STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 64 **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.

Adjustment of Compensation at Lump Sum:

ITEM 1.

Modify tower strut façade, clarify holes in cross-bracing flanges and boss plates, and correct fillet weld details as shown on sheets two (2) through five (5) of this change order. The following revised contract plan sheets detail all changes: 0573R1, 574R1, 575R2 and 920R1 (of 1204).

This change order resolves the costs associated with Contractor Request For Information (RFI) Nos. 71, 71R1, 183, 316, 316R1, 1023 and 1322 with respect to changes listed above.

For this work, the Contractor will receive a lump sum price of $400,000.00. 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 Lump Sum Price..... $400,000.00

ITEM 2.

The items identified above in this change order have been paid as part of CCO 108 resolution. Therefore, the amount due under this change order will be adjusted by the amount paid under CCO 108 to prevent a double payment. Total amount paid under CCO 108, and to be credited to this change, is $400,000.00.

Adjustment of Compensation at Lump Sum Price.....<$400,000.00>

CHANGE ORDER COST AND TIME SUMMARY

(ITEM 1) Adjustment of Compensation for work pursuant to this change order	$400,000.00
(ITEM 2) Amount paid under CCO 108 for this change order	<$400,000.00>
Total net pay for this change order	$0.00

Contract time is addressed in CCO 108 for all work identified in this change order. Therefore contract time will not be adjusted in this change order.

Estimated Cost: **Increase** ☐ **Decrease** ☐ **$0.00**

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

Submitted by

Signature [signature] **Resident Engineer** Mark Woods for Gary Pursell, Sup.T.E. **Date** 10 Feb 2010

Approval Recommended by

Signature [signature] **Supervising Transportation Engineer** Gary Pursell, Sup.T.E. **Date** 2/10/10

Engineer Approval by

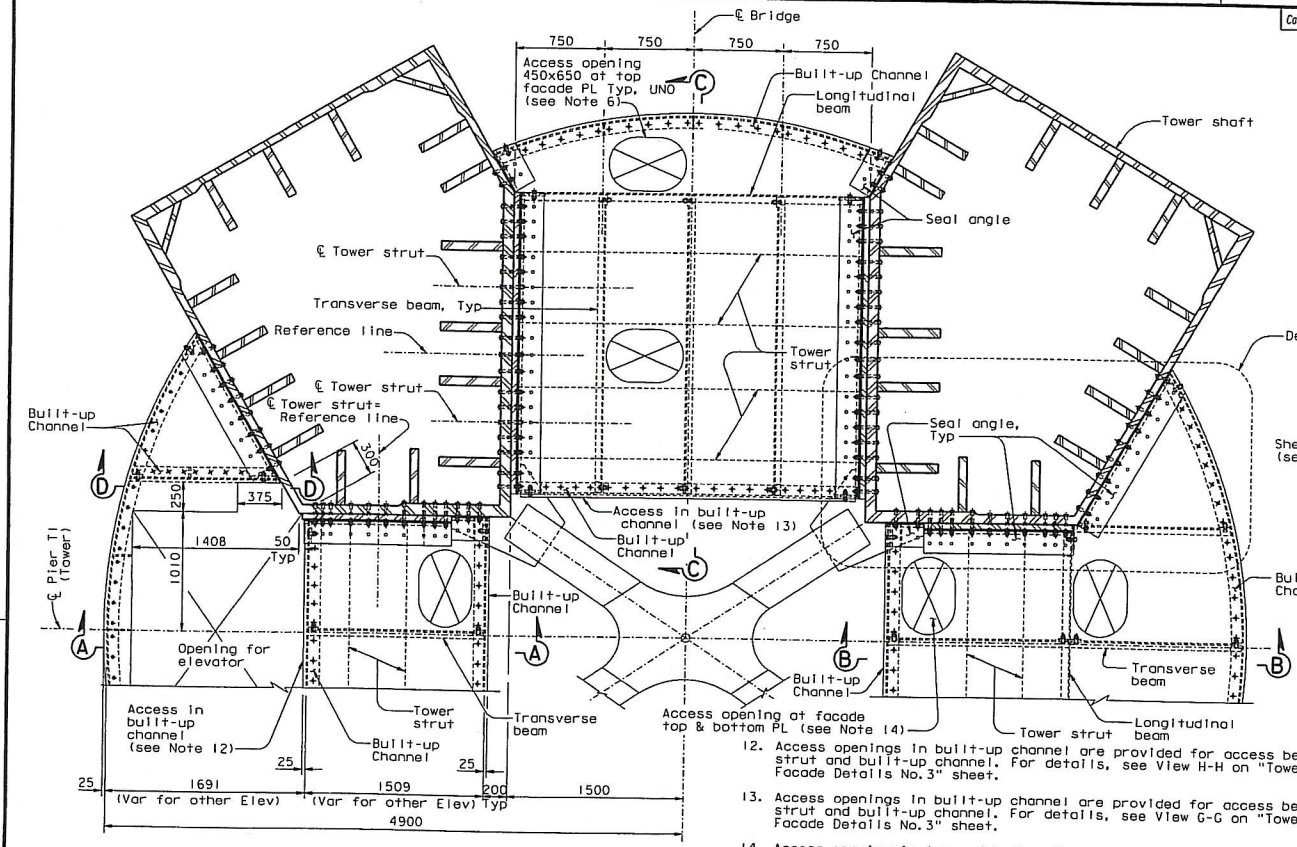
Signature [signature] **Supervising Transportation Engineer** Gary Pursell, Sup.T.E. **Date** 2/23/10

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.

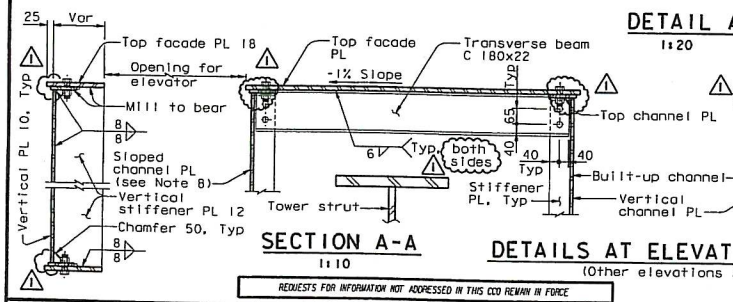
NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature [signature] (Print name and title) Michael D. Flowers Project Director **Date** 2-22-10

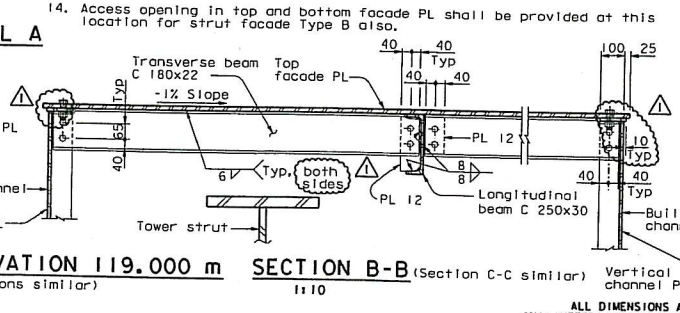


DETAIL A
1:20



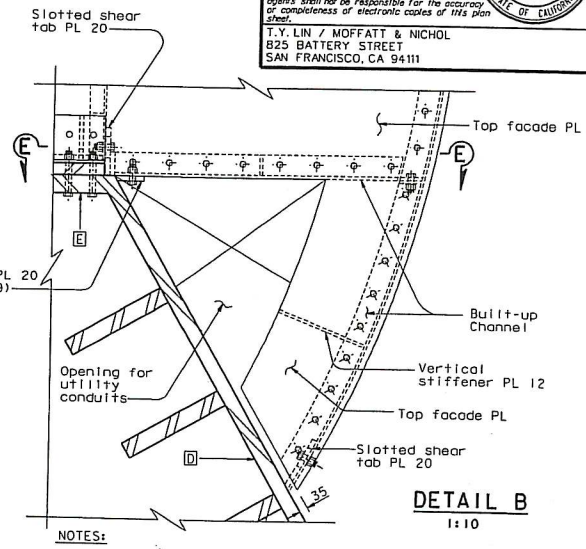
SECTION A-A
1:10

DETAILS AT ELEVATION 119.000 m
(Other elevations similar)



SECTION B-B (Section C-C similar)
1:10

DETAIL B
1:10



NOTES:

1. For Detail D, see "Tower Strut Facade Details No.4" sheet.
2. For tower shaft details, see "Tower Shaft Details" sheets.
3. All bolts are A325 M24 unless noted otherwise.
4. For Section D-D and E-E, see "Tower Strut Facade Details No.3" sheet.
5. All details of tower strut facade shall account for the 1% slope of the tower top and bottom facade plates.
6. For access opening details, see "Tower Access Details" sheets. Access opening shall be located such that there is minimum interference with tower strut and tower strut facade framing system.
7. For details of built-up channel, see "Tower Strut Facade Details No.3" sheet.
8. Vertical plate of built-up channel at corner of plate D E shall be sloped to match the slope of edge of plate E.
9. Shear tab plate is similar to slotted shear tab plate but with standard holes. For details of slotted shear tab plate, see "Tower Strut Facade Details No.4" sheet.
10. Framing details and support at bottom of strut facade are similar to those at the top of strut facade, UNO.
11. For sealing details, see "Tower Strut Facade Details No.4" sheet.
12. Access openings in built-up channel are provided for access between tower strut and built-up channel. For details, see View H-H on "Tower Strut Facade Details No.3" sheet.
13. Access openings in built-up channel are provided for access between tower strut and built-up channel. For details, see View G-G on "Tower Strut Facade Details No.3" sheet.
14. Access opening in top and bottom facade PL shall be provided at this location for strut facade Type B also.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
1	07/11/08	TOWER STRUT FACADES AND CROSS BRACING	NPJ	NV	64

REVISIONS

CONTRACT CHANGE ORDER NO. 64
SHEET 2 OF 15

	BY	CHECKED
DESIGN	M. Nader	M. Gulyas
DETAILS	L. Rus	M. Gulyas
QUANTITIES	L. Rus	Y. Zhang

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

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

CU 04
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

R. Vallizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 07/11/08

Rev. Date: 5-18-98

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)

TOWER STRUT FACADE DETAILS NO.2

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 156R1 OF

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	573R1	1204

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

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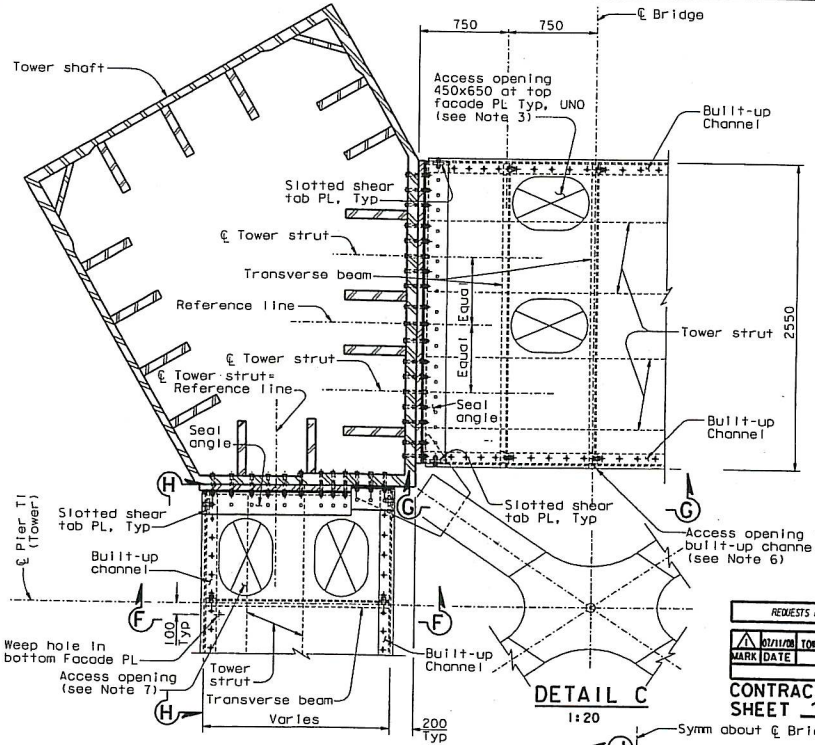
T.Y. LIN / MOFFATT & NICHOL
825 BATTERY STREET
SAN FRANCISCO, CA 94111

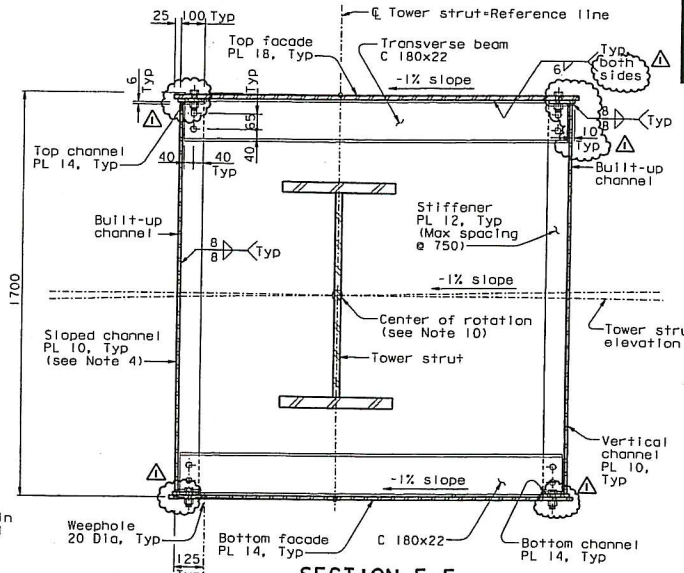
Caltrans Metric

LEGEND:
M24 A325-X Bolt
24 Dia A307 Bolt

PROFESSIONAL ENGINEER — Marwan N. Nader — No. C 054426 — Exp. 12/31/09 — CIVIL — STATE OF CALIFORNIA



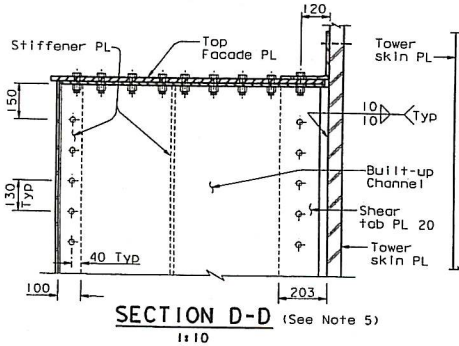
DETAIL C
1:20



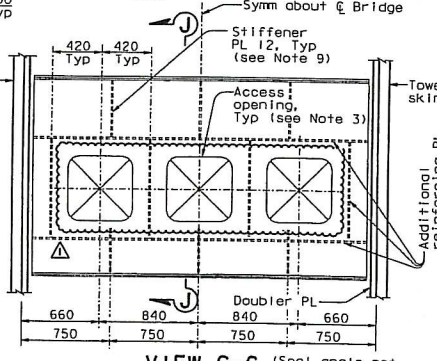
SECTION F-F
1:10

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
MARK	DATE	REVISIONS DESCRIPTIONS	BY	CH'D	CCO#
1	07/11/08	TOWER STRUT FACADES AND CROSS BRACING	MN	NV	64

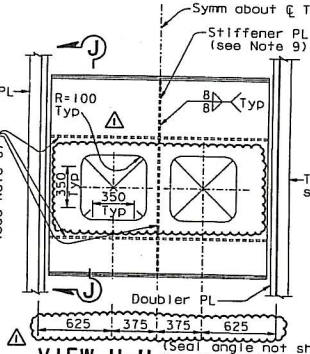
CONTRACT CHANGE ORDER NO. 64
SHEET 3 OF 5



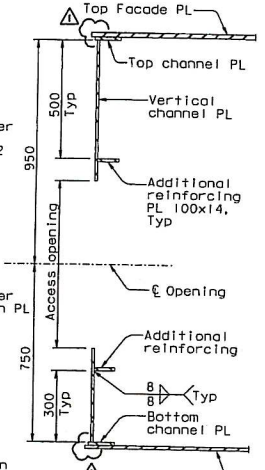
SECTION D-D
(See Note 5)
1:10
(Section E-E similar)



VIEW G-G
(Seal angle not shown for clarity)
1:20



VIEW H-H
(Seal angle not shown for clarity)
(Access openings do not exist between elevation 18.000 m and 77.000 m)
1:20



SECTION J-J
1:10

DETAIL AT ELEVATION 109.000 m (Other elevation similar)

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

LEGEND:
- ⊕ M24 A325-X Bolt
- O 24 Dia A307 Bolt

NOTES:
1. All bolts are A325 M24 unless noted otherwise.
2. All details of tower strut facade shall account for the 1% slope of the tower top and bottom facade plates.
3. For access opening details, see "Tower Access Details" sheets. Access opening shall be located such that there is minimum interference with tower strut and tower strut facade framing system.
4. Vertical plate of built-up channel at corner of plate D|E shall be sloped to match the slope of edge of plate E.
5. For tightening the bolts shown in Section D-D, the nuts may be tack welded.
6. Access openings in built-up channel are provided for access between tower strut and built-up channel, see View G-G.
7. This access opening is at tower strut facade between elevation 18 and 77 only. For access between tower strut and built-up channel, between elevations 89 to 109, access opening is provided in built-up channel instead, see View H-H.
8. Additional reinforcing plates are required for built-up channel with access openings.
9. Stiffener plates shall be terminated as required for openings in built-up channel.
10. The center of rotation shall be located at the intersection of the Reference line with the tower strut elevation line.
11. For sealing details, see "Tower Strut Facade Details No.4" sheet.
12. For access in bottom facade PL, see Note 14 on "Tower Strut Facade Details No.2" sheet.

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	574R1	1204

REGISTERED ENGINEER - CIVIL
12-6-04
PLANS APPROVAL DATE
Marwan N. Nader, No. C 054426, Exp. 12/31/09, CIVIL, STATE OF CALIFORNIA

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DESIGN OVERSIGHT	DESIGN	DETAILS	QUANTITIES
R. Vallzadeh/V. Toan/Y.L./N.L./F.C.	M. Nader	L. Rus	L. Rus
SIGN OFF DATE 07/11/08	CHECKED M. Gulyas	M. Gulyas	Y. Zhang

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

R. Manzanarez, PROJECT ENGINEER

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9
CU 04
EA 0120F1

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

TOWER STRUT FACADE DETAILS NO. 3

Rev. Date: 5-15-98

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 157R1 OF

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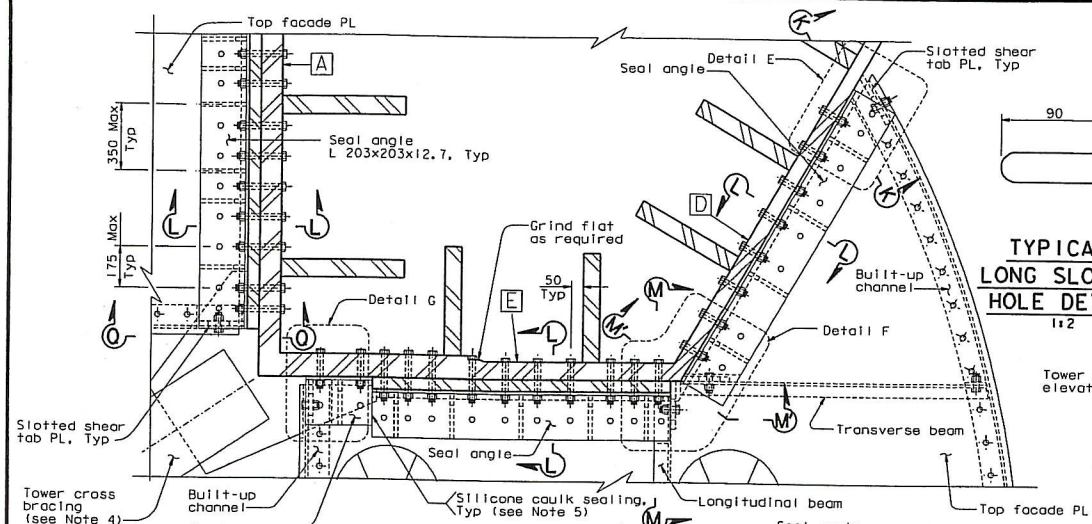
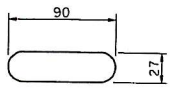
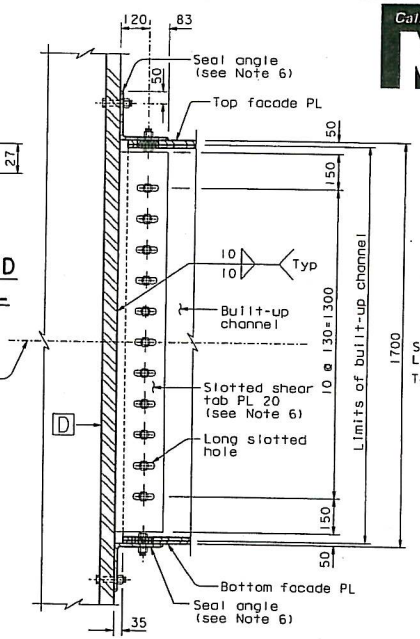
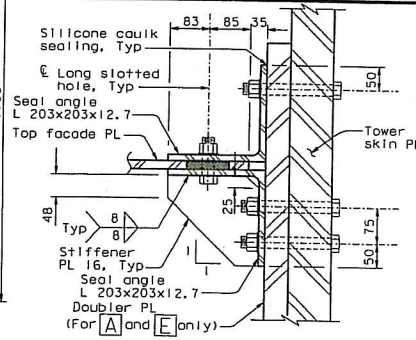


TYPICAL LONG SLOTTED HOLE DETAIL
1:2

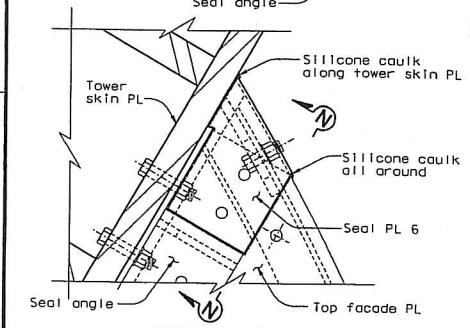




SECTION K-K
(Typical connection of built-up channel to tower shaft UNO)
1:10 (see Note 9)

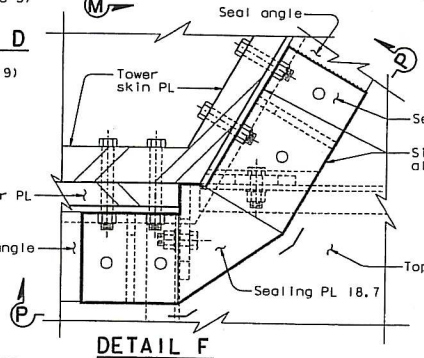


SECTION L-L
1:5 (see Note 9)

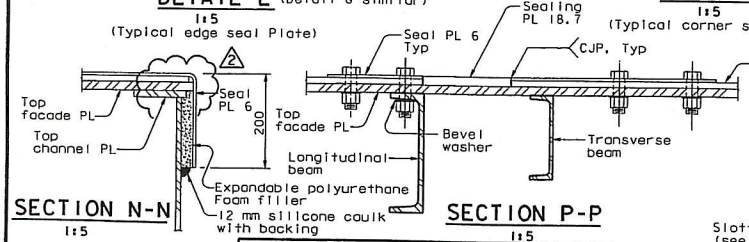


DETAIL E
(Detail G similar)
1:5
(Typical edge seal Plate)

DETAIL D
1:10
(see Note 9)

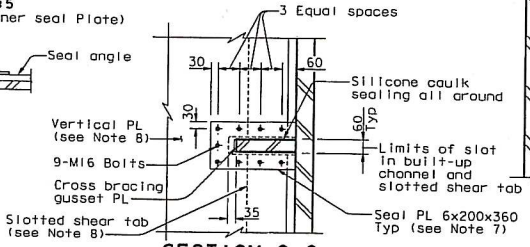


DETAIL F
1:5
(Typical corner seal Plate)

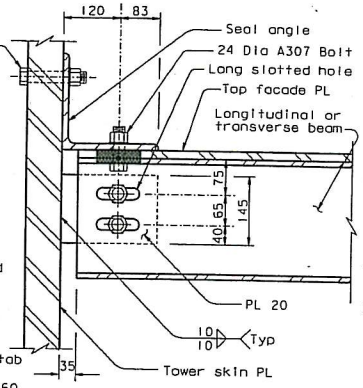


SECTION N-N
1:5

SECTION P-P
1:5



SECTION O-O
(Typical gusset seal Plate)
1:10



SECTION M-M
(Section M'-M' similar)
1:5 (see Note 9)

LEGEND: 1:5 (see Note 9)
- ⊕ M24 A325-X Bolt
- O 24 Dia A307 Bolt

NOTES:
1. All bolts are A325 M24 unless noted otherwise.
2. For details of built-up channel, see "Tower Strut Facade Details No.3" sheet.
3. All details of tower strut facade shall account for the 1% slope of the tower top and bottom facade plates.
4. For tower cross bracing location, see "Tower Strut Details No.9" sheet.
5. Seal plates and sealant material shall be placed such that the interior of the tower strut facade is properly sealed from the exterior.
6. PTFE film (0.5 thick) shall be applied on the faying surfaces between the slotted shear tab and the built-up channel plate, between the seal angle and the top facade PL, and between the seal angle and the bottom facade PL.
7. Seal plate shall be tight fit to the cross bracing gusset plate.
8. Cope vertical channel plate and slotted shear tab as necessary to accomodate cross bracing gusset plate. Slot location shall match slot in doubler plate . For doubler plate slot details, see "Tower Shaft Details No.11" sheet.
9. For sealing plate details, see Details E,F and Sections N-N, P-P, O-O.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	575R2	1204

REGISTERED ENGINEER - CIVIL
12-6-04
PLANS APPROVAL DATE
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			
2	07/11/08	TOWER STRUT FACADES AND CROSS BRACING	NV	MN	64
1	08/01/01	TOWER STRUT FACADE PTFE	NV	MN	48

CONTRACT CHANGE ORDER NO. 64
SHEET 4 OF 5

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

	BY	CHECKED
DESIGN	M. Nader	M. Gulyas
DETAILS	L. Rus	M. Gulyas
QUANTITIES	L. Rus	Y. Zhang

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

CU 04
EA 0120F1

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)

TOWER STRUT FACADE DETAILS NO. 4

DESIGN OVERSIGHT
R. Vallzadeh/V. Toan/Y. L. [illegible]
SIGN OFF DATE 07/11/08

Rev. Date: 5-15-98

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 12/19/07 | 12/19/07 | 12/19/07 | 12/19/07 | 12/19/07

SHEET 158R2 OF

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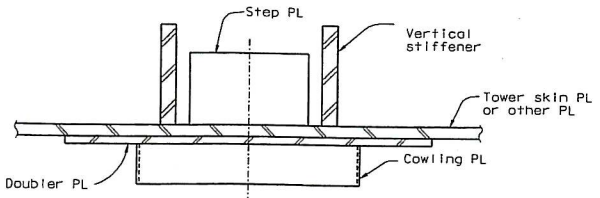
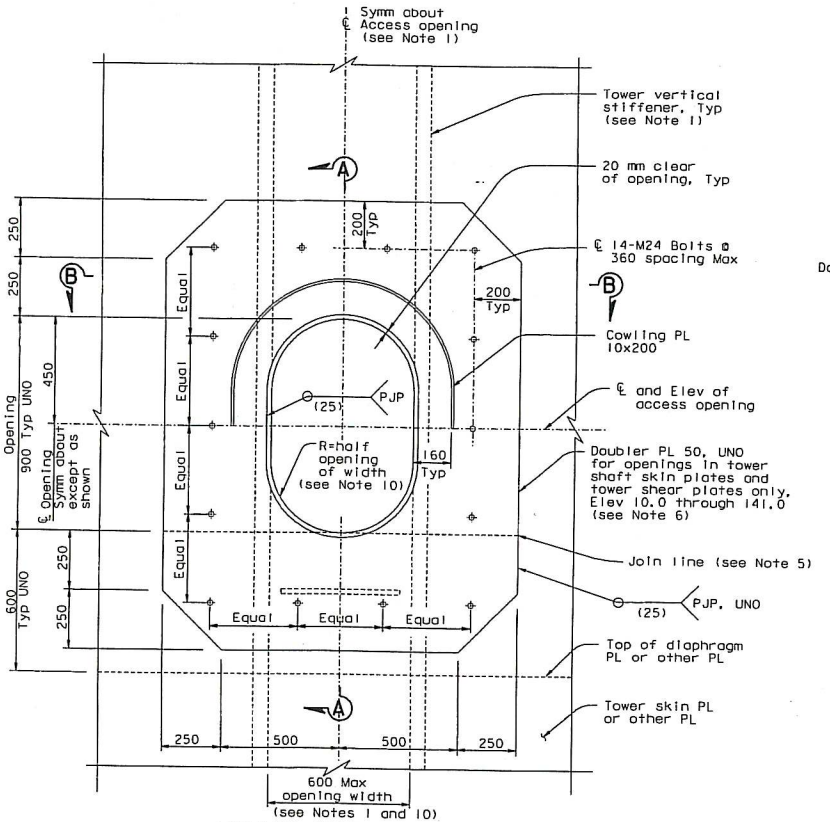
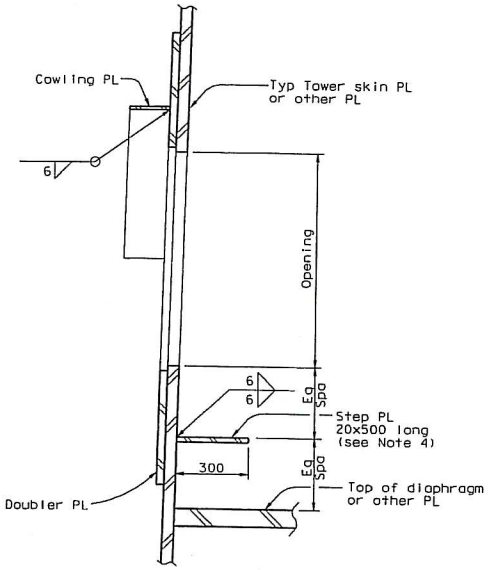


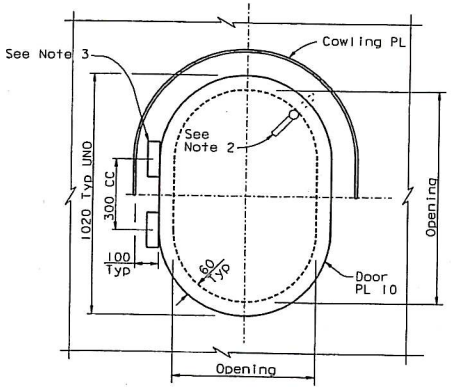
SECTION B-B
1:10



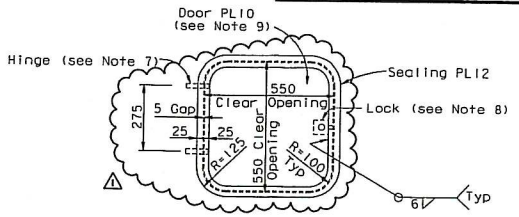
ACCESS OPENING DETAIL (see Note 6)
1:10
(Dehumidification access opening similar)



SECTION A-A
1:10



ACCESS OPENING DOOR DETAIL
1:10
(Dehumidification access opening door similar)



ACCESS OPENING WITH DOOR AT VERTICAL FACE OF TOWER STRUT FACADE

NOTES: 1:10

1. Width of opening is limited to clear distance between stiffeners. For location of access opening and stiffener spacing in tower, see "Tower Shaft Details" sheets.
2. Doors shall be secured by cam locks with locking L-handles and interior release.
3. Door hinges shall be stainless lift-off type with 16 mm pin size 150 kg rated capacity per hinge.
4. Use step PL where door sill is greater than 500 above landing.
5. For access openings at elevations 54.550, 90.550 and 140.550 omit doubler PL below join line. Connect upper portion to strut doubler PL using CJP welds at join line. For strut doubler PL, see "Tower Strut Details" sheets.
6. Access opening shown is for openings in tower shaft skin plates and shear plates. Access opening in tower skirt and tower head are similar. The doubler PL shall match the thickness of the penetrated skirt or tower head PL and shall be connected with a PJP weld 8 mm.
7. Contractor shall provide internally mounted pivot hinges. No part of hinge shall protrude beyond the outside surface of door or facade when door is closed. Hinges shall permit door to swing outwards at least 120°. Each hinge shall be rated to resist 900 N in any direction.
8. Contractor shall provide through-hole mounted cam lock with key. Lock shall be flush with outside face of door.
9. Door shall be flush with outside face of facade. Edges of door shall be sealed with 5x20 Neoprene seals.
10. Dehumidification access openings shall have R=50 mm typical. Dehumidification access openings at tower head only shall be 680 mm x 900 mm.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	920R1	1204

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

REGISTERED PROFESSIONAL ENGINEER — Morwan N. Nader — No. C 054426 — Exp. 12/31/09 — CIVIL — STATE OF CALIFORNIA

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

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REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS	BY	CH'D	CCO#
1	07/11/08	TOWER STRUT FACADES AND CROSS BRACING	MN	NV	64

CONTRACT CHANGE ORDER NO. 64
SHEET 5 OF 5

	BY	CHECKED
DESIGN	M. Nader	M. Gulyas
DETAILS	G. Baker	L. Rus
QUANTITIES	D. Turner	J. Leventini

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

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

CU 04
EA 0120F1

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

TOWER ACCESS DETAILS NO. 4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 07/11/08 | 07/11/08 | 07/11/08 | 07/11/08 | 07/11/08 | 07/11/08 | 12/15/08

SHEET 503R1 OF

R. Vallizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 07/11/08

Rev. Date: 5-18-98

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