

Through analysis of PM/OR invoices for professional services rendered between August 2020 and June 2023, we noted that the PM/OR is not in compliance with contractual M/WBE requirements. Further, we noted that the PM/OR's staffing plan is not structured in a way that allows for efficient tracking of future M/WBE compliance, and does not clearly present projected M/WBE participation.

Section 2.06 of the PM/OR Agreement states that the PM/OR *"shall provide for M/WBE participation during its performance of services under this Agreement by listing SBBC Certified M/WBE's participation commitment percentage set forth in the Vendor's proposal (Attachment B)"*. According to Attachment B of the Agreement, the PM/OR committed forty-five percent (45%) M/WBE participation through the use of three (3) SBBC certified M/WBE vendors as part of their proposal. Through June 2023, M/WBE vendors accounted for 40.36% of the total contract value invoiced by AECOM.

The following table provides a breakdown of PM/OR contract costs by vendor type for professional services rendered through June 2023.

Vendor Type	Total Invoiced	% of Total Contract	M/WBE Commitment	Variance
PM/OR	\$ 19,728,418	32.31%	-	-
M/WBE Vendors	\$ 24,648,690	40.36%	45.00%	-4.64%
Non-M/WBE Vendors	\$ 16,691,347	27.33%	-	-
Total	\$ 61,068,455			

According to the PM/OR RFQ, the District established a minimum goal of twenty-nine percent (29%) M/WBE participation for submitting firms, and awarded additional evaluation points for M/WBE commitments above the 29% minimum. The PM/OR was awarded the maximum number of points (15) with a M/WBE participation commitment within the range of forty-five (45) and forty-nine percent (49%).

In July 2023, the first amendment to the PM/OR Agreement was approved by the Board which modified the M/WBE percentages to recover the negative variance for Contract Years 1-3. In total, the PM/OR's M/WBE participation commitment was increased by 8.47% to 53.47%.

RSM obtained the PM/OR's updated staffing plan for Contract Year 4 (August 2023 through July 2024) and performed an analysis to determine whether projected M/WBE participation aligned with the commitment percentages outlined in the amendment. Through our analysis, we noted that the staffing plan projects 52.39% M/WBE participation, compared to the 53.47% commitment specified in the amendment.

Without a clear methodology to track M/WBE utilization and update the staffing plan based on actual participation, the PM/OR may not have the ability to identify potential variances in M/WBE utilization and adjust staffing models accordingly. Insufficient monitoring and enforcement of contractual M/WBE requirements may increase the District's reputational risk, and negatively impact its relationships with M/WBE vendors.



CURRENT PERIOD OBSERVATIONS

INTERNAL AUDIT – PROGRAM MANAGEMENT

OBSERVATION

1. PM/OR M/WBE Compliance (continued)

RECOMMENDATION

We recommend the PM/OR modify its current staffing plan to provide a summary of projected contract totals by vendor and M/WBE utilization. Further, actual M/WBE utilization should be tracked and measured against the projected participation included within the staffing plan. Using this information, the PM/OR can anticipate and communicate potential variances in M/WBE utilization, as needed. The staffing plan should be provided on a quarterly basis and incorporated into the PM/OR's SMART Program Monthly Reports.

MANAGEMENT'S RESPONSE

PM/OR Response: AECOM continues our good faith efforts in achieving the highest S/M/WBE percentages possible for our partners (to include our graduated S/M/WBE partner). AECOM is providing resumes to the S/M/WBE firms to assist them in identifying candidates and potentially hiring employees. To increase S/M/WBE participation AECOM released employees for the subconsultants to hire and assist in meeting their percentages.

AECOM August 2023 S/M/WBE Participation

Invoiced to Date*	\$64,874,704
AECOM Paid to Date*	\$61,266,638
Non-S/M/WBE Subconsultant Paid to Date	\$36,254,180
S/M/WBE Subconsultant Paid to Date	\$25,412,098
S/M/WBE Participation	41.48%

* Excludes Additional Specialized Services



AECOM has invoiced through August 2023



AECOM and its sub-consultants have been paid for invoicing through June 2023

	Planned				Remaining	Planned	Current	Planned	Current
	Spend	Actuals	Variance	Contract	Balance	%	%	S/M/WBE	S/M/WBE
								%	%
AECOM	\$425,003	\$557,298	\$210,356	\$3,226,554	\$2,669,256	12.85%	22.21%		
BACH	\$597,828	\$559,478	\$71,455	\$4,538,613	\$3,979,135	18.07%	22.30%		
Corradino	\$668,254	\$539,950	(\$4,769)	\$5,058,528	\$4,518,578	20.14%	21.52%		
Garth	\$915,888	\$616,292	(\$131,372)	\$6,953,271	\$6,336,980	27.69%	24.57%		
Keith	\$423,814	\$51,953	(\$25,891)	\$3,217,525	\$3,165,572	12.81%	2.07%		
NOC	\$25,111	\$28,204	\$7,705	\$190,636	\$162,433	0.76%	1.12%		
S Davis	\$253,854	\$155,554	(\$51,673)	\$1,927,218	\$1,771,664	7.67%	6.20%		
Grand Total	\$3,309,752	\$2,508,728	\$75,811	\$25,112,345	\$22,603,618	100.00%	100.00%	53.44%	53.07%

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CURRENT PERIOD OBSERVATIONS

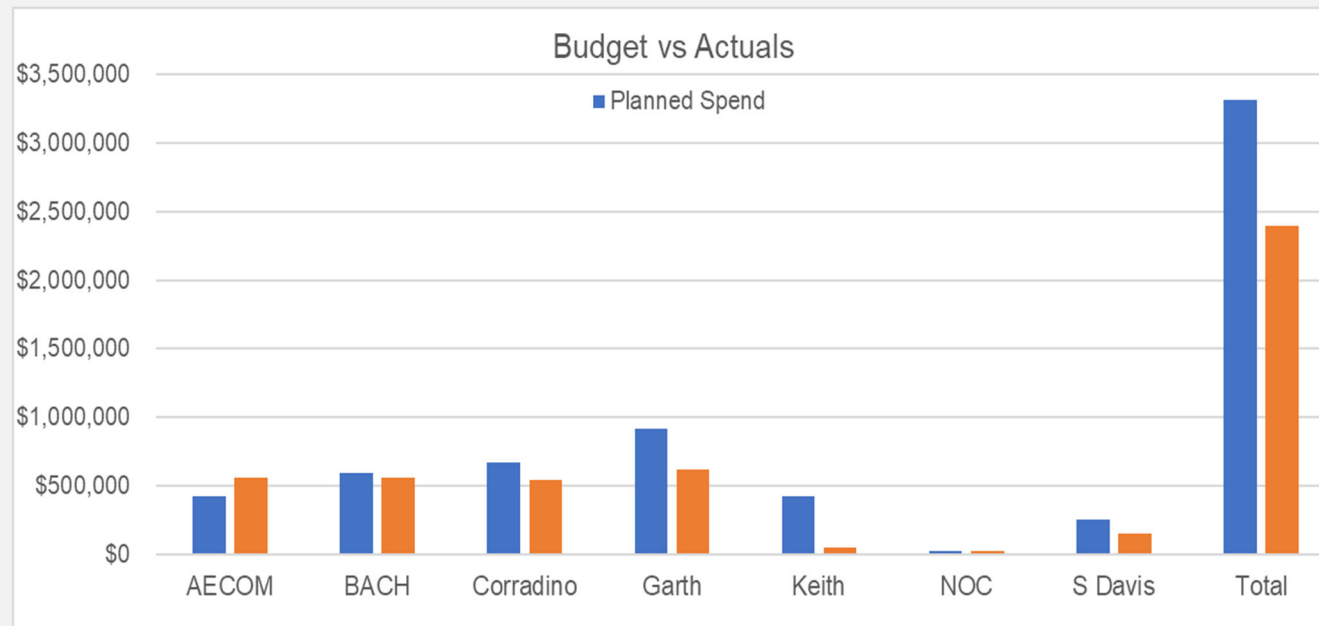
INTERNAL AUDIT – PROGRAM MANAGEMENT

OBSERVATION

1. PM/OR M/WBE Compliance (continued)

MANAGEMENT'S RESPONSE

PM/OR Response (continued):



The charts above show some variances in the actuals to planned. It is normal to have slight variances as the planned spend is an even spread of the contract amount for the contract duration therefore doesn't account for fluctuations in staff for example Personal Time Off (PTO).

Some of the underruns in budget are due to the revenue loss from not placing open positions. Below are the open positions and the durations it took to fill those positions.

AECOM: At start of YR-4 through 2nd week in August AECOM carried 3 PM and 1 scheduler staff positions to not create a void in staffing and when the positions were not filled, then gave those team members to the subconsultants to fill their open positions.

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CURRENT PERIOD OBSERVATIONS

INTERNAL AUDIT – PROGRAM MANAGEMENT

OBSERVATION

1. PM/OR M/WBE Compliance (continued)

MANAGEMENT'S RESPONSE

PM/OR Response (continued):

- Transferred 2 AECOM PMs to Garth to fill the outstanding open PM positions.
- Transferred 1 AECOM PM to Keith to fill the outstanding open PM position.

Corradino: At start of YR-4 had 2 TBDs - 2 PMs.

- One PM was hired 8/18/23 and started 8/28/23. (5-week delay)
- The 2nd PM was hired 8/21/23 and started 9/25/23. (9-week delay)

Garth: At start of YR-4 had 5 TBDs - 2 PMs, 2 APMs and 1 CC. (1 PM was soon after changed to a CC).

- One APM was hired 8/7/23 and started 8/21/23. (4-week delay)
- The 2nd APM was hired 8/8/23 and started 9/11/23. (7-week delay)
- One CC was hired 8/15/23 and started 8/23/23. (4+-week delay)
- The PM was hired 8/23/23 and started 9/4/23. (6-week delay)
- The 2nd CC was hired 10/19/23 and will start (possibly) 11/6/23. (15-week delay)

Replacements:

- 1 APM left 8/30/23 and a new one will start 10/23/23. (7-weeks delay)
- 1 PM left 9/8/23 and a new one will start 10/23/23. (6-weeks delay)

Keith: At start of YR- 4 had 2 TBDs - 1 PM and 1 APM (PM was soon after changed to a Scheduler TBD and the APM was changed into a Senior CC).

- The scheduler was hired 9/12/23 and started 9/25/23. (9-week delay)
- The senior CC was hired 9/12/23 and started 10/2/23. (10-week delay)

Replacements:

- 1 CC left 8/28/23 and a new one started 9/6/23. (1-week delay)

S Davis: At start of year 4 had 2 TBDs - 1 Project Accountant and 1 Estimator.

- The Project Accountant was hired 8/4/23 and started 8/23/23. (4-week delay)
- The Estimator was hired 8/11/23 and started 8/28/23. (5-week delay)

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CURRENT PERIOD OBSERVATIONS

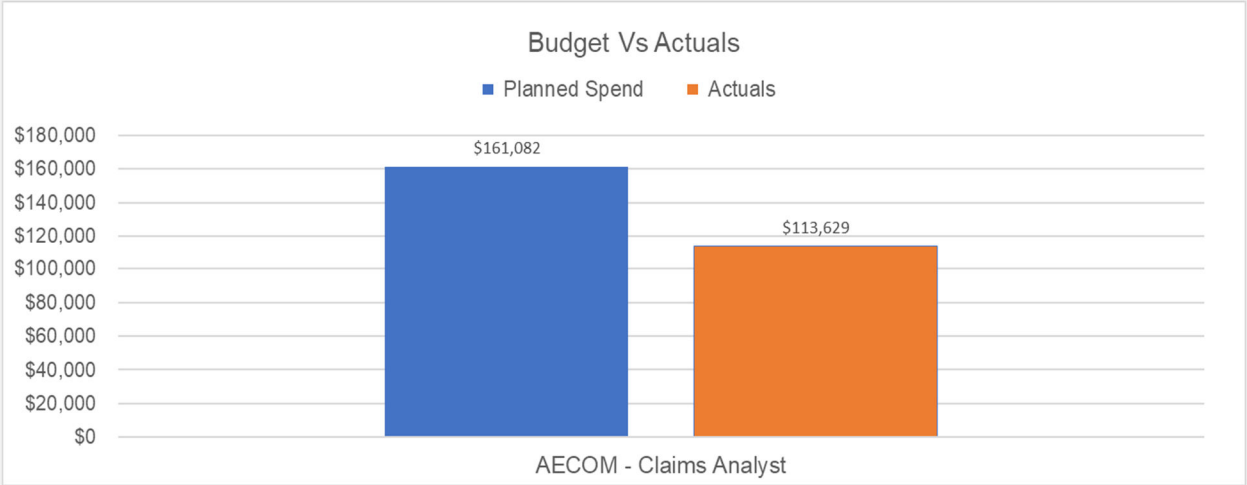
INTERNAL AUDIT – PROGRAM MANAGEMENT

OBSERVATION1. PM/OR M/WBE Compliance (continued)

MANAGEMENT’S RESPONSE

PM/OR Response (continued):
 Contract YR-4 Special Services:

YR-4	Planned Spend	Actuals	Contract	Remaining Balance
AECOM - Claims Analyst	\$161,082	\$113,629	\$1,222,908	\$1,109,279
Grand Total	\$161,082	\$113,629	\$1,222,908	\$1,109,279





PRIOR OBSERVATIONS FOLLOW-UP



PRIOR OBSERVATIONS FOLLOW-UP

INTERNAL AUDIT – PROGRAM MANAGEMENT

1. Contract Time Modifications and Schedule Updates

February 2020

Open

PRIOR OBSERVATION DETAIL

Through our detailed testing of change orders, we noted a variance between additional days approved via change orders, and days added to the next corresponding project schedule update. We also noted instances where the final completion date listed in versions of project schedules, prior to approved changes, did not agree the final completion date listed in the Notice to Proceed (“NTP”).

Project final completion dates are included in the contractor’s NTP. Minor fluctuations to the daily/weekly schedule are expected, and should be reflected in the updated schedule provided by contractors each month (typically within the pay application package). Changes to the final completion date are only allowed with the District’s approval through a change order, and should also be reflected in monthly schedule updates. We selected a sample of ten (10) change orders to validate that appropriate schedule updates were made, to reflect additions of time approved via the change order. We noted exceptions for four (4) of our samples.

We recommend the OR-PM review the process for updating the schedule included in the pay applications to ensure the accuracy of the project schedule.

CURRENT OBSERVATION STATUS

RSM selected an additional sample of three (3) change orders with time modifications to verify inclusion of change order time extensions/reductions in the Contractor’s project schedule. Through our detailed testing, we noted discrepancies between the completion dates noted in the Contractor’s schedule and the RSM calculated completion dates for two (2) of three (3) sampled change orders.

A summary of RSM’s testing related to change order time extensions/reductions is provided below:

- **Q2 2020:** Three (3) of four (4) samples failed testing
- **Q3 2020:** Four (4) of four (4) samples failed testing
- **Q3 2021:** Two (2) of three (3) samples failed testing
- **Q4 2021:** Three (3) of three (3) samples failed testing
- **Q4 2022:** Two (2) of three (3) samples failed testing
- **Q1 2023:** Two (2) of two (2) samples failed testing
- **Q2 2023:** Three (3) of three (3) samples failed testing
- **November 2023 Update:** Two (2) of three (3) samples failed testing. Further, we noted that the “Application for Payment Checklist” submitted with the payment application was not complete for the two (2) samples noted above. Specifically, we noted that the checklist procedure *“Has there been an approved change order with time this pay period? If so, is it in the updated schedule?”* was not completed by the PM/OR project manager. For one (1) sample, an updated pay application and associated schedule had not been submitted at the time of our analysis, and additional samples were not available for testing.

This observation will remain open, and RSM will select additional samples as they are available.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

1. Contract Time Modifications and Schedule Updates (continued)

February 2020

Open

MANAGEMENT'S RESPONSE

PM/OR Response: AECOM has provided additional training and scheduled review meetings with the contractors to help walk them through how to properly update their schedules to include the Board approved change orders.

Sheridan Park ES (P.002071): Contractor on the last invoice included the Board approved Change Order (activity 77) in the updated schedule, data date 8/28/23, the contractor additionally included a potential change order for additional time that pushed out the substantial completion date beyond the revised substantial completion date. AECOM has directed the contractor to the specification section in their contract outlining the scheduling requirements. AECOM continues to provide scheduling best practice training for all of the PMOR Project Managers. The contractor has since submitted an updated schedule that correctly reflects the contractual Substantial Completion date.

Banyan ES (P.001944): Contractor has updated the schedule and it is included in the August invoice submission currently in process.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

2. PM/OR Compliance with Reporting Requirements

June 2021

Partially Complete

PRIOR OBSERVATION DETAIL

RSM conducted detailed testing procedures related to the PM/OR's compliance with the monthly/quarterly deliverables as required by the RFQ. We noted that required monthly/quarterly reporting deliverables were not provided to OCP during our scope period (December 2020 – March 2021).

Monthly Reporting Requirements

The PM/OR's RFQ provides a summary of monthly deliverables that are required to be provided to the District by the PM/OR starting December 2020. Through discussions with OCP and the PM/OR, we noted that a completed monthly reporting package had not been submitted to OCP as of March 2021. The PM/OR submitted their first monthly reporting package for February 2021 in April 2021. Through our testing of the February and March 2021 reports, we noted certain monthly deliverables were not provided, including deliverables related to the following RFQ requirements:

- Variance Analysis (Schedule / Budget) Slippage
- Evaluation of Pay Requisition (Consultants & Contractor)
- Earned Value Project Management
- Monthly Executive Summary of Program Performance
- Monthly Executive Summary of Program Performance

Quarterly Reporting Requirements

The items listed in the table below were identified as the agreed-upon quarterly deliverables to be provided after the first three (3) months of the PM/OR's tenure. The table below summarizes the results of our testing:

AECOM Quarterly Reporting Requirements (section 6.7 of the Owners Representative RFQ)	Provided Q4 2020?	Provided Q1 2021?
Knowledge Management/Continuous Improvement at Program & Project Level (industry best practices & lessons learned)	Yes	No
Responsible, Accountable, Consulted, Informed (R. A. C. I.) Matrix	Yes	Yes

We recommend the PM/OR provide monthly and quarterly deliverables as required by their RFQ to allow the District to more effectively monitor project and program performance. As the Program Manager/Owner's Representative, AECOM should seek to provide timely information and actively collaborate with District staff and the CPCM in an effort to collectively move the Program forward.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

2. PM/OR Compliance with Reporting Requirements (continued)

June 2021

Partially Complete

CURRENT OBSERVATION STATUS

Since the date of our last report, an amendment to the PM/OR Agreement was approved by the Board which modified the list of deliverables required by the PM/OR's RFQ. The amendment removed six (6) total deliverable requirements, which included the following:

- Variance Analysis (Schedule / Budget) Slippage
- Earned Value Project Management
- RFI Rates
- Responses to RFIs
- Quality Deficiency and Building Department Inspection Reports
- Material Testing Reports

As part of our follow-up testing procedures, RSM conducted detailed testing related to the PM/OR's compliance with the monthly/quarterly deliverables required by the RFQ. Through our testing, we noted that two (2) remaining monthly deliverables were not provided within the "SMART Program Monthly Reports" for the period of February 2023 through June 2023, or removed as part of the amendment. The following deliverables were not included in the monthly reports:

- **Stakeholder Satisfaction**
- **Economic Development and Diversity Compliance ("EDDC"):** While the PM/OR began reporting on S/M/WBE Participation in the June 2023 monthly report, deliverables related to EDDC were not provided.

This observation will remain open, pending further testing of SMART Program Monthly Reports for compliance with reporting requirements.

MANAGEMENT'S RESPONSE

PM/OR Response: AECOM is assisting and coordinating with EDDC to develop a report that meets their requirements and will provide accurate data into the AECOM monthly report. The EDDC reporting data is typically provided to the Bond Oversight Committee and is distributed quarterly. AECOM has also developed a survey for client satisfaction that is currently under review and will begin implementation in this coming quarter.

EDDC Department Response: EDDC reports monthly SMART contracts awarded by the Board as part of the quarterly BOC Report. AECOM has access to B2Gnow and can review data continuously. Moving forward, EDDC will provide AECOM with the "Overall Construction Projects Compliance Report", comprised of S/M/WBE SMART project awards, by the 10th of each month. The report will not include payment information since the data will include newly awarded contracts.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

3. Change Order Process Duration

September 2022

Closed

PRIOR OBSERVATION DETAIL

Through our review of the e-Builder workflow history for twenty-five (25) change order items approved in 2022, we noted the average duration between the initial submittal of the 01250 change order forms and final Board approval of the change items was three hundred thirty-five (335) days. Of the twenty-five (25) samples analyzed, thirteen (13) samples had a total process duration of three hundred (300) days or more, including six (6) samples with a total duration of four hundred (400) days or more.

The following table summarizes the results of our analysis, including the duration of key milestones and process steps.

Change Order Process Data	
Process Step	Average (Instances /Days)
Rounds of Review Prior to CORP Approval ¹	5
Number of CORP Meetings	2
Duration Between Initial CO Submittal and Board Approval	335
Duration Between Initial CO Submittal and CORP Approval ²	242
Duration Between CORP Approval and Final Bundle ³	53
Duration Between Final Bundle and Board Approval	35

Individual Process Owner Data		
Process Step	Average Days Per Round	Total Days in Queue (Average)
A/E Review / Submittal	12	64
PM Review / CORP Prep	16	109
GC Revise & Resubmit	9	29
PC Scheduler Review	9	36
PC Cost Estimator Review	8	17

¹ The number of rounds of "Revise & Resubmit" from GC, A/E, PM, and CORP review prior to final CORP approval.

² Based on the CORP approval date in e-Builder workflow.

³ Includes the A/E, GC, and PM Signature/Date and "PM Final Review" process steps. If CORP approves the change order item with comments, additional process steps, including "PM Review Approved with Comments" and "CORP Chair Data Verification" are also included in the e-Builder workflow.

Efficient change order processing is critical to the timely completion of projects and maintaining positive relationships with third-party vendors. Although the current change order workflow is a well-defined process with a strong control environment, current stakeholder response times, bottlenecks within the workflow, and frequency of resubmittals challenge the District's ability to process change orders in a timely manner. Change orders that are left outstanding for an extended period of time may lead to further project delays, potential legal disputes, and/or suspension of work.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

3. Change Order Process Duration (continued)

September 2022

Closed

PRIOR OBSERVATION DETAIL

We recommend the PM/OR perform an analysis to identify opportunities to reduce the overall duration of the change order process. For example, the analysis may include an evaluation of the review comments issued by the A/E, PM, and CORP as part of the review process to identify common themes and recurring review comments. Using this information, the PM/OR may consider developing a change order review checklist for project managers to utilize as part of their review to potentially resolve common issues earlier in the process and reduce the frequency of resubmittals.

The PM/OR may also consider developing procedures to monitor and follow-up on aging action items within the change order workflow. Follow-up notifications should be sent to parties with action items left outstanding for a certain period of time, based on a pre-determined threshold. Further, we recommend that a workflow aging report be distributed to team leaders and project managers on a weekly basis.

In addition, we recommend the District consider modifying existing procedures to establish a threshold for change orders requiring Board approval. We understand that revisions to the District's current practice have been proposed by Management and the PM/OR, and these proposed revisions are scheduled for Board review in September 2022. Considering the quantity and quality of the controls within the change order review process, RSM supports the implementation of a specific dollar value threshold.

CURRENT OBSERVATION STATUS

In October 2022, the "Potential Change Order" ("PCO") and "Change Order" processes were launched in e-Builder, which included new workflows for change order processing. In addition, in September and December 2022, the District revised Board Policy No. 8000 ("Approval of Facilities' Construction Contract Change Orders") to allow the Superintendent to approve change orders up to \$50,000, based on cumulative limits of authority.

As part of our follow-up procedures, RSM obtained a listing of PCO's submitted within the new workflow and selected a sample of sixty (60) approved/completed PCO's to determine the average duration of change order processing. Through our analysis, we noted that the average duration between the initial submittal of the PCO in e-Builder and final Board approval for our sample was 116 days, and 115 days for Superintendent approval.

Considering the improvement in average change order processing time since our initial analysis in 2022, and the efforts made by the PM/OR to improve the workflow, we recommend closure of this observation. However, we understand the District faces several challenges that may affect the efficiency of change order processing moving forward, including an increasing volume of PCO's submitted through the workflow, and schedule-related change order requests necessitating TIA reviews. We encourage the PM/OR to continue monitoring program-level change order data/trends and modifying the workflow in real-time.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

4. Electronic Signatures on Change Order Forms

September 2022

Closed

PRIOR OBSERVATION DETAIL

Through our review of twenty-five (25) change order items approved by the School Board in 2022, we noted that non-verifiable electronic signatures were provided on fourteen (14) executed change items (56%). Further, we noted the following:

- For 4 of 25 change items, a signature date was not provided by one (1) or more signor
- For 23 of 25 change items, signature dates were typed by one (1) or more signor
- For 7 of 25 change items, an incomplete signature was provided by one (1) or more signor (i.e., the signature block was missing the typed name and/or typed firm name)

RSM obtained the 01250g form (“Document 01250g – Construction Change Order Item”) included as part of the agenda item presented to the Board for approval. Non-verifiable electronic signatures, including signatures that were typed directly into the form, and images of signatures copied and pasted into the signature block were often provided by the A/E, Contractor, and/or PM/OR.

While electronic signatures are permissible under the United States “Uniform Electronic Transaction Act”, the signature must be verifiable and/or traceable to the signor through an associated record, including the process used to capture the signature. According to Florida Statute 668.5(2)(h), an “electronic signature” means an electronic sound, symbol, or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record.”

The District’s construction management software, e-Builder provides a detailed record of each process step within the change order workflow, including a step for GC, A/E, and PM signatures. However, through our analysis of the e-Builder “Routing History”, we noted instances where the signor of the 01250g was not the actor who completed the signature workflow step in e-Builder.

While an electronic signature constitutes a legally binding substitute for a handwritten or “wet” signature, a digital audit trail linking the signor to the signature may strengthen the District’s position in the event of a potential legal dispute. If a dispute arises with a third-party over the performance of their contractual obligations, having a “wet” signature or electronic signature with a sufficient audit trail may prevent a third- party from challenging the validity of their signature.

We recommend OCP, in conjunction with the PM/OR, consult with the Office of The General Counsel to evaluate the District’s process for obtaining third-party signatures and identify other contracts and documents in which electronic signatures are currently being utilized.

Further, as part of the “PM Final Review” step in the current change order workflow, project managers should verify that all required signature fields on the 01250g form are complete prior to the final bundle.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

4. Electronic Signatures on Change Order Forms (continued)

September 2022

Closed

CURRENT OBSERVATION STATUS

Since our initial observation in September 2022, several new e-Builder processes have been implemented by the PM/OR, including the potential change order (“PCO”) and change order processes. The new change order workflow now automatically generates standardized electronic signatures on 01250g forms, which are substantiated through e-Builder's workflow routing history. When an authorized user completes the “Review and Sign” step within the workflow, an electronic signature is generated with the user's name and the date in which the step was completed.

As part of our follow-up testing procedures, RSM, in conjunction with the Office of the Chief Auditor, verified that the Office of the General Counsel is comfortable with the current method of obtaining electronic signatures for change orders. As such, we recommend closure of this observation.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

5. Monthly Schedule Reporting: Contractual Completion Dates

September 2022

Open

PRIOR OBSERVATION DETAIL

Through our review of the project schedules for ten (10) sampled projects, we noted that three (3) of six (6) projects in active construction have surpassed their contractual substantial completion date and change orders have not been executed to modify the construction duration.

The table below illustrates the number of days in which each project has surpassed the contractual substantial completion date, as of July 31, 2022.

School Name	Current Phase % Complete (May 2022 MPU)	Contractual Substantial Completion Date (per NTP)	Days Extended by Executed Change Orders	Revised Contractual Substantial Completion Date	Days Passed Contractual Substantial Completion Date
Deerfield Beach HS (P.002694)	39%	3/21/22	0	3/21/22	132
Ramblewood MS (P.001867)	92%	5/22/21	0	5/22/21	435
Maplewood ES (P.001639)	93%	2/5/21	72	4/18/21	469

According to Article 4 of the District's Construction Agreement ("Time for Contractor's Performance"), the Contractor is required to accomplish substantial completion on or before the date stipulated in the Notice to Proceed ("NTP"). The Agreement also includes a provision for "Liquidated Damages for Substantial Completion" which states that the Owner is entitled to \$500 in liquidated damages for each day the project extends past the contractual substantial completion date.

Monitoring the accuracy of project schedules is critical to the successful and timely completion of projects. While the PM/OR's baseline schedule may include sufficient time to complete the project, the Contractor is contractually obligated to complete the project within the specified construction duration outlined in the NTP and Agreement. By executing a formal change order, the District is establishing revised expectations with the Contractor. If the Contractor is aware they have missed their contractual completion date and will not be penalized for delays, they are more likely to operate with a lower sense of urgency.

We recommend the PM/OR develop procedures to monitor the contractual completion dates outlined in the Construction Agreement and Notice to Proceed ("NTP"). If projects are at risk of schedule delays, change orders should be executed to modify the contractual completion dates to reflect a more reasonable project timeline.



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

5. Monthly Schedule Reporting: Contractual Completion Dates (continued)

September 2022

Open

CURRENT OBSERVATION STATUS

RSM tested a random sample of four (4) projects in active construction to validate compliance with contractual construction schedules. Through our testing, we noted that four (4) of four (4) sampled projects have surpassed their contractual substantial completion dates and change orders have not been executed to modify the construction duration.

As part of our follow-up procedures, we conducted interviews with the PM/OR to discuss the status of program-wide Time Impact Analysis ("TIA") reviews. The PM/OR noted that while the backlog of 2022 TIA's has been completed, they are working through a backlog of TIA's for change orders submitted in 2023. According to data provided by the PM/OR, thirty-two (32) TIA's submitted in 2023 are "Ready for Scheduler Review", as of October 11, 2023.

The PM/OR also noted the importance of TIA reviews to evaluate and assign responsibility for potential schedule delays. As the District is increasing efforts to pursue liquidated damages for schedule delays caused by contractors, the PM/OR may consider performing an analysis to confirm that TIA's are submitted for all projects that have surpassed their contractual completion dates or are trending beyond their contractual schedule.

This observation will remain open, pending further testing and PM/OR completion of the TIA backlog.

MANAGEMENT'S RESPONSE

PM/OR Response: AECOM continues to push through the backlog of TIA reviews, as noted below there are many factors that have created the need to do a forensic review of the TIA submissions that require additional time to complete review. For all contracts that have surpassed the contractual substantial completion, the PMOR team has requested a TIA, issued a Notice to Comply and/or assessment of Liquidated Damages analysis from the contractor.

Since December 2022, more than 300 time extension requests for various projects were submitted.

- 203 (75.46%) are completely closed. This includes all 2022 and older backlog.
 - 143 (53.16%) are completely closed.
 - 2 (0.74%) are complete and in final quality checks.
 - 11 (4.09%) are in hold pending claims action.
 - 14 (5.20%) are associated with an A/E's request for compensation and will not be reviewed.
 - This equates to 203 submissions or 75.46% of the total time extension requests received. ***This is an increase from the previously reported 39.23%.***
- 33 (12.27%) are waiting for resubmission. ***At this point, resubmissions of previously rejected time extensions have become a major effort: contractors are resubmitting for time previously rejected but not providing any new information to substantiate their claim.***
- 34 (12.64%) are currently in review or undergoing an independent forensic delay analysis.

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PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

5. Monthly Schedule Reporting: Contractual Completion Dates (continued)

September 2022

Open

MANAGEMENT'S RESPONSE

PM/OR Response (continued):

- 32 (11.90%) are in line for review. This includes resubmissions from previously 'revise and resubmit' submissions. **This is a decrease from the previously reported 38.28%.**
- The 4 quarters of 2023 are almost evenly split with an average of 8 submissions each (25% of the 32 submissions each).

Complete & Closed	143	53.16%	75.46%
Complete - Waiting for Resubmission	33	12.27%	
In QC for Final Approval	2	0.74%	
On Hold due to claims or other issues	11	4.09%	
Assigned outside of TIA Team	0	0.00%	
Architect's Request	14	5.20%	24.54%
Currently in Review / Review Started	34	12.64%	
Ready for Scheduler Review	32	11.90%	
- Backlog 2022	0	0.00%	100.00%
- Backlog 2023 Q1 (Jan-March 2023)	9	28.13%	
- Backlog 2023 Q2 (April - June 2023)	8	25.00%	
- Backlog 2023 Q3 (July - Aug 2023)	8	25.00%	
- Current Q4 (Sept 2023 - Current)	7	21.88%	

Of the 203 processed submissions, only approximately **8 or 3.94% (a decrease from the previously reported 4.42%)** modeled a project delayed by the lack of an executed change order or approved time extension. Further, this is a leading question that does not address:

- "Why" TIAs and change orders may be delayed. For example, several projects have had their change orders / TIA approval times greatly extended by multiple resubmissions, negotiations between the contractor and A/E, and attempts to work with the contractor to receive a submission that "simply makes sense". These efforts including but not limited to conference calls, emails, etc. required to perform this extra work is not recorded in e-Builder.
- Because most TIA submissions do not meet contract requirements, after multiple resubmissions and attempts to work with the contractor to provide a compliant submission, an independent forensic delay analysis is performed simply to move the time extension request forward. On average, these analyses are for more than 500 days' worth of time, almost 2-years' worth of time containing multiple delay events that require document research, validation, modeling, analysis, interpretation, and reporting, and quality checks; all of which is extremely time consuming.

(continued on next page)



PRIOR OBSERVATIONS FOLLOW-UP (CONTINUED)

INTERNAL AUDIT – PROGRAM MANAGEMENT

5. Monthly Schedule Reporting: Contractual Completion Dates (continued)

September 2022

Open

MANAGEMENT'S RESPONSE

PM/OR Response (continued):

- Analysis work performed simultaneous to TIA reviews. For example, on at least five separate occasions ATPs were analyzed in conjunction with contractor TIAs.
- TIA submission reviews, by nature, are time consuming. For example:
 - TIAs are not typically a single delay event. On average a single TIA submission request time for 3 separate delay events that need to be validated and checked for concurrency.
 - TIAs are often submitted months (sometimes years) after the initial delay event occurs. This equates to several weeks of the TIA reviewer performing nothing but data collection in attempt to validate the contractor's claim for a time extension.
 - The average TIA validation is for more than a years' worth of time that must be analyzed.

To date, the TIA review and independent analysis processes has:

- Saved the District on average two months' worth of time per submission.
- On average, it is found the A/E and Contractor are responsible for more than 50% of all project delays.
- These two facts, across the numerous TIA submissions, equates to AECOM's change order and TIA approval processes saving the District several years' worth of delay liability time.



PM/OR AND CPCM INVOICE TESTING RESULTS

Background

As part of our cycle audit procedures, RSM detail tests 100% of PM/OR and CPCM invoices for contractual compliance, proper supporting documentation, and mathematical accuracy. In prior reports, findings related to our testing were presented in the “Current Period Observations” and “Prior Observations Follow-Up” sections of the report. Considering the ongoing nature of our testing, RSM will continue to report exceptions as identified, in this separately titled “PM/OR and CPCM Invoice Testing Results” section. Findings will be communicated to and vetted with District staff, the CPCM, PM/OR in real-time, and will be included within each internal audit report, as applicable.

Testing Results

AECOM:

RSM performed detailed testing of thirteen (13) AECOM labor invoices and four (4) AECOM expense invoices as part of our cycle and follow-up testing procedures. Through our review of the PM/OR monthly invoices, we noted the following:

1. For two (2) of thirteen (13) AECOM labor invoices, we noted that timesheets were not included within the invoice package for twenty-two (22) employees from two (2) AECOM subconsultants. In total, 3,362 labor hours representing a total of \$389,785 in labor costs were unsupported by timesheets. Additional supporting documentation was provided by the PM/OR on November 7, 2023, which is currently under RSM review, as of the date of this report.
2. For two (2) of thirteen (13) AECOM labor invoices, we noted that no supporting documentation (i.e., subconsultant invoices and corresponding timesheets) was provided within the AECOM invoice package for four (4) AECOM subconsultants. In total, \$1,301,311 in subconsultant labor costs were unsupported by backup documentation. Additional supporting documentation was provided by the PM/OR on November 7, 2023, which is currently under RSM review, as of the date of this report.
3. For one (1) of thirteen (13) AECOM labor invoices, we noted one (1) instance where eight (8) hours of holiday time were invoiced by the PM/OR for one (1) AECOM employee, resulting in a potential overbilling of \$914. Further, through our review of the invoice package, we noted that a revision was made to reduce the eight (8) hours of holiday time, however, this revision was not reflected in the final invoice total. According to the PM/OR, a credit will be applied on the next labor invoice.

Atkins:

RSM performed detailed testing of six (6) Atkins invoices as part of our cycle audit procedures. Through our review of the CPCM monthly invoices, we noted the following:

1. Through our review of the CPCM's monthly invoices, we noted one (1) instance where the hours invoiced for one (1) Atkins subconsultant did not agree to the hours shown in the employee's timesheets, resulting in a potential overbilling of \$2,834. According to the CPCM, the subconsultant has been notified of the overbilling, and a credit will be applied on the October 2023 invoice.

Management Process Update (November 2023):

BCPS Finance: We have reviewed the process of payment for the AECOM monthly invoices at two meetings subsequent to the June 22, 2023 Audit Committee meeting where we made a commitment to do so. At the point where our team gets the invoice, it is already reviewed by Directors in Capital, the Capital Program team, and the Executive Director of Facilities. Our team does a 100% review of the entire (rather large) document. After the Capital Payment team reviews the invoice, it is spot checked by the Assistant Director, Capital Budgets and submitted to accounts payable.



OBJECTIVES AND APPROACH

Objectives

The objective of our work was to verify that the District's Cost and Program Controls Manager ("CPCM" - Atkins) and Program Manager - Owner's Representative ("PM/OR" - AECOM) are providing deliverables and services in conformance with the terms and conditions of their respective agreements / RFP / RFQ. Further, our procedures included testing of PM/OR compliance with District standard operating procedures and industry leading practices.

Approach


Our audit approach consisted of the following:

Cycle Audit Procedures

- Obtained and reviewed deliverables submitted in accordance with PM monthly reporting requirements derived from the CPCM RFP
- Reviewed CPCM monthly invoicing for contractual compliance, proper supporting documentation, and mathematical accuracy
- Obtained and reviewed deliverables submitted in accordance with PM monthly reporting requirements derived from PM/OR RFQ
- Reviewed PM/OR monthly invoicing for contractual compliance, proper supporting documentation, and mathematical accuracy
- Performed an analysis of historical PM/OR invoices to evaluate compliance with contractual M/WBE requirements
- Followed up on prior findings, including the following prior observations:
 - Contract Time Modifications and Schedule Updates
 - PM/OR Compliance with Reporting Requirements
 - PM/OR Monthly Invoicing
 - Change Order Process Duration
 - Electronic Signatures on Change Order Forms
 - Monthly Schedule Reporting: Contractual Completion Dates

Reporting

At the conclusion of our procedures, we summarized our findings into this report. We have reviewed the results of our testing with OCA, the CPCM and PM/OR teams, and incorporated management's response herein.



RSM US LLP
100 NE 3rd Avenue, Suite 300
Fort Lauderdale, FL 33301
954.462.6351
www.rsmus.com

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