



## **Monitoring Review of Construction Change Orders as of September 30, 2023**

**Project # 24-06**

**Prepared by**  
**Office of the Inspector General**

**J. Timothy Beirnes, CPA, Inspector General**



# SOUTH FLORIDA WATER MANAGEMENT DISTRICT

July 11, 2024

Governing Board Members

Re: Monitoring Review of Construction  
Change Orders - *Project No. 24-06*

This review was performed pursuant to the Inspector General's authority set forth in Chapter 20.055, F.S. The review assessed whether change orders during the review period were negotiated in accordance with contract terms and conditions, calculated accurately, and whether the change order percentage is within industry averages. During this review, we also identified all construction contract change orders that the Governing Board authorized through resolutions during the period October 1, 2022 through September 30, 2023.

Sincerely,

A handwritten signature in blue ink, which appears to read "J. Timothy Beirnes".

J. Timothy Beirnes, CPA  
Inspector General

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## BACKGROUND

A contract change order is created when a project requires an adjustment for time, scope of work, or cost of the project. Without monitoring, change orders can significantly increase a project's budget or timeline. At the request of the Governing Board, a report was created that expresses construction change orders as a percentage of original contract amounts. The Engineering and Construction Bureau of the Ecosystem Restoration and Capital Projects Division provided a reporting of the progress of construction contracts as well as the amount and percentage of change orders for projects between 2015 and 2020 to the Division Director in November 2020. This report showed an average change order amount of 4% for District contracts. Although the types of construction projects at the District are not typical of industry construction, the industry standard for change order percentages is approximately 8-14%. In FY 2020 our office performed the *Audit of Construction Change Orders*, (Project No. 21-07). Since the initial report, we have monitored the ongoing percentage for change orders since Fiscal Years 2020, which covers the time period since the initial audit report was issued.

Each contract is led by a project manager, who is responsible for negotiating changes with contractors and moving necessary change orders through the approval process. Currently, all the District's change orders, along with approvals and supporting documentation, are maintained in a construction project management information system, eBuilder, which the District began using in 2018. eBuilder is a cloud-based Software as a Service (SaaS) product that tracks the project's performance through the project's entire life cycle. Users access eBuilder by logging into the software online. Each user is provided a dashboard showing details of their projects, outstanding tasks, and communications with other project members. Construction project documentation was migrated to eBuilder in 2018. The entire life of the project can be monitored through the software, including:

- Site visits,
- Quotes,
- Negotiations of change order amounts (documented through correspondence)
- Change order documents
- Resource management,
- Invoices, and
- Project closeout.

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Monitoring of the construction change order process and percentage will typically occur on a biannual basis. Monitoring reviews consist of calculating the change orders as a percentage of original contract and reviewing documentation and management authorization controls for the change orders that have been executed since the previous review.

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## **OBJECTIVES, SCOPE, AND METHODOLOGY**

This review includes all contracts with change orders approved during the period October 1, 2022 through September 30, 2023 (the “Reporting Period”). This includes contracts that are still active as well as contracts that were completed and closed out during the Reporting Period. The review encompassed identifying all the change orders approved during the period as well as the total cumulative contract change orders through September 30, 2023. The change order percentage calculation was determined based on total cumulative contract change orders to date. This was deemed the most appropriate method of assessing change order activity since many projects often span over several fiscal periods.

Our review also assessed whether change orders during the review period were negotiated in accordance with contract terms and conditions, calculated accurately, and whether the change order percentage is within industry standards. This review also included identifying all construction contract change orders that the Governing Board authorized through resolutions during Fiscal Year 2023 to ensure that all authorized change orders were included in the eBuilder system. It should be noted that the approval date in eBuilder represents the date that the staff finalized the approval process for a change order and not the Governing Boards authorization date. To accomplish our objectives, our audit methodology entailed performing the following procedures:

- Interviewing pertinent District staff;
- Reviewing any updates to Change Order policies and procedures;
- Reviewing reports and documentation of authorized change orders for accuracy;
- Reviewing Governing Board meeting agendas and minutes to identify all authorized change orders; and
- Other procedures as deemed necessary.

Details regarding all contracts with change order activity during the Reporting Period are included in the Appendix on Page 6.

## REVIEW RESULTS

Fifty-seven (57) change orders were executed during the Reporting Period, encompassing 22 different contracts. This change order activity is summarized in the following table:

Change Order Summary for the Period 10/1/2022 - 9/30/2023			
	All Change Orders	Outliers	Excluding Outliers
Original Contract Amount	\$ 1,134,196,649	\$ (188,774,000)	\$ 945,422,649
Approved Period Periods	\$ 122,755,228	\$ (96,263,627)	\$ 26,491,601
Approved Current Period	14,533,651	(3,220,871)	11,312,780
Cumulative Approved	\$ 137,288,879	\$ (99,484,498)	\$ 37,804,381
Percent of Original Contract	12.1%		4.0%

Documentation for a sample of 10 of these change orders was reviewed to ensure that the change order internal control processes were followed and that the eBuilder contained the necessary documentation. Change order average percentage for the Reporting Period was 12.1% with all contracts included, and 4.0% with outlying contracts excluded. Both calculations (with and without outliers) were within the industry average of 8-14%. The two change orders shown in the table below were considered as outliers by the Engineering and Construction Bureau Management and not indicative of a change order rate resulting from design and technical review errors or omissions.

Change Orders Outliers For the period 10/1/2022 through 9/30/2023							
Project Name	Contract #	Original Contract Value	CO Approved Date	Approved Current Period	Approved Prior Periods	Cumulative Approved Changes	CO %
CEPP New Waters A-2 STA Inflow/Outflow Canal, Palm Beach County, Florida (1)	4600004208	\$ 12,930,000	4/3/2023	\$ 315,468	\$ 10,464,460	\$ 10,779,928	83.4%
CEPP New Waters EAA A-2 Stormwater Treatment Area, Palm Beach County, Florida (2)	4600004380	\$ 175,844,000	7/7/2023	\$ 2,905,403	\$ 85,799,167	\$ 88,704,571	50.4%
Total Outliers		\$ 188,774,000		\$ 3,220,871	\$ 96,263,627	\$ 99,484,499	52.7%

- (1) A2 Inflow/Outflow Canal change order extended the FPL corridor beyond the STA and extended east along the Reservoir property to North New River to allow FPL to bring in underground power. This accelerated work for the overall project.
- (2) Change order was to add a portion of the USACE's Reservoir work within the District's contract. The inflow canal is the Reservoir's seepage canal. Based on the risk assessment completed by the USACE and District, it was determined that this work needed to occur in the dry season and needed to get constructed by the District.

During this review, we identified all construction contract change orders the Governing Board authorized through resolutions during the Reporting period, which covers the period since our last change order monitoring review report. During the Reporting Period the Governing Board approved two (2) change order resolutions. We noted that both change orders were entered into eBuilder along with all necessary documentation and management authorizations. The total amount of change orders authorized by Governing Board resolution for the Reporting Period was \$2,330,177 and the total amount of change orders executed for these two (2) resolutions was \$2,157,620, as summarized in the following table.

Contract Changes Through Board Resolution October 1, 2022 Through September 30, 2023				
Project	Board Meeting Date	Resolution #	Board Approved Amount	Executed Change Order
STA Refurbishments Project	2/9/2023	2023-0210	\$2,183,000	\$2,010,443
C-139 Flow Equalization Basin	8/17/2023	2023-0809	\$147,177	\$147,177
<b>Total</b>			<b>\$2,330,177</b>	<b>\$2,157,620</b>



## APPENDIX

Contract Change Orders For the period 10/1/2022 through 9/30/2023							
Project Name	Contract #	Original Commitment Value	CO Approved Date	Approved Current Period	Approved Prior Periods	Cumulative Approved Changes	CO %
8.5 SMA Limited Curtain Wall, Miami Dade County, Florida	4600004395	\$ 13,922,858	2/16/2023	\$ 503,581	\$ 295,716	\$ 799,298	5.7%
Generator Addition, Package 2, Collier County, Florida	4600004446	2,116,200	5/15/2023	(5,000)	146,591	141,591	6.7%
Big Cypress Basin SCADA Site Developments, Collier County, FL	4600004619	649,620	9/28/2023	78,238	-	78,238	12.0%
C-139 Flow Equalization Basin, Hendry County, FL	4600004345	79,933,411	8/31/2023	1,742,544	-	1,742,544	2.2%
C-25 Canal Banks Repairs, St. Lucie County, FL	4600004682	4,856,400	2/13/2023	241,994	-	241,994	5.0%
Storage Reservoir - Part 2, Hendry County, Florida	4600003973	523,871,000	4/3/2023	1,202,016	24,416,616	25,618,632	4.9%
Inflow/Outflow Canal, Palm Beach County, Florida	4600004208	12,930,000	4/3/2023	315,468	10,464,460	10,779,928	83.4%
Treatment Area, Palm Beach County, Florida	4600004380	175,844,000	7/7/2023	2,905,403	85,799,167	88,704,571	50.4%
CLOSED STA-2 Refurbishments, Palm Beach County, Florida	4600004311	27,129,721	5/8/2023	1,820,610	121,624	1,942,234	7.2%
G370 & G372 Roof Replacement, Palm Beach County, FL	4600004698	734,390	9/27/2023	9,000	-	9,000	1.2%
L-8 FEB G-539 Butterfly Valve Replacement, Palm Beach County, FL	4600004623	1,252,500	4/14/2023	13,503	-	13,503	1.1%
LOWRP Aquifer Storage and Recovery (ASR) C-38N Test Well Construction and Testing, Glades County, FL	4600004399	7,996,750	9/5/2023	722,340	(431,487)	290,853	3.6%
LOWRP Aquifer Storage and Recovery (ASR) C-38S Test Well Construction and Testing, Glades County, FL	4600004398	7,086,300	4/19/2023	2,633,337	(341,529)	2,291,808	32.3%
LOWRP Aquifer Storage and Recovery (ASR) L-63N ASR Test Well, Okeechobee County, Florida	4600004677	8,934,954	9/14/2023	87,050	(87,050)	-	0.0%
Phase 1: Bolles East (L16) Canal Conveyance Improv - Segment 5, Palm Beach County, Florida	4600004592	7,307,200	5/8/2023	119,806	121,445	241,251	3.3%
S-2, S-3, S-4, S-7 and S-8 Monitoring Panels Project, Palm Beach, Glades and Broward Counties, FL	4600004593	16,877,000	1/3/2023	227,088	0	227,088	1.3%
S-290 and S-285 SCADA Retrofit and Automation, Glades County, Florida	4600004486	3,090,600	5/8/2023	38,360	23,871	62,231	2.0%
S-6 Pump Station Refurbishment Phase 1, Palm Beach County, Florida	4600004495	1,830,385	7/30/2023	405,738	11,078	416,817	22.8%
Station Refurbishment, Broward County, Florida	4600004514	27,492,651	9/27/2023	424,922	(29,757)	395,165	1.4%
Pump Stations, Palm Beach County, Florida	4600004334	76,122,514	9/12/2023	587,195	690,830	1,278,025	1.7%
STA 1W Expansion #2 G-782 Pump Station, Palm Beach County, Florida	4600004335	37,418,195	2/16/2023	128,422	765,365	893,787	2.4%
STA 1W Expansion #2 STA, Palm Beach County, Florida	4600004295	96,800,000	7/17/2023	332,034	788,286	1,120,320	1.2%
		\$1,134,196,649		\$ 14,533,651	\$ 122,755,228	\$ 137,288,879	12.1%
	Outliers	(188,774,000)		\$ (3,220,871)	\$ (96,263,627)	\$ (99,484,499)	
Totals Excluding Outliers		945,422,649		\$ 11,312,780	\$ 26,491,601	\$ 37,804,381	4.0%