Tower head PL	Thickness
A to G	16

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	796R4	1204

REGISTERED ENGINEER - CIVIL

12-6-04

PLANS APPROVAL DATE

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

T.Y. LIN / MOFFATT & NICHOL
825 BATTERY STREET
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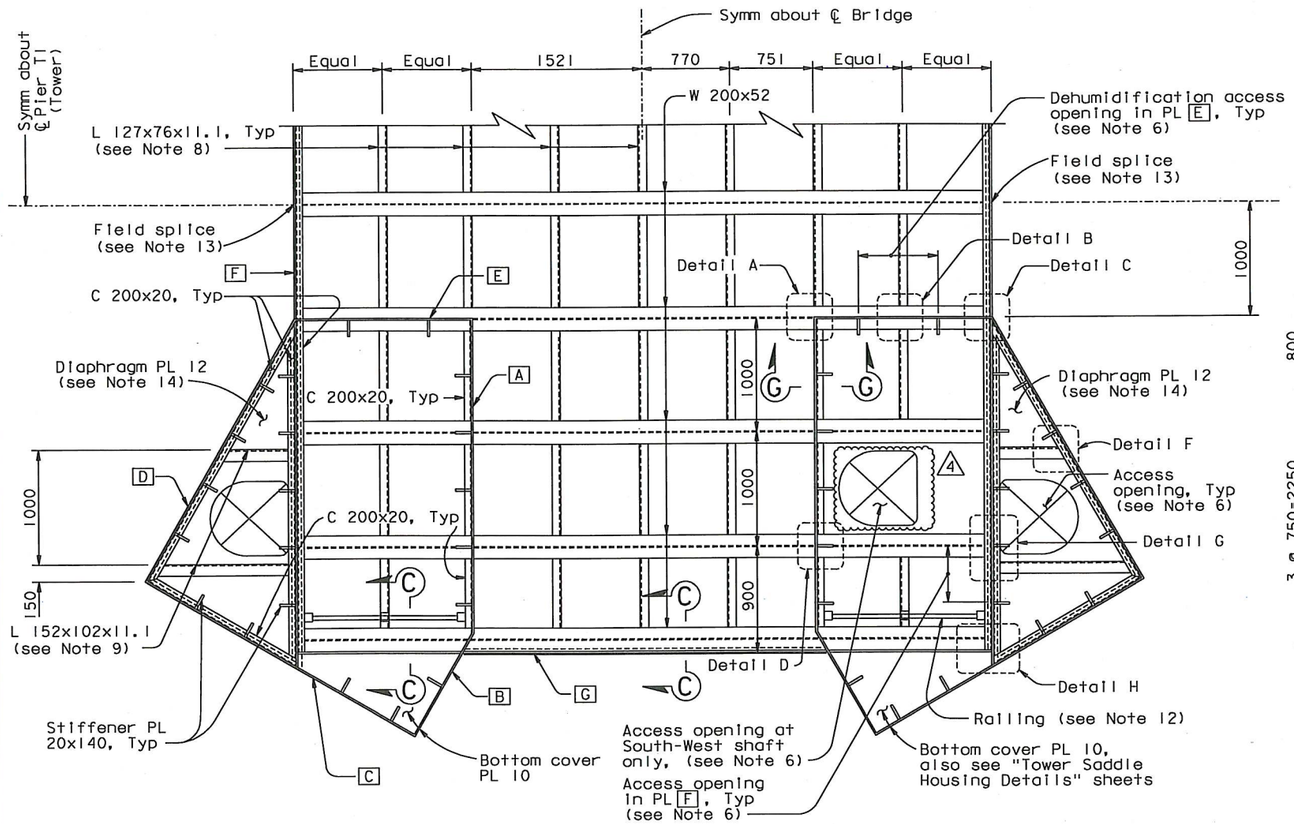
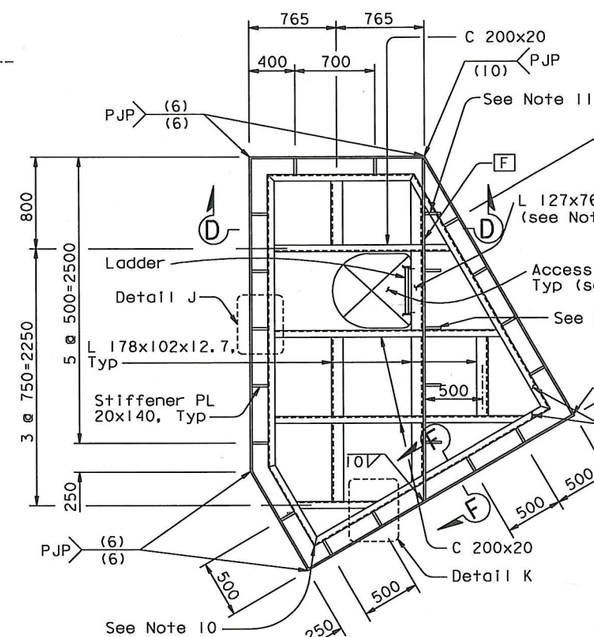
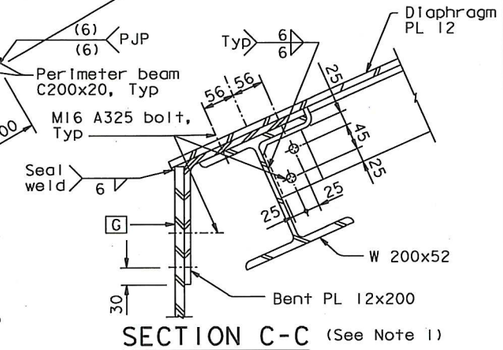


SECTION E-E (Partial framing plan for tower head diaphragm, diaphragm PL not shown for clarity) (see Note 7)
1:25

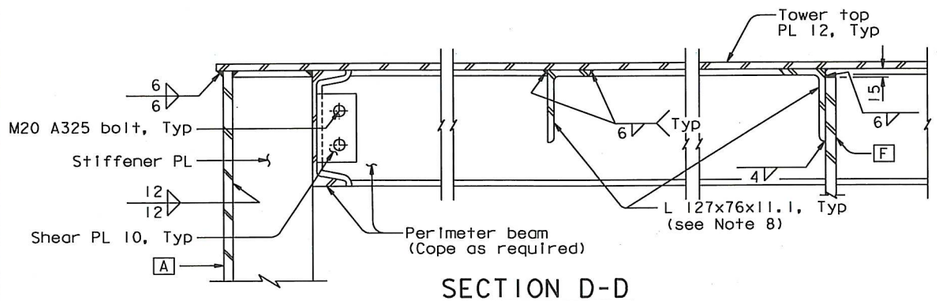


SECTION B-B
1:25

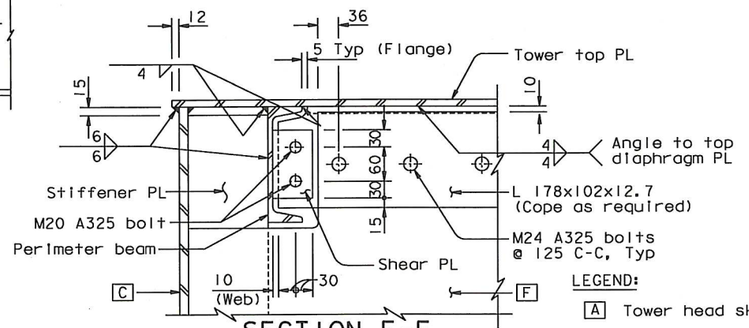
(Framing plan at top of the Tower at Elev 160 m. Tower top PL not shown for clarity)



SECTION C-C (See Note 1)
1:5



SECTION D-D
1:5



SECTION F-F
1:5

LEGEND:
A Tower head skin PL A

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

13. At the Contractor's option, the F plate may be spliced in the field with CJP welding or bolted splice, subject to review and approval of the Engineer. For bolted splice detail, see "Tower Head Details No.8" sheet.
14. For alternative diaphragm and framing confined by C, D and F, see "Tower Head Details No.10" sheet.

NOTES:

1. All details shall account for the actual slope and curvature of the tower head diaphragm and slope of tower top plate.
2. For Details A, B, C, D and Section G-G, see "Tower Head Details No.4" sheet.
3. For Details F, G and H, see "Tower Head Details No.5" sheet.
4. For Details J and K, see "Tower Head Details No.6" sheet.
5. For connection details, see schedule on "Tower Head Details No.4" sheet.
6. For tower access opening details, see "Tower Access Details" sheets.
7. Section E-E is shown rotated 90° counterclockwise.
8. At the Contractor's option, L127x76x12.7 may be used in lieu of L127x76x11.1, subject to review and approval of the Engineer.
9. At the Contractor's option, L152x102x12.7 may be be used in lieu of L152x102x11.1, subject to review and approval of the Engineer.
10. At the Contractor's option, 12 mm bent plate with two M16 A325 HS bolts on each side may be used to connect the perimeter beam at the corners, subject to review and approval of the Engineer.
11. Stiffeners may be terminated below the channel beams, subject to review and approval of the Engineer.
12. Railing posts shall be vertical.

CONTRACT CHANGE ORDER NO. 118
SHEET 3 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
4	10/29/10	DOORS AND LADDER CAGES	NV	MN	118
3	10/22/10	TOWER HEAD DETAILS	NV	MN	93
2	01/16/09	TOWER HEAD DETAILS	NV	MN	93
1	07/18/08	TOWER ACCESS	NV	MN	65

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

	BY	CHECKED
DESIGN	M. Nader	S. Camo
DETAILS	R. Kanitkar	G. Baker
QUANTITIES	R. Kanitkar	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 HEAD DETAILS NO. 3

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): 05/07/99 | 05/17/01 | 01/09/02 | 01/31/02 | 12/20/02 | 11/13/05

SHEET 379R4 OF

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	800S3R1	1204

REGISTERED ENGINEER - CIVIL

10-22-10
PLANS APPROVAL DATE

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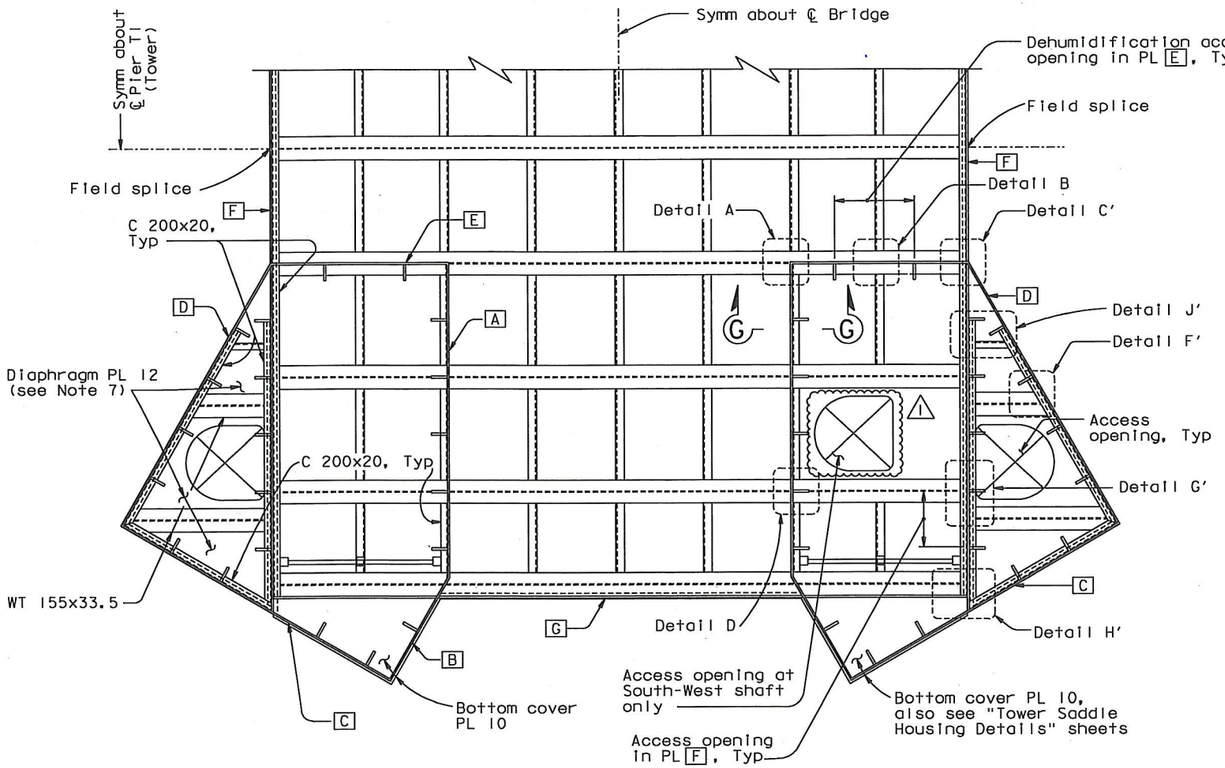
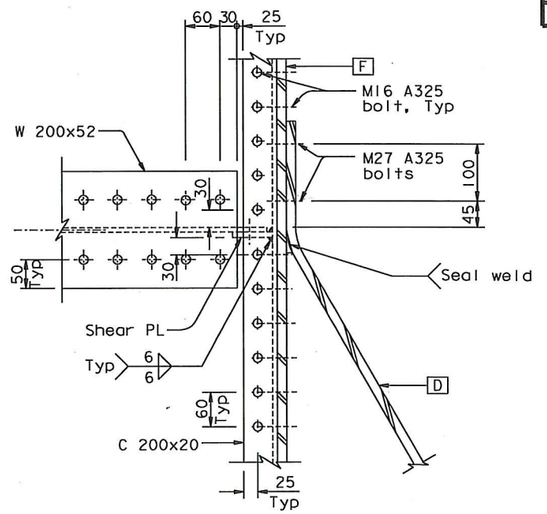


SECTION E-E (Partial framing plan for tower head diaphragm, diaphragm PL not shown for clarity) (see Note 6)

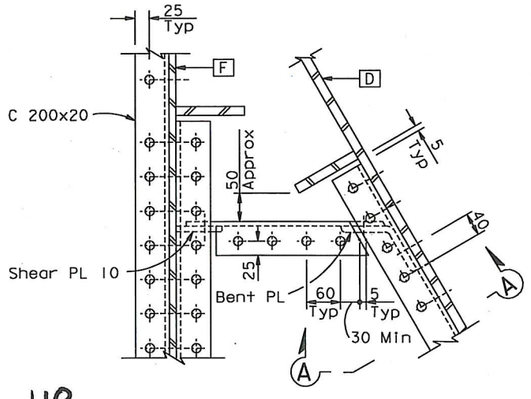
1:25



DETAIL C' (Diaphragm PL not shown for clarity)

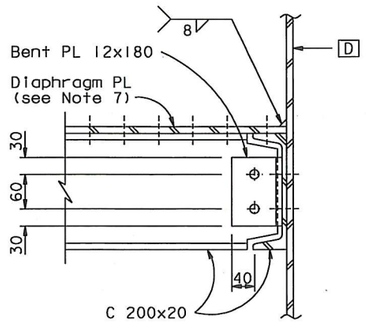
1:5

ALTERNATIVE DIAPHRAGM & FRAMING IN SPACE CONFINED BY C, D & F



DETAIL J' (Diaphragm PL not shown for clarity)

1:5



SECTION A-A (Typical C to C connection)

1:25

NOTES:

1. All details shall account for the actual slope and curvature of the tower Head diaphragm and slope of tower top plate.
2. For Details A, B, D and Section G-G, see "Tower Head Details No. 4" sheet.
3. For Details F', G' and H', see "Tower Head Details No. 11" sheet.
4. For connection details, see schedule on "Tower Head Details No. 4" sheet.
5. For tower access opening details, see "Tower Access Details" sheets.
6. Section E-E is shown rotated 90° counterclockwise.
7. At the Contractor's option, Diaphragm PL 12 confined by C, D and F may be constructed from 3 straight diaphragm panels consistent with curved profile of the Tower Head Diaphragm.

CONTRACT CHANGE ORDER NO. 118
SHEET 4 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
1	10/29/10	DOORS AND LADDER CAGES	NV	MN	118
0	10/22/10	TOWER HEAD DETAILS	NV	MN	93

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

	BY	CHECKED
DESIGN	M. Nader	S. Camo
DETAILS	R. Kanitkar	G. Baker
QUANTITIES	R. Kanitkar	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 HEAD DETAILS NO. 10

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): 10/22/10

SHEET 383S3R1 OF

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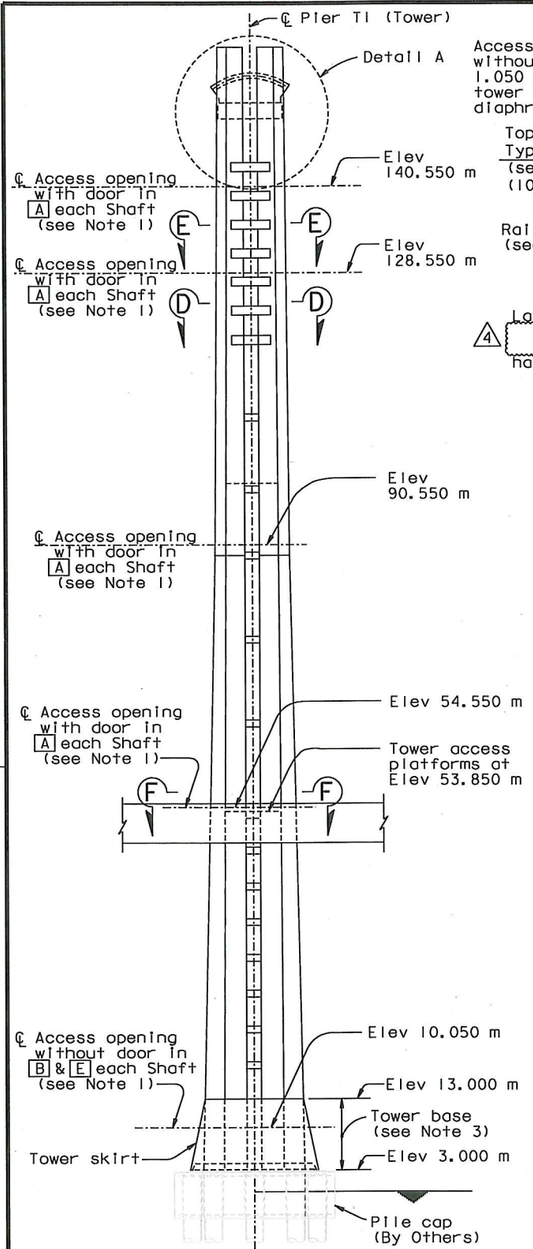
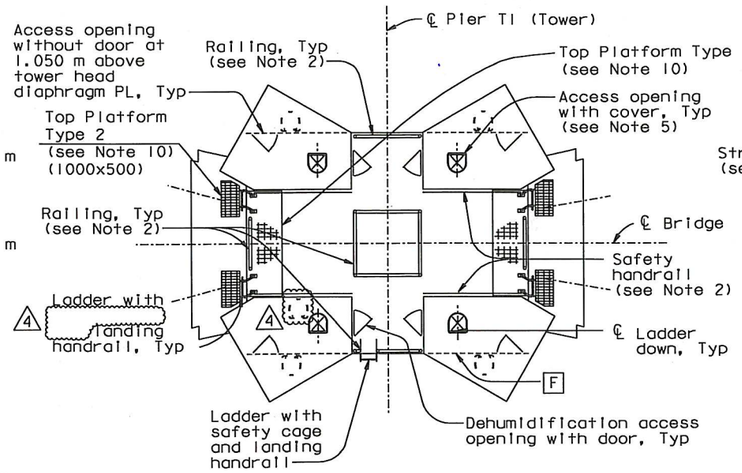
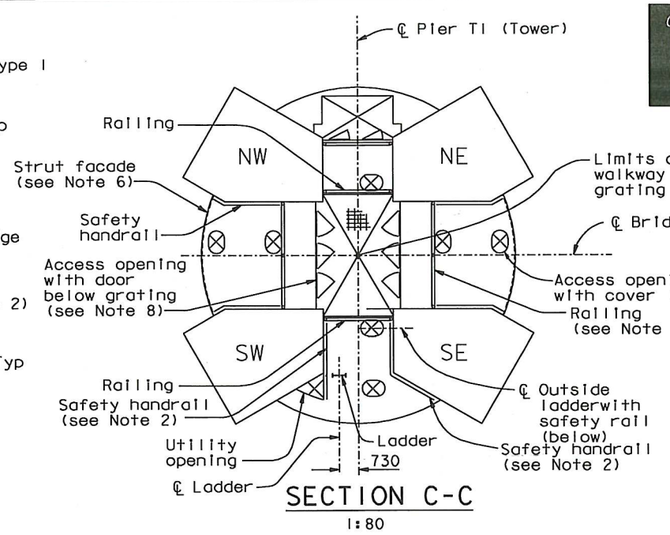


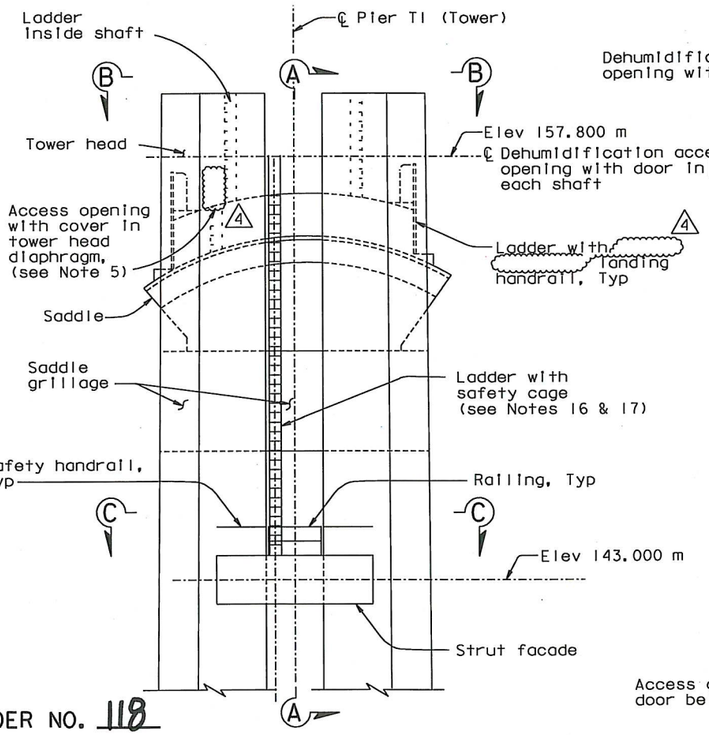
ELEVATION
1:400
(Looking North)



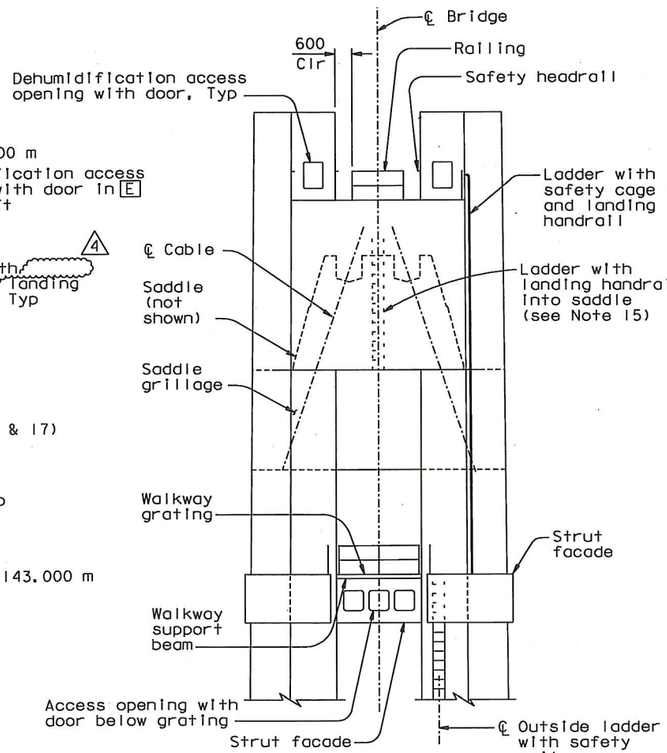
VIEW B-B (See Notes 7 & 18)
1:80



SECTION C-C
1:80



DETAIL A
1:100



SECTION A-A
1:100

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

LEGEND:

▽ Access opening (see Notes 1, 3, 8 & 14)

A Tower shaft skin plate A

NOTES:

1. For location of access openings in tower shafts, see "Tower Shaft Details" sheets.
2. For railing and safety handrail details, see "Tower Access Details No. 8" sheet.
3. For additional access details in tower base, see "Tower Access Details No. 2" sheet.
4. For ladder details not shown, see "Tower Access Details No. 7" sheet.
5. For access opening details, see Detail E on "Tower Access Details No. 8" sheet. For cover details, see "Tower Access Details No. 9" sheet.
6. For strut facade, see "Tower Strut Facade Details" sheets.
7. For location of access openings in tower head, see "Tower Head Details" sheets.
8. For access opening and door details, see "Tower Access Detail No. 4" sheet. Access openings are without door unless noted otherwise.
9. For Section D-D and E-E, see "Tower Access Details No. 3" sheet.
10. For Top Platform Types 1 and 2, see "Tower Access Detail No. 9" sheet.
11. For Section F-F, see "Tower Access Details No. 10" sheet.
12. For walkway grating and support beam, see "Tower Access Details No. 3" sheet.
13. For access opening cover details, see "Tower Access Details No. 9" sheet.
14. For location of access openings in strut facade, see "Tower Strut Facade Details" sheets.
15. For location of saddle access opening and ladder, see "Tower Saddle Housing Details" sheets.
16. At locations where ladder lengths exceed 6.5 meters, contraction joints shall be provided. Ladder length is defined as the distance between the centerlines of the top and bottom end supports. Contraction joints shall be located below ladder supports unless noted otherwise. For contraction joint details, see "Tower Access Details No. 7" sheet.
17. Ladder supports shall be spaced at 6 meters maximum.
18. For ladder, railing and safety handrail, and top platform details not shown, see "Tower Access Details No. 1A" sheet.

CONTRACT CHANGE ORDER NO. 118
SHEET 5 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS	BY	CH'D	CCO#
4	10/29/10	DOORS AND LADDER CAGES	NV	MN	118
3	10/22/10	TOWER HEAD DETAILS	NV	MN	93
2	07/17/09	ELEVATOR DETAILS	TH	MN	85
1	07/18/08	TOWER ACCESS	NV	MN	65

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	917R4	1204

REGISTERED ENGINEER - CIVIL
12-6-04
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DESIGN	BY M. Nader	CHECKED M. Gulyas
DETAILS	BY G. Baker	CHECKED L. Rus
QUANTITIES	BY D. Turner	CHECKED 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

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

TOWER ACCESS DETAILS NO. 1

R. Vallzadeh/V. Toan/Y. L./W. L./F. C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

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)									SHEET	OF
05/18/98	08/20/99	05/24/01	04/08/02	07/09/02	12/19/02	10/12/04			500R4	

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	917SIRI	1204

REGISTERED ENGINEER - CIVIL

10-22-10
PLANS APPROVAL DATE

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

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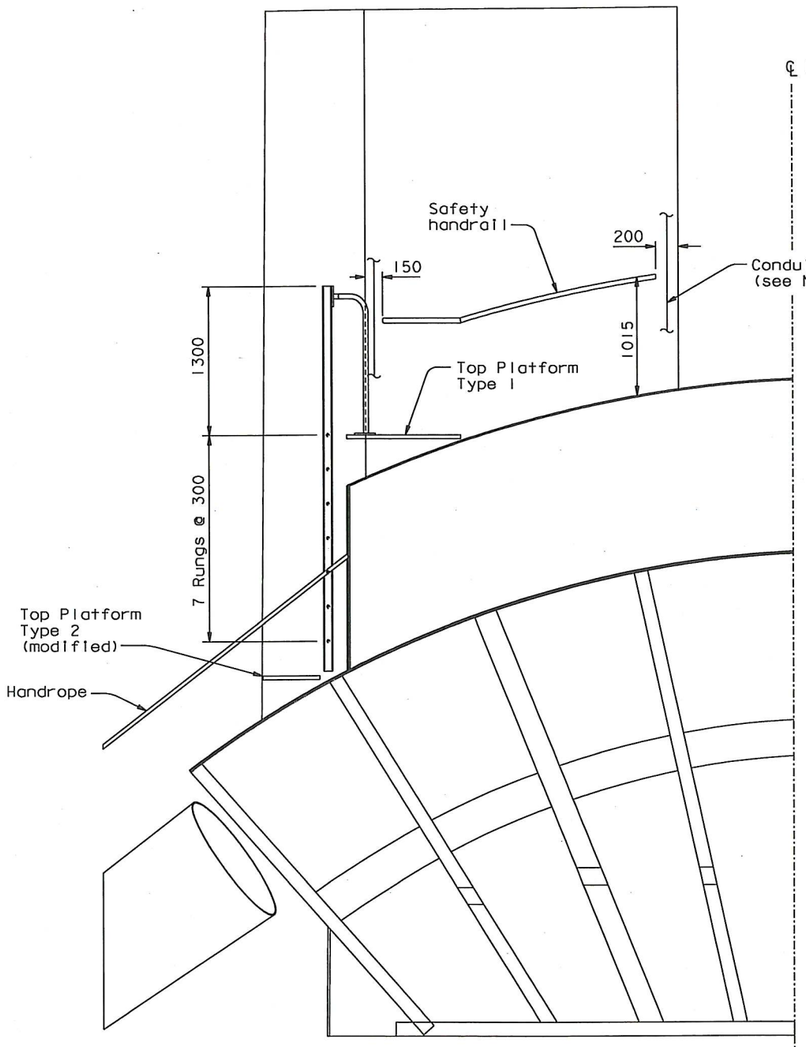
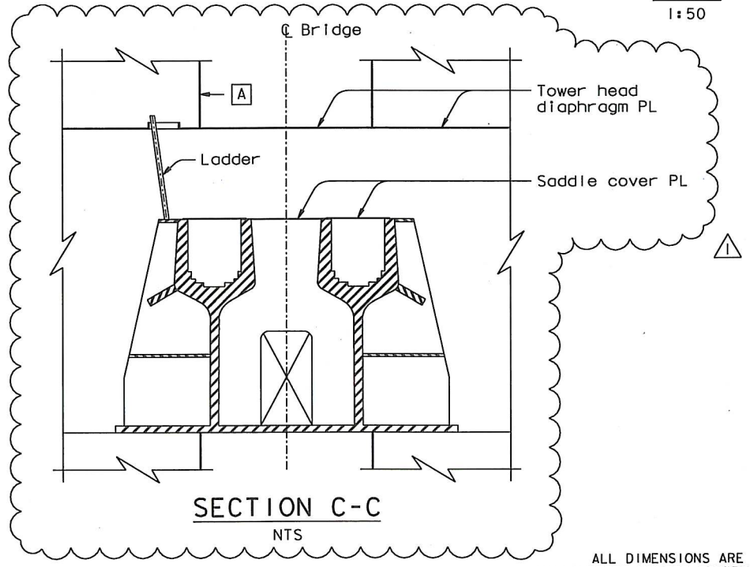


SECTION B-B
1:25

PLAN
1:50



SECTION C-C
NTS

NOTES:

1. For railing and safety handrail details, see "Tower Access Details No. 8" sheet.
2. For ladder details not shown, see "Tower Access Details No. 7" sheet.
3. For top platform details not shown, see "Tower Access Details No. 9" sheet.
4. For conduit routing, see "Road Plans".

CONTRACT CHANGE ORDER NO. 118
SHEET 6 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
1	10/29/10	DOORS AND LADDER CAGES	NV	MN	118
0	10/22/10	TOWER HEAD DETAILS	NV	MN	93

REVISIONS

DESIGN	BY N. Vo	CHECKED M. Nader	
DETAILS	BY N. Vo	CHECKED M. Nader	
QUANTITIES	BY N. Vo	CHECKED M. Nader	

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/22/10

SHEET 500SIRI OF

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

TOWER ACCESS DETAILS NO. 1A

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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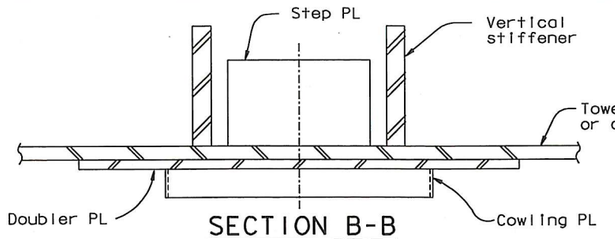
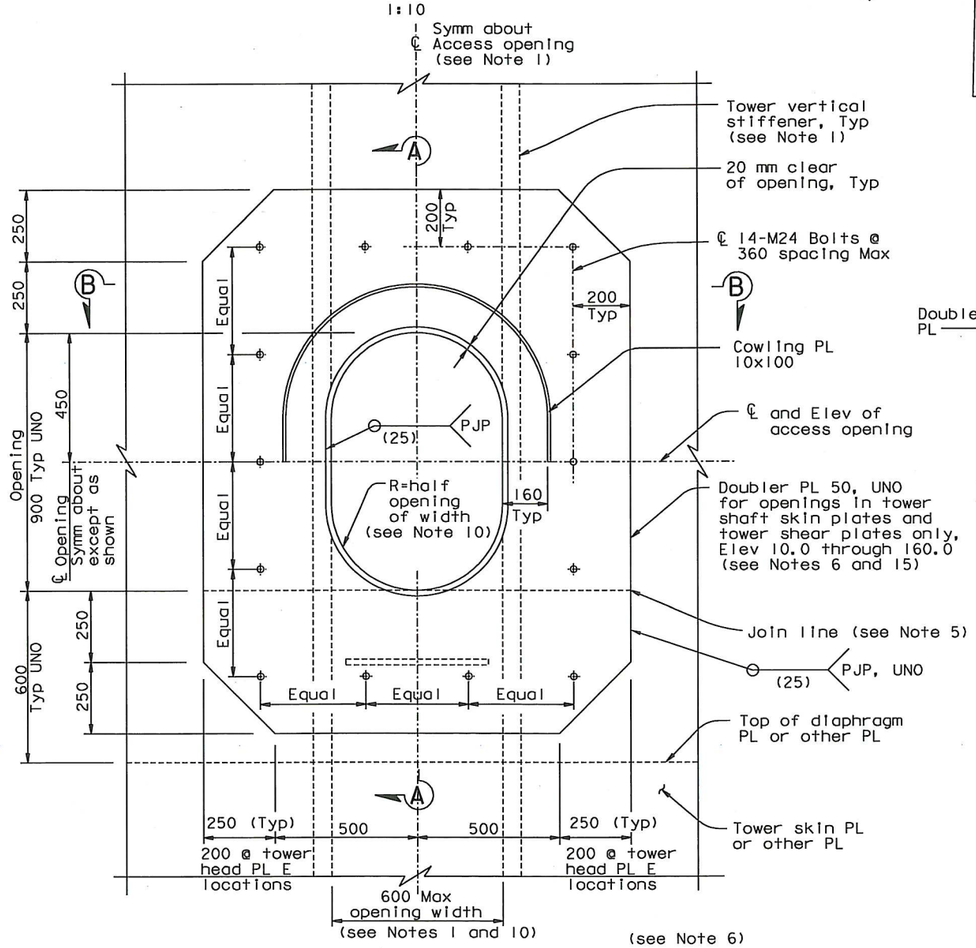


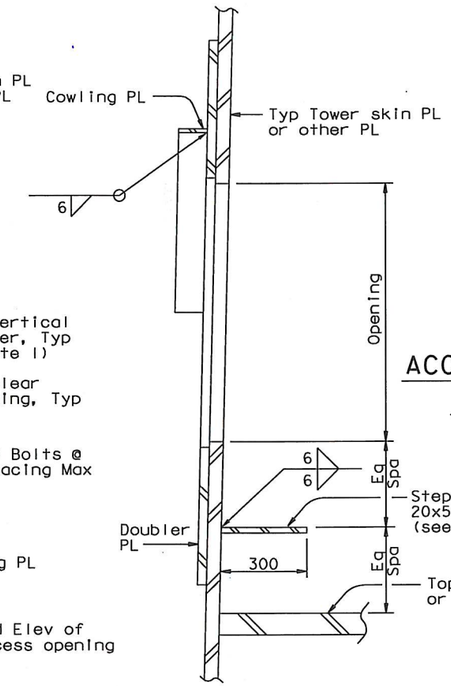
SECTION B-B

1:10



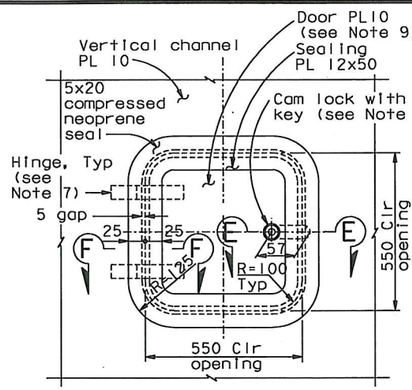
ACCESS OPENING DETAIL

1:10



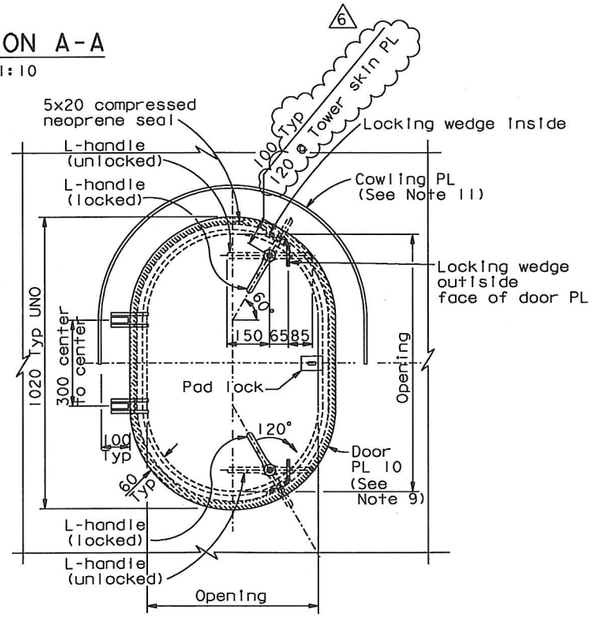
SECTION A-A

1:10



ACCESS OPENING WITH DOOR AT VERTICAL FACE OF TOWER STRUT FACADE (See Note 14)

NTS



ACCESS OPENING DOOR DETAIL (See Note 13)

1:10

(Dehumidification access opening door similar)

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NOTES:

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, 90.55 and 140.550 omit doubler PL below join line. Connect upper portion to strut doubler PL using PJP(25) welds at join line. For strut doubler PL, see "Tower Strut Details" sheets. Location of step plate may be adjusted to clear doubler plate bolts.
6. Access opening shown is for openings in tower shaft skin plates and shear plates. Access openin 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. Edges of door shall be sealed with a 6x20 Neoprene seal. The neoprene shall conform with Section 51-1.145, "Strip Waterstops," of the Standard Specifications, except the neoprene shall have a hardness of 40 +/-5.
10. Dehumidification access openings shall have R=50 mm typical. Dehumidification access openings at tower head only shall be 680 mm x 900 mm.
11. At interior access opening doors, cowling plates may be omitted, subject to review and approval of the Engineer.
12. Step plate shall be 20x400 mm where tower vertical stiffener spacing is 500 mm.
13. For additional details, see "Tower Access Details No. 4A and No. 4B" sheets.
14. For Section E-E and F-F, see "Tower Access Details No. 4B" sheet.
15. Doubler PL 50 on Tower Head Face F may be clipped to clear Tower Head Diaphragm PL. Minimum edge distance of 50 mm for M24 bolt shall be maintained.

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	920R6	1204

Caltrans Metric

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

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T.Y. LIN / MOFFATT & NICHOL
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REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS	BY	CH'D	CCO#
6	10/29/10	DOORS AND LADDER CAGES	MN	NV	118
5	10/22/10	TOWER HEAD DETAILS	NV	MN	93
4	05/07/09	DOORS AND LADDER CAGES	MN	NV	118
3	10/31/08	TOWER HEAD DETAILS	MN	NV	93
2	08/15/08	TOWER ACCESS	MN	NV	65
1	07/11/08	TOWER STRUT FACADES AND CROSS BRACING	MN	NV	64

CONTRACT CHANGE ORDER NO. 118
SHEET 7 OF 13

R. Vallzadeh/V. Toan/Y. L. /W. L. /F. C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

Rev. Date: 5-18-98

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

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

TOWER ACCESS DETAILS NO. 4

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)									SHEET	OF
01/23/09	05/07/09	08/07/09	05/27/10	04/06/02	07/29/02	12/13/02			503R6	

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	920S1	1204

REGISTERED ENGINEER - CIVIL

05-07-09
PLANS APPROVAL DATE

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

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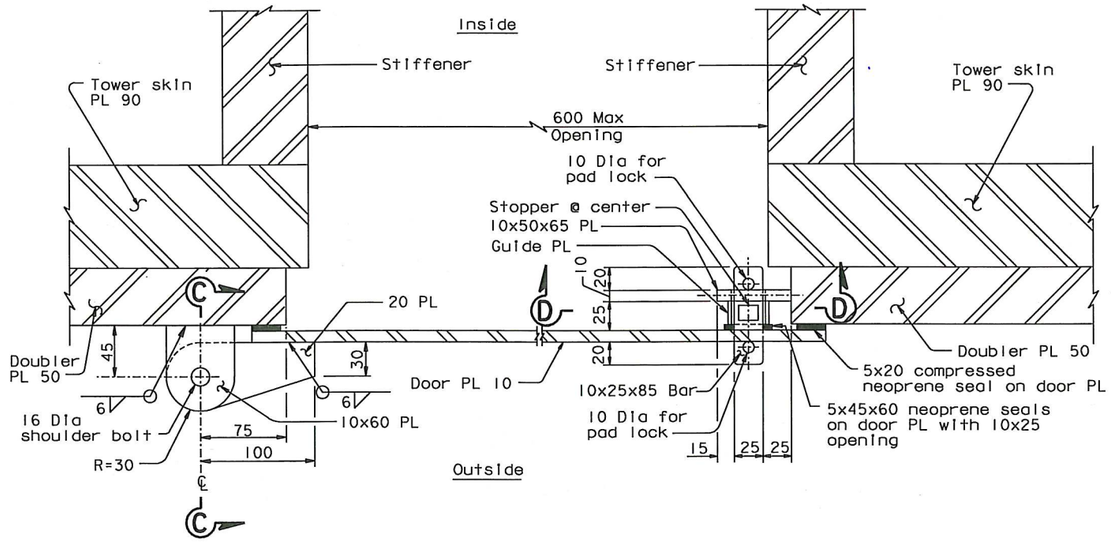
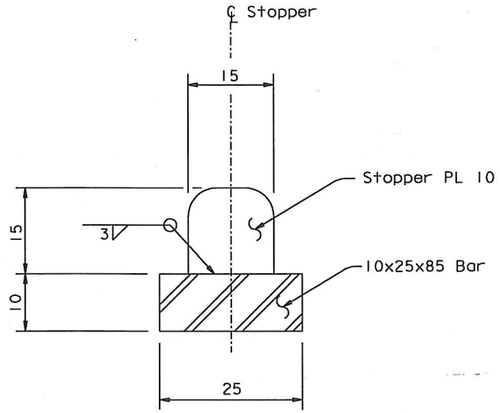


ACCESS OPENING DOOR HINGE AND LOCK DETAIL

1:2.5



STOPPER DETAIL

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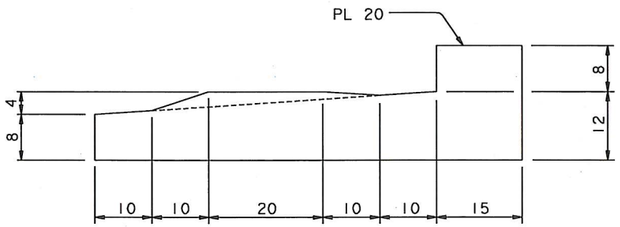

LOCKING WEDGE PROFILE

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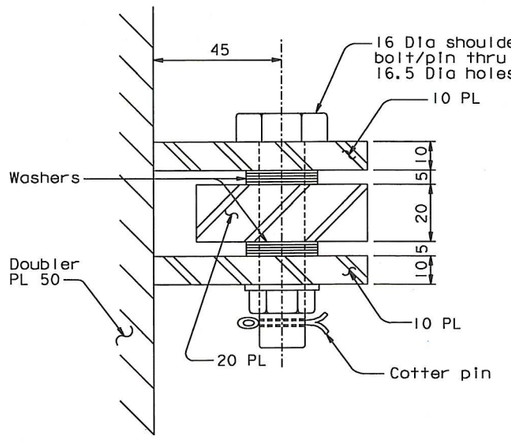

SECTION C-C

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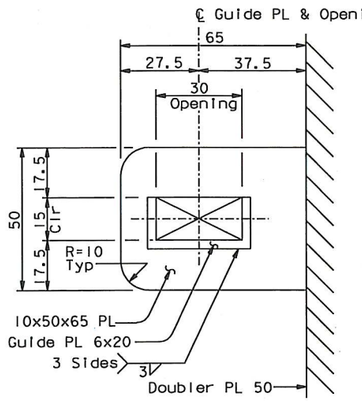

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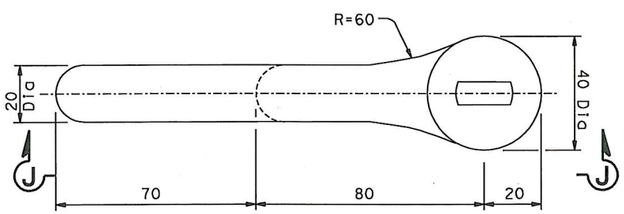

L-HANDLE DETAIL (A709 M GR 345)

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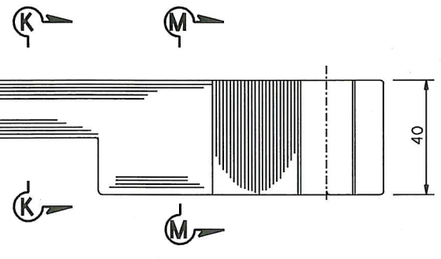

SECTION J-J

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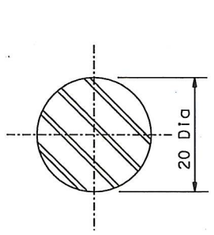
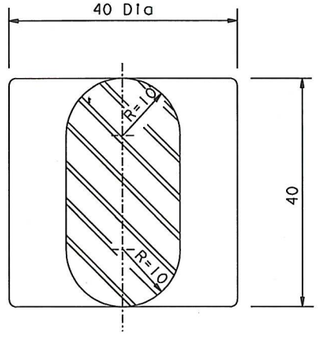


SECTION K-K

2:1



SECTION M-M

2:1

CONTRACT CHANGE ORDER NO. 118
SHEET 8 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
0	05/07/09	DOORS AND LADDER CAGES	MN	NV	118

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 05/07/09

	BY	CHECKED
DESIGN	M. Nader	N. Vo
DETAILS	M. Nader	N. Vo
QUANTITIES	M. Nader	N. Vo

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 ACCESS DETAILS NO. 4A

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): 05/07/09

SHEET 503S1 OF

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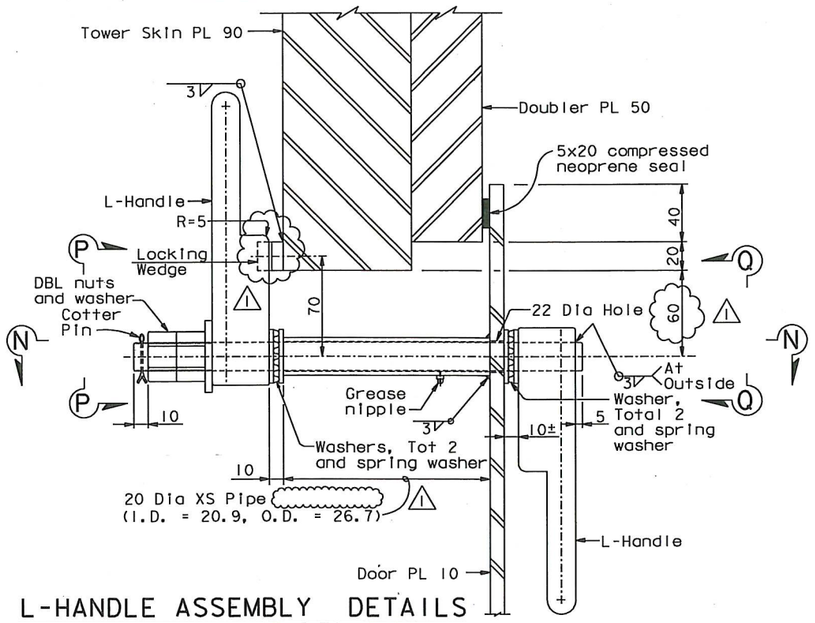
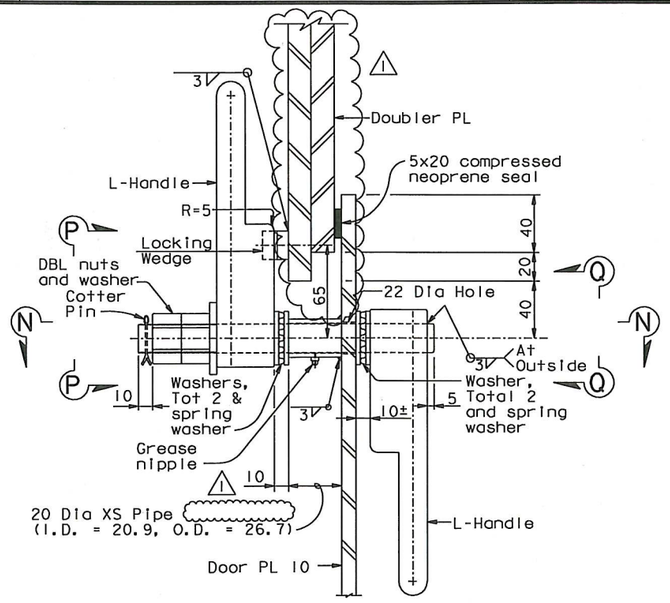


L-HANDLE ASSEMBLY DETAILS



L-HANDLE ASSEMBLY DETAILS

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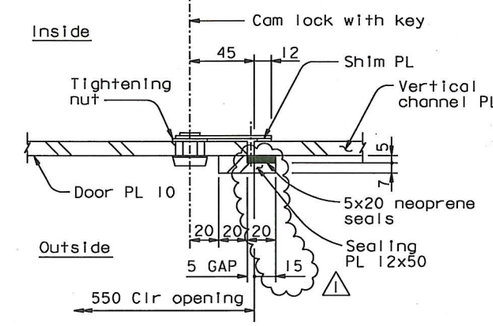
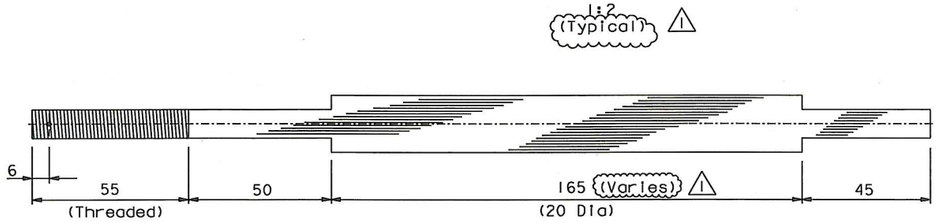


SECTION E-E

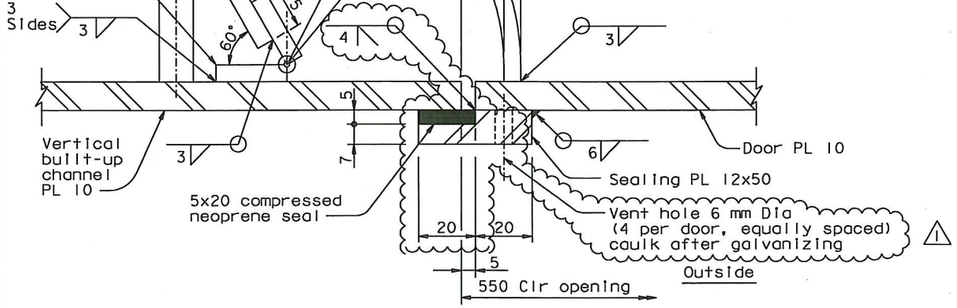
1:2



SECTION N-N (Show shaft only)

1:1

(TYPE 316 STAINLESS STEEL ROD)



SECTION F-F (DOOR CLOSED)

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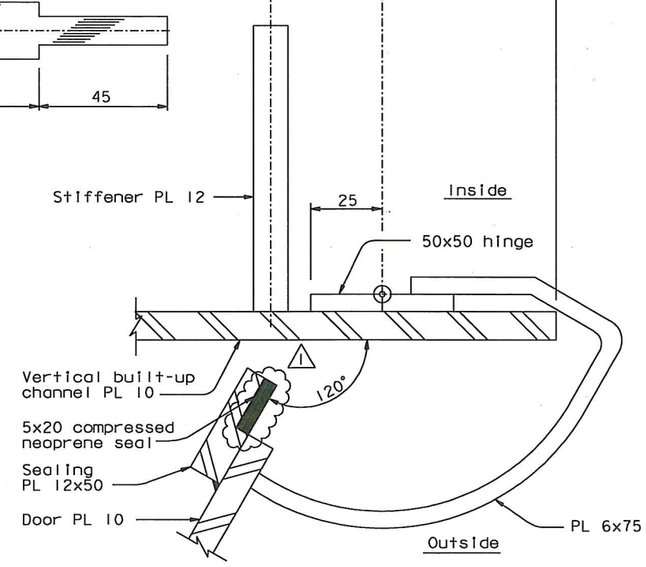
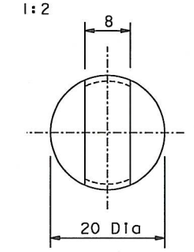


SECTION F-F (DOOR OPEN)

1:1



SECTION P-P

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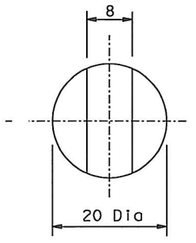

SECTION Q-Q

1:4

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

CONTRACT CHANGE ORDER NO. 118
SHEET 9 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	92052R1	1204

REGISTERED ENGINEER - CIVIL

05-07-09
PLANS APPROVAL DATE

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

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MARK	DATE	REVISIONS	BY	CH'D	CCO#
1	10/29/10	DOORS AND LADDER CAGES	MN	NV	118
0	05/07/09	DOORS AND LADDER CAGES	MN	NV	118

DESIGN	M. Nader	N. Vo
DETAILS	M. Nader	N. Vo
QUANTITIES	M. Nader	N. Vo

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

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

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
Ryan Vallzadeh / Vong Toan / Y. Liu
SIGN OFF DATE 10/29/10

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 → 05/07/09

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 503S2R1 OF

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

TOWER ACCESS DETAILS NO. 4B

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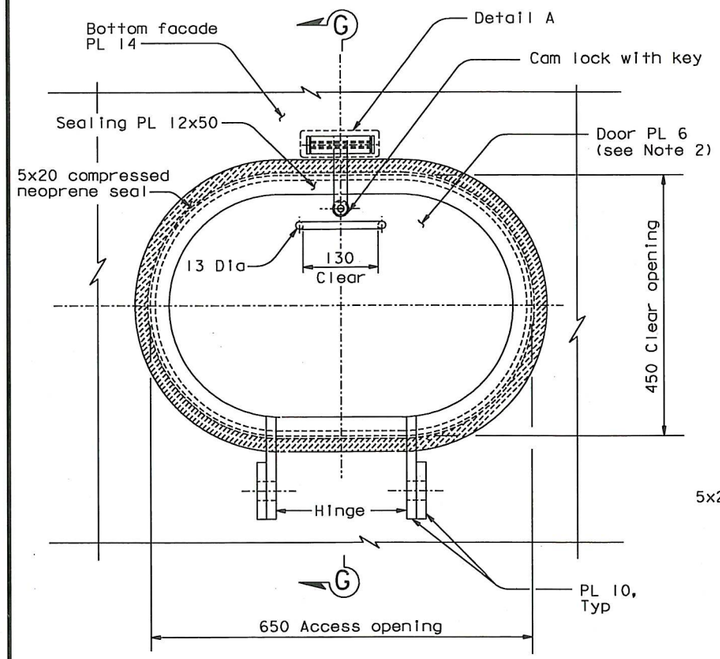
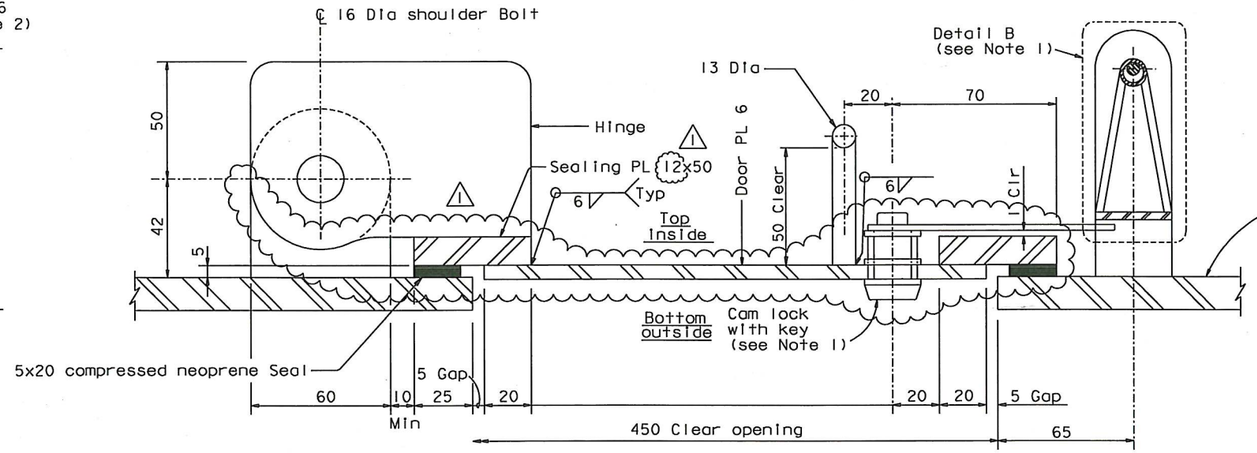
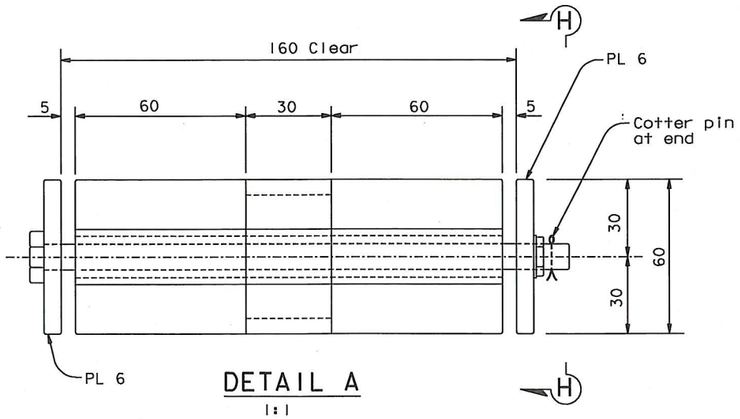


PLAN
BOTTOM FACADE ACCESS OPENING
1:20



SECTION G-G
1:5



DETAIL A
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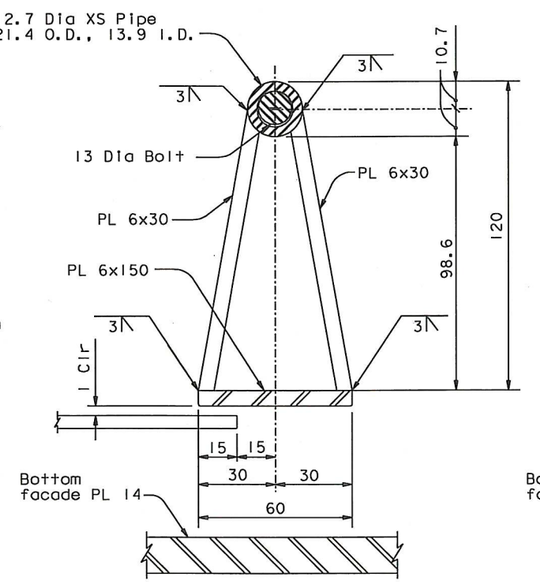
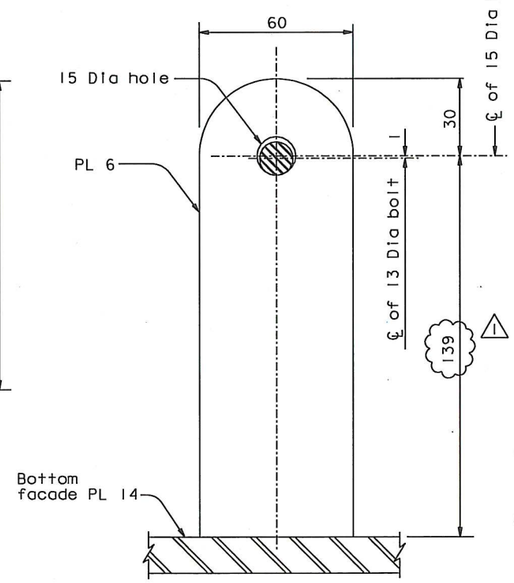


DETAIL B
NTS



SECTION H-H
NTS

NOTES:

1. Provide through-hole mounted cam lock with key at bottom facade Elev 18 and 65 m only.
2. Edges of door shall be sealed with a 6x20 uncompressed neoprene seal. The neoprene shall conform with Section 51-1.145, "Strip Waterstops," of the Standard Specifications, except the neoprene shall have a hardness of 40 +/-5.

CONTRACT CHANGE ORDER NO. 118
SHEET 10 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	920S3R1	1204

REGISTERED ENGINEER - CIVIL
05-07-09
PLANS APPROVAL DATE
Marwan N. Nader No. C 054426 Exp. 12/31/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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0	05/07/09	DOORS AND LADDER CAGES	MN	NV	118

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

	BY	CHECKED
DESIGN	M. Nader	N. Vo
DETAILS	M. Nader	N. Vo
QUANTITIES	M. Nader	N. Vo

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 05/07/09

SHEET 503S3R1 OF

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

TOWER ACCESS DETAILS NO. 4C

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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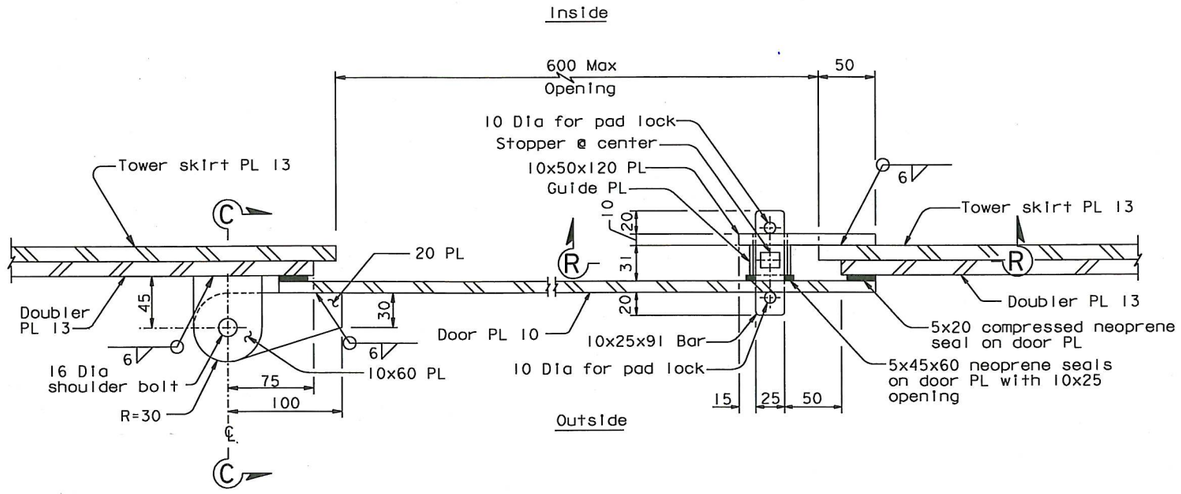
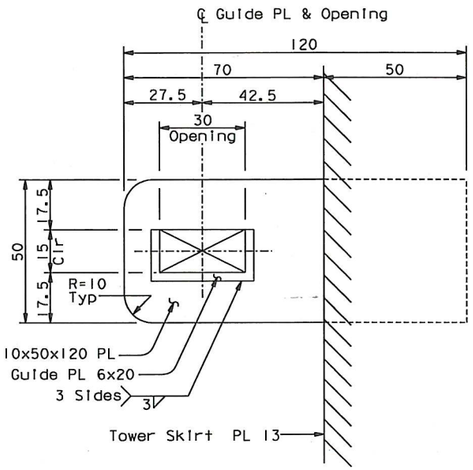


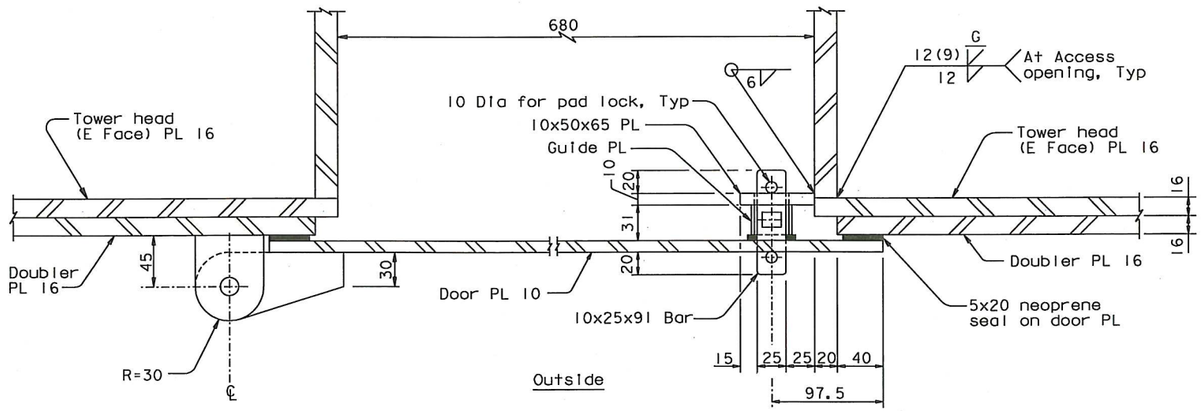
ACCESS OPENING DOOR HINGE AND LOCK DETAIL (FOR TOWER SKIRT PL)

1:2.5



SECTION R-R

1:10



ACCESS OPENING DOOR HINGE AND LOCK DETAIL (FOR TOWER HEAD PL)

1:2.5

CONTRACT CHANGE ORDER NO. 118
SHEET 11 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

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DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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REGISTERED ENGINEER - CIVIL
Marwan N. Nader
No. C 054426
Exp. 12/31/11
CIVIL
10-29-10
PLANS APPROVAL DATE

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0	10/29/10	DOORS AND LADDER CAGES	MN	NV	118

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

DESIGN BY M. Nader CHECKED N. Vo
DETAILS BY M. Nader CHECKED N. Vo
QUANTITIES BY M. Nader CHECKED N. Vo

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. 4D

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 10/29/10
SHEET 503S4 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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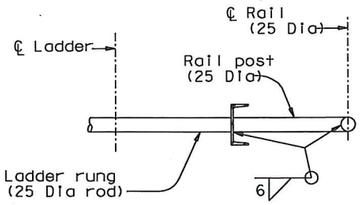

SECTION D-D
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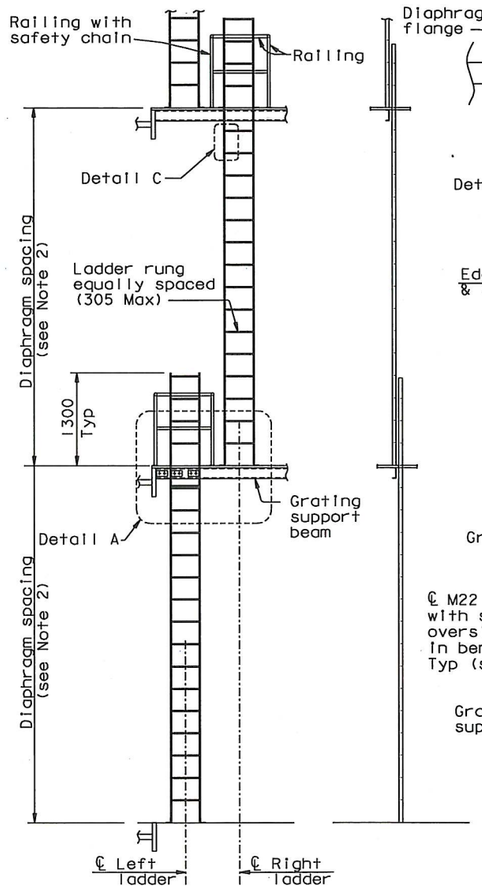
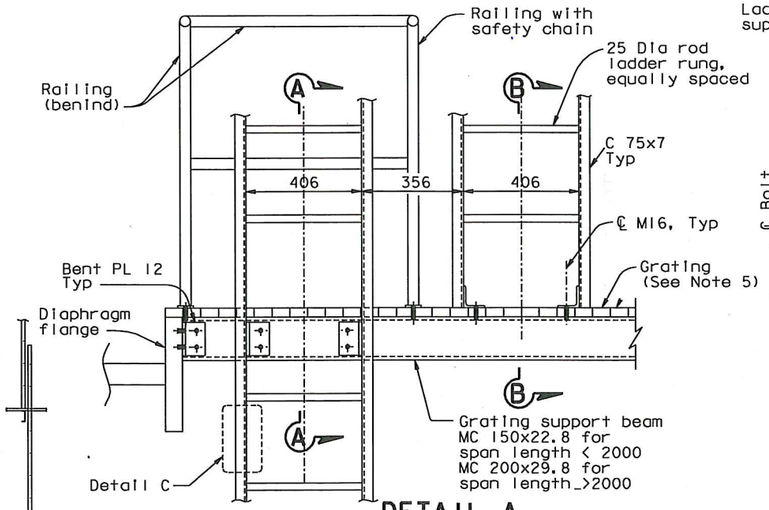
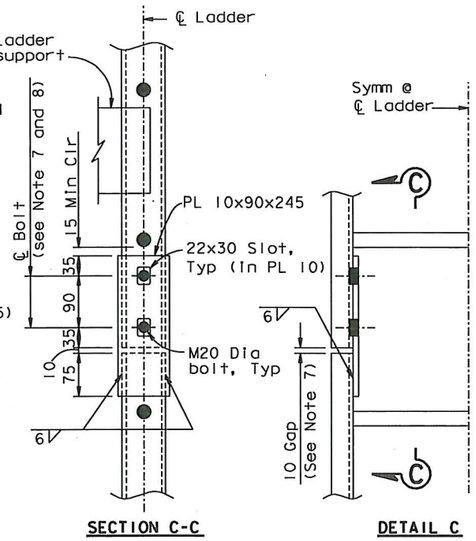


FRONT VIEW SIDE VIEW

TYPICAL LADDER DETAIL
(Shown for ladder platform Type 1, see Note 3)
1:40

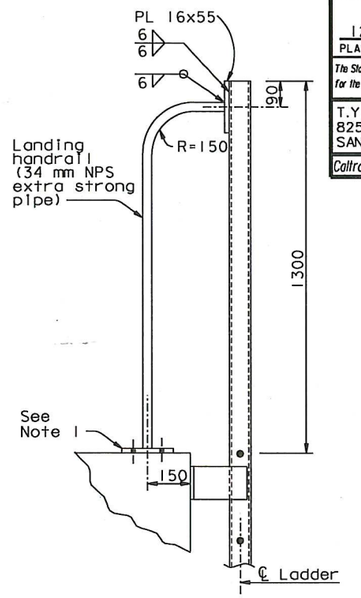


DETAIL A
1:10

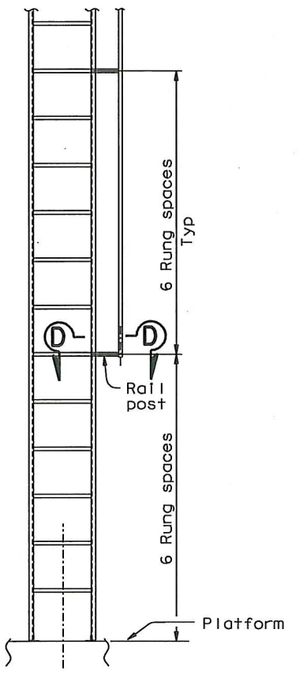


SECTION C-C DETAIL C

TYPICAL LADDER CONTRACTION JOINT DETAIL
1:5



LANDING HANDRAIL DETAIL
1:10

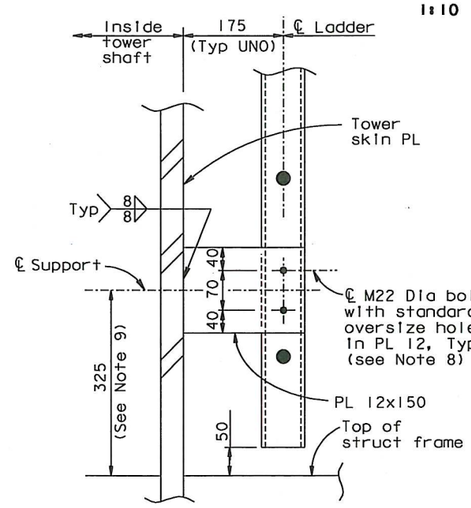


ELEVATION VIEW WITH LADDER AND SAFETY RAIL
1:20 (see Note 4)

SECTION A-A
1:5

SECTION B-B
1:5

TYPICAL LADDER CONNECTIONS TO SUPPORT BEAM



TYPICAL LADDER CONNECTIONS TO TOWER FACE
1:5

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NOTES:

1. For railing base plate details, see "Tower Access Details No.8" sheet.
2. For diaphragm spacing, see "Tower Diaphragm Details" sheets.
3. Ladder connections vary. For typical ladder connections to diaphragm flange, see "Tower Access Details No.8" sheet.
4. For ladder runs longer than 6.10 m (20 ft) safety cage shall be provided around ladder. For safety cage details, see "Tower Access Details No.16" sheet.
5. Galvanized steel grating with fasteners to be provided by Contractor. Grating working load shall be 4.8 kN/m² (100 psf).
7. Bolts shall be centered in the vertical slotted holes and the 10 mm gap shall be maintained prior to load transfer.
8. Bolts shall be installed snug-tight prior to load transfer and fully tensioned after load transfer.
9. At the Contractor's option, dimension may be adjusted to ensure ladder support is located between the first and second ladder rungs.

CONTRACT CHANGE ORDER NO. 118
SHEET 12 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	923R2	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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T.Y. LIN / MOFFATT & NICHOL
825 BATTERY STREET
SAN FRANCISCO, CA 94111

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			
2	05/01/09	DOORS AND LADDER CAGES	MN	NV	118
1	00/15/00	TOWER ACCESS	NV	MN	65

	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

R. Valizadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 05/01/09

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 →

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 ACCESS DETAILS NO. 7

REVISION DATES (PRELIMINARY STAGE ONLY): 05/18/98 08/20/98 05/31/01 01/08/02 01/31/02 12/19/02

SHEET 506R2 OF

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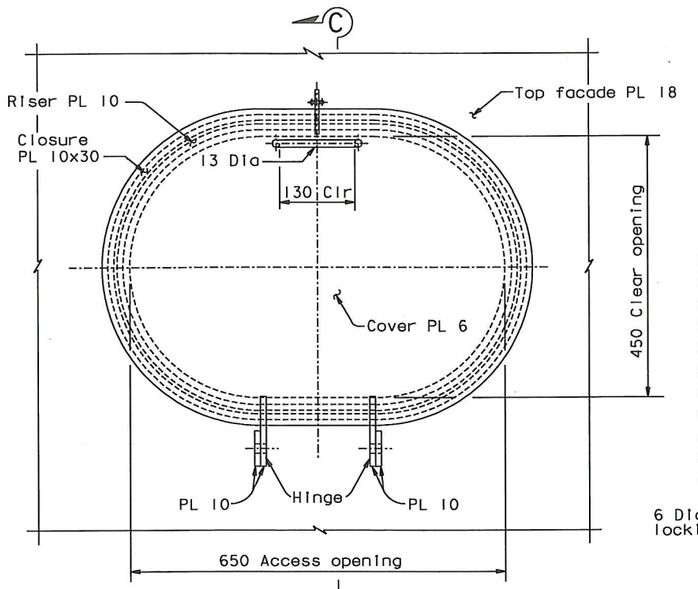
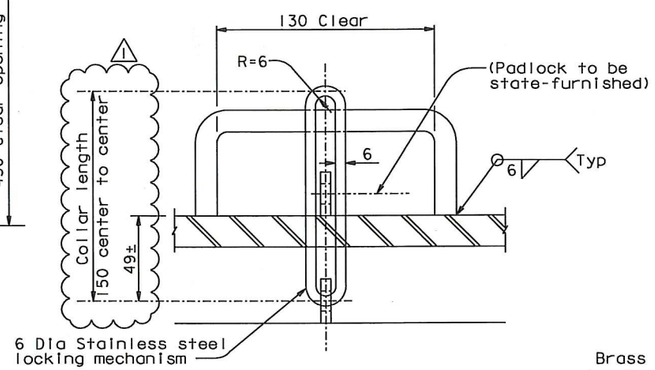
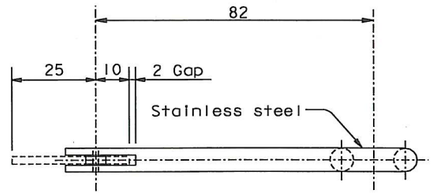


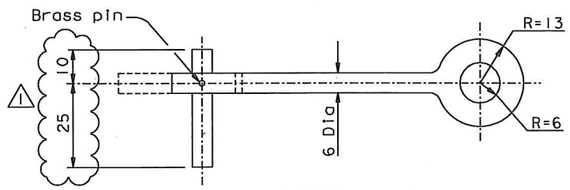
ALTERNATIVE
COVER DETAIL WITH RISER
1:10



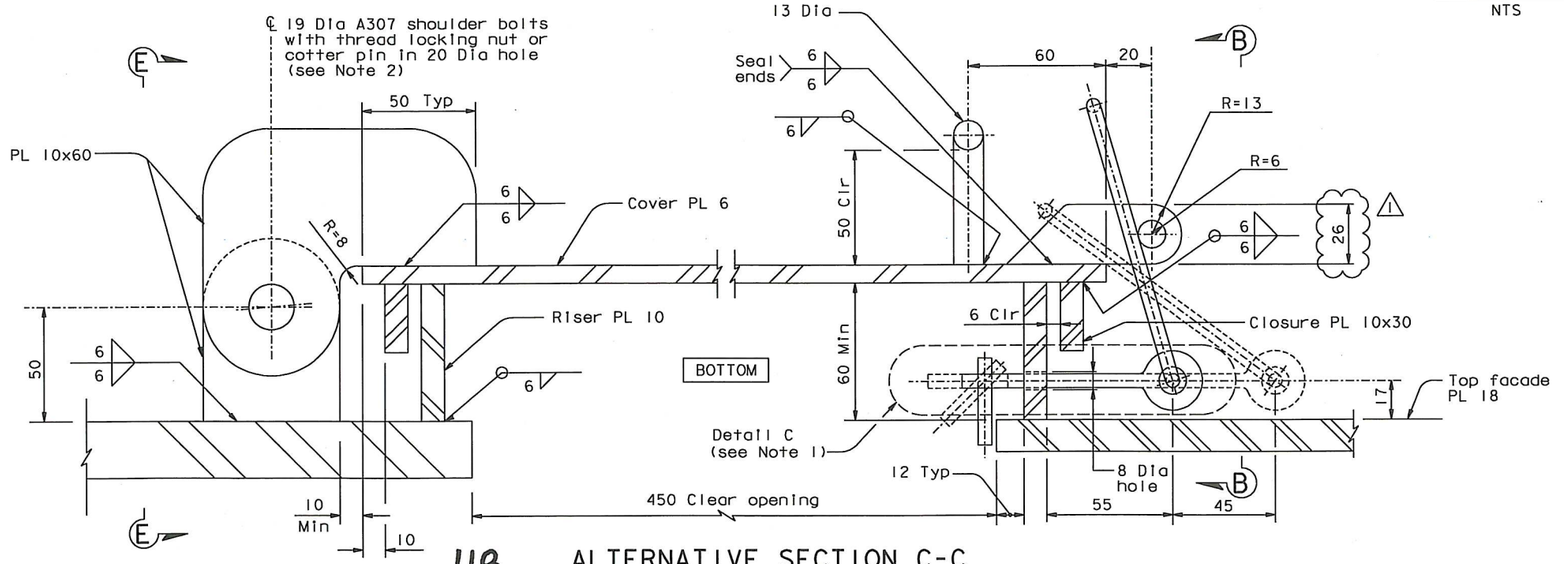
SECTION B-B
NTS



PLAN-LOCKING EYE
NTS



DETAIL C
NTS



ALTERNATIVE SECTION C-C
1:1.25

NOTES:

1. Provide locking mechanism with interior release at Top Facade Elev 53 m only.
2. At the Contractor's option, ASTM A574 shoulder bolts may be used in lieu of A307 bolts provided that they are galvanized. The following alternatives are also acceptable:
   - 19 mm (3/4 inch) Dia shoulder bolts of stainless steel material.
   - Provide stainless steel heavy hex head bolts with thread locking nut or cotter pin, and ensure the un-threaded shank extends 2 to 4 mm beyond the hinge gripped plates.

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	925SIRI	1204

REGISTERED ENGINEER - CIVIL
Marwan N. Nader
No. C 054426
Exp. 12/31/11
CIVIL
STATE OF CALIFORNIA
05-01-09
PLANS APPROVAL DATE

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CONTRACT CHANGE ORDER NO. 118
SHEET 13 OF 13

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
1	10/29/10	DOORS AND LADDER CAGES	MN	NV	118
0	05/01/09	DOORS AND LADDER CAGES	MN	NV	118

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
SIGN OFF DATE 10/29/10

	BY	CHECKED
DESIGN	M. Nader	N. Vo
DETAILS	M. Nader	N. Vo
QUANTITIES	M. Nader	N. Vo

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 ACCESS DETAILS NO. 9A

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)
05/01/09

SHEET 508SIRI OF

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