STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 109 **Suppl. No. 1** **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.

Adjustment of Compensation at Agreed Lump Sum:

Modify the load transfer plan to use a larger load transfer jacking bracket that provides 2800 kN jacking capacity at Panel Point 112.

The following revised plan sheet details the changes addressed in this change order: 743R4 (of 1204) as shown on sheet 2 of this change order.

This change order resolves the costs associated with Contractor Request for Information (RFI) number 972 with respect to changes listed above.

For this work, the Contractor will receive a lump sum price of $00.00. This sum constitutes full and complete compensation for furnishing all labor, material, tools and incidentals including all markups by reason of this change.

Adjustment of Compensation at Agreed Lump Sum..... $00.00

Estimated Cost: Increase ☒ Decrease ☐ $00.00

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** 9/18/12

Approval Recommended by

Signature **Supervising Transportation Engineer** William Casey, Supervising. T.E. **Date** 10/7/12

Engineer Approval by

Signature **Supervising Transportation Engineer** BRIAN BOAL for William Casey, Supervising. T.E. **Date** 11/13/12

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** 12 NOV 12

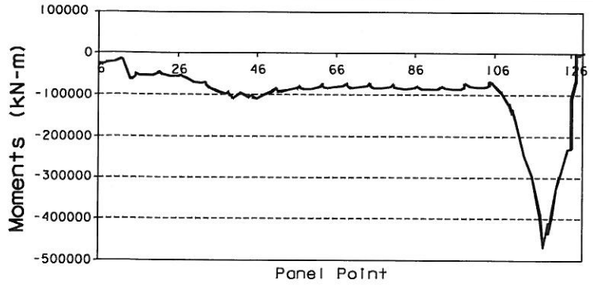

Chart A: DL Moment Corresponding to suspender forces shown in suspender Schedule (Eastbound shown, Westbound similar)
* Negative moment corresponds to tension at the top fiber.

8. Cable layout, deck profile and box girder dead load moment do not account for the future LRT SDL. When LRT SDL is added, readjustment of suspenders should be done to achieve the proper cable layout, deck profile and box girder DL moment. Readjustment of pier E2 bearings and Hinge A bearings may also have to be done.

9. For length, geometry, and tension of suspenders at tower, see "Suspenders at Tower Details No.4" sheet.

10. Suspender length "L" and forces shown are for information only. The Contractor shall compute the final installed suspender lengths based on suspender forces from his final erection engineering analysis, including measured reactions at Hinges A and K and his estimate of the suspender weight (based on fabrication shop drawings) of all installed materials.

Caltrans Metric

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	743R4	1204

REGISTERED ENGINEER - CIVIL
12-6-04
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Marwan N. Nader No. C 054426 Exp. 12/31/11 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

T.Y. LIN / MOFFATT & NICHOL
825 BATTERY STREET
SAN FRANCISCO, CA 94111

Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov

SUSPENDER SCHEDULE

West Bound										East Bound									
Panel Point	L (m)	θ (degree)	Z (degree)	Force "F" (kN)	Panel Point	L (m)	θ (degree)	Z (degree)	Force "F" (kN)	Panel Point	L (m)	θ (degree)	Z (degree)	Force "F" (kN)	Panel Point	L (m)	θ (degree)	Z (degree)	Force "F" (kN)
PP10	7.40	17.58	16.48	3011	PP62	55.32	19.76	18.82	2803	PP10	6.99	18.59	19.77	2995	PP62	56.15	19.50	20.84	2816
PP12	12.38	18.55	17.48	2983	PP64	51.15	19.82	18.96	2810	PP12	12.02	19.11	20.31	2928	PP64	51.93	19.56	20.89	2823
PP14	17.54	18.94	17.90	2552	PP66	47.15	19.89	19.01	2807	PP14	17.23	19.28	20.52	2534	PP66	47.89	19.62	21.03	2820
PP16	22.86	19.13	18.12	2550	PP68	43.33	19.96	19.05	2821	PP16	22.61	19.35	20.61	2534	PP68	44.01	19.69	21.07	2834
PP18	28.33	19.24	18.26	2544	PP70	39.67	20.03	19.11	2825	PP18	28.15	19.37	20.66	2527	PP70	40.31	19.76	21.12	2837
PP20	33.95	19.30	18.35	2553	PP72	36.18	20.10	19.16	2818	PP20	33.85	19.36	20.69	2536	PP72	36.77	19.83	21.17	2830
PP22	39.73	19.33	18.41	2551	PP74	32.86	20.18	19.22	2829	PP22	39.72	19.34	20.70	2535	PP74	33.41	19.91	21.23	2841
PP24	45.66	19.35	18.46	2543	PP76	29.71	20.26	19.29	2828	PP24	45.75	19.32	20.71	2527	PP76	30.21	19.99	21.29	2840
PP26	51.75	19.35	18.49	2549	PP78	26.72	20.35	19.36	2816	PP26	51.95	19.28	20.71	2537	PP78	27.18	20.07	21.36	2829
PP28	58.00	19.35	18.52	2552	PP80	23.91	20.44	19.43	2823	PP28	58.31	19.25	20.71	2548	PP80	24.33	20.15	21.43	2838
PP30	64.41	19.34	18.45	2551	PP82	21.26	20.53	19.51	2806	PP30	64.84	19.21	20.60	2550	PP82	21.64	20.24	21.50	2837
PP32	70.97	19.32	18.46	2529	PP84	18.79	20.64	19.60	2788	PP32	71.54	19.16	20.58	2536	PP84	19.12	20.34	21.58	2818
PP34	77.68	19.30	18.46	2576	PP86	16.47	20.74	19.69	2794	PP34	78.41	19.12	20.56	2584	PP86	16.77	20.44	21.67	2826
PP36	84.56	19.28	18.45	2688	PP88	14.33	20.86	19.79	2787	PP36	85.43	19.08	20.53	2698	PP88	14.58	20.55	21.77	2822
PP38	91.64	19.26	18.58	2960	PP90	12.35	20.98	19.90	2769	PP38	92.67	19.04	20.64	2968	PP90	12.57	20.66	21.87	2800
PP40	98.80	19.23	18.41	4592	PP92	10.54	21.11	20.02	2774	PP40	99.99	19.00	20.46	4597	PP92	10.72	20.78	21.98	2806
PP44	100.35	19.25	18.44	4593	PP94	8.89	21.25	20.15	2764	PP44	101.64	19.00	20.47	4599	PP94	9.03	20.91	22.09	2797
PP46	94.73	19.31	18.64	2966	PP96	7.41	21.39	20.29	2741	PP46	95.97	19.06	20.67	2977	PP96	7.52	21.03	22.22	2773
PP48	89.19	19.36	18.55	2711	PP98	6.09	21.54	20.44	2744	PP48	90.38	19.11	20.57	2723	PP98	6.16	21.16	22.34	2776
PP50	83.87	19.41	18.59	2616	PP100	4.93	21.69	20.58	2732	PP50	85.00	19.16	20.62	2628	PP100	4.98	21.29	22.45	2763
PP52	78.70	19.46	18.63	2581	PP102	3.94	21.84	20.72	2706	PP52	79.78	19.21	20.66	2593	PP102	3.95	21.39	22.55	2740
PP54	73.68	19.52	18.65	2767	PP104	4.06	20.33	19.22	2707	PP54	74.70	19.26	20.67	2780	PP104	4.06	19.87	21.03	2736
PP56	68.83	19.58	18.69	2777	PP106	3.39	19.95	18.83	961	PP56	69.81	19.32	20.71	2790	PP106	3.37	19.42	20.58	1135
PP58	64.16	19.64	18.73	2786	PP108	2.79	19.28	18.15	946	PP58	65.09	19.38	20.75	2798	PP108	2.75	18.63	19.78	1115
PP60	59.65	19.70	18.77	2788	PP110	2.25	18.12	16.99	995	PP60	60.53	19.44	20.79	2801	PP110	2.20	17.28	18.43	1172
					PP112	SEE NOTE 5			749						PP112	SEE NOTE 5			893

NOTES:

1. Information provided corresponds to the DL cable and suspender profile, highway profile and cable control points.

2. Suspender length "L" is based on unstretched length and it is provided for quantity estimation purposes. See Note 10.

3. The force "F" is defined as the vertical component of the suspenders tension at the completion of construction. The force "F" is divided equally among the 4 parts of the suspender ropes. These forces correspond to the moment diagram shown in Chart A.

4. For location of cable at PP112, 114 & 116, see "Cable Bracket Details" sheets.

5. For the cable configuration shown no suspenders are installed at PP112. The cable is mounted to the girder using the details provided in "Cable Bracket Details" sheets. The Contractor shall develop a cable profile so as to generate at PP112 the force "F" from a final erection engineering analysis or as directed by the engineer. The force "F" shall not exceed 2800 kN. (4)

6. Angle Z accounts for the sag of the suspender due to its own weight.

7. Suspender lengths shown in the Suspender Schedule do not include camber for live load. The Contractor shall include live load camber in his fabricated suspender lengths. See "Camber Schedule" sheet.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

REVISION (3) RESCINDS REVISION (2)

CONTRACT CHANGE ORDER NO. 109s1
SHEET 2 OF 2

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
4	01/22/10	PP112 JACKING CAPACITY	GB	MN	109S1
3	06/10/09	SUSPENDER LOADS	GB	MN	56
2	10/31/08	SUSPENDER LOADS	GB	MN	56
1	04/16/07	CABLE SYSTEM	GB	MN	37

REVISIONS

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 01/22/10

DESIGN	BY M. Nader	CHECKED S. Rodriguez	
DETAILS	BY C. Mibelli	CHECKED S. Rodriguez	
QUANTITIES	BY C. Mibelli	CHECKED G. Baker	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9

SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE & TOWER)

SUSPENDER LAYOUT NO. 2

Rev. Date: 5-18-98

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 01/15/99 05/15/99 09/08/99 05/31/01 01/08/02 07/30/02 12/19/02 07/18/03

SHEET 326R4 OF

FILE => I:\bb\04-0120I\sas\contract plans and cco\cco\cco*109s1\2-update 01-22-10\dgn\agsus03.dgn

USERNAME => grivera DATE PLOTTED => 21 JAN 2010 TIME PLOTTED => 14:20:32

100 % PS&E