

DATE: 9/21/83

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-4458 San Mateo Bridge, CA

Period: September 1, 1981 - May 27, 1983

HYDROGRAPHIC SHEET: H-9984

OPR: L123

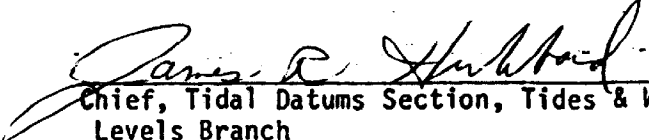
Locality: South San Francisco Bay, California

Plane of reference (mean lower low water): 14.67 feet

Height of Mean High Water above Plane of Reference is 7.0 feet

REMARKS: Recommended Zoning:

1. North of latitude $37^{\circ}35.5'$
 - a. west of $122^{\circ}15.0'$ apply x 0.96 range ratio.
 - b. east of $122^{\circ}15.0'$ zone direct.
2. South of $37^{\circ}35.5'$ to $37^{\circ}34.0'$ zone direct.
3. South of $37^{\circ}34.0'$
 - a. in Belmont Slough apply +15 minute time correction.
 - b. in San Francisco Bay apply x 1.03 range ratio.


Chief, Tidal Datums Section, Tides & Water
Levels Branch

FIELD TIDE NOTE

Soundings on the field sheet were reduced on the basis of either predicted tides for San Francisco (Golden Gate), California, or real tides from San Mateo, California. Real tides were applied to soundings taken before March 1, 1983 (JD 060) and plotted in black on the field sheet. Predicted tides were used to reduce soundings obtained on, and after, March 1, 1983 and were plotted in purple.

Tides were adjusted with correctors supplied by the Tides and Water Levels branch, Rockville, Maryland as follows:

Real tides from San Mateo, California (941-4458):

Time of high water	0 minutes
Time of low water	0 minutes
Height ratio	1.0

Predicted tides for San Francisco, California (941-4290)

Time of high water	+43 minutes
Time of low water	+1 hour 10 minutes
Height ratio	1.41

Tidal reducers were computed at 0.2 foot intervals using a PDP 8/e computer system and program AM 500, "Predicted Tide Generator".

Only one tide gage (ADR type gage) was in operation in the survey area besides the two permanent gages maintained by the NOAA, Pacific Tide Party at San Francisco and San Mateo, California. Location and period of operation of this single gage are as follows:

<u>SITE</u>	<u>POSITION</u>	<u>PERIOD</u>
Oyster Point 941-4392	37°39.8'N 122°22.6'W	June 7, 1982 - May 9, 1983

Oyster Point

Fischer Porter ADR gage, S/N 7304A1380M5, was in place for the entire survey. Excellent records were obtained with no significant interruptions. The analog record reads 42.5 feet greater than the staff.

Levels

The tide staff at Oyster Point had a negligible shift of less than 0.005 millimeters.

A new bench mark (BM 14) placed on a new pier foundation near the gage and staff on June 7, 1982 has settled 0.026 millimeters in one year (0.017 millimeters the first six months). This bench mark was disregarded in leveling comparisons; and the staff was compared to other more stable bench marks in the area which date from 1974 and 1975.

Time Meridian

The time meridian used for Oyster Point tide station was 120° west (Pacific Standard Time).

NOTE: The Pacific Tide Party maintains tide gages at Fort Point, Alameda and San Mateo which all lie in our project area. We kept in close contact with PTP during this survey, and no problems were encountered with their gages which would result in a break in tide data during times of hydrography.

NOTE: One day of "See Boat Sheet" soundings were obtained with a different "gage to staff" value for Oyster Point tide station than noted above. The day was September 15, 1981 (JD 258); and at that time (the only time in survey H-9984) the analog record read 21.0 feet greater than the staff (See The Field Tide Note for survey H-9952 for the full reasons for this).

NOTE: Six soundings and two detached positions on JD 150/83, and 1 detached position on JD 147/83 were obtained on survey H-9984 after the Oyster Point tide gage had been removed. The San Mateo and Fort Point gages were operating during this time; as was a new gage on the Dumbarton Railroad Bridge (941-4510).