

FIELD

F00019

Diagram No. 5530-4

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey ... Field Examination.....
Field No. N/A.....
Office No..... FE-19.....

LOCALITY

State California.....
General Locality .. San Francisco Bay.....
Locality San Francisco Bay Bridge.....

19 36

CHIEF OF PARTY
F.H Hardy

LIBRARY & ARCHIVES

DATE 1936.....

F00019

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as: FE No.5 1936

IMPORTANT

PAGE 9 ADDED TO SCANNED DOCUMENT. IT HAS INFORMATION NOT ON SCAN OF PAGE 8

MAY 6 1936

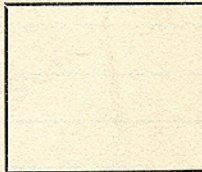
Acc. No.

F. E. S. (1936)

V2KG

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director



Diag. on
Ch. 5530-4

State: California

DESCRIPTIVE REPORT

Topographic }
Hydrographic } Sheet No.

LOCALITY

California

San Francisco Bay

San Francisco Bay Bridge

1936

CHIEF OF PARTY

F. H. Hardy

DESCRIPTIVE REPORT
to accompany
TRACING OF TOPOGRAPHIC SHEET OF
SAN FRANCISCO BAY BRIDGE
U.S.C. & G.S.S. GUIDE
1936

INSTRUCTIONS: Instructions for this work are dated April 11, 1936. The layout of this sheet conforms to that forwarded with the instructions.

A tracing of the work done is forwarded as per ammended instructions, dated April 23, 1936. The approaches to the bridge are under construction and will not be completed until some future date, for that reason the bridge itself was all that was located, the sheet is being held to accomplish this when completed.

CONTROL: The triangulation stations Alcatraz Lighthouse 1909, Ferry Building Tower 1932, Coit Monument 1933, Goat 1916, Navy 1932, Oakland City Hall 1913, Oakland Tribune Building 1932, North Power Tower, 1913 and South Power Tower were used for control of this survey.

Signal Angel Island 2 was recovered and the signal built, however, due to low hanging clouds this signal was obscured when wanted.

Signal McKinley 1932 was recovered, but because of its location it was not visible in the area where this work was accomplished.

SURVEY METHODS: This survey was done by planetable. No distortion was noticed on this sheet. The work checked exceptionally well on traingulation stations and intersection stations where ever visible.

All this work was done in such a manner that as much as possible could be done by resection.

A setup was first made at station Navy. Cuts to such parts of the bridge as were visible were obtained. Cuts to topographic signals "Stan," "Pal," "For," "Lit" and "Dock" were also obtained. A resection station was obtained on the bridge at the east end of the tunnel and a short traverse was carried through the tunnel ending on a three point fix on the east cable anchorage. That part of the bridge was rodded in from the original resection station to the last turn in the bridge on Yerba Buena Island.

A setup was next made at Triangulation Station Goat, such cuts on the bridge as were possible were made. Resection stations were established on piers Nos. 2 to 6 inclusive.

A setup was next made at Resection Station "Stan". At this setup further cuts were taken to the bridge and all the topographic signals. A setup was next made at Resection Station "Pal". from this point resection stations were established near Pier E2 and on the following Piers E3, E6, E9, E14, E19 and E22. Cuts were taken to signals "Fil," "Dock" and "Lit". A setup was next made at Signal "For", this was made to insure a strong location of the signal. Cuts were taken to signals "Fil," "Dock" and "Lit".

The resection stations on the piers west of Yerba Buena Island were occupied. The base of each of these piers was rodded in. From Pier No. 2 a short traverse was run to locate the San Francisco anchorage and concrete Pier No. 1 and the two small steel piers between Pier No. 1 and the anchorage. The traverse was controlled by resection cuts at all times and ended on a three point fix near the anchorage.

The various piers east of Yerba Buena Island where resection stations were placed were occupied. The piers between those occupied were rodded in.

A short traverse was run from Signal "Dock" checking on Signal "Fil!"

Signals "Pal" and "For" are wooden platforms set on piles approximately 25 feet above M.H.W. used in construction of the bridge.

Signal "Stan" is a wooden platform set on piles approximately 10 feet above M.H.W. built in connection with the reclamation of Yerba Buena Shoals.

Signal Lit (Oakland Shoal Flashing Red, Bell every 5 seconds Light). This light is set on a platform placed on piles. The position does not check the geographic position or the charted position. It was rebuilt since its last location. This is 16 feet high.

Elevations shown on this tracing are referred to mean high water. The elevations shown at the piers are the heights at the top of the fenders and the outside edge of the pier. The heights shown between the piers are the bridge clearances above M.H.W.

The piers are numbered as numbered by the bridge authorities and are shown in red on the tracing. Elevations and clearances are shown in black. These elevations and clearances were obtained from the bridge authorities.

The height of piers Nos. 2 and 6 is 445 feet.

The height of piers Nos. 3 and 5 is 495 feet.

The height of the top of the concrete of the anchor pier No. 4 is 230 feet. The top of this pier is to be housed over at some future date. The top of the steel work on this pier is approximately 35 feet higher. These elevations and clearances are referred to M.H.W.

A short stretch of shoreline is shown at the east end of the bridge, this is somewhat different than shown on Chart 5535.

The outer end of ^{Dock} Pier 24 on the San Francisco side is also shown. It should be noted that the dock has been extended to Pier No. 2. A small open section in the end of dock between the building on the dock and Pier 2 exists.

On this scale of 1:20,000 it was found rather difficult to show much if any detail.

Ensign C. J. Beyma was assigned to help with this work and due to his assistance, this project was expedited.

Respectfully submitted,

Lawrence W. Swanson
Lawrence W. Swanson,
Jr. H & G Engineer,
C. & G. Survey.

Forwarded, approved:

F. H. Hardy

F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

*The field work was done by Lt Swanson
assisted by Ensign Beyma*

JWH.

Field Inspection until
complete - Then
will be given
regular Topo number
when sheet sent
in

EKG

POST-OFFICE ADDRESS: U.S.C. & G.S.S. GUIDE, P.O. Box 1197,
Oakland, California

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F. E. 5 (1936)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY
Steamer GUIDE, Oakland, Calif.,
May 9, 1936.

1936 MAY - 13 - AM 11: 48

To: The Director, U. S. Coast and Geodetic Survey,
Washington, D. C.

From: The Commanding Officer, U.S.C. & G.S.S. GUIDE.

Subject: San Francisco-Oakland Bay Bridge.

The topography of the San Francisco-Oakland Bay Bridge was done without the use of any triangulation for the locating of that structure. However, positions of Piers Nos. 2, 3, 4, 5, 6, E2 and E10 were plotted on the sheet. The topographic work checked the positions of Piers Nos. 2, 3, 4, 5, 6 and the position of E2 as observed and computed by Mr. LeFever.

The computed position of E2 and E10, computed from the bridge traverse, failed to check the topography. Since forwarding the tracing of the bridge as located by topography it has been found that the position of E10 as computed along the bridge traverse is actually the position of the point of intersection of the "YB" tangent of bridge center line and the "key" tangent of bridge center line.

Triangulation recovery notes for this work will be forwarded at the time the sheet is computed.

F. H. Hardy
F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

RAZ LIGHTHOUSE 1909

○ STAN

○ PAL

○ FOR

FIL END OF TOP DECK
DOCK END OF LOWER DECK

△ GOAT 1916

△ NAVY 1932
TUNNEL
CABLE ANCHORAGE

○ LIT

OAKLAND CITY HALL △ 1913

OAKLAND TRIBUNE BLDG. △ 1932

△ COIT MONUMENT 1933

△ FERRY BUILDING TOWER
1932

△ NORTH POWER TOWER 1913

△ SOUTH POWER TOWER 1913

PIER 24

CABLE ANCHORAGE

SAN FRANCISCO BAY BRIDGE
ALL ELEVATIONS REFERRED TO M.H.W.
HEIGHTS AT PIERS NOS. 2 TO 6 & E2 & E3 AT TOP OF FENDERS
OTHER HEIGHTS ARE BRIDGE CLEARANCES
SCALE 1-20 000
U S C & G S S GUIDE
F H HARDY COMMANDING
APRIL 20-28, 1936

ON ORIGINAL DOCUMENT

NOT ON PAGE 8 SCAN



ALCATRAZ LIGHTHOUSE 1909