Week 7

You will need:

- Training Almanac
- Tidal Curves
  - Namley Harbour
  - Port Fraser
  - Victoria
- Pad, pencil etc.

Secondary Ports

Tidal Heights

What is the latest time that the yacht can enter Portlake, charted depth 2.1m, (Port Fraser) and have 2 metres clearance under the keel

    1.5m   (draught)
   + 2.0 m (required clearance)
   − 2.1m (charted depth)

   = 1.4 metres which is the height of tide needed

ENTER No later than HW+ 3hrs 50min = 1714 local

"I really must learn about Secondary Port Tidal Heights!"

Tidal Height at Secondary Ports

- Look up time and height of Standard Port for the HW and LW each side of time of interest
    - Use range to decide to use spring or neap curve
- Apply corrections for secondary port (time and height)
    - Add 1 hr for summer time if applicable
- Apply to standard port tidal curve

- Use tidal height curve to find height at known time - or
- Use tidal height curve to find time for a known height

SECONDARY PORTS - TIMES & HEIGHTS an example Torquay

Standard Port PLYMOUTH

Times   **Heights in Metres**

High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	5.5	4.4	2.2	0.8
1200	1800	1200	1800				

Differences FOWEY

- 0010	- 0015	- 0010	- 0005	- 0.1	- 0.1	- 0.2	- 0.2

Standard Port PLYMOUTH

Times   **Heights in Metres**

High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0100	0600	0100	0600	5.5	4.4	2.2	0.8
1300	1800	1300	1800				

Differences TORQUAY

+ 0025	+ 0045	+ 0010	0000	- 0.6	- 0.7	- 0.2	- 0.1

SECONDARY PORTS

A 'Secondary Port ' is a port that does not have its own a dedicated tide table.

To find the times and heights of HW & LW it is necessary to look up the tide times at the 'STANDARD PORT' and then apply a correction

India Harbour (Beaker Bay)

46°12'.76N 005°55'.66W
Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0500	1100	4.2	3.4	1.1	0.4
1200	1800	1700	2300				
Differences INDIA HARBOUR							
-0052	-0022	-0048	-0001	-0.2	+0.2	+0.7	+0.3

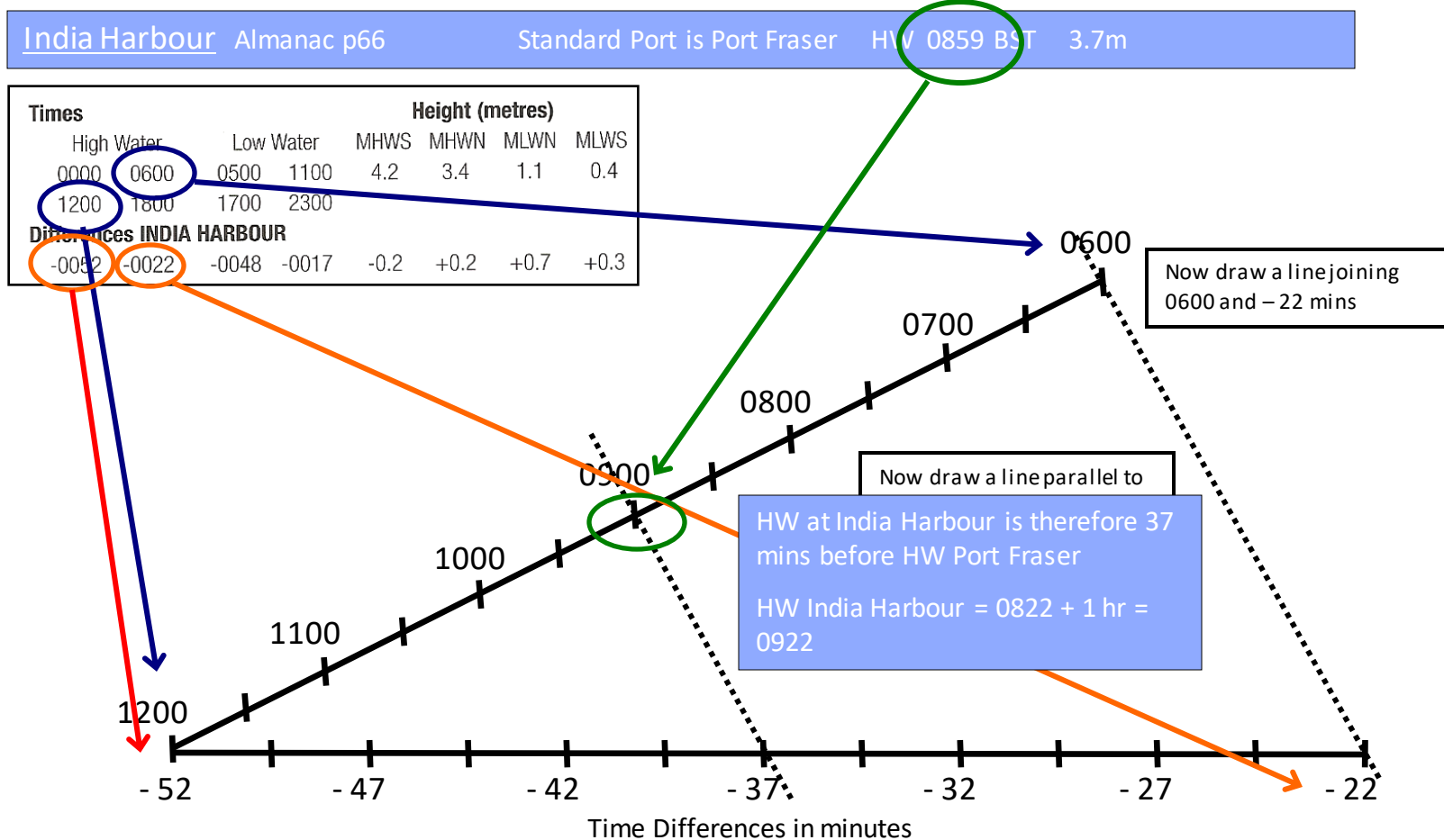Note Differences vary according to Springs and Neaps range

If HW at Port Fraser is at 0000 or 1200 then it is 52 minutes earlier at India Harbour

Times are UT
In summer the hour is added after the corrections are applied

USING THE 'CROCODILE' CALCULATOR

Task: Calculate the time of HW at India Harbour on the morning of 21 July

India Harbour Almanac p66   Standard Port is Port Fraser   HW 0859 BST   3.7m

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0500	1100	4.2	3.4	1.1	0.4
1200	1800	1700	2300				
Differences INDIA HARBOUR							
-0052	-0022	-0048	-0017	-0.2	+0.2	+0.7	+0.3

0600

Now draw a line joining 0600 and – 22 mins

0700

0800

0900

Now draw a line parallel to

HW at India Harbour is therefore 37 mins before HW Port Fraser

HW India Harbour = 0822 + 1 hr = 0922

1000

1100

1200

- 52   - 47   - 42   - 37   - 32   - 27   - 22

Time Differences in minutes

The Problem

- A yacht intends to anchor just inside South Point in the Farlow River on Sunday 11 August at 1600 local time.

- The yacht has a draught of 1.5 m and the skipper requires a 1 m clearance at all times.

- In what depth should the yacht anchor if the intention is to remain until 2200?

- So we need to calculate the fall of tide 1600-2000 or low water…..

Information

- Details of the Farlow River are on page 61 of the Training Almanac
- It is a **SECONDARY PORT**.

The Differences Table

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2

The Differences Table

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2

Standard Port Information

NAMLEY - Sunday 11 August

HW   1334 UT   4.0 m

LW   1930 UT   0.1 m

NB - Work in zone time until differences have been applied.

The Differences Table

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				

Differences FARLOW

-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2

1334

Difference for 1334

RYA Training Centre

Finding the difference

- Draw two lines at an angle.

- Divide the "base" line into equal units.

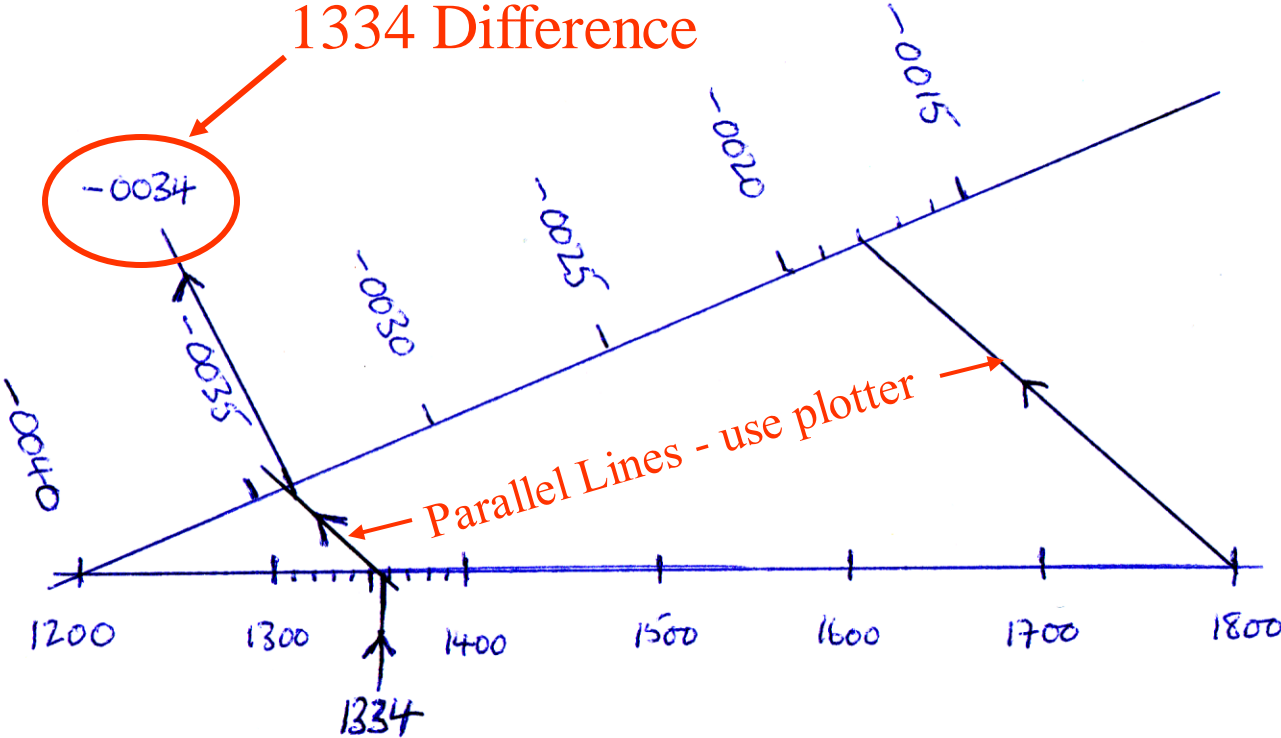- Divide the "differences" line into equal units

Differences
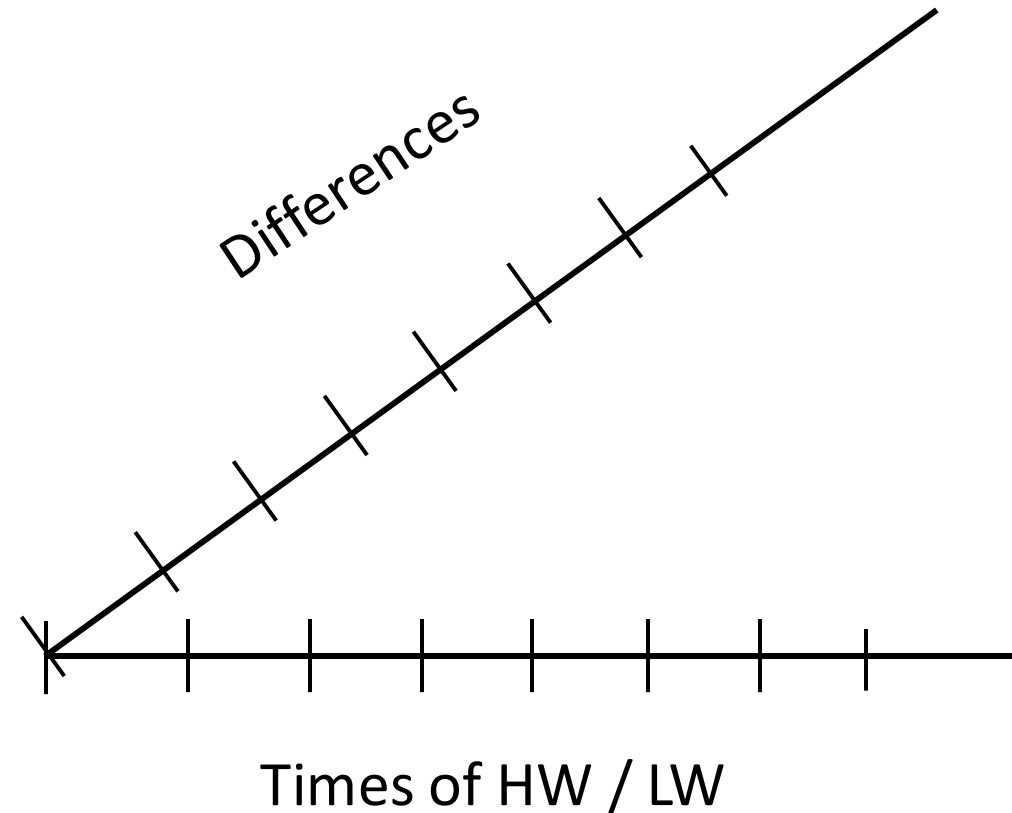
Times of HW / LW
OR
Heights of Spring /Neaps HW / LW

HW Differences
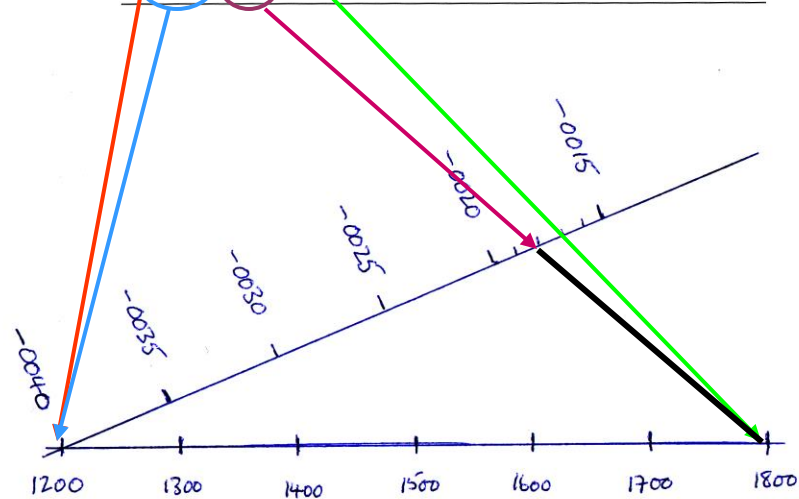
Difference for a HW at 1334

1334 Difference

-0034

-0015

-0020

-0025

-0030

-0035

-0040

Parallel Lines - use plotter

1200 1300 1400 1500 1600 1700 1800

1334

Time of HW at Farlow River

HW time at Namley	1334 UT
Difference Farlow River	-0034
HW time at Farlow River	1300 UT
DST Correction (+0100)	1400 DST

LW Time

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2
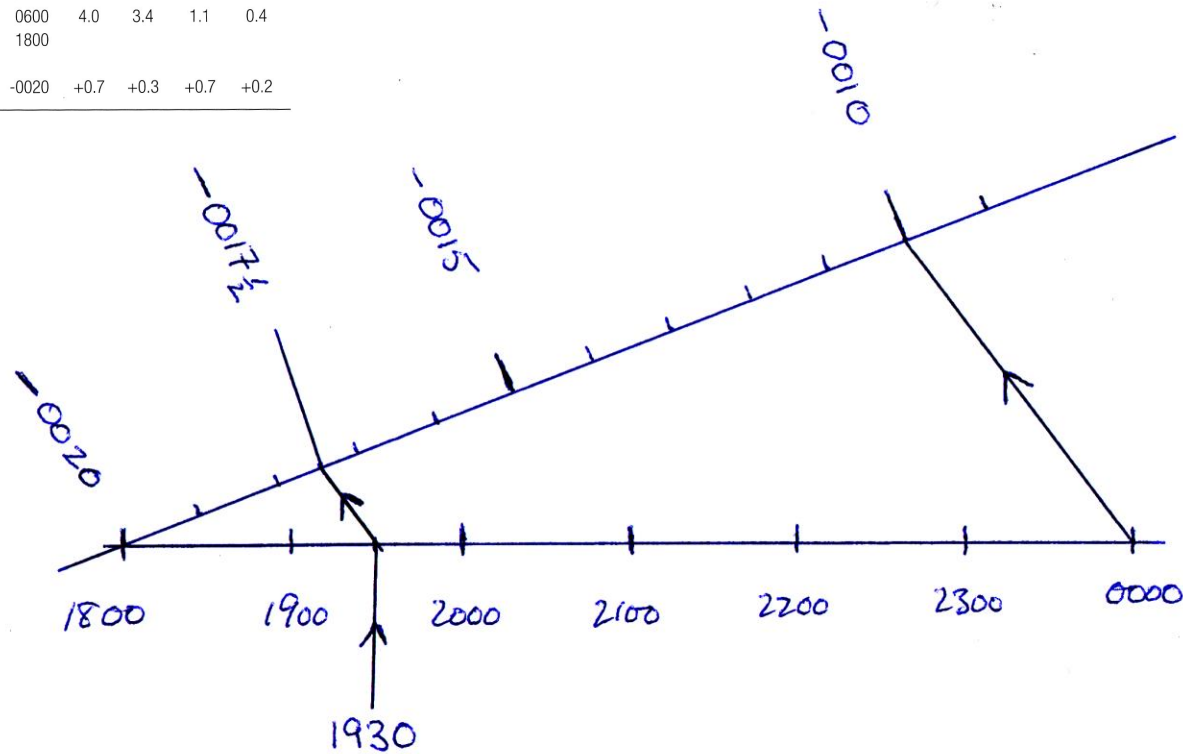
LW at Farlow River = 1930 - 0018 = 1912 UT / 2012 DST

HW Height

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2

Height at Namley (Springs)=   4.0 m

Difference Farlow River   =   +0.7 m

Ht at Farlow River   =   4.7 m

LW Height

Standard Port **NAMLEY HARBOUR** (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2
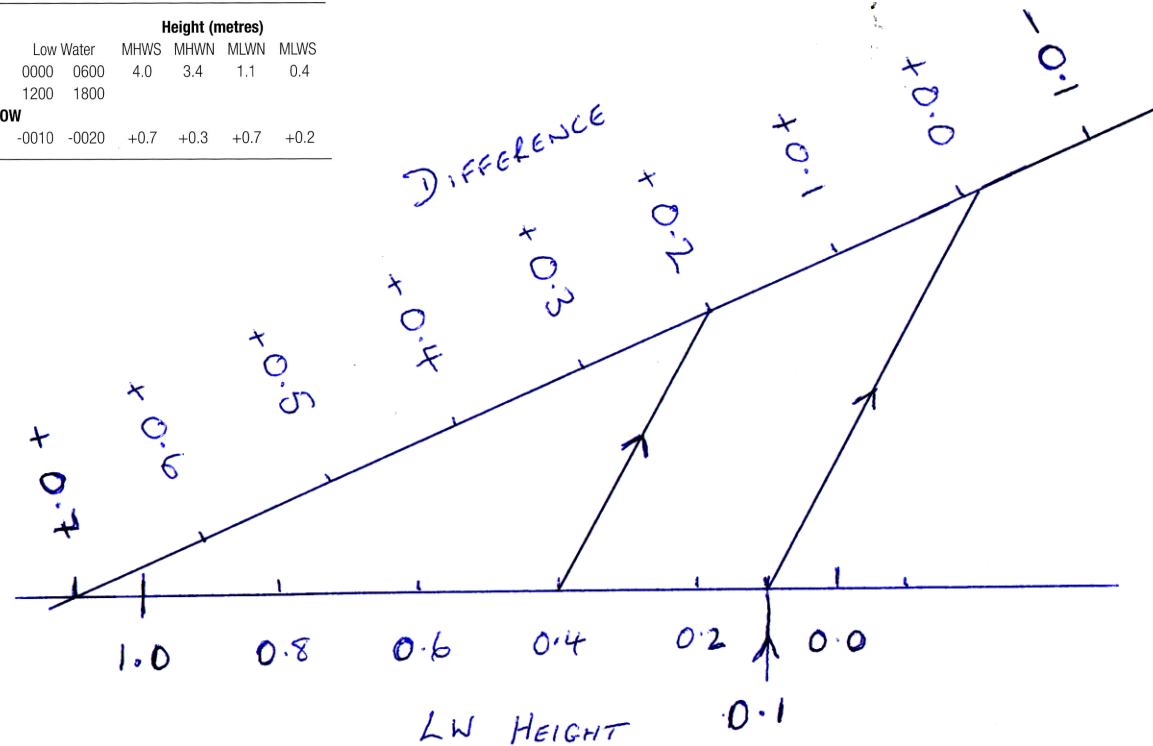
LW Namely Harbour 11 Aug 1930 0.1m

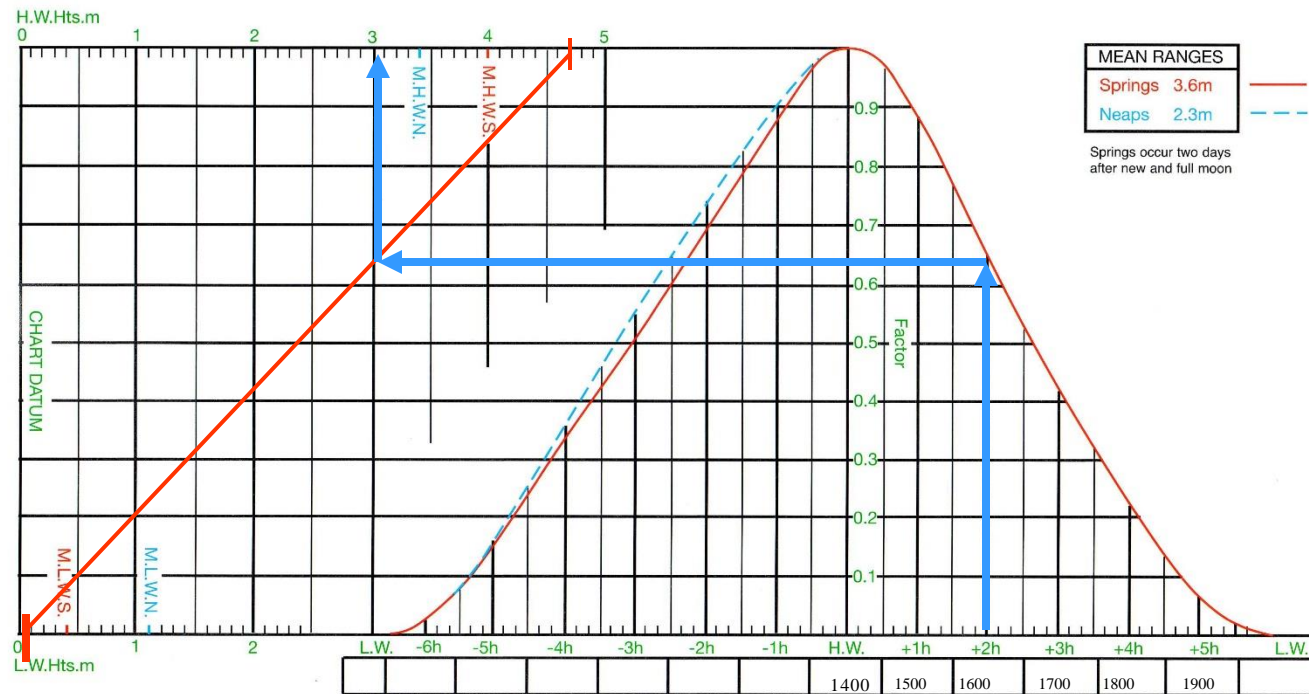LW Height Farlow River = 0.1 + 0.0 = 0.1m

Summary

Farlow River

HW   1400 DST   4.7m

LW   2012 DST   0.1m

These times and heights are now used to mark up the Standard Port Tidal Curve (Namley)

Tidal Curve

AXE YACHT CLUB

Depth required at 1600

Height of Tide at 1600 = 3.0 m

Height at LW = 0.1 m

Fall = 2.9 m

Depth required = Fall + Draught + Clearance

= 2.9 + 1.5 + 1.0

= 5.4 m

Low Water with a metre below the keel!

A few to try……

Secondary Port Tidal Heights - Examples

NB All times given in the questions are local times; answers should also be given as local times.

1. What will be the time of HW at Stevenstown (p45) during the evening of Sunday 21 July?

2. What will be the time of LW at Rozelle Cove Marina (p65), during the afternoon of Saturday 9 March?

3. What will be the height of tide in Bramhope Creek (p37) at 1630 on 26 September?

4. At what time will the rising tide reach a height of 2.6m during the day on Saturday 15 June at Endal Marina (p64)?

Homework:

Vertical Datum, Depths and
Heights Exercise

Pages 34 to 36

Please e-mail answers to
coursesayc@rdsailing.org.uk