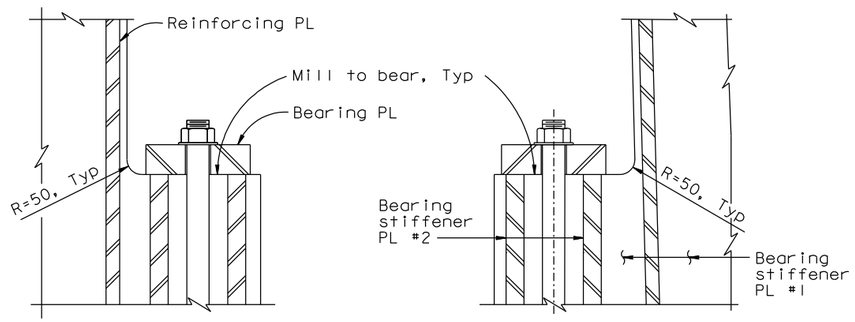
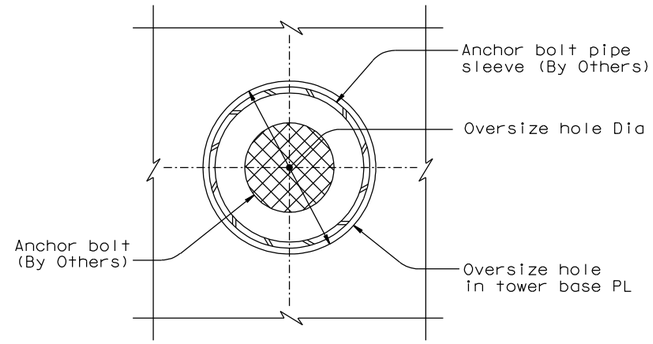


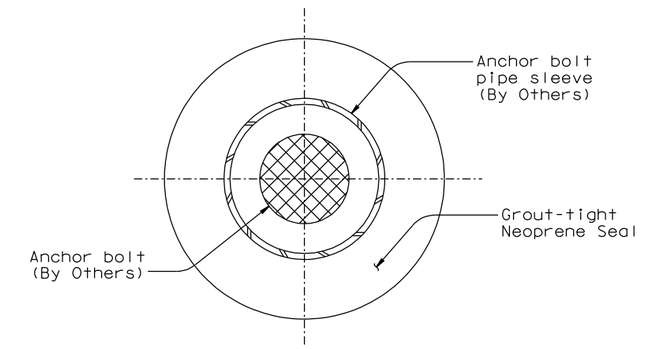
DETAIL B
1:10

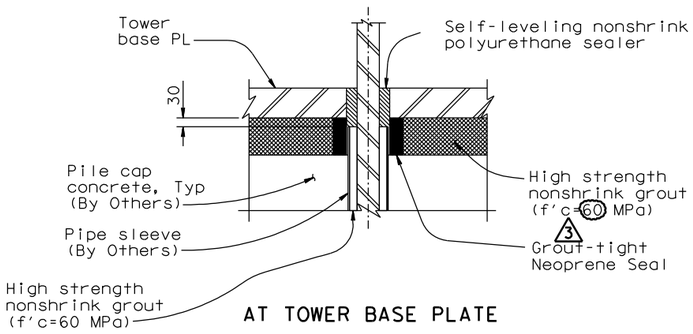
DETAIL C
1:10



AT TOWER BASE PLATE

ANCHOR BOLT HOLE PLAN VIEW
1:2.5





AT TOWER BASE PLATE

ANCHOR BOLT ELEVATION VIEW
1:10

GROUT-TIGHT NEOPRENE SEAL PLAN VIEW (see Note 3)
NTS

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	598R3	1204

REGISTERED ENGINEER - CIVIL

12-6-04
PLANS APPROVAL DATE

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

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			
3	08/29/08	TOWER ANCHORAGE BASE PLATE GROUT	JD	MN	36SI
2	02/28/07	TOWER BASE PLATE	JD	MN	36
1	06/23/06	DELETE GAP TABLES	MN	NV	21

CONTRACT CHANGE ORDER NO. ____
SHEET ___ OF ___

Anchor Bolt Dia	75	100
Oversize hole Dia	145	170

LEGEND:

- High strength nonshrink grout (f'c=60 MPa) 3
- High strength nonshrink grout (f'c=60 MPa)
- Self-leveling nonshrink polyurethane sealer

NOTES:

1. Anchor bolt pipe sleeve shall be filled with nonshrink grout. For additional prestressing details, see "Prestressing Notes" sheet.
2. The Contractor shall develop a scheme for grouting the anchor bolts and submit for review and approval by the Engineer.
3. Grout-tight neoprene seal shown is schematic and is for information only. The seal shall prevent any high strength nonshrink grout from seeping inside the anchor bolt pipe sleeves during grouting of the tower base plate. This is necessary for proper stressing of the anchor bolts. Once final stressing of the anchor bolts is complete, the pipe sleeves shall be grouted (see Note 2). The Contractor shall submit seal details consistent with his means and methods to the Engineer for review and approval. 3 At the Contractor's option, an alternate grouting/stressing procedure may be submitted to the Engineer for review and approval.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 08/29/08

	BY	CHECKED
DESIGN	M. Nader	S. Camo
DETAILS	L. Rus	S. Camo
QUANTITIES	L. Rus	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 ANCHORAGE DETAILS NO. 6

Rev. Date: 5-18-98

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 04/08/02 | 01/01/02 | 12/19/02 | 07/18/03

SHEET 181R3 OF

FILE => I:\bb\04-012001\sas\contract plans and cco\cco\In progress\cco#36sl\revised 8-29-08 option b\dgn\aetwa06.dgn

USERNAME => dwinrow DATE PLOTTED => 11 SEP 2008 TIME PLOTTED => 16:06:07

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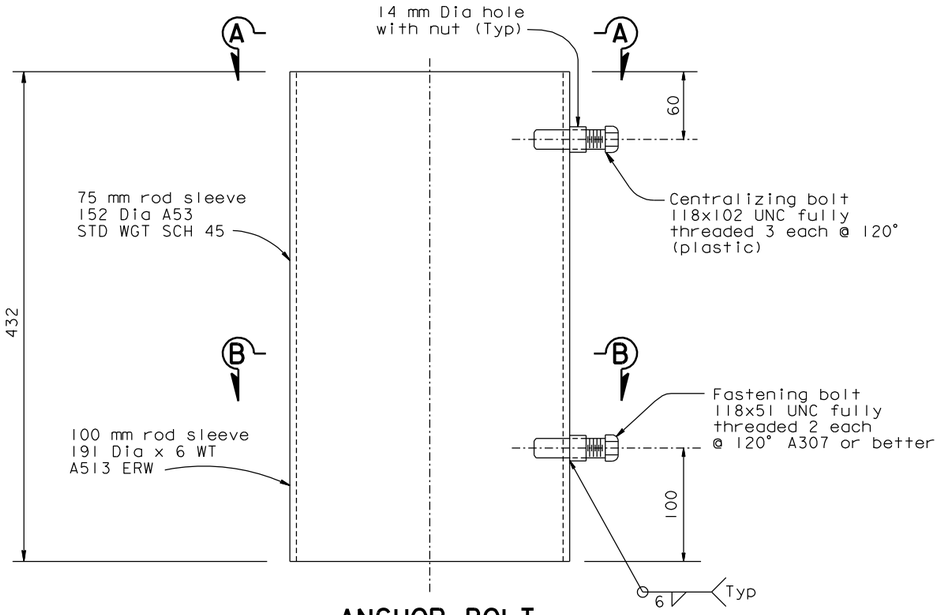
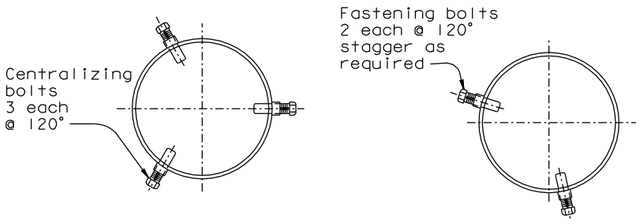


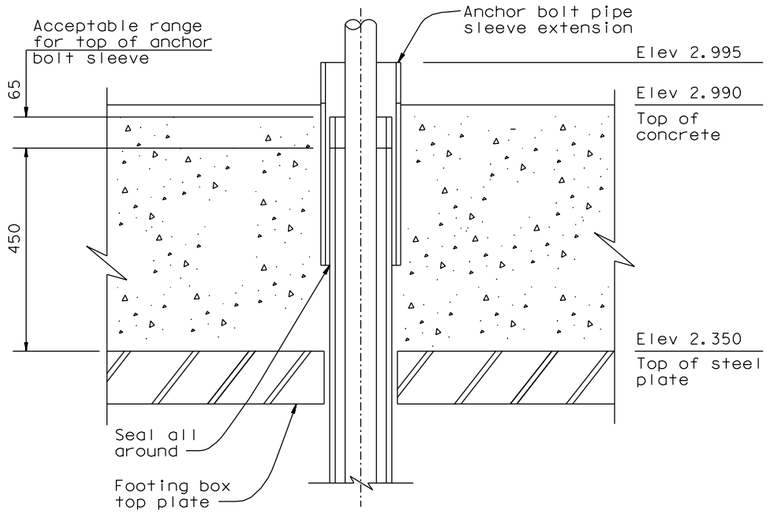
ANCHOR BOLT
PIPE SLEEVE EXTENSION DETAIL (see Note 1) (Elevation View)
NTS (By Others)



SECTION A-A

SECTION B-B

ANCHOR BOLT PIPE SLEEVE EXTENSION DETAIL
NTS (By Others)



ANCHOR BOLT
PIPE SLEEVE EXTENSION SCHEMATIC
NTS (By Others)

Caltrans Metric

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	598S1	1204

REGISTERED ENGINEER - CIVIL

08-29-08
PLANS APPROVAL DATE

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

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REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS: DESCRIPTIONS	BY	CH'D	CCO#
0	08/29/08	TOWER ANCHORAGE BASE PLATE GROUT	JD	MN	36S1

CONTRACT CHANGE ORDER NO. ____
SHEET ___ OF ___

NOTES:

1. Pipe sleeve extensions are galvanized per ASTM A123.

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

TOWER ANCHORAGE DETAILS NO. 6A

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

R. Manzanarez
PROJECT ENGINEER

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 08/29/08

	BY	CHECKED
DESIGN	J. Duxbury	M. Nader
DETAILS	J. Duxbury	M. Nader
QUANTITIES	J. Duxbury	M. Nader

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CU 04
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 08/29/08

SHEET 181S1 OF

Rev. Date: 5-18-98

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

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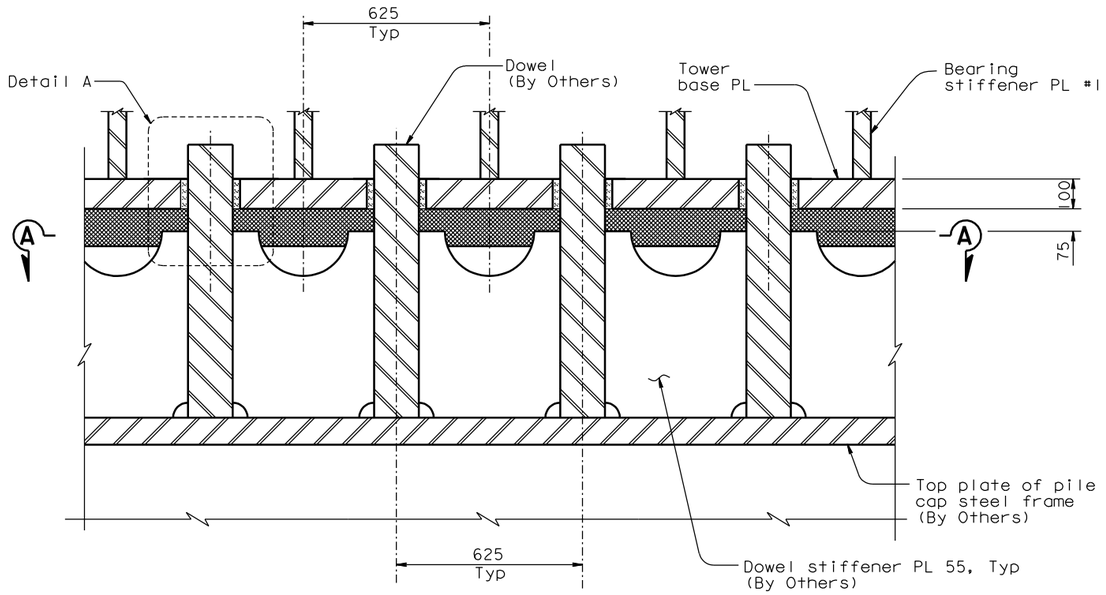
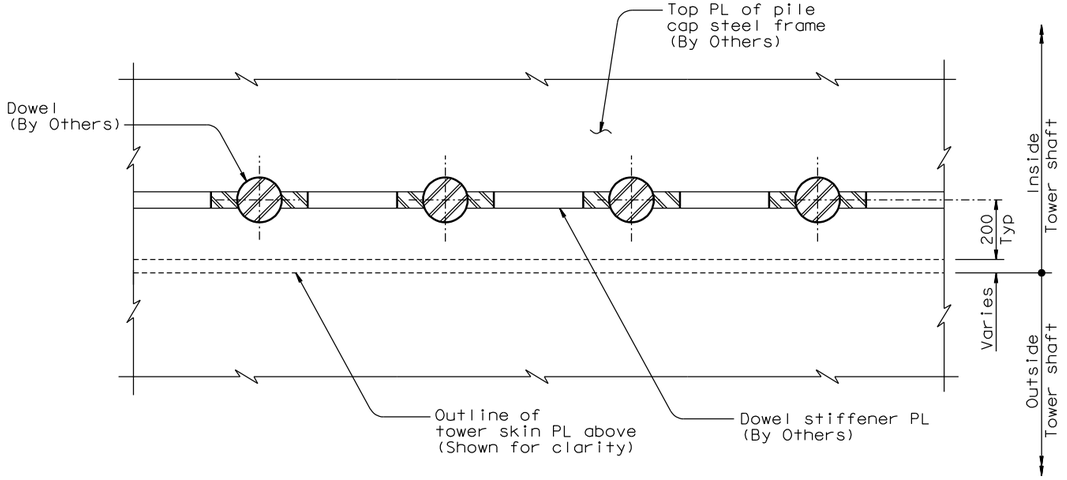


SECTION F-F

1:10

(Section at B shown, others are similar)



SECTION A-A

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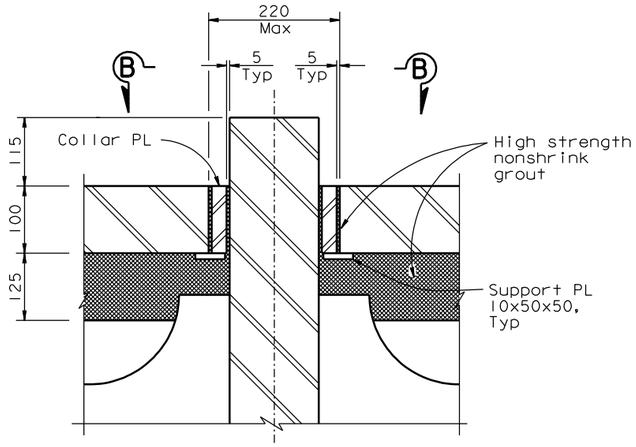
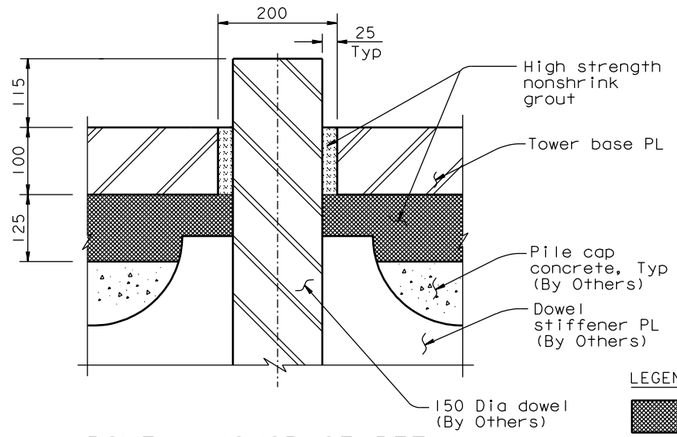


DOWEL ANCHORAGE CONTINGENCY DETAIL (see Note 2)

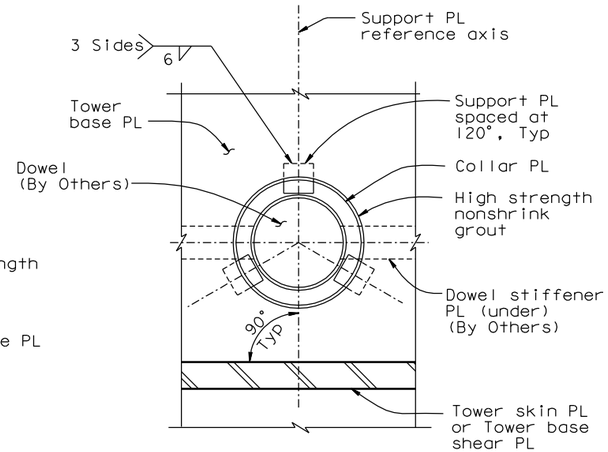
1:5



DOWEL ANCHORAGE DETAIL

DETAIL A (See Note 4)

1:5



VIEW B-B

1:5

LEGEND:

3 High strength nonshrink grout (f'c=60 MPa)

3 High strength nonshrink grout (f'c=104 MPa) (see Note 3)

NOTES:

1. For dowel layout, see "Tower Anchorage Details No. 3" sheet.
2. Oversize hole in tower base PL is an acceptable alternative to accomodate tolerance requirements for the erection of the tower base plate. Collar plates shall be A709M Gr. 345 and shall be fabricated based on field measurements and then installed.
3. The Contractor shall recommend an epoxy grout based on manufacturer's recommendations, subject to review and approval of the Engineer.
4. The Contractor may submit alternate dowel anchorage details to suit his erection means and methods, subject to review and approval of the Engineer.

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
3	08/29/08	TOWER ANCHORAGE BASE PLATE GROUT	JD	MN	36SI
2	04/03/07	TOWER BASE PLATE	JD	MN	36
1	02/28/07	TOWER BASE PLATE	JD	MN	36
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. ____
SHEET ___ OF ___

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	599R3	1204

Caltrans Metric

REGISTERED ENGINEER - CIVIL

12-6-04
PLANS APPROVAL DATE

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

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DESIGN	BY M. Nader	CHECKED S. Camo	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	R. Manzanarez PROJECT ENGINEER	BRIDGE NO. 34-0006L/R	SAN FRANCISCO OAKLAND BAY BRIDGE EAST SPAN SEISMIC SAFETY PROJECT
DETAILS	BY L. Rus	CHECKED S. Camo			KILOMETER POST 13.2/13.9	SELF-ANCHORED SUSPENSION BRIDGE (SUPERSTRUCTURE & TOWER)
QUANTITIES	BY L. Rus	CHECKED Y. Zhang		CU 04 EA 0120F1		TOWER ANCHORAGE DETAILS NO. 7

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 08/29/08

Rev. Date: 5-18-98

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): 05/15/99 | 08/02/99 | 05/31/01 | 04/08/02 | 07/01/02 | 12/19/02

SHEET 182R3 OF

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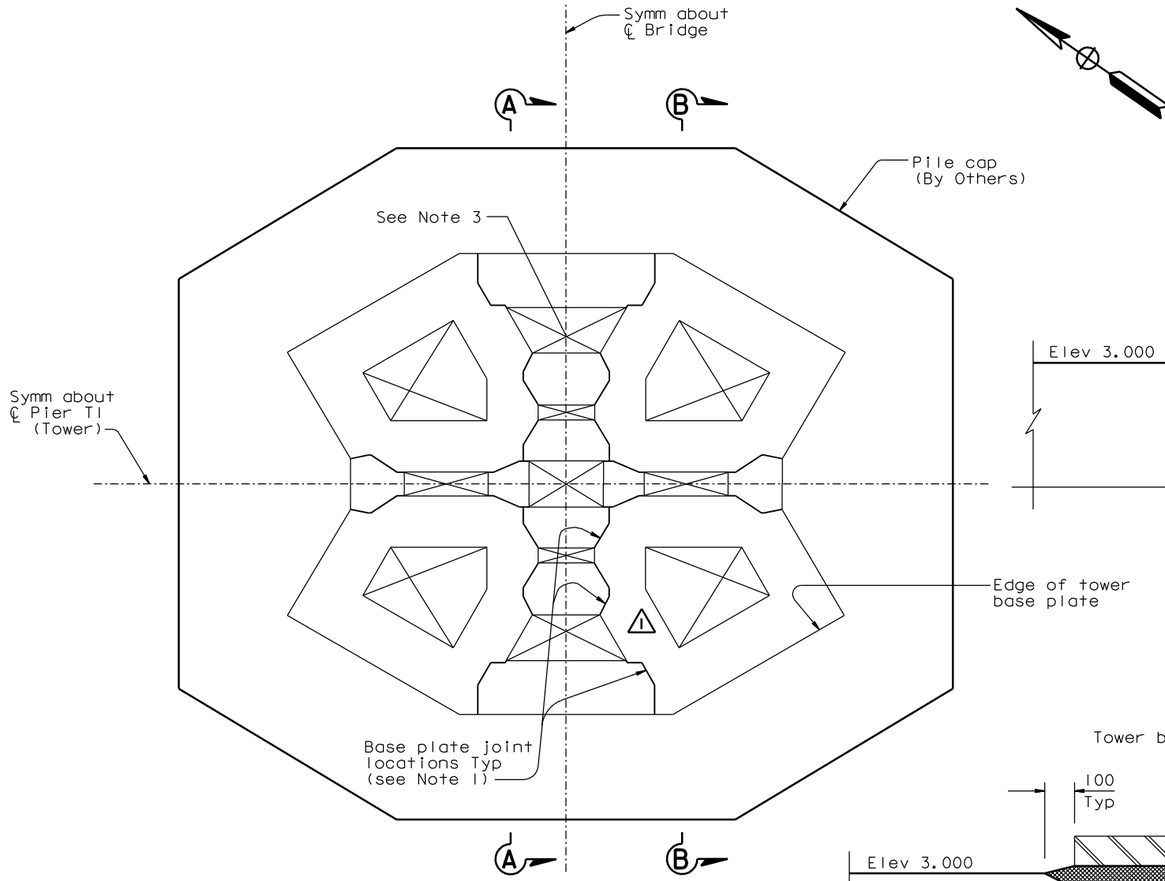

TOWER BASE ASSEMBLY PLAN
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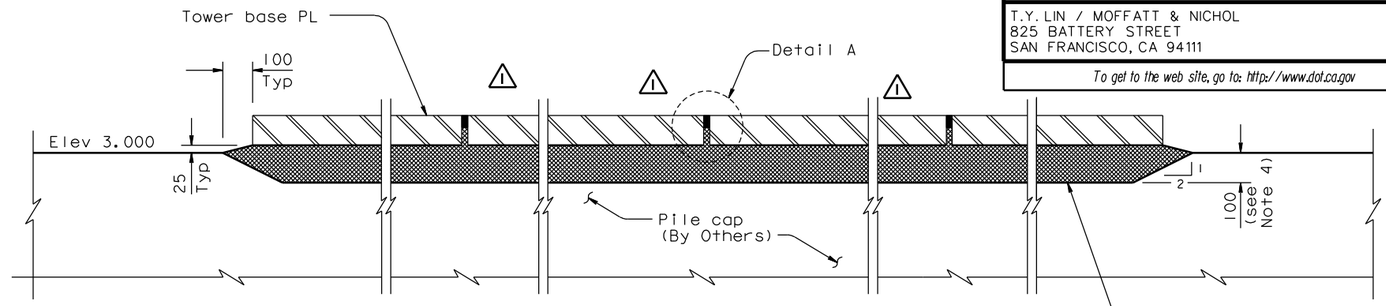

SECTION A-A
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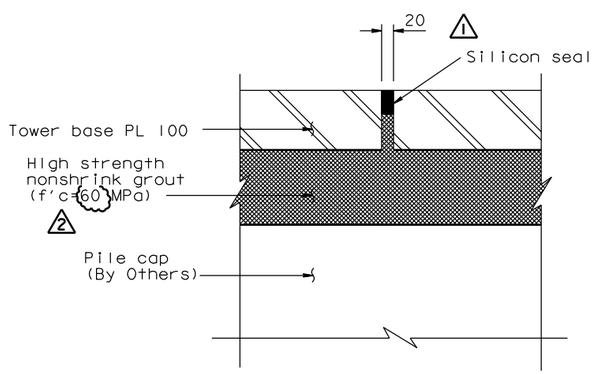

DETAIL A
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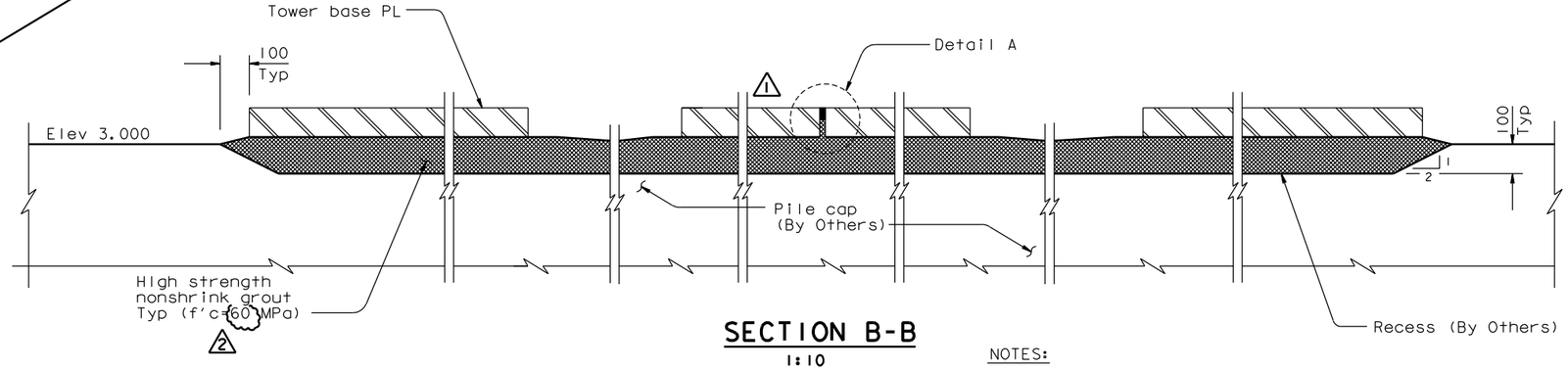

SECTION B-B
1:10

NOTES:

1. For layout of tower base plate joint, see "Tower Anchorage Details No.2" sheet. The Contractor may provide an alternative layout subject to the review and approval of the Engineer.
2. Base plates under each tower shaft and each shear plate shall be single plates or shall be built up from pieces by CJP welds done in the shop.
3. For tower drainage, see "Tower Drainage Details" sheets.
4. The Contractor may vary the depth of grout in order to achieve specified tolerances, provided there is positive flow towards the drains and the elevation of the top of the tower base plate is higher than the top of the drain.

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
2	02/12/08	TOWER ANCHORAGE BASE PLATE GROUT	AS	MN	36S1
1	02/28/07	TOWER BASE PLATE	AS	MN	36
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. ____
SHEET ___ OF ___

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	600R2	1204

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

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

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USERNAME => ptom

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 02/12/08

	BY	CHECKED
DESIGN	M. Nader	S. Camo
DETAILS	L. Rus	S. Camo
QUANTITIES	L. Rus	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

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

TOWER ANCHORAGE DETAILS NO. 8

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): 05/31/01 | 04/08/02 | 07/01/02 | 12/19/02

SHEET 183R2 OF

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	604R1	1204

REGISTERED ENGINEER - CIVIL

12-6-04
PLANS APPROVAL DATE

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

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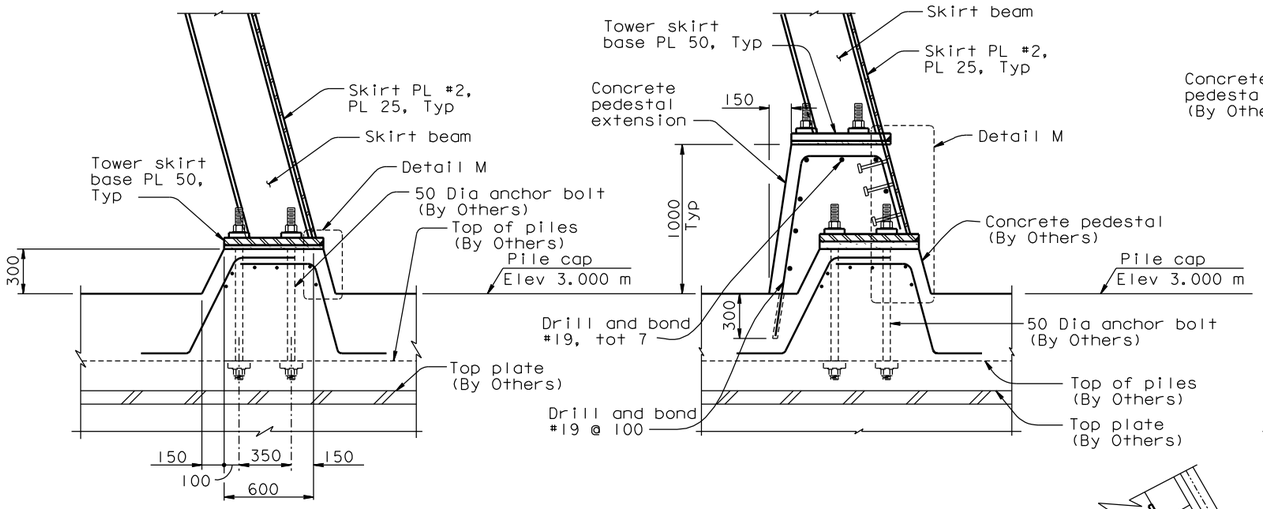

DETAIL F
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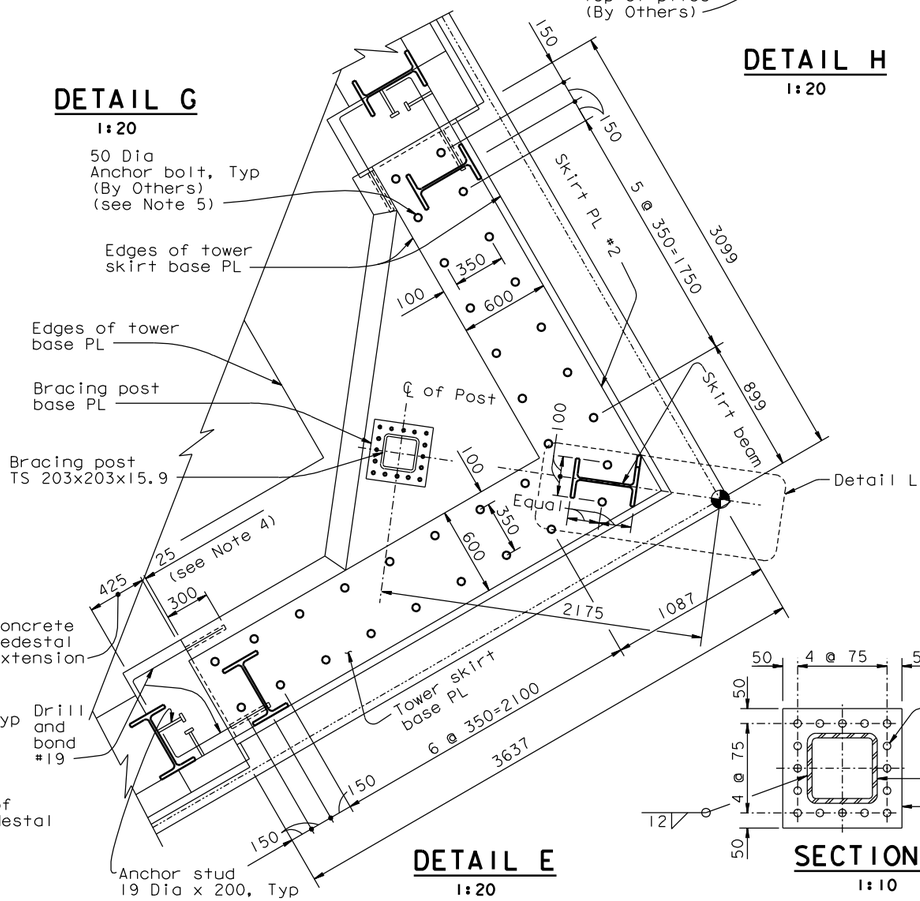
DETAIL G
1:20



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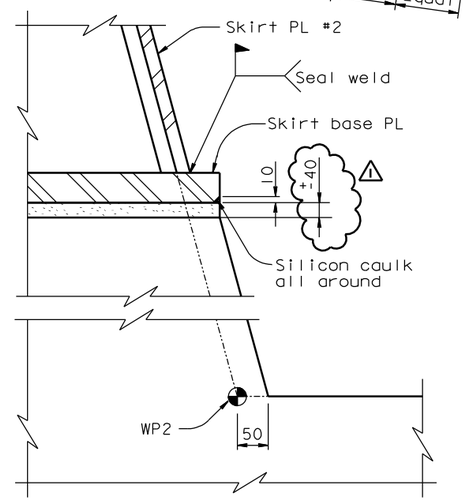

DETAIL M
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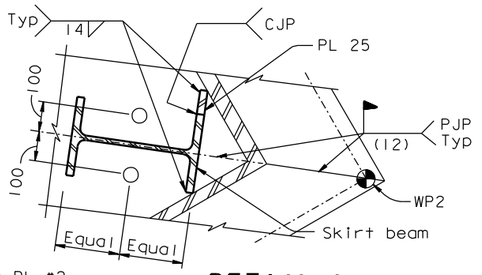

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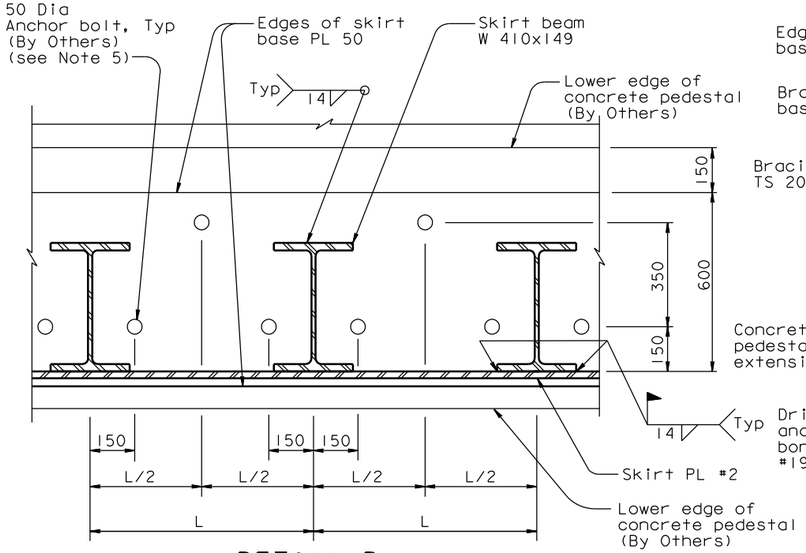

DETAIL D (TYPICAL)
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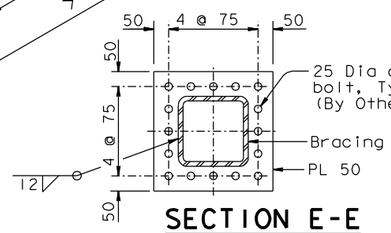

SECTION E-E
1:10

NOTES:

1. For tower anchorage details, see "Tower Anchorage Details" sheets.
2. Reinforcement is for information only, and by Others.
3. Tower skirt anchor bolts shall be pretensioned to 50% of their ultimate tensile strength. Tower skirt anchor bolts are A354 Gr. BC.
4. Remove existing cover concrete.
5. The Contractor shall field verify the locations of all anchor bolts before drilling holes in the skirt base plate.

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	02/12/08	TOWER ANCHORAGE BASE PLATE GROUT	MN	NV	36S1

REVISIONS

CONTRACT CHANGE ORDER NO. ____
SHEET ___ OF ___

DESIGN	BY M. Nader	CHECKED G. Baker
DETAILS	BY S. Hamoud	CHECKED G. Baker
QUANTITIES	BY S. Hamoud	CHECKED Y. Zhang

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
Ryan Valizadeh / Vong Toan / Y. Liu
SIGN OFF DATE 02/12/08

Rev. Date: 5-18-98

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)							SHEET	OF
05/07/99	05/31/01	04/08/02	07/01/02	12/19/02			187R1	

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

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

TOWER SKIRT DETAILS NO. 4

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