

CHANGE ORDER

CEM-4900 (REV 06/2019)

Change Requested By: Engineer Contractor

CHANGE ORDER No.	SUPL. NUMBER	CONTRACT NUMBER	CO-RTE-PM	FEDERAL NUMBERS
	0			

TO _____, contractor

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. **NOTE: This change order is not effective until approved by the Engineer.**

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. The last percentage shown is the net accumulated increase or decrease from the original quantity in the Bid Item List.

In accordance with section 4-1.07B, "Value Engineering Change Proposal," of the *2018 Standard Specifications*, use precast concrete foundations instead of cast-in-place foundations to accelerate the installation of the planned permanent crash cushions. Eliminate the channelizers, temporary railing and temporary crash cushions at locations 1 through 5. At locations 4 and 5 use two attenuator trucks to protect the work zone in accordance with the attached traffic handling plan sheet (sheet 5 of 6). Construct precast concrete foundations in accordance with the attached plan sheet (sheet 6 of 6) and in compliance with the crash cushion manufacturer's written recommendations.

AS PLANNED ANALYSIS

As planned costs at locations 1 through 5 determined in accordance with Section 9-1.04, "Force Account," of the *2018 Standard Specifications*:

Traffic Control System (portion) for channelizer, temporary railing and temporary crash cushion installation	\$ 214,503.00
Channelizer (Surface Mounted) furnish, install and remove	\$ 48,825.00
Temporary Railing (Type K) furnish, install and remove	\$ 121,968.50
SUBTOTAL A	\$ 385,296.50

AS PROPOSED ANALYSIS

As proposed costs at locations 1 through 5 determined in accordance with section 9-1.04, "Force Account," of the *2018 Standard Specifications*:

Eliminated portions of work

Traffic Control System for channelizer, temporary railing and temporary crash cushion installation	\$ 0.00
Channelizer (Surface Mounted) furnish, install and removal	\$ 0.00
Temporary Railing (Type K) furnish, install and removal	<u>\$ 0.00</u>
SUBTOTAL B	\$ 0.00

Modified portions of work – Payment Adjustment Agreed Unit Price

Permanent Crash Cushion System with precast foundations at \$2,000/EA @ 47 each	<u>\$ 94,000.00</u>
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SUBTOTAL C \$ 94,000.00

Extra work – Agreed Lump Sum

Two attenuator trucks at locations 4 and 5 during permanent crash cushion installation

\$ 21,345.00

SUBTOTAL D \$ 21,345.00

Item price adjustments – Payment Adjustment

Bid Item No. 7 - Temporary Railing (Type K) 214 (LF) (10%) +\$37.25/LF \$ 7,971.50

Bid Item No. 8 - Temporary Crash Cushion System 2 (EA) (4%) +\$846.00/EA \$ 1,692.00

SUBTOTAL E \$ 9,663.50

CONSTRUCTION SAVINGS CALCULATION

The net construction savings resulting from this change is the *as planned cost* (subtotal A) minus the *as proposed cost* (sum of subtotals B, C, D and E) = \$385,296.50 – [\$0.00 + \$94,000.00 + \$21,345.00 + \$9,663.50] = \$260,288.00.

As this value engineering change proposal (VECP) will reduce traffic congestion, the Department's share of the net construction savings is 40 percent of \$260,288.00 or \$104,115.20.

IMPLEMENTATION

Decrease in Bid Items at Bid Item Prices:

Item No. 1, Traffic Control System: -0.05 LS (-5%) @ \$50,000/LS = -\$2,500.00 (-5%)

Item No. 5, Channelizer Surface Mounted: -2100 EA (-100%) @ \$23.25/EA = -\$48,825.00 (-100%)

Item No. 7, Temporary Railing Type K: -2140 LF (-90%) @ \$55.00/LF = -\$117,700.00 (-90%)

Item No. 8, Temporary Crash Cushion System: -47 EA (-94%) @ \$4,400.00/EA = -\$206,800.00 (-94%)

Decrease in Bid Items at Bid Item Prices = **-\$375,825.00** (decrease)

In accordance with Section 9-1.06D, "Eliminated Items," of the *2018 Standard Specifications*, the adjustment due to the elimination of item no. 5, "Channelizer Surface Mounted," is zero.

Adjustments to the bid item unit prices of items no. 7, "Temporary Railing Type K," and no. 8, "Temporary Crash Cushion System," have been calculated in accordance with Section 9-1.06C, "Decreases of More Than 25 Percent," of the *2018 Standard Specifications*.

Payment Adjustment at Agreed Unit Price:

A unit price of \$2,000.00 per each will constitute full and complete compensation, including all markups, for furnishing and installing permanent crash cushions with precast foundations, complete in-place, including markups and incidentals.

Payment Adjustment at Agreed Unit Price = 47 EA @ \$2,000.00 = **\$94,000.00** increase

Extra Work at Agreed Lump Sum:

For providing two attenuator trucks at locations 4 and 5 during permanent crash cushion installation, the contractor will receive and accept the agreed lump sum of \$21,345.00. This sum constitutes full

and complete compensation for providing all labor, material, equipment, tools and incidentals, and includes all markups by reason of this change.

Extra Work at Agreed Lump Sum = **\$21,345.00** increase

Payment Adjustment at Agreed Lump Sum:

In accordance with Section 9-1.06C, "Decreases of More Than 25 Percent," of the 2018 Standard Specifications, and as requested by the contractor, the following payment adjustments to the bid items listed below will be made to their total pay quantity, which is less than 75 percent of their respective bid quantities shown on the Bid Item List.

	Item No. 7 Temporary Railing (Type K)	Item No. 8 Temporary Crash Cushion System
Bid Item List Quantity	2140 LF	50 EA
75% Bid Item List Quantity	1605 LF	37.5 EA
Total Quantity Worked	214 LF	2 EA
Bid Unit Price	\$55.00/LF	\$4,400/EA
Total Actual Cost (Force Account Analysis)	\$19,741.50	\$10,492.00
Actual Unit Cost	\$92.25/LF	\$5,246.00/EA
Amount Paid to Date	\$11,770.00	\$8,800.00
Max Allowable Compensation	\$88,275.00	\$165,000.00
Adjustment	<u>\$7,971.50*</u>	<u>\$1,692.00*</u>
	Total "Net" Adjustment	\$9,663.50

* The maximum allowable compensation is more than the total actual cost determined by force account analysis. The total actual cost controls the payment adjustment for Bid Items 7 and 8.

Total Payment Adjustment at Agreed Lump Sum = **\$9,663.50**

Payment Adjustment at Agreed Lump Sum Price:

The Contractor's additional compensation due by reason of the VECP is determined as follows:

Net construction savings of the VECP	\$260,288.00
Department's 40% share of savings:	\$104,115.20
Implementation net excluding Contractor's lump sum adjustment: (-\$375,825.00 + \$94,000.00 + \$21,345.00 + \$9,663.50)	\$250,816.50
Contractor's additional lump sum compensation adjustment: (\$250,816.50 - \$104,115.20)	\$146,701.30

Payment Adjustment at Agreed Lump Sum = **\$146,701.30** increase

TIME ANALYSIS

A determination of the time savings in completion of the contract as a result of this change has been made in accordance with Section 8-1.02, "Schedule," of the 2018 Standard Specifications. The total time savings was determined as 10 working days. In accordance with Section 4-1.07B, "Value

Engineering Change Proposal," of the 2018 Standard Specifications, 50 percent of the reduction (5 working days) is deducted from the Contract time.

Decrease in Bid Item at Bid Item price:

Bid Item No. 3 - Time-Related Overhead (-5) (WDAY) (-2.5%) @ \$2,500/WDAY = -\$12,500 (-2.5%)

Estimated Cost: Increase Decrease (-\$116,615.20)

For this order, the time of completion will be adjusted as follows: (- 5) working days

SUBMITTED BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

APPROVAL RECOMMENDED BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

ENGINEER APPROVAL BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

We, the undersigned contractor, have given careful consideration to the change proposed and agree to provide equipment, furnish materials, and perform the work specified above, and will accept as full payment the prices shown above. **NOTE: If you do not sign this order, you are directed to proceed with the ordered work. You may file a Request for Information within the time specified.**

CONTRACTOR ACCEPTANCE BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

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