

04-0120F4  
04-SF, ALA-80-  
12.2/14.3, 0.0/2.7

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

File: 46.

Page 1 of 3

Assistant Resident Engineer

SFOBB East-Span  
Seismic Retrofit  
Project (SAS)

Report

Robert Kobal

Week of 2013-1-07

**SAS Bridge Travelers/Skyway cleanup**

**Mon 2013-1-7**

Attended general staff meeting.

Attended ABF/CT senior staff meeting.

Attended Champions meeting.

Attended internal CCO group meeting.

Worked on CCO 217S1- ABF agreed to do polyester concrete portion of CCO work but still has reservations about doing the finish nonskid paint on the bikepath joint cover plates. I adjusted plan sheets and CCO language accordingly.

Worked on water in the bikepath panels issue; asking METS to complete their corrosion study. For the past several months, METS has been in the process of hiring a new corrosion expert and will complete the study when the expert is on board, anticipated to be any time now.

**Tue 2013-1-8**

Attended cooridor coordination meeting.

Attended PDT meeting for the YBI ramps project.

Prepared for and lead the Skyway cleanup meeting, see meeting minutes.

Worked on submittal 2793 -Traveler measured weights.

Prepared for and lead meeting to finalize cable security gate revised details. The group was satisfied with the appearance and overall details of the gate. Certain mounting details need revision and TYLin still needs to finalize some of the bolting details.

**Wed 2013-1-9**

Attended SAS senior staff meeting.

I was informed by Bill Casey that ABF will not perform the revised cable security work and that it may be put off until after traffic opening. We will continue to finalize plan sheet details and I will see if I can get the gate fabricated so that installation can occur when the opportunity arises.

Worked on CCO 210 S1 for no trespassing sign details, without the cable gate details.

Worked on Submittal 2798- marine cable for traveler navigation lights, with Bill Shedd and Martin Chandrawinata. The power cord for the travelers was submitted as yellow. White is not available. We discussed options, Martin will investigate.

Worked on traveler actuator painting, providing to Bill Casey the latest recommendation from METS for the paint. I asked for further direction to proceed with this CCO, in light of recent events of ABF declining to do extra work.

**Thur 2013-1-10**

Attended Safety meeting.

Prepared for and lead the Traveler meeting- see meeting notes.

Worked on submittal 2793 response.

Worked on water in the bikepath panels issue, summarizing data previously collected.

Worked on BASE cameras issue. BATA commissioners had questions about the system during a meeting for funding approval. I set up a meeting with BATA and CHP for tomorrow.

Worked on Skyway bike path nonskid sand issue with Mahbub Hossain. Clive Endress approved the sand obtained by the Jeffco painters and the application process.

ARE Report (continued)  
SAS Bridge Travelers/Skyway cleanup  
Robert Kobal

Page 3 of 3

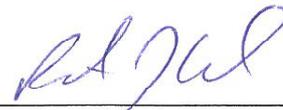
**Friday 2013-1-11**

Attended OBG staff meeting.

Attended meeting with BATA commissioners Bill Dodd and Jim Spering, BATA members Peter Lee and Andy Fremier, Tony Anziano, Saeed Shahmirzai, and CHP officers Paul Fontana, Dane Lobb, Kevin Knopf. Saeed presented the BASE camera presentation and we answered questions. Next step is a presentation by Andy, Tony, and Paul to the full BATA commission.

Worked on submittal 2793 response and new ladders for the Skyway travelers.

Was informed by Darryl Schram that CCO 210S1 is being canceled due to a small dollar amount. Instead the work will be done via an existing force account CCO.



---

Robert Kobal  
Senior TE

108 4



"Birdy, Jal"  
<JBirdy@moffattnichol.com>  
12/30/2012 10:53 PM

To Robert Kobal <robert.kobal@dot.ca.gov>  
cc Ade Akinsanya <ade\_akinsanya@dot.ca.gov>, "Ely, Al"  
<AEly@moffattnichol.com>, "Takata, Ashley"  
<ATakata@moffattnichol.com>, Clive Endress  
bcc

Subject RE: OTD 1 Bike Path Handrailing fix - DJV Suggestions 2

Rob:

Here are some fixes, in increasing order of complexity, which we had considered at the start of our investigation, together with our conclusions.

Option 1. Fix alignment of the Top Rail only:

a. Based on the surveyed alignment of the top rail determine how much the top of each post needs to be moved laterally to achieve an acceptable alignment. If it is acceptable for some posts to be out of verticality by approximately 2-in, then from the pictures it seems there will be two or three regions where the adjustment will be needed. If this out-of-verticality is unacceptable, then about 13 dividers will require adjustment at the base.

b. Shim the railing posts to meet the alignment accepted in (a) above. Use full width tapered shims wherever possible. Where excessive shim height is required, use a 2-stage process. First, use temporary washers at each of the 4-bolts to achieve proper alignment. Next, measure the distance at the 4-corners of the base plate and fabricate a custom shim to fit at each affected post.

Conclusions for Option 1:

a. The results of the survey provided by Caltrans is summarized on the attached Sketch SK-1. From this it will be seen that base plates at Locations 2 to 14 are within +/- 15 mm from the design locations. The tops of railing are +/-15 mm to +50 mm from the base plates indicating the railing posts are leaning outboard by up to 50 mm. It seems that adjusting the top of railing alignment while retaining the base plates "as-is" will reduce the lean of the posts and bring the top of railing into a much better alignment.

b. At Locations 15 to 21 both the base plates and the top of railing are located +15 mm to +50 mm outboard of the design locations. Also there is no appreciable lean of the posts and the railing appears nearly straight here. It seems an adjustment to the top of railing may be unnecessary here.

c. With careful field adjustments, the entire railing from Location 2 to Location 21 can be brought into alignment with negligible lean of the posts and retaining the base plates in their as-built locations.

d. Location 1 is an exception. Here there is no railing divider but double posts at the expansion joint. The base plate is located +/- 50 mm inboard and the location of the top of rail is uncertain (no survey data). The reason for this mis-alignment is not clear and may have something to do with field conditions during construction. Also, there is no electrical conduit here so it may be possible to move the base plates outboard by +/- 50 mm as explained in Option 2.

e. Option 1 appears to be the most promising for re-aligning the handrail. The procedure for assuring adequate rigidity of the railing is described in my email to Gernot and Bob of 12-19-2012 attached below.

Option 2. As (1) above + Fix alignment of Base Plates also (See attached Sketch SK-2):

Remove the Plate 22 (SS) welded to Anchor Plate 13 (SS) and relocate as required. This will require an additional strip of PL 13 (SS) to be welded to extend the anchor PL 13 locally to accommodate the new

2 of 4

locations of the base plate. It will also require the conduit holes in the PL 13 at the railing dividers to be enlarged.

Conclusions for Option 2:

- a. As can be seen from the conclusions to Option 1 above, the railing can be brought into alignment with minimal out of verticality of posts without adjusting the base plate locations.
- b. Skech SK-2 shows details of how the base plate could be relocated by 50 mm if needed.
- c. There is a risk of concrete cracking due to the heating of the concrete during enlarging the opening in the anchor plate.
- d. There is a risk of the added SS plate deforming during welding to the anchor plate.
- e. It is not certain as to the difficulty involved in relocating the electrical conduits.
- f. The added plate will appear as a retrofit and not appear pleasing.
- g. This option is not recommended generally, however, it may be used at Location 1 as explained in Option 1d above.

Option 3. Restore railing alignment to original contract requirement:

- a. This fix may involve removing the entire length of embedded Anchor Plate 13 (SS) with its 200 mm long anchor studs, and relocating the lighting conduit openings. In our view this will involve extensive re-construction which does not seem to be warranted.
- b. This option is not recommended.

Jal N. Birdy, P.E.  
Moffatt & Nichol  
3780 Kilroy Airport Way, Suite 600  
Long Beach, CA 90806  
562-426-9551  
909-241-9084 (Cell)  
jbirdy@moffattnichol.com

---

**From:** Robert Kobal [mailto:robert.kobal@dot.ca.gov]

**Sent:** Thursday, December 20, 2012 8:06 AM

**To:** Birdy, Jal

**Cc:** Ade Akinsanya; Ely, Al; Takata, Ashley; Clive Endress; Komar, Gernot; Martin, Gary; Wagner, Monica; Dameron, Robert; Robert Kobal; Bill Casey; Bill Howe; Tim McCarthy; Yongxin Liu

**Subject:** Re: OTD 1 Bike Path Handrailing fix - DJV Suggestions

Ade, Jal, Bob, Gernot

The proposal to lean the OTD1 railing over was not the preferred solution by the architect. I believe the request to Moffatt Nichol was what else can be done to adjust the horizontal alignment of the top of the railing? Did you evaluate other solutions; could you identify them and pros/cons so that I can have an informed discussion with my management? Thanks.

▼ "Birdy, Jal" <JBirdy@moffattnichol.com>

"Birdy, Jal"

3 of 4

<JBirdy@moffattnichol.com>

12/19/2012 08:41 PM

To "Dameron, Robert" <RDameron@moffattnichol.com>, "Komar, Gernot" <gkomar@moffattnichol.com>

cc "Ely, Al" <AEly@moffattnichol.com>, "Wagner, Monica" <MWagner@moffattnichol.com>, "Takata, Ashley" <ATakata@moffattnichol.com>, Ade Akinsanya <ade\_akinsanya@dot.ca.gov>, Robert Kobal <robert\_kobal@dot.ca.gov>, Clive Endress <clive\_endress@dot.ca.gov>, "Martin, Gary" <gmartin@moffattnichol.com>

Subject OTD 1 Bike Path Handrailing fix - DJV Suggestions

Re-sent with missing referenced sketch attached (Bike Pailing Layout Exhibit-2D.PDF). -- Apologies -- Jal.

\*\*\*\*\*

Bob, Gernot:

The results of the recent survey of the as-built outboard handrail have been plotted on the attached sketch. It will be seen that both the base plates and the top rail are not on the design location but are generally offset to the south. It seems these offsets are not objectionable except where there is an excessive angular change in the top rail alignment. Such angular changes occur at the first and the fourth railing dividers, and perhaps also at the eleventh railing divider from the west end.

If the base plates are left as is, the top rail alignment could be improved by adjusting the verticality of the affected dividers and railing posts. It is felt that this adjustment can best be achieved in the field by appropriate shimming under the base plates for an acceptable visual alignment of the top rail (see attached photos).

After shimming, the bolts should be tightened to the full torque. It is expected that a torque corresponding to snug-tight plus 1/6 turn should achieve adequate rigidity of the railing, however field conditions will determine the desired torque. Snug tight is defined as the torque corresponding to the full effort by a person on a 1-ft long torque wrench. Please note the softness observed in the rail may be due to the bolts bottoming out, which should be avoided. Also, it will be acceptable to reduce the dielectric shim thickness to 1/16" if required to achieve added rigidity.

Please let us know if you need anything else. Thanks.

Jal N. Birdy, P.E.  
Moffatt & Nichol  
3780 Kilroy Airport Way, Suite 600  
Long Beach, CA 90806  
562-426-9551  
909-241-9084 (Cell)

4 of 4



OTD1 Railing 12.10.12.pdf



Sketch 1-Survey Summary.pdf



Sketch 2-Relocate Base Plate 50 mm.pdf



scan0002.pdf

1089

CABLE SECURITY GATE DETAILS MEETING

1/8/12

Please Sign in

Name Agency/ Functional unit

ROB KOSTAL CT

ANDREW BAUMBERGER DSV

BILL SHEDD CT

Dan Turner DJV

Martin Chandawinata CT

Adil Mohamomed PB

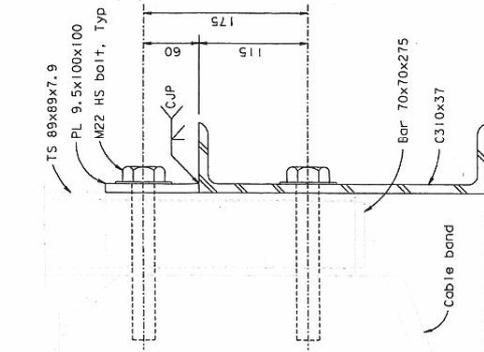
~~CRUISE~~ MTR

BILL ZANETICH CT

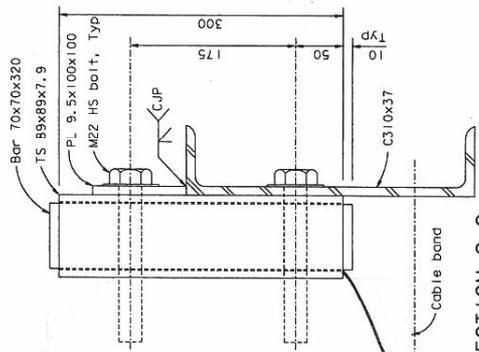
2089

Reference: Sheet 815R3 of 1204

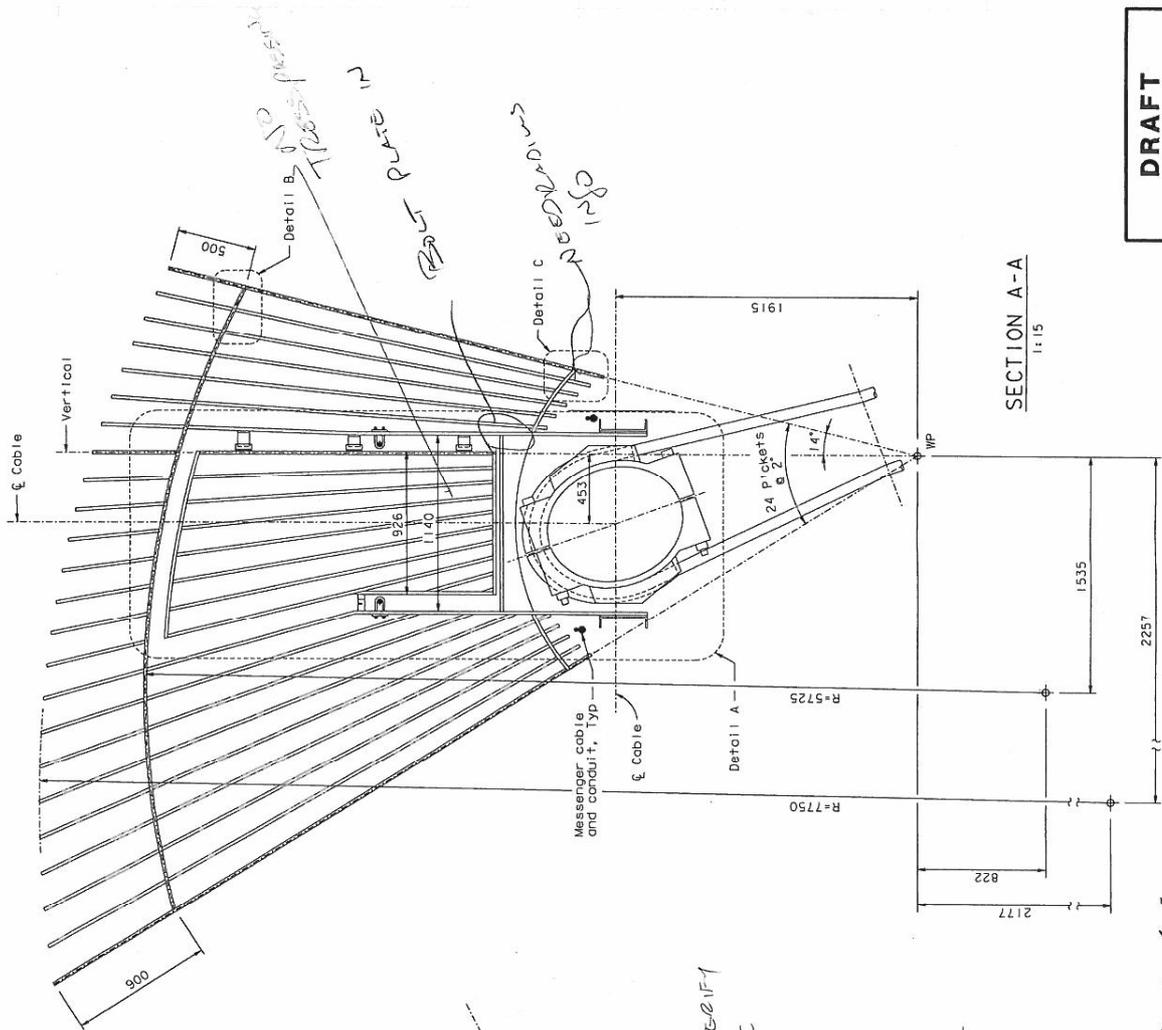
USERNAME >> 071400 DATE PLOTTED >> 08 JAN 2013 TIME PLOTTED >> 11:40:22



SECTION B-B  
1:2.5



SECTION C-C  
1:2.5



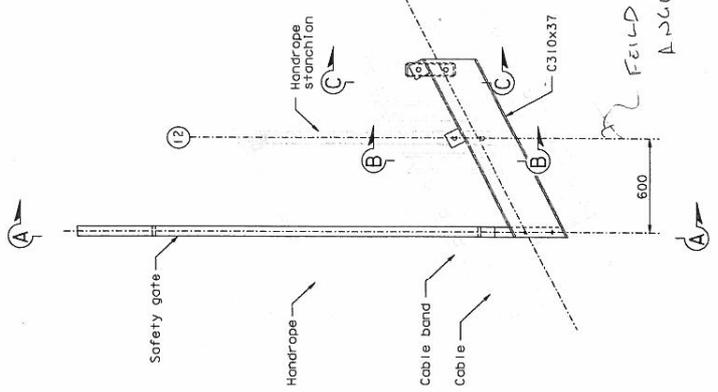
SECTION A-A  
1:15

NOTES:  
1. For Details A, B & C, see Sheet 0815R3-SK-02A.

**DRAFT**

Date: 2013-01-08  
File Name: 0815R3RD-SK-01B

FILE >> I:\0815R3\012001\0815R3\012001\0815R3\012001\0815R3-SK-01B.dwg



ELEVATION AT PP12  
1:15  
(South Cable, Looking North)

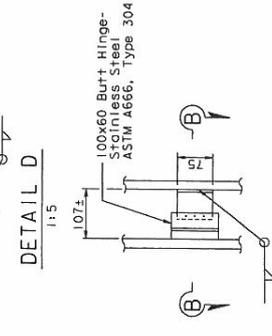
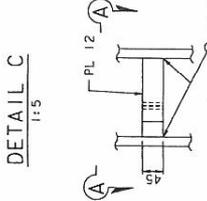
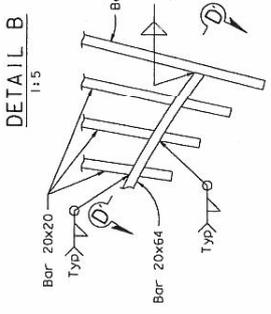
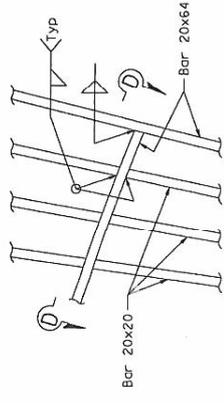
PP96 SIMAR

2 DIF GATES  
2 DIF BEAMS - DRAWN BY [Signature]  
SFOBB SAS (SAS) Project #04-0120F4

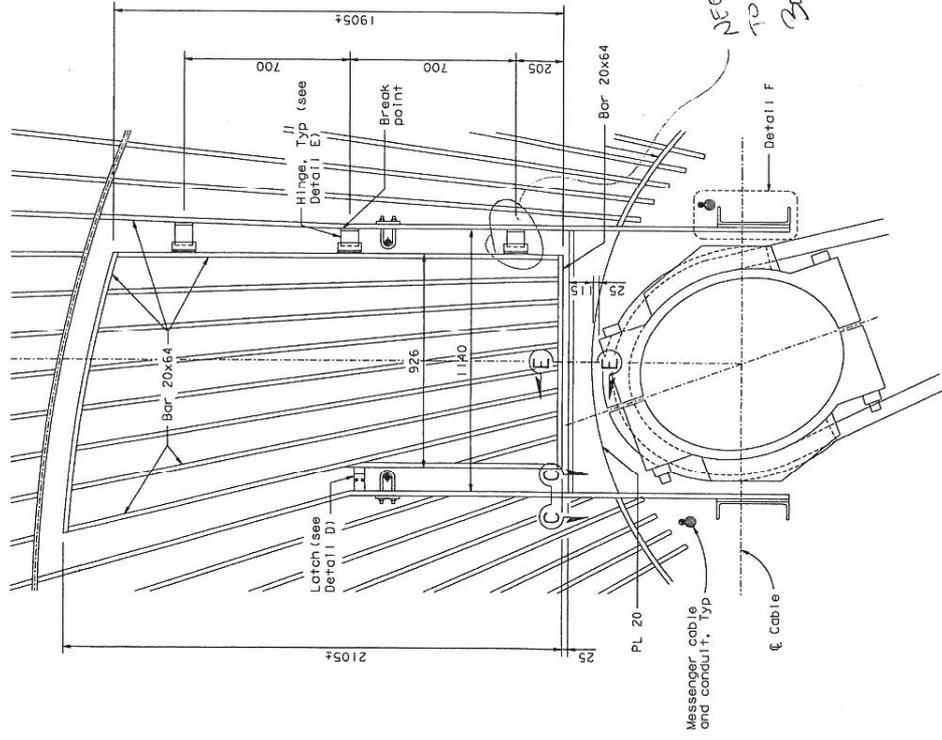
3089

Reference: Sheet 815R3 of 1204

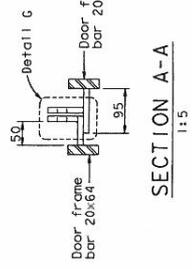
USERNAME: 07170 DATE PLOTTED: 08 JAN 2013 TIME PLOTTED: 13:15:21



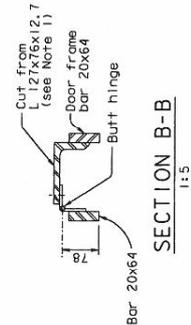
DETAIL E  
1:5



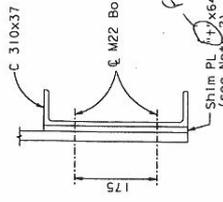
DETAIL A  
1:10



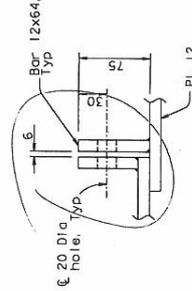
SECTION A-A  
1:5



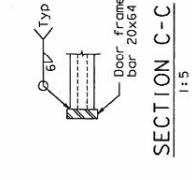
SECTION B-B  
1:5



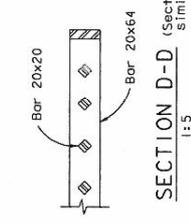
DETAIL F  
1:5



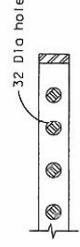
DETAIL G  
1:2.5



SECTION C-C  
1:5

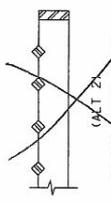


SECTION D-D (Section D'-D' similar)  
1:5

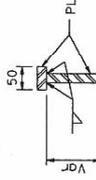


(ALT 1)

SECTION D-D (Section D'-D' similar)  
1:5



SECTION D-D (Section D'-D' similar)  
1:5



SECTION E-E  
1:5

NOTES:

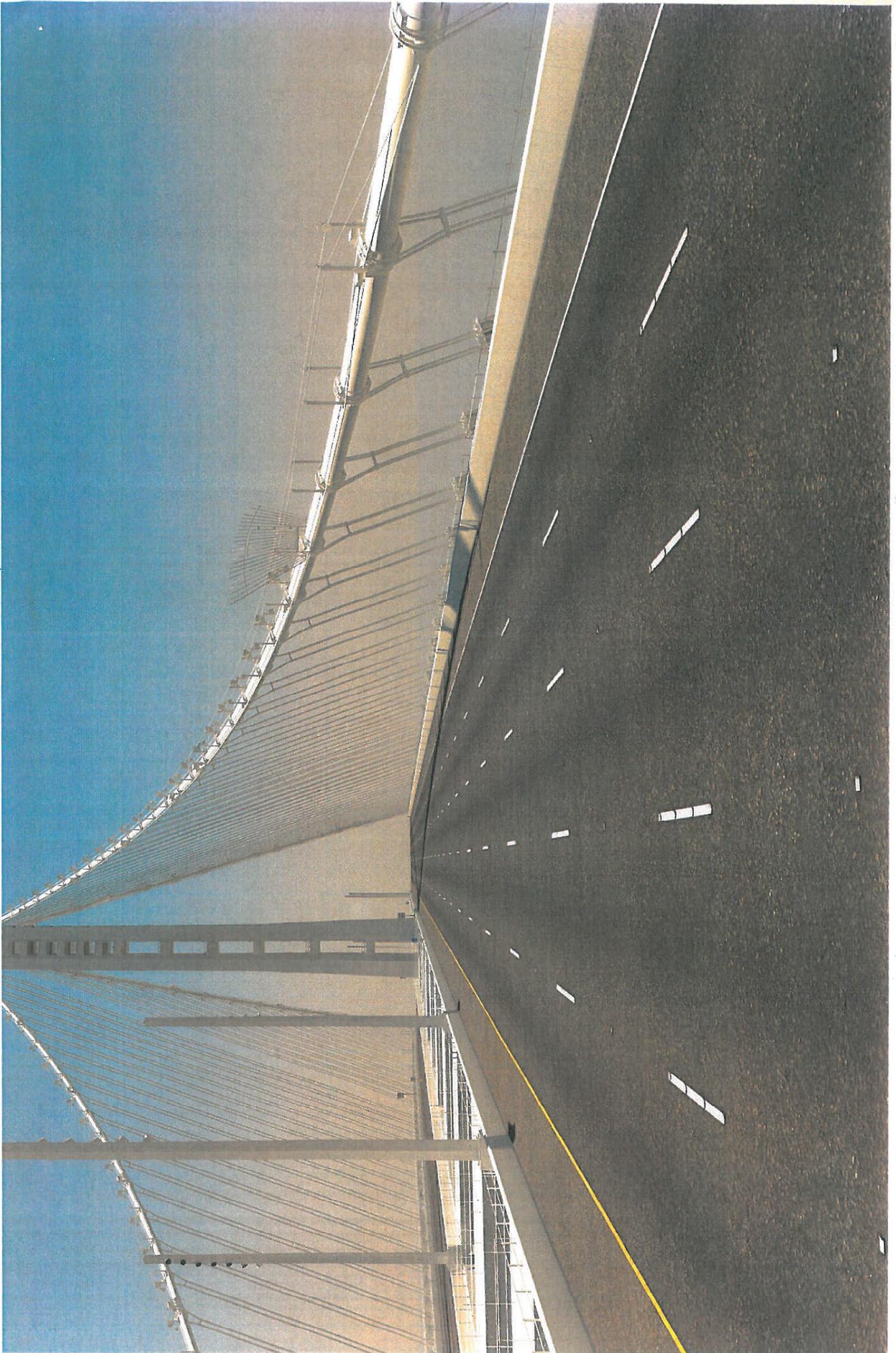
- L 127x76 shall be cut and attached to butt hinge to fit gap between frame members.
- Shim shall be sized to achieve door frame width.

**DRAFT**

Date: 2013-01-08  
File Name: 0815R3-SK-02B

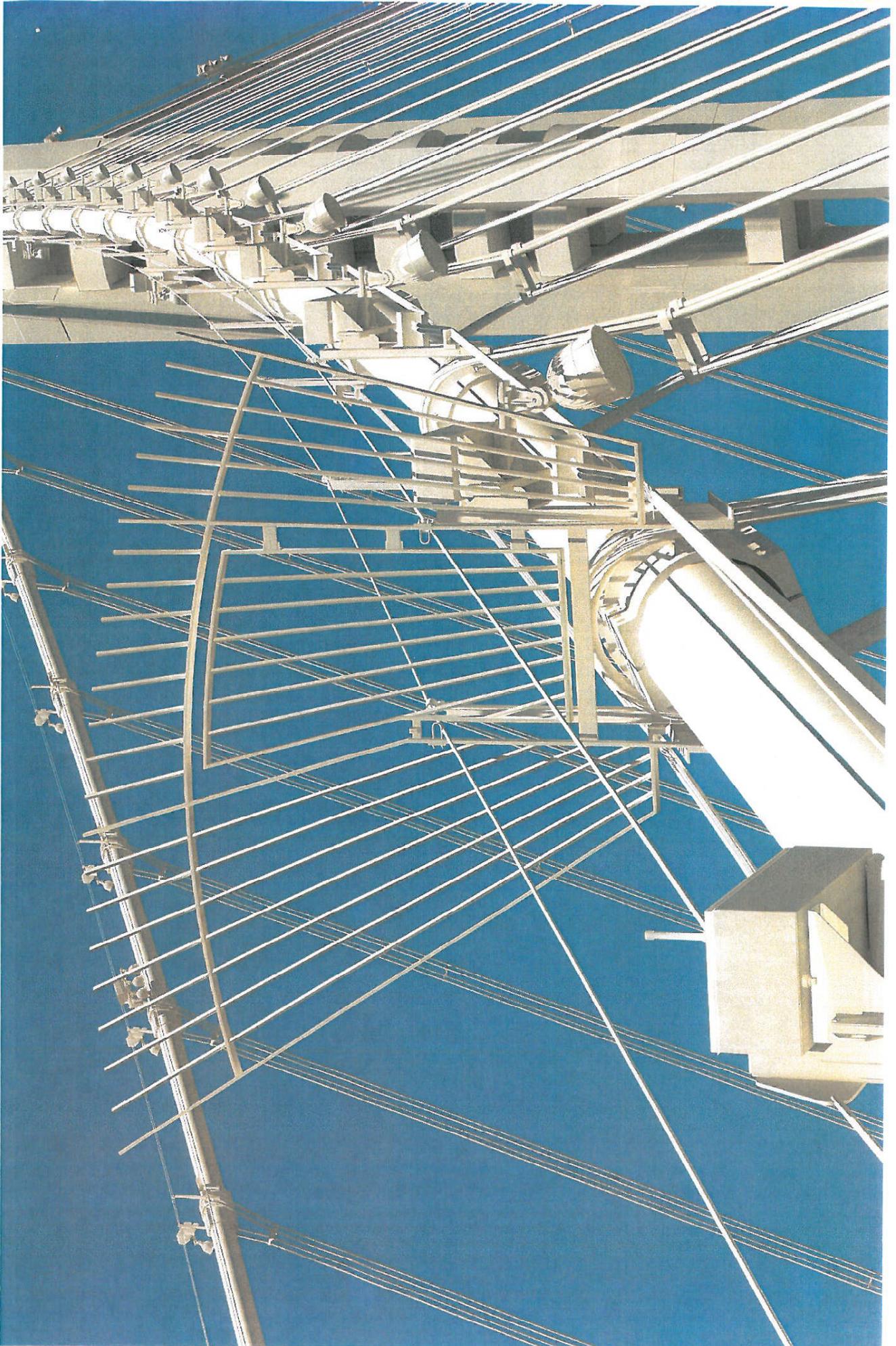
V 3A - 001

4089



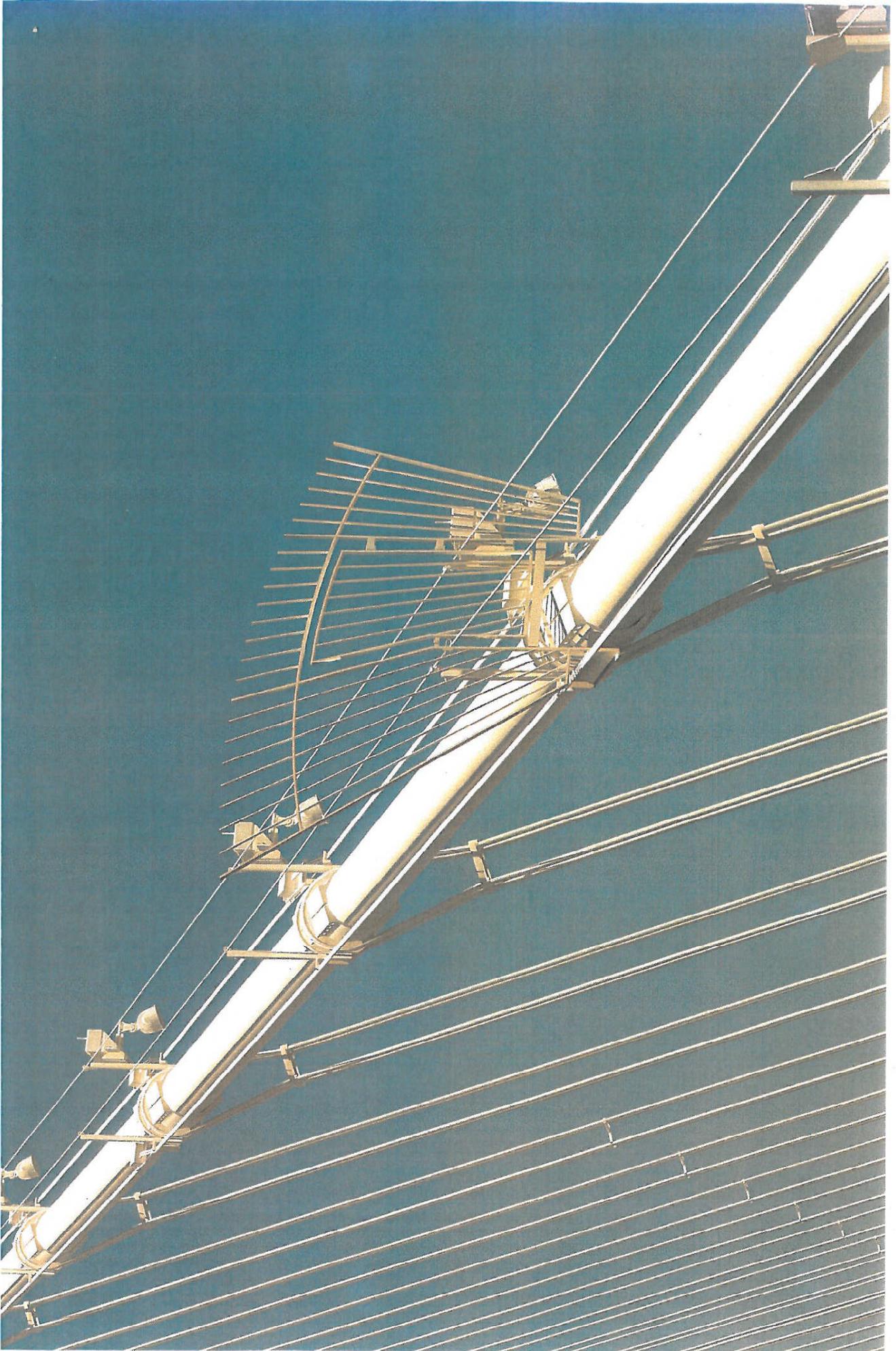
V3A - 002

5/9



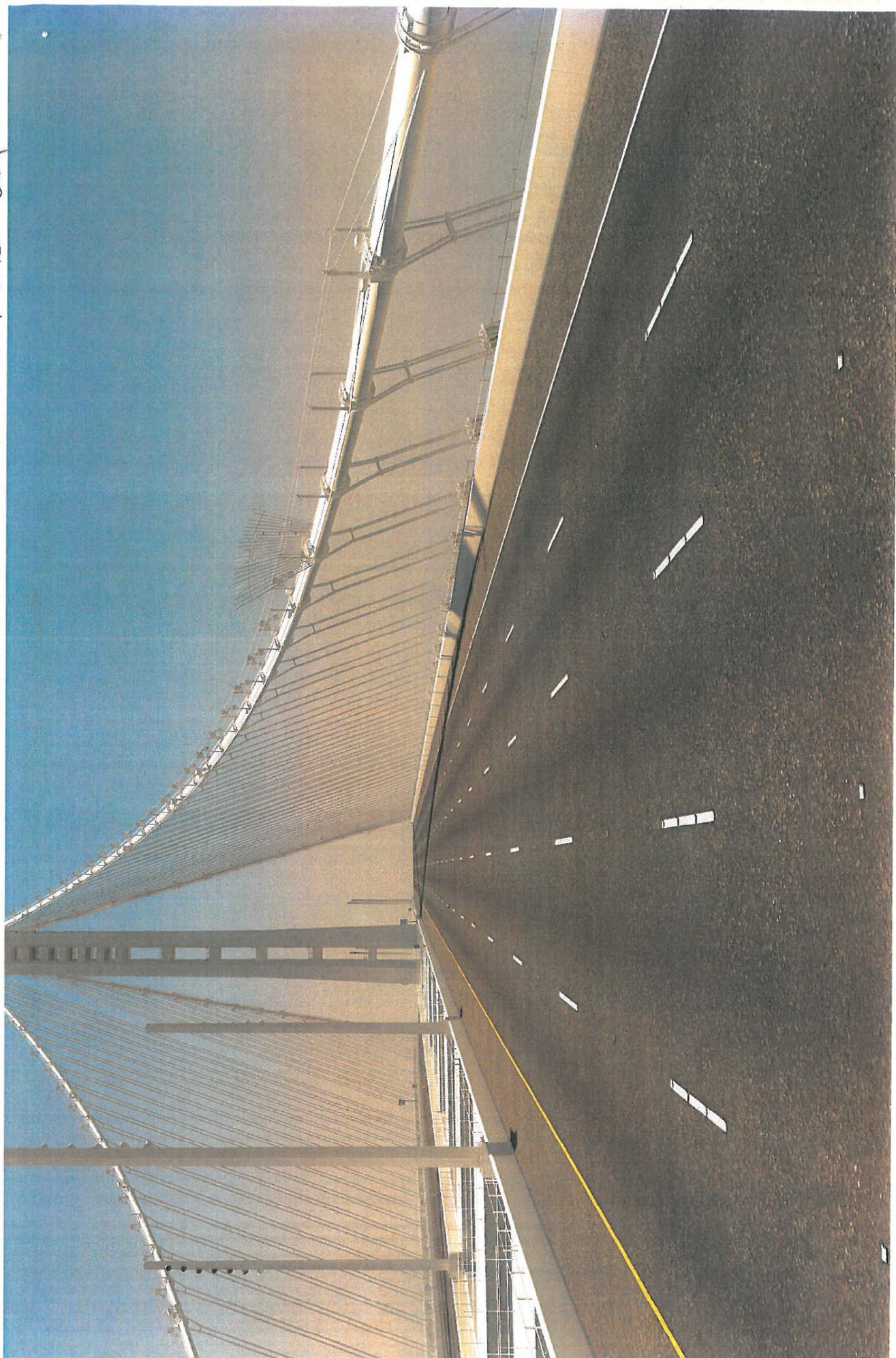
V3A-003

6/9



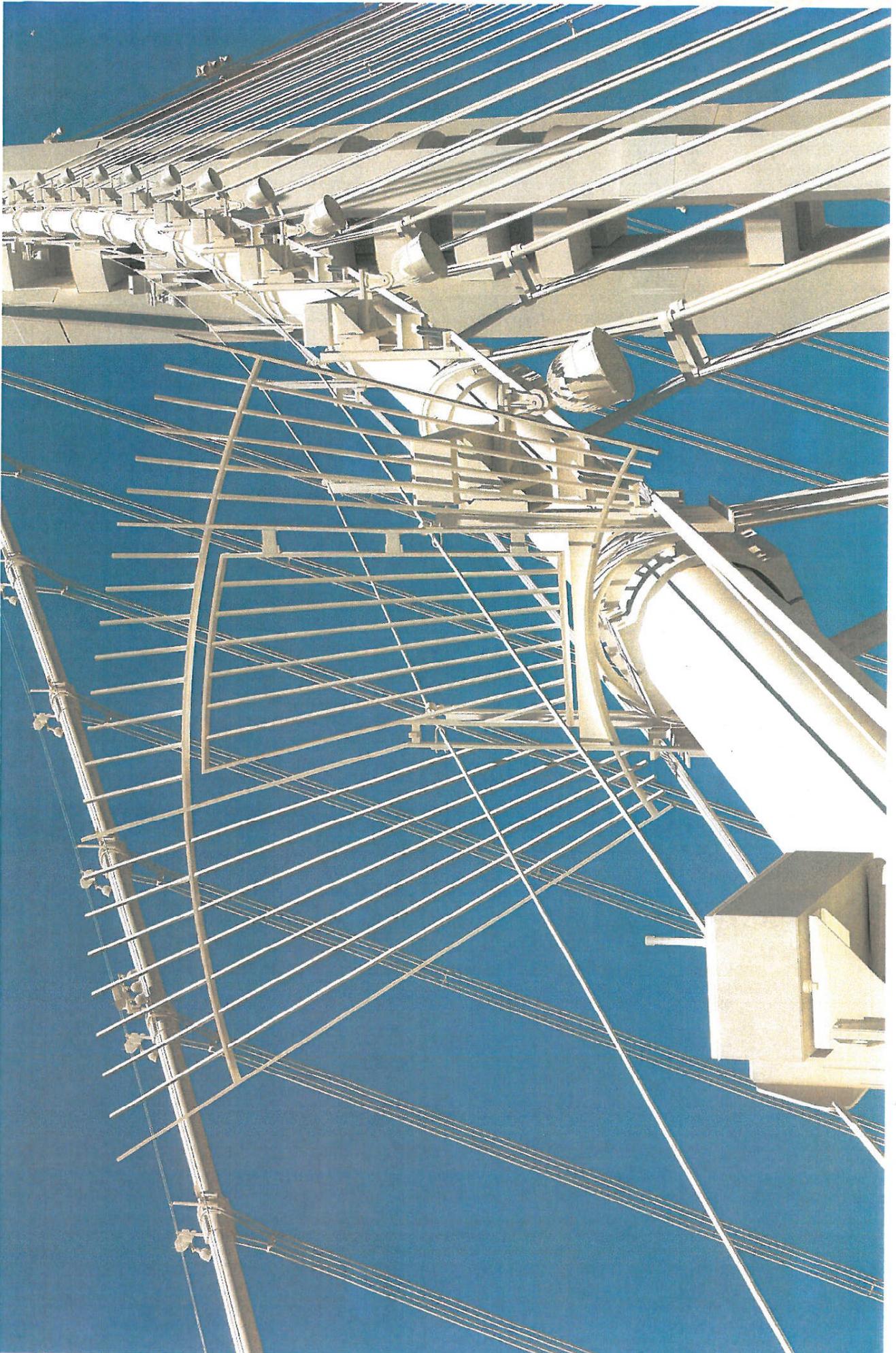
V 3B-001

7/9

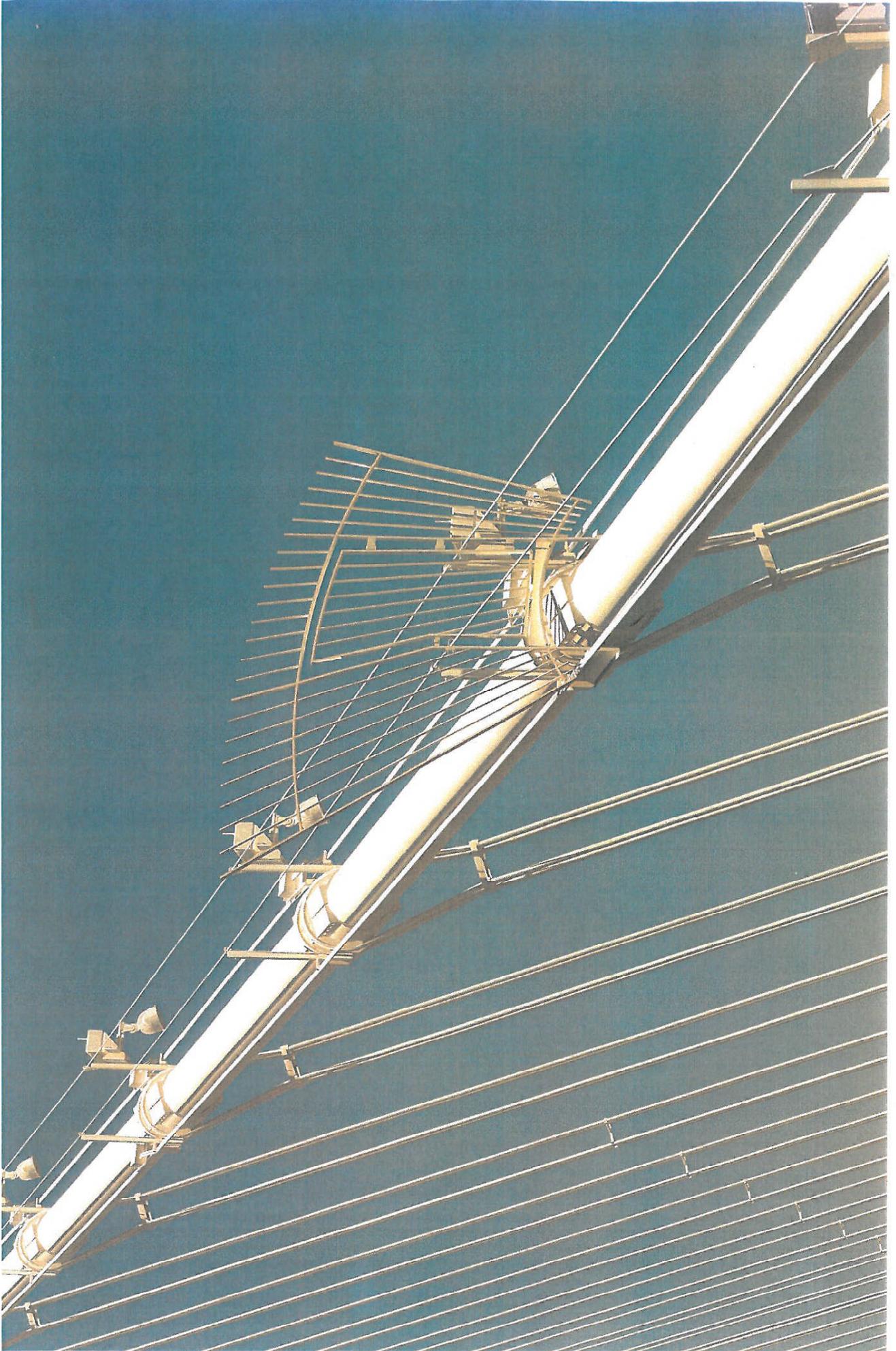


V3B-002

8/9



V3B-003



10/17