



## MEMORANDUM

**TO:** Audit Committee of the School Board of the City of Virginia Beach

**FROM:** Karen W. Woodson, CIA, CFE <sup>KW</sup>  
School Board Internal Auditor, Department of Internal Audit

**SUBJECT:** Change Order Project – Thoroughgood Elementary School

**DATE:** January 7, 2024

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## BACKGROUND

As part of 2023 Audit Work Plan, the Department of Internal Audit (IA) has performed the Change Order Project for the replacement of Thoroughgood Elementary School. This report covers change orders one through ten, with ten being the final change order for this construction project. This work does not constitute an audit conducted in accordance with generally accepted government auditing standards.

The Office of Facilities Services, within the Department of School Division Services, is responsible for managing the construction of new schools, additions, major renovations, and ongoing maintenance projects in accordance with the Virginia Beach City Public Schools Capital Improvement Program. The Thoroughgood Elementary School replacement construction project was substantially complete and opened to students during SY 2020-21. VIA Design Architects, PC was the architectural design firm for the project, and Conrad Brothers of Virginia, Inc. was the general construction contractor. The initial construction contract totaled \$27,552,000, and the final contract amount through change order ten was \$27,907,389.

## PROJECT OBJECTIVES

The primary objective of this project was to review all contract change orders to:

- Determine if the change order is calculated correctly (to include overhead, profit, number of days added to the project completion date, and mathematical accuracy);
- Confirm that there is adequate supporting documentation to support the change order; and
- Provide a summary of the work that was revised as a result of a change order.

## PROJECT SCOPE AND METHODOLOGY

IA reviewed change orders one through ten totaling \$355,389. IA examined the following items/documents for each change order during the analysis:

- The construction contract with Conrad Brothers of Virginia, Inc.;
- *The American Institute of Architects Change Order Document*;
- *Change Order Justification*;
- *Facilities Planning and Construction Change Order Proposal*; and
- Supporting documentation for each component of the change order to include such items as the *General Contractors Request for Information* and *Subcontractors Work/Change Order*.

## RESULTS

### **Mathematical Errors**

IA noted seven mathematical errors in the calculation of overhead, sales tax, and/or the bond premium in two of the ten change orders, which created an overcharge or an undercharge. The summary is as follows:

Calculation Type	Calculated Amount	Correct Amount	Overcharge/ (Undercharge)
Overhead and profit - contractor	\$ 1,549.34	1,431.39	117.95
Overhead and profit - sub-contractor	221.25	159.75	61.50
Sales tax	183.87	320.25	(136.38)
Bond premium	31.71	64.93	(33.22)
	\$ 1,986.17	1,976.32	9.85

### **Contract Change Order Approval**

IA noted that four of the ten change orders executed between April 2020 and March 2021 had the Executive Director of Facilities Services signature stamped in the space where the signature should have been. According to *School Board Policy 3-90*, a contract change order is required to be reviewed and signed by the Executive Director of the Office of Facilities Services. The signature indicates that the approver has read the change order, agrees with the terms and conditions, and is satisfied that the terms and conditions of the change order accurately reflect the agreement that was reached between the parties.

### **Bond Premium Calculation**

IA noted that the adjustment made for the 1% bond premium was not consistently calculated for each change order in the project. If a change order included both increases and decreases to the overall contract total, the net increase in the contract was used to calculate the 1% increase in the bond premium; however, if there was a decrease in the contract, the bond premium was not reduced to reflect the contract total. A total of \$345,557.42 in contract decreases were omitted in the calculation. If included, this would have netted a \$3,455.55 reduction in the contract total.

## RESULTS, CONTINUED

### Summary of Change Orders Analyzed

IA summarized all contract change orders for the Thoroughgood Elementary School Replacement project into the following categories based on the type of work that was revised as a result of the contract change order.

<b>Contract Changes</b>	<b>Amount</b>
Interior carpentry, finishing, and fixtures	\$ 88,981.77
Electrical	84,375.64
Windows	84,291.27
Plumbing and drainage	67,965.90
Mechanical	67,668.50
Roofing, roof hatch, and safety railings	50,313.49
Foundation	33,874.92
Time delay and equipment delay	31,535.60
HVAC	23,022.02
Gym fixtures and flooring	18,484.07
Bus loop modifications and realignment	18,365.07
Structural	17,212.90
Entry stainings, planters, and plants	15,096.92
Temporary Power	9,390.73
Utilities	7,007.44
Soil and site preparation	6,473.20
Concrete	5,864.13
Dominion Power conduits	3,137.99
Fencing	971.63
History walk changes in materials	(2,662.95)
Change in brick	(3,893.27)
Value Engineering	
Roofing	143,240.00
Walls	69,600.00
Painting	34,972.00
Overhead and bond costs	2,686.20
Pest control	2,234.00
Plumbing	1,654.00
HVAC	1,500.00
Window glazing	(6,157.00)
Equipment	(10,000.00)
Doors	(13,000.00)
Play Area	(52,500.00)
Structural	(150,217.00)
Electrical light fixtures	(296,100.00)
<b>Grand Total</b>	<b>\$ 355,389.17</b>

IA would like to thank the staff and management of the Office of Facilities Services and the Department of School Division Services for their cooperation throughout this project.

cc: Melisa A. Ingram, Executive Director, Office of Facilities Services  
Jack Freeman, Chief Operations Officer