



PROPOSED CHANGE ORDER REQUEST

Department of Watershed Management

Contract Name: Snapfinger Advanced Wastewater Treatment Facilities Expansion - Phase 2 Date: 2/2/2021
 Contractor: Archer Western Construction, LLC
 Contract Number: 972548 Contract Amendment Number: 11
 Contract Amendment Category: Cost Schedule Scope Deliverables

Original Contract \$ Amount:	Contract Start Date:	Original Contract Days:(TERM)	Original Contract End Date:
\$187,869,380.00	8/5/2015	1669	2/29/2020

NTP Start Date:	Original Performance Days:(TIME)	Original Performance End Date:
8/26/2015	1640	2/21/2020

Previous Change Order:	Previous Time Extensions Days:	Previous Changes to \$ Amount:
Change Order No. 1: Amend't No.1	0	\$350,797.46
Change Order No. 2: Amend't No.1	0	\$599,549.04
Change Order No. 3: Amend't No.1	90	\$0.00
Change Order No. 4: Amend't No.2	120	\$1,650,000.00
Change Order No. 5: Amend't No.2	0	\$465,000.00
Change Order No. 6: Amend't No.2	0	\$106,519.11
Change Order No. 7: Amend't No.3	0	\$271,526.74
Change Order No. 8: Amend't No.3	0	\$1,000,000.00
Change Order No. 9: Amend't No.4	0	\$225,345.72
Change Order No. 10: Amend't No.5	0	\$0.00

Current Contract Amount:	Current Performance Time (Days):	Current Performance End Date:	Current Contract End Date:
\$192,312,772.35	1850	9/18/2020	6/30/2022

Description of Proposed Changes:

1. One (1) Contractor Proposed Change Order (PCO) for the installation of the distributed antenna system in the amount of \$28,092.21. (PCO#320)
2. Supplementary funding of Allowance Item No. 1 in the amount of \$750,000.00 is requested for the continuance of materials testing for the remaining project duration.
3. Supplementary funding of Owner Controlled Allowance Item No. 12 in the amount of \$1,500,000.00 for additional costs due to unforeseen conditions, differing site conditions and minor design changes. Several of these types of conditions have been encountered on the project previously and have adversely impacted the construction progress. Some examples of these impacts include:
 - a. Removal and replacement of unsuitable soils;
 - b. Removal of previously abandoned structures buried below grade;
 - c. Removal, relocation or abandonment of existing buried utilities interfering with new work;
 - d. Minor design changes to complete the work;
 - e. Buried site conditions which differ from what is indicated in the Contract documents.

Justification of Proposed Changes:

This change will enable prompt authorization of any additional work required and mitigate future claims by the Contractor due to idled equipment cost(s) and construction delays.

Proposed Additional Performance Days:	Proposed Cumulative Performance Days:	Proposed Performance End Date:	Proposed Contract End Date:
0	0	NA	NA
Proposed Changes to Dollar Amount:	Proposed Cumulative Contract Amount:	Amount Spent To Date as of (2/2/2021):	
\$2,278,092.21	\$194,590,864.56	\$155,136,594.81	

Describe Any Risk Associated With This Change:

None

Effect of NOT Approving This Change:

Future claims by the Contractor for reimbursement of costs associated with idled equipment and construction delays.

Engineering Manager's Approval:

- Accepted
- Rejected

Signature: Cassandra Marshall Digitally signed by Cassandra Marshall
DN: cn=Cassandra Marshall, ou=DeKalb County, ou=DeKalb Watershed Management, email=cmarshall@dekabcountypga.gov, o=US
Date: 2021.02.04 09:22:08 -0500

Print Name: Cassandra Marshall

Date: 02/04/21

Watershed Director's Approval:

- Accepted
- Rejected

Signature: Reginald Wells Digitally signed by Reginald Wells
Date: 2021.02.05 12:13:18 -0500

Print Name: Reginald Wells

Date: 2/5/2021

Chief Operating Officer's Approval:

- Accepted
- Rejected

Signature: Zachary L. Williams Digitally signed by Zachary L. Williams
Date: 2021.02.10 14:57:57 -0500

Print Name: Zachary L. Williams

Date: 2/10/2021

Contract Name: Snapfinger Advanced Wastewater Treatment Facilities Expansion - Phase 2

Contractor: Archer Western Construction, LLC

Contract Number: 972548

Contract Amendment Number: 11



November 5, 2020

Mr. Wendell Brown
Senior Construction Manager
DeKalb County Department of Watershed Management
Snapfinger Advanced Wastewater Treatment Facility
4124 Flakes Mill Road
Decatur, GA 30034

**Reference: Contract No. 972548, Archer Western Construction, LLC
Snapfinger Advanced Wastewater Treatment Facilities Exp. Phase 2**

Subject: Proposed Change Order #11

Dear Mr. Brown,

The referenced project is approximately 84% complete. To date a large amount of changes have been necessary to accommodate design changes, varying subsurface utilities and construction issues. To mitigate cost and delay impacts to the project, one hundred and eighty-three (183) Field Orders have been executed to date utilizing the Field Order Allowance, previously funded by cost-saving design changes and deleted Work.

To further assist the Owner with management of these corresponding contract adjustments for these types of changes, the following changes are requested and summarized in Exhibit A:

1. One (1) Contractor Proposed Change Order (PCO) for the installation of the distributed antenna system in the amount of \$28,092.21. (see attached PCO#320, Exhibit B)
2. Supplementary funding of *Allowance Item No. 1* in the amount of \$750,000.00 is requested for the continuance of materials testing for the length of the project.
3. Supplementary funding of *Owner Controlled Allowance Item No. 12* in the amount of \$1,500,000.00 for additional costs due to unforeseen conditions, differing site conditions and minor design changes. Several of these types of conditions have been encountered on the project previously and have adversely impacted the construction progress. Examples of these impacts include:
 - a. Removal and replacement of unsuitable soils;
 - b. Removal of previously abandoned structures buried below grade;
 - c. Removal, relocation or abandonment of existing buried utilities interfering with new work;
 - d. Minor design changes to complete the work;
 - e. Buried site conditions which differ from what is indicated in the Contract documents.

A table showing pending Contractor PCOs and anticipated allowance expenditures is attached as "Exhibit C".



If approved, the requests summarized in “Exhibit A” will enable prompt authorization of any additional work required and mitigate future claims by the Contractor due to idled equipment cost(s) and construction delays.

Sincerely,

Jillian Jack, P.E.

Jillian Jack, P.E.
Senior Project Manager

cc: Christian Dunaway
Casey Majewski
Mark Hedden

Exhibit A

Item No.	Description	Amount
1	PCO#320 – JMA Wireless System Upgrade (Distributed Antenna System)	\$28,092.21
2	Supplement: <i>Allowance Item No. 1 – Soils, Concrete, and Masonry Testing</i>	\$750,000.00
3	Supplement: <i>Allowance Item No. 12 – Owner Controlled Allowance</i>	\$1,500,000.00
	TOTAL:	\$ 2,278,092.21



MEMO

To: Brian Kuhnle

Cc: Clay Strovinskas, Nathen Kulling, Wendell Brown, Catherine Riley, Jillian Jack, Brad Fraker, Edroy Adolphin

From: Mark Hedden

Date: August 5, 2020

Subject: Snapfinger AWTF Phase 2
AW PCO #320 – DAS – JMA Wireless System Upgrade

Tetra Tech takes no exception to the lump sum proposal of \$28,092.21 for the subject PCO and will forward to the Owner for further review and processing.



July 7, 2020

Brad Fraker
Tetra Tech
2110 Powers Ferry Road SE
Suite 202
Atlanta, GA 30339

Wendell H. Brown
Department of Watershed
Management, Dekalb County
1641 Roadhaven Drive
Stone Mountain, GA 30083

Catherine Riley
AECOM
1641 Roadhaven Drive
Stone Mountain, GA 30083

PROJECT: Snapfinger Advanced Wastewater Treatment Facilities Expansion Phase 2
(Snapfinger AWTF-Phase 2)

CONTRACT NO. 972548

SUBJECT: PCO#320 – DAS – JMA Wireless System Upgrade

REFERENCE: PCO#112 Delete Distributed Antenna System; submittals 13500.10 Whoop Wireless System Product Data, 13500.12 JMA Wireless System Product Data

Dear Mr. Fraker, Ms. Riley, and Mr. Brown:

Due to recent technological advances and Whoop Wireless's sudden filing for bankruptcy protection, Symphony Technology has recommended the use of a JMA Wireless System as a replacement to the previously approved Whoop Wireless distributed antenna system. The two main benefits of using the JMA Wireless System are 1) its ability to update via software upgrades and 2) its extensive presence as a wireless connectivity provider at major venues across the nation. This makes the vendor considerably more reliable as a long-term vendor than Whoop Wireless turned out to be. Please see the attached letter *Snapfinger DAS Solution History and Recommendations* for a detailed summary on the advantages of the recommended change.

In early discussions with our subcontractors regarding Whoop's status, AW was told that the substitution could be made at no cost to the Owner. Based on that understanding, we submitted the JMA equipment for preliminary approval. Not until after that approval, and continued discussions with Symphony and JCI, was it determined that this information was incorrect; there are indeed costs tied to implementing the recommended system. AW apologizes for relaying this incorrect information, and trusts that the Owner's very significant savings gained from PCO #112, combined with the risks inherent with the use of Whoop Wireless, will provide sufficient consideration to this recommendation.

Please find the attached cost breakdown of the Lump Sum proposal in the amount of \$28,092.21 to perform the changes needed to implement the installation of the JMA Wireless distributed antenna system and provide latest technology.



This cost proposal is valid for 30 days from the day of this letter and is subject to change if not approved within this timeframe. These changes may impact turnover of the Project, depending on time to resolution.

Your help in this matter is appreciated in advance.

Very truly yours,
ARCHER WESTERN CONSTRUCTION

Clay Strovinkas
Project Manager

Summary Sheet

PCO # 320

SHEET NUMBER		TOTAL PER SHEET
# 1	DAS - JMA Wireless System	\$ 28,092.21

TOTAL COST FOR PCO	\$ 28,092.21
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The work priced in this PCO includes the installation of the JMA Wireless System as the distributed antenna system.



Snapfinger Distributed Antenna System (DAS) Solution History and Recommendations

Symphony bid the Snapfinger DAS according to the original specifications in March, 2015, utilizing Commscope equipment.

Symphony submitted a value engineered alternative utilizing a next generation 4G technology, Whoop Wireless, at a significantly reduced cost (IE \$287,280 credit; Ref PCO #112/FO-088) in August of 2017. This modular technology had been successfully deployed by Symphony at multiple sites, and given the extensive coverage but low capacity requirements of the Snapfinger facility, Symphony confidently recommended this solution as a viable, low cost alternative.

Unfortunately Whoop Wireless filed for bankruptcy protection in Q4 of 2018. Whoop emerged from bankruptcy protection with a new set of owners in Q2 of 2019, and continues to operate, selling the same technology proposed by Symphony in 2017 and developed in 2015.

Given the development of technologies since October, 2017, and the still very unstable financial status of Whoop Wireless, Symphony has recommended that the DAS equipment be revised to utilize JMA Teko software-defined equipment.

The advantages of the JMA Teko solution are several. It is the technology chosen by Hartsfield Jackson International Airport as their go-forward solution for 4G and 5G wireless connectivity after an exhaustive scrutiny of every major DAS OEM. The JMA solution proposed can be defined to any current commercial cellular frequency and is fully software upgradable to 5G, whereas the Whoop Wireless solution has not been upgraded since 2015.

Given the recent bankruptcy, Symphony has significant doubts that Whoop Wireless can allocate sufficient resources to make the huge transition from a five-band, 4G world to a 30+ band, software-defined 5G environment. It is a fixed, 5-band, 4G-only platform. Thus, were Snapfinger to continue with the current Whoop Wireless solution, especially given the significantly delayed project completion date, it would be obsolete at the time of installation--with very little likelihood of there being a low cost upgrade option.

JMA is currently the leading DAS solution in the US, winning nearly 90% of all large venue implementations over the past two years. Its software-defined remote electronics allow the same base electronics to remain current with new 5G standards for upwards of the next ten years.

In addition, the cost differential to upgrade from the Whoop Wireless to JMA is minimal, at just over 10% of the Whoop Wireless proposal from over two years ago, and thus still significantly less than the originally specified Commscope legacy solution. Plus, the JMA solution can utilize the same antenna and cable placement architecture that was designed for the Whoop Wireless platform.

The differential in cost between the Whoop Wireless solution and the proposed JMA solution, \$23,654,



comes down to the cost difference between the older, 4G-only Whoop Wireless equipment and the 4G/5G software defined platform, which cost differential is thoroughly justified given the advances in cellular technology since 2017—none of which Whoop Wireless has developed.

PCO # 320 Work Item # DAS - JMA Wireless System Sheet 1 of 1
 DESCRIPTION OF WORK: Installation of the JMA Wireless Distributed Antenna System CONTRACTOR: Archer Western

Archer Western Construction

DESCRIPTION	Unit of Msr.	QTY.	MATERIAL		MANHOURS		LABOR		EQUIPMENT		SUB-CONTRACT		OTHER DIRECT COST		TOTAL
			UNIT	EXT.	UNIT	EXT.	RATE	EXT.	UP	EXT	UP	EXT			
Labor															
Project Manager	EA	1			1.0	1.00	\$ 65.00	\$ 65.00							\$ 65.00
Project Engineer	EA	2			1.0	2.00	\$ 39.00	\$ 78.00							\$ 78.00
QC Manager	EA	1			1.0	1.00	\$ 65.00	\$ 65.00							\$ 65.00
SUBTOTAL LABOR															\$ 208.00
Equipment / Materials/ Subcontract/ Other Direct Cost															
Johnson Controls Inc.	LS	1.00									\$ -	\$ 23,654.00	\$ -	\$ -	\$ 23,654.00
Safety Supplies at 3% of Labor	LS	1.00	\$ 6.24	\$ 6.24						\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6.24
Small Tools at 5% of Labor	LS	1.00	\$ 10.40	\$ 10.40						\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.40
SUBTOTAL EQUIPMENT, MATERIALS, SUB-CONTRACT AND OTHER DIRECT COST															\$ 23,670.64
SUBTOTAL 1															
TAX @ 7%			\$	1.16											\$ 1.16
LABOR BURDEN @ 40%			\$	83.20											\$ 83.20
OVERTIME ADDITIONAL COSTS			\$	104.00											\$ 104.00
SUBTOTAL 2															\$ 24,067.00
MARK UP ON LABOR BURDEN, MATERIALS, & EQUIPMENT (15%)															
MARK UP ON SUBCONTRACTOR (15% OF SUBCONTRACTOR)															
MARK UP ON OTHER DIRECT COST (15% OF OTHER DIRECT COST)															
SUBTOTAL COST															\$ 27,677.06
BOND AND INSURANCE (1.5%)															\$ 415.16
GRAND TOTAL															\$ 28,092.21

Snappfinger AWTF - Phase II

Exhibit C

MDC=Minor Design Change

UC=Unforeseen Condition

Allowance Item No. 12 Expenditures To Date

Category	Description	Expenditure Amt.
	Allowance Item No. 12 - Beginning Balance	\$1,000,000.00
MDC	PCO #287r3 - Polymer Flow Meter (DCN-029 Rev. 2a, RFP -102) Rev.03	(\$67,978.50)
MDC	PCO #284 - DWB Slab Opening Covers (RFI#1065; RFP-0101) - Core Drill	(\$27,016.60)
MDC	PCO#275 - Architectural Clarifications (DCN#28 Rev. 2, RFP#95 Rev. 2)	(\$63,720.48)
MDC	PCO #294 - Power for DWB Instantaneous Water Heater	(\$5,581.09)
MDC	PCO #298A - Polymer Pump Pulsation Dampeners Pipe Fittings & Material	(\$17,884.13)
MDC	PCO #313 - Centrifuge Feed Pump Check Valve	(\$17,835.39)
UC	PCO #291A Rev.1 - Unsuitables at 78in MFE - Part 1	(\$75,000.00)
MDC	PCO#311 - Blocking at MBR Building	(\$22,415.00)
MDC	PCO#300 - DWB FAS - HVAC Fan Integration	(\$7,965.39)
MDC	PCO#302 - Admin 3rd FI West Patio	(\$10,125.19)
MDC	PCO#318 - HDWKS Ready/Not Ready Control	(\$15,325.92)
MDC	PCO#319 - Relocate DWB Operator Workstation	(\$7,979.51)
MDC	PCO#305 - Louvers at MBR Clerestory	(\$35,479.15)
MDC	PCO #321 - Sludge Feed Pumps Control	(\$69,750.93)
MDC	PCO#316A - MBR Roof Changes	(\$101,225.55)
MDC	PCO#322 - Smooth Dowels at Retaining Wall G	(\$3,298.20)
MDC	PCO#243 - Headworks Gas Detection System	(\$15,865.91)
MDC	PCO#269r1/PCO#264r2 (Transfer of costs previously authorized under Allowance #9)	(\$108,969.05)
Cost Adj	PCO#284 - DWB Floor Openings Cost Adjustment	\$2,216.60
MDC	PCO#330A - Furnish DWB PSW Strainers	(\$14,453.07)
MDC	DWB Truck Loading Bay Wall Louvers	(\$5,267.67)
Allowance Item No. 12 - Remaining Balance:		\$309,079.87

Pending Proposed Change Orders (PCO)

PCO#	Description	Current or Final PCO Amount
288 Rev1	Replace Combination Motor Starters	\$66,086.43
276 Rev1	Sludge Process Instrumentation	\$264,098.89
Allowance Item No. 12 - Pending PCO Subtotal:		\$330,185.32

Anticipated Owner Allowance - Item 12 Expenditures

Item #	Description	Estimated Amount
1	78" MFE Unsuitable Soil Removal/ Storm Drain Outlet Conflict/ Demo	\$120,000
2	Addition of Admin. SCADA Controls for Existing Facility Equipment Systems	\$250,000
3	CCTV System Fiber Optic - Existing Facility Subsurface Utility Conflict Resolution	\$100,000
4	Aeration Basin, Headworks air/ water utility station support replacement	\$250,000
5	Dewatering Building - Existing PSW water quality improvements	\$130,000
6	Admin. Bldg - Perimeter wall modifications at precast panel support	\$200,000
4	Headworks Startup - Process Mechanical/ Electrical/ Control Equipment Mods	\$75,000
5	Aeration Basin Startup - Process Mechanical/ Electrical/ Control Equipment Mods	\$25,000
6	Membrane Bio-Reactor Startup - Process Mechanical/ Electrical/ Control Equipment Mods	\$200,000
7	Chemical Bldg. Startup - Process Mechanical/ Electrical/ Control Equipment Mods	\$75,000
8	Administration and Chemical Bldg - Architectural Design Conflict/ Omissions	\$100,000
Anticipated Allowance Expenditure Subtotal:		\$1,525,000.00

Total Allowance Item 12 Estimated Expenditures (Incl. Pending PCO's & Anticipated Expenditures):	\$1,855,185.32
Allowance Item No. 12 - Remaining Balance:	\$309,079.87
Total Allowance Item 12 Estimated Balance After Estimated Expenditures:	(\$1,546,105.45)
Change Order Request:	\$1,500,000.00