

### **Alternate Tide Prediction Form**

The tide prediction form provided in the Advanced Piloting manual is based on having a regular tidal pattern where each cycle, from low to high and back to low, takes about 12 hours. Each half cycle, low to high or high to low, occurs in approximately 6 hours. If the cycle duration is irregular or the half cycle duration is significantly different from 6 hours, the results may not be satisfactory. For those circumstances an alternate Tide Prediction Form is available below.

The alternate Tide Prediction Form uses the same procedure as the standard form (Figure 7-4 in the AP manual) for the top half of the form. For the lower half of the alternate Form instead of calculating the “time difference to desired time” calculate the total duration of the half cycle of interest (time of next high or low minus the time of prior low or high). Divide that duration by 6 and record that value in the provided box. In the series of boxes just below, record the time of the prior high or low, and in each of the next 6 boxes, add increments of 1/6th duration. Then compare the desired time to the seven values (time of prior high or low plus 6 others), and select the percentage value representing the time closest to the desired time. The rest of the form is similar to Figure 7-4.

Please direct any questions or comments to < [ICNCom@usps.org](mailto:ICNCom@usps.org) >.

# PREDICTION OF HIGH AND LOW TIDES

LOCATION: \_\_\_\_\_ No. \_\_\_\_\_

REF.STA. \_\_\_\_\_

DATE: \_\_\_\_\_ DESIRED TIME: \_\_\_\_\_ Std Time

IF DURATION OF RISE / FALL IS NOT ABOUT 6 HOURS -THIS FORM MAY BE USED

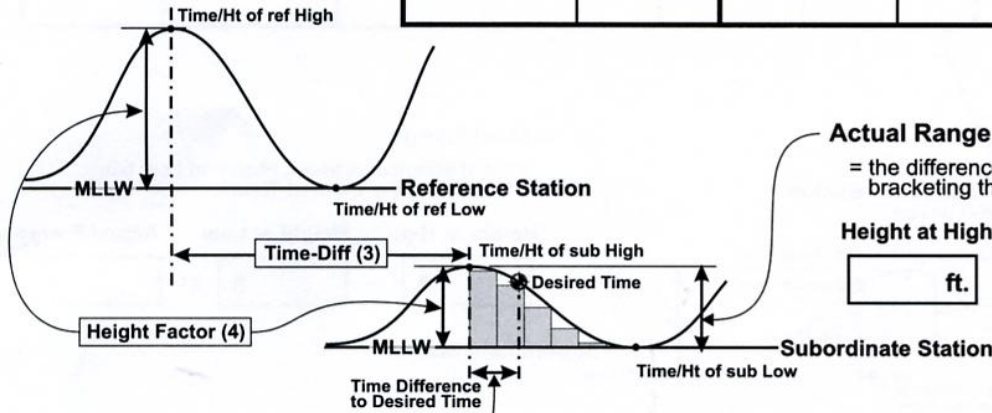
### Time & Height of Local Tides

Table 2: record the Time-Diff and Height Ratios [col (3),(4)] Identify Reference Station

Table 1: record the Times and Heights [col (1),(2)] of High and Low tides for Date

Compute: Times and Heights [col (5),(6)] of Tides at Local Subordinate Station

Table 1		Table 2		Calculate	
(1)	(2)	(3)	(4)	(5)	(6)
REFERENCE STATION		SUBORDINATE STATION		SUBORDINATE STATION	
Time		Time-Diff		Time	
h	m H/L	h	m H/L	h	m H/L
Height		Height Factor <sup>1</sup>		Height	
ft.				ft.	



After filling in the times in the "Percentage Of Change" table below, select and use the percentage for the time closest to the desired time

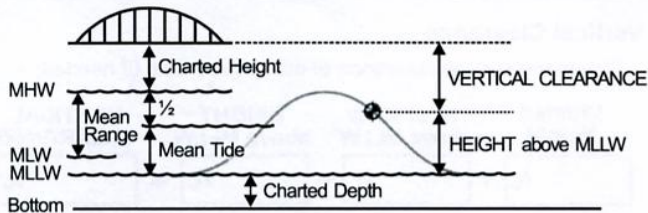
DETERMINE 1/6 DURATION OF RISE / FALL				
Next H/L	Prior L/H	Duration	1 Sixth	
H m	H m	H m	H m	
			/6=	

Percent	X	Range	=	Change
%		ft.		ft.

### PERCENTAGE OF CHANGE AT END EACH SIXTH OF RISE / FALL DURATION

Prior H/L	1 Sixth	1 Sixth	1 Sixth	1 Sixth	1 Sixth	1 Sixth
H m	H m	H m	H m	H m	H m	H m
%	5%	25%	50%	75%	95%	100%

Prior H/L	+	Change	=	Hgt above MLLW
ft.		ft.		ft.



### Vertical Clearance

Determine vertical clearance at the desired time (if needed)

Charted Height	+	Ht of MHW above MLLW <sup>2</sup>	-	HEIGHT above MLLW	=	VERTICAL CLEARANCE
ft.		ft.		ft.		ft.

<sup>1</sup> **Height Factor:** If Table 2 has an [ \* ] before the height difference multiply the Table 1 height by this factor to get subordinate height. If Table 2 has a [ + or - ] before the height difference add or subtract that difference to get subordinate height.

<sup>2</sup> **Height of MHW above MLLW:** Look on chart for Table of Heights above MLLW, or calculate using one-half of the Mean Range plus the Mean Tide height from the tide tables.

**Alternate Blank Tide Form - Any Duration of Rise or Fall** *(This form may be used to make extra copies)*