ATTACHMENT "U"

CONTRACT CHANGE ORDER NO. 1

AIRPORT: Cochise County Airport **DATE:** November 3, 2021

LOCATION: Willcox, Arizona **AIP NO.:** 3-04-0049-008-2021

CONTRACTOR:
You are requested to perform the following described Work upon receipt of an approved copy of this document or as directed by the Engineer:

ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
CO1.1	Concrete Block Removal	LS	$46,951.67	1	$46,951.67
CO1.2	Utility Corridor	LS	$7,822.00	1	$7,822.00
CO1.3	Concrete Encased Duct Bank Removal	SF	$12.20	240	$2,928.00
CO1.4	Cement	TN	$200	140	$28,000.00
CO1.5	Existing Geogrid Fabric Removal	SY	$0.593	18,400	$10,911.20
CO1.6	Muck Excavation with Backfill	SY	$56.25	500	$28,125.00
CO1.7	Concrete Pipe Repair	EA	$1,651	1	$1,651.00
5	Removal of Pipe	LF	$10	-1,000	-$10,000.00
6	Removal of Inlet Structures	EA	$3,000	-1	-$3,000.00
26	15-Inch Reinforced Concrete Pipe	LF	$30	-1,000	-30,000.00
27	Inlet	EA	$5,000	-1	-$5,000.00
This Change Order Total			$ 78,388.87		
Previous Change Order(s) Total			$ 0		
Original Contract Price			$ 1,261,670.00		
Revised Contract Total			$ 1,340,058.87		

The time provided for completion in the Contract is increased by eleven (11) calendar days. This document shall become an Amendment to the Contract and all provisions of the Contract will apply. Changes are shown on the attached Quantities Tabulation.

Recommended by: _____ Engineer — 11/3/21 Date

Approved by: _____ Owner — _____ Date

Accepted by: _____ Contractor — 11/4/21 Date

Approved by: MESSAR MUSTAFA Digitally signed by MESSAR MUSTAFA Date: 2021.11.05 10:45:00 -07'00' — Program Manager, FAA, PHX-ADO — _____ Date

FAA NOTE: This determination is solely for the purpose of establishing eligibility of costs under the AIP program. This action does not represent a commitment of Federal funds in addition to the original grant obligation.

Change Orders and Supplemental Agreements require FAA approval prior to construction.

AIP NO.: 3-04-0049-008-2021 **CHANGE ORDER NO.: 1**

AIRPORT: Cochise County Airport **LOCATION:** Willcox, Arizona

JUSTIFICATION FOR CHANGE

1. Brief description of the proposed Contract change(s) and location(s).

CO1.1
This item cover costs for removal of 27 large, underground concrete blocks found during removal operations and covers cost for the import and placement of aggregate material in the large voids created by the concrete block removal.

CO1.2
This item covers the removal of an existing, shallow electrical utility corridor between the terminal and the hangar found during removal operations and the installation of a new utility crossing and electrical lines.

CO1.3
This item covers the cost for removing 27 sy (60ft x 4ft x 16inch) of abandoned concrete encased duct bank found during subgrade excavation operations. This duct bank was within the proposed cement treated subgrade and base course.

CO1.4
This item covers the cost for an additional 120 tns of cement that will be blended in to the cement treated subgrade (P-156).

CO1.5
This item covers the costs associated with the removal of 18,400 sy of civil engineering fabric and geogrid from the subgrade.

CO1.6
This item covers the costs associated with excavating soils that aren't suitable for construction. It provides for the excavation of the soils 30 inches below the subgrade, stabilization of the soils with fabric, and backfill with on-site reclaimed base course.

CO1.7
This item covers the cost for repairing a damaged concrete storm sewer pipe.
This change order also adds 11 calendar days to the contract to do the proposed change order work.

Items 5, 6, 26, and 27
The as bid line items for these items of work are being reduced by the change order amount as they are not needed.

2. Reason(s) for the change(s). (Continue on reverse if necessary.)

CO1.1
During removal operations, prior to pavement pulverization, very large concrete blocks were found

about 3 to 4 inches below the existing pavement surface. The proximity of these blocks to the pavement surface will prevent pulverization of the pavement as well as be exposed above the proposed pavement elevations if kept in place. To facilitate the pulverization and grading operations on the project, this change order proposes the removal of all 27 of these concrete blocks, and back filling the resulting voids with imported aggregate material to the existing pavement surface elevation. This will allow the pulverization equipment to proceed through the area and further be able to grade to proposed plan grades.

CO1.2

During removal operations, prior to pavement pulverization, an existing unmarked electrical crossing was found between the terminal and hangar buildings. The existing crossing was no enclosed in conduit and was direct buried about 10 inches below the existing pavement surface. These electrical lines will prevent pulverization of the pavement and will be damaged if left in place during subgrade treatment and pavement placement. To maintain power to the hangar, a new crossing of two PVC conduits, one for the existing electrical connection and a spare, is proposed to replace the existing direct buried service. The PVC duct crossing will be lowered to provide clearance below the proposed cement treated subgrade.

CO1.3

After removal operations and during subgrade excavation, a large 59ft x 4ft x 16inch abandoned concrete encased duct bank was found. This concrete duct bank is not connected to any service on the airport, but is inside the proposed aggregate base of the pavement section. To facilitate a uniform subgrade stabilization and base course placement, this change order proposes the removal of the entire concrete encased duct bank.

CO1.4

The construction mix design for P156 Cement Stabilized Subgrade is showing that an additional 2% by weight of cement is needed to stabilize the subgrade. The quality control firm's cement stabilization test results indicate that 9% will generate strength of between approximately 600psi and 700psi. The bid quantity is based upon 7% cement content. The item covers the cost for an additional 2% of cement, 120 tns.

CO1.5

During the excavation process, geogrid and engineering fabric was discovered in layers several inches to a couple feet below the existing pavement section. There was no indication of geogrid or fabric in the geotechnical investigation or in the available record drawings. Several layers of material have been found during the excavation process. Should this material be in the 8" soil cement (P156), area it will be chopped up by the cementation process which will incorporate foreign material into the cemented layer and ultimately weaken the subgrade stabilization. This soil cement layer needs to be scarified to determine if there is fabric in the soil, and if fabric is found, it must be removed.

CO1.6

During the excavation process there were two areas of wet and week soil uncovered in the Phase 2 work area. It is believed that allowing sufficient time for the area to dry will allow the week areas to stabilize enough to apply the soil cement and proceed with construction. However, due to the nature of these two areas of extremely week soils the areas may not stabilize enough to get compaction on the soil cement (P156) and therefore would cause instability in the pavement layers above it. Should it be necessary, this item undercuts the subgrade surface 30", installs a non-woven fabric, provides

12” of reclaimed aggregate base course backfill on the non-woven fabric, installs a geogrid layer, and provides for 10” of reclaimed aggregate base course installed on top of the geogrid. The last 8” of backfill is covered under the P156 soil cement item.

CO1.7
During excavation operations, it was discovered that a drainage pipe had a hole in it and it would not convey water without leakage. The damage was not done by the contractor. The hole will be covered and a concrete collar will be installed around the pipe to seal the hole.

Items 5, 6, 26, and 27
It has been determined that the known and unknown drainage pipes are below the project pavement section and are not impacted by the project. These items are being removed from the project.

3. Justifications for Unit Prices or Total Cost.
The cost of change order items 1.1, 1.2, 1.3, 1.5, 1.6, and 1.7 are based on labor, equipment, material and haul costs detailed in the attached cost breakdowns. Based on previous projects and standard industry practices, the quantity and costs associated with labor, equipment, material, and hauling appear to be reasonable.

Change Order Item 1.4 unit cost is the unit cost for Item 17. The unit costs for the items removed from the project are based upon their bid prices.

4. The Sponsor's share of this cost is available from: General Funds if needed.

5. If this is Supplemental Agreement involving more than $2,000, is the Cost Estimate based on the latest wage rate decision? Yes ___ No ___ Not Applicable _X__

6. Has Consent of Surety been obtained? Yes ___ No ___ Not Applicable _X__

7. Will this change affect the insurance coverage? Yes ___ No _X__

8. If yes, will the policies be extended? Yes ___ No _X__

9. Has this Change Order been discussed with FAA officials?

Yes _X_ No ___ When 9/13/21; 10/18/21, 10/19/21 With Whom Messar Mustafa

Comment _____

Item CO 1.1

Cochise County Airport: Reconstruct Apron - Item 1.1 Cost Breakdown

	Hours	Rate/Hr	Labor	Equipment	Subtotals
Task 1 -Remove 27 4'x4'x5' deep column foundations and haul to the existing pit approximately 1/2-mile from the apron.					
Labor					
Backhoe Operator	27	$35.00	$945.00	`	
Loader Operator	19	$35.00	$665.00		
Dumptruck Driver	8	$32.00	$256.00		
General Laborer	27	$32.00	$864.00		
Foreman	14	$48.00	$672.00		
			$3,402.00		$3,402.00
Equipment					
Backhoe*	28	$65.00		$1,820.00	
Loader*	20	$80.00		$1,600.00	
Dumptruck*	12	$40.00		$480.00	
Pickup	14	$20.00		$280.00	
				$4,180.00	$4,180.00
Task 2-Backfill 27 - 7'x7'x5' deep cavities left by the foundation removals					
Labor					
Loader Operator	27	$35.00	$945.00	`	
Water Truck Operator	27	$31.33	$845.91		
General Laborer / Tamper	27	$25.00	$675.00		
Foreman	12	$48.00	$672.00		
			$3,137.91		$3,137.91
Equipment					
Loader*	28	$65.00		$1,820.00	
Water Truck*	28	$80.00		$2,240.00	
Pickup	12	$20.00		$240.00	
Tamper	28	$15.00		$420.00	
				$4,720.00	$4,720.00
Materials					
525 Ton of Bedding Sand @ $8.50/ton					$4,462.50
Trucks Hauling 525 Ton from Tucson @ $21.50/Ton					$11,287.50
				Sub-Total	$31,189.91
				Overhead (25%)	$7,797.48
				Profit (12%)	$3,742.79
				Sales Tax and Bond (7.1%)	$3,118.99
				TOTAL	**$45,849.17**

* Billed in 4 hr increments

CO1.1 Concrete Block Removal

CO1.1 Backfill Placement and Compaction

Item CO 1.2

Jason Musselman

From: Pavex Corp <sndpavex@gmail.com>
Sent: Friday, September 17, 2021 4:22 PM
To: Jason Musselman
Subject: [EXTERNAL] Cost breakdown of two extra items at Cochise County Airport

Good afternoon Jason

The following is the cost breakdown for the two extra items of work we discussed earlier.

		Labor	Material	Equipment	Totals
Item 1)	Remove existing electrical feed from the terminal building to the hangar and install a spare 2" conduit at depth of apx 30" below pavement grade. The scope of this work is to install new risers and rigid underground 90's at each end of the power run, connected in between by a 1.5" PVC conduit and installing a 2" spare of PVC conduit underneath the existing pavement, extending 5' beyond the edge of pavement in each direction. Finally, pulling four #4 wires from the panel in the terminal building to the panel on the hangar wall.	$ 1,423.00	$ 825.00	$1,010.00	$ 3,258.00
Item 2)	Install a 2' wide x 6" thick x 26' long thick concrete cap (2500psi) over the existing bank of 3/4" water line, and two dry utilities side by side.	$ 736.00	$ 384.00	$ 660.00	$ 1,780.00
				Subtotal	$ 5,038.00
				Overhead	$ 1,259.00
				Profit	$ 1,007.00
				Sales Tax & Bond	$ 518.00
				TOTAL	**$ 7,822.00**

This work will add another two and a half working days of construction time, so I am requesting that ~~3~~ 2 (negotiated) calendar days be added to the completion time of the project.

Regards,
Sam

CO1.2 Existing Electrical Crossing

CO1.2 New Electrical Crossing

CO1.2 New Electrical Crossing

Item CO 1.3

Jason Musselman

From: Pavex Corp <sndpavex@gmail.com>
Sent: Friday, September 24, 2021 8:52 AM
To: Jason Musselman
Cc: Colin Sterns
Subject: [EXTERNAL] Unidentified concrete-encased duct bank encountered in subgrade of apron
Attachments: IMG_7151.jpg; IMG_7152.jpg; IMG_7153.jpg

Jason,

While excavating to get to the final subgrade elevations, we encountered buried, concrete-encased duct bank which is 4' wide and apx 16" deep (see attached pictures) and it runs east to west, across the apron, approximately 50' north of the corner of the FBO building towards the first tank in the infield area. A couple of the conduits have cable in them, but it is my guess that the cables are old runway lighting wires, and that system has since been replaced with new conduit and wires.

The concrete duct bank has to be removed since it is higher than our finished subgrade. I will send you a cost estimate once we uncover the whole length of this encasement later today.

Regards,
Sam

Siamak "Sam" Samsam | President
a: Pavex Corp | 4001 E Michigan St | Tucson AZ
e: sndpavex@gmail.com
p: 520.747.9000

PAVEX CORP.
4001 EAST MICHIGAN STREET • TUCSON, ARIZONA 85714-2157 • fax(520)747-1695 • phone(520)747-9000

October 13, 2021

JASON MUSSELMAN, P.E.
Principal, Director of Aviation Services
2345 South Alma School Road, Suite 208
Mesa, AZ 85210

Jason,

The following is a cost breakdown removal of buried, concrete-encased duct bank apx 4' wide by 60' long x 16" in thickness

SCOPE OF WORK

Uncover and expose the duct bank, break up the duct bank with hoe-hammer, removal of broken pieces and load them in a dump truck, haul off and dump broken concrete at a dumpsite, and backfill the trench. A crew consisting of hoe-hammer and operator, loader and operator, dump truck and driver, a laborer for five hours, plus motor grader and operator for two hours and foreman and a pickup for two hours is utilized for this task.

LABOR	$	805.00
EQUIPMENT	$	1,220.00
Subtotal	$	2,025.00
Overhead 25%	$	507.00
Profit 10%	$	203.00
Tax & Bond 7.1%	$	194.00
TOTAL	$	2,929.00

Converted to SF.
$2,929/240sf = $12.20/sf

Please allow for one additional working day for this work to be performed.

Regards,

CO1.3 Concrete Encased Duck Bank Removal

Item CO 1.4

DESIGN AND MOLDING OF SOIL-CEMENT COMPRESSIVE STRENGTH SPECIMENS

SAMPLE ID & STATION	PROJECT NAME	PROJECT NO.
S-7297	Cochise County Wilcox Apron Rehabilitation	20045.02

Sample Nos.: S-7297 **Station:** **Date Tested:** 9/30/2021

DETERMINATION OF COMPRESSIVE STRENGTH

CEMENT CONTENT % BY WEIGHT	7%				9%				11%				13%			
AGE, days	7	7	7		7	7	7		7	7	7		7	7	7	
Diameter, in.	4.04	4.00	4.01		4.00	4.00	4.01		4.02	4.01	4.01		4.09	4.02	4.00	
Area, in²	12.81	12.59	12.62		12.57	12.59	12.62		12.68	12.62	12.61		13.15	12.66	12.54	
TOTAL LOAD, lb.	5370	4650	5480		6600	8200	7690		12210	12460	12000		13400	14100	15520	
STRENGTH, psi	419	369	434		525	652	609		963	987	952		1019	1114	1238	
AVG 7d STRENGTH, psi	408				595				967				1123			

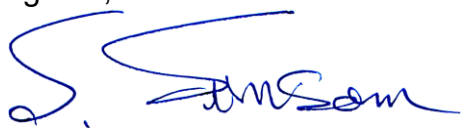
Item CO 1.5

The cost for the removal consists of the following:

Item	Description	Labor Cost	Equipment Cost	Subtotals
1	Partial removal of fabric and geogrid	$ 1,336.00	$ 1,520.00	$ 2,856.00
2	Work to be performed after grade is dry enough to resume work	$ 872.00	$ 1,480.00	$ 2,352.00
			Subtotal	$ 5,208.00
			Overhead 25%	$ 1,302.00
			Profit 18%	$ 937.44
			Subtotal	$ 7,447.44
			Tax & Bond 7.1%	$ 528.76
			TOTAL	**$ 7,976.20**

Since there is no bid item to cover the cost of this unforeseen work, it's requested that a change order be issued to amend the contract.

Regards,



Price is based upon finding fabric and geogrid in the Phase 2 work area (13,449 sy). At the time of this change order, the Phase 1 work area has not been exposed and therefore the cost provided has been broken into a square yard price over the entire existing pavement area (18,400 sy) to cover the possibility that geogrid and fabric are discovered in the Phase 1 work area as well.

$7,976.20 / 13,449 = $0.593/sy

- Jason Musselman

CO1.5 Fabric and Geogrid Found

CO1.5 Fabric and Geogrid Foundr

Item CO 1.6

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October 7, 2021

JASON MUSSELMAN, P.E.
Principal, Director of Aviation Services
2345 South Alma School Road, Suite 208
Mesa, AZ 85210

Jason,

The following is a cost breakdown for Geogrid remediation of unstable areas that you requested

SCOPE OF WORK

This cost estimate is for treatment of 500y^2 of subgrade in the following manner:

1. Remove existing subgrade material to a depth of 30" and haul off the excavated material to dump area.
2. Remove 2,496y^2 of 3" asphalt from existing taxiway and haul to dump area.
3. Excavate and salvage 416y^3 of AB from existing taxiway and haul to stabilization area.
4. Install Geofabric on bottom surface of treatment areas.
5. Install 12" lift of salvaged AB on top of the Geofabric.
6. Install Geogrid on top of the 1' lift of AB placed under item 5.
7. Install 18" of salvaged AB on top of Geogrid and finegrade to subgrade elevations required by the project documents.

TABLE A

Item	Description	Labor	Equipment	Material	Subtotals
1	Excavation and haul off 416y^3 unstable subgrade	$ 1,450.00	$ 1,700.00		$ 3,150.00
2	Remove 2,496y^2 of 3" AC	$ 2,980.00	$ 4,200.00		$ 7,180.00
3	Install 500y^2 of Geofabric and Geogrid	$ 700.00	$ 310.00	$ 2,925.00	$ 3,935.00
4	Excavate and salvage 416y^3 of AB and place in lifts in treatment areas	$ 1,800.00	$ 2,300.00		$ 4,100.00

Subtotal	$ 18,365.00
Overhead	$ 4,591.00
Profit	$ 3,305.00
Tax & Bond	$ 1,865.00
TOTAL	$ 28,126.00

$28,126/500sy = $56.25/sy

Regards,

Item CO 1.7

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October 14, 2021

JASON MUSSELMAN, P.E.
Principal, Director of Aviation Services
2345 South Alma School Road, Suite 208
Mesa, AZ 85210

RE: Repair of storm drain pipe damaged during Geotech investigation

Jason,

Following is a cost breakdown for the repair of the damaged pipe. See the attached pictures for the various stage of repairs.

Item	Description	Duration of work	Labor	Equipment	Material	Subtotals
1	10/07/2021: Expose to investigate damage to the pipe and backfill	1 hour	$110.00	$ 85.00	$ -	$195.00
2	10/14/2021: Excavate around the damaged area and repair the pipe by pouring a concrete collar.	4.5 hours	$442.00	$ 135.00	$ 71.00	$648.00
3	10/15/2021: Backfill and compact around the concrete collar.	1 hour	$75.00	$ 160.00	$ -	$235.00
					Subtotal	$1,078.00
					Overhead 25%	$269.00
					Profit 18%	$194.00
					Tax & Bond 7.1%	$110.00
					TOTAL	$1,651.00

Regards,

CO1.7 Pipe Repair

CO1.7 Pipe Repair

CO1.7 Pipe Repair