

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 282 Suppl. No. 0 Contract No. 04 – 0120F4 Road SF-80-13.2/13.9 FED. AID LOC.:**To: AMERICAN BRIDGE/FLUOR ENTERPRISES INC A JOINT VENTURE**

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. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate.

Prepare and test seven (7) 75 mm Type 1 suspender rope samples, and provide a report.

Extra Work at Lump Sum:**A. Prepare seven (7) samples as follows:**

1. Cut seven 6.5 m (21'-0") lengths of 75 mm Type 1 Suspender Rope from the same rope schedule (master reel). Provide the rope schedule that the test samples were taken from, along with a copy of the certified test data (modulus and ultimate strength) obtained during the initial testing to the Department prior to performing the tests detailed herein.
2. Prepare each sample for testing with an open spelter socket at each end.
3. Transport the samples to Coordinated Equipment Company (Wilmington, CA) on 2 m x 2 m (7' x 7') skids, with side reinforcing.
4. Provide notification to the Department of the test date and the anticipated duration.

B. Perform the following test procedure in the presence of the Engineer:

1. **Pre-stretch the rope samples as follows:**
 - a. Load the samples to 50% of the minimum breaking force - 1966 KN (441974 lbs).
 - b. Hold the load for 5 minutes and reduce to 44 KN (10,000 lbs).
 - c. Repeat the cycle two additional times.
2. **Modify samples as follows:**
 - a. Sample 1 – cut zero wires (control sample).
 - b. Sample 2 – cut two wires
 - c. Samples 3, 4, & 5 – cut 4 wires
 - d. Samples 6 & 7 – cut zero wires
3. **Sample 1:** On completion of the pre-stretch cycle for the first sample, load to failure by increasing the load at the same rate as used for the initial testing of the rope schedule. Document the load and mode of failure of the sample.
4. **Sample 2:** Complete the pre-stretch cycle as detailed above, and with the load on the rope at 44 KN (10,000 lbs), cut two (2) of the outer 4.4 mm (0.174") diameter wires on the same strand, in the same plane perpendicular to the rope axis, at the center of the sample length – 3.25 m (10.6'). Use a method to cut the outer strand wires that will not damage (nick) any other wires. At the fabricator's option, cutting of the wires can be performed with no load on the rope as long as it remains in the test set-up with no disruption to the rope lay.
5. Bend the cut wires away from the rope and record (photograph) the status of the sample.
6. Load the sample to failure by increasing the load at the same rate as used for the initial testing of the rope schedule. Document the load and mode of failure of the sample.
7. **Samples 3, 4, & 5:** After Sample 2 has been tested, prepare and test samples 3, 4, and 5 as detailed above for Sample 2 except with four (4) wires cut, or as directed by the Engineer.
8. **Samples 6 & 7:** Testing of Samples 6 and 7 will be as directed by the Engineer based on the results and analysis of the test data from Samples 2 through 5.
9. Provide continuous data recording of all the testing performed. Provide a copy of the raw data in both hard copy and electronic format such as Excel. In addition, provide load elongation graphs (curves) for every sample.

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C. Provide a report including, at a minimum, the following information:

- a. Description of the sample, test set-up, testing procedure/performance, and the rope failure.
- b. Tabulate the breaking load and mode of failure.
- c. Provide a comparison of load at failure of the seven (7) samples with the original (baseline) sample for the rope schedule.
- d. Provide photographs depicting the initial set-up, cutting of wires, and condition after cutting suspender rope at failure.
- e. Provide a signed certificate from the suspender rope manufacturer stating load at failure of each sample.
- f. Provide load elongation graphs and the recorded raw data, in hard and electronic formats, for each of the samples.

For this work, the Contractor will receive a lump sum price of \$136,635.00. This sum constitutes full and complete compensation for furnishing all labor, material, tools and incidentals including all markups by reason of this change.

Extra Work at Lump Sum..... \$136,635.00

Estimated Cost: Increase Decrease \$136,635.00

By reason of this order the time of completion will be adjusted as follows: 0 Days

Submitted by
 Signature  Resident Engineer
 Darryl Schram, Senior T.E. Date 1-9-13

Approval Recommended by
 Signature  Supervising Transportation Engineer
 William Casey, Supervising T.E. Date 1-9-13

Engineer Approval by
 Signature  Supervising Transportation Engineer
 William Casey, Supervising T.E. Date 1-23-13

We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by
 Signature  (Print name and title)
 BRIAN A. PETERSEN - PROJECT DIRECTOR Date 21 JAN 13