



Brightlingsea
Harbour
Commissioners

Morgan Marine Planning Application
User Group Hazard and Risk Assessment -
Safety of Navigation

Leisure Users - Bathymetric Information

Background

- BHC have written the User Group Hazard and Risk Identification Assessment – Safety of Navigation.
- This PowerPoint summarises bathymetric information on the proposed eastern basin and the impact on existing Leisure User Groups.

Bathymetric Survey of Morgan Marina

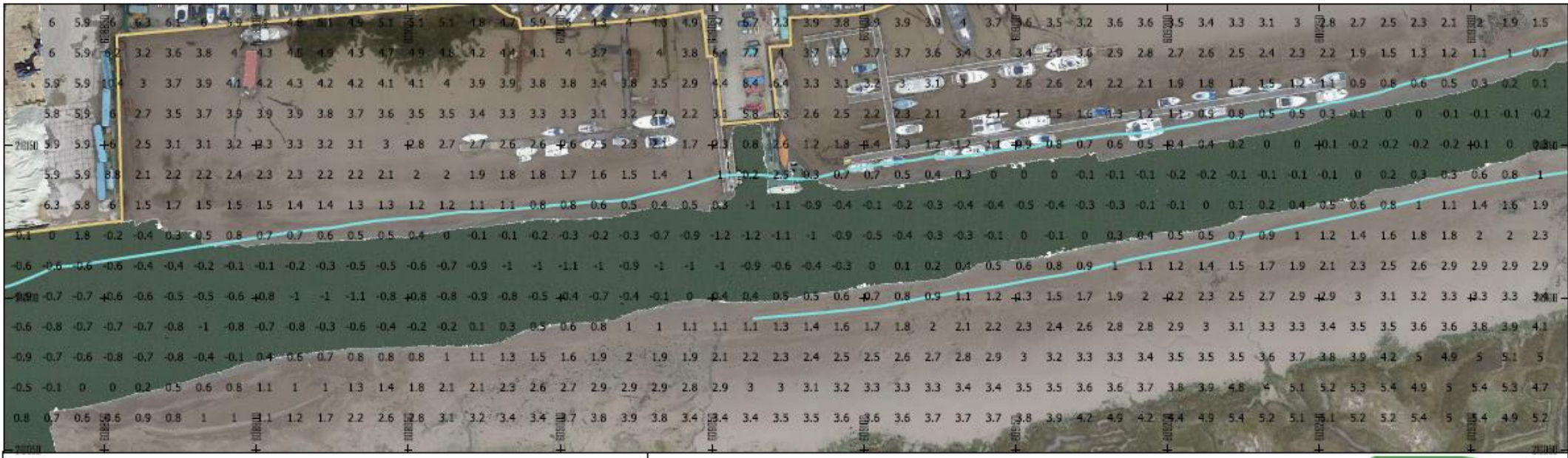
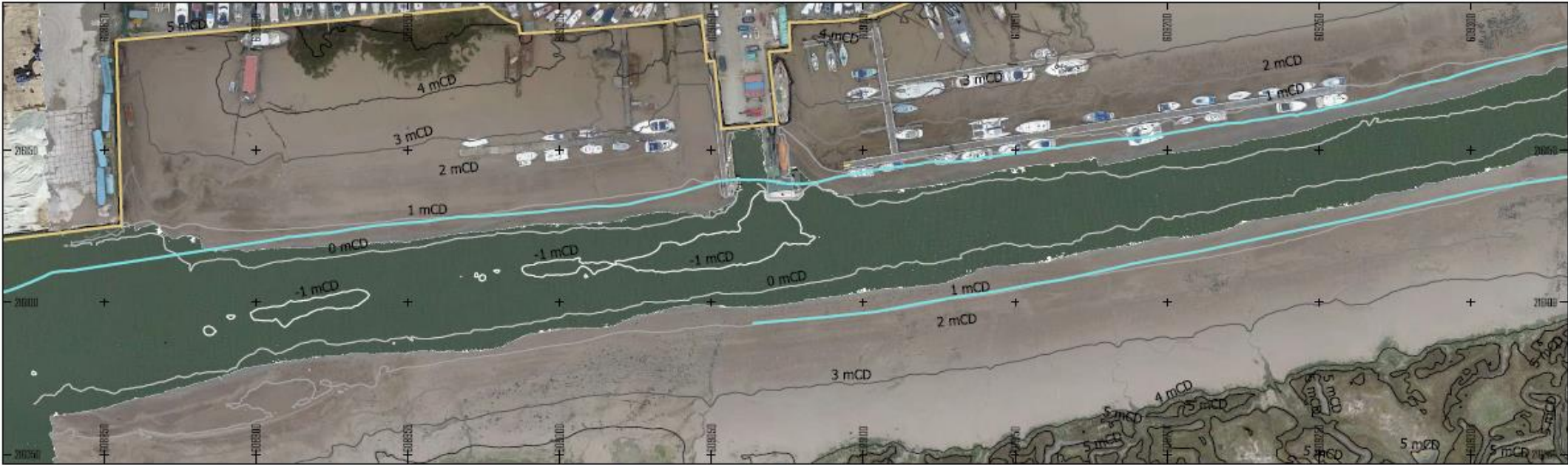
- Survey April 2019.

Hickman's tidal moorings at 0.5m to 1.0mCD.



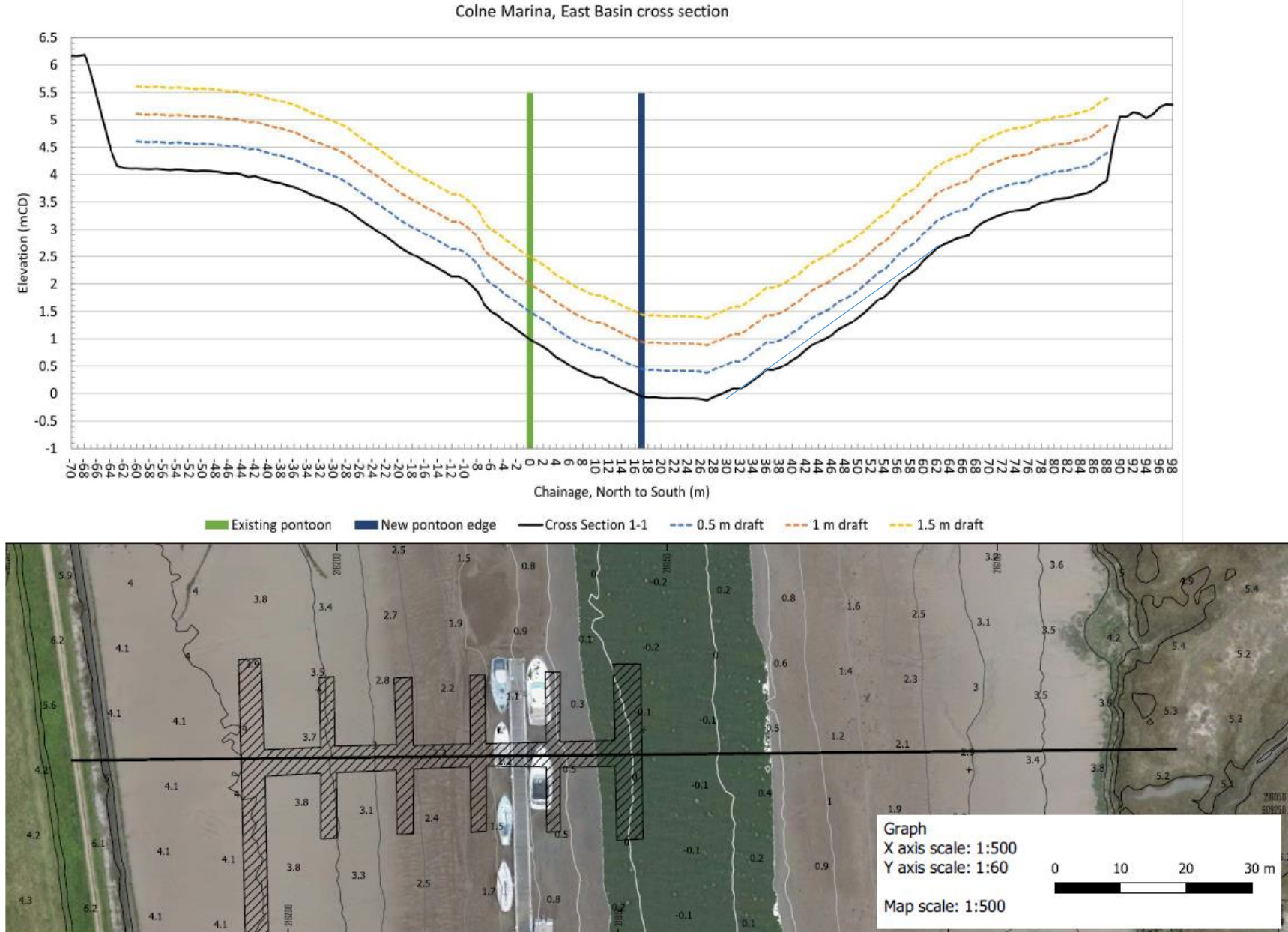
OS Mean Low Water line and Mean High Water line

- Mean LW /HW are used by MMO and Planning.



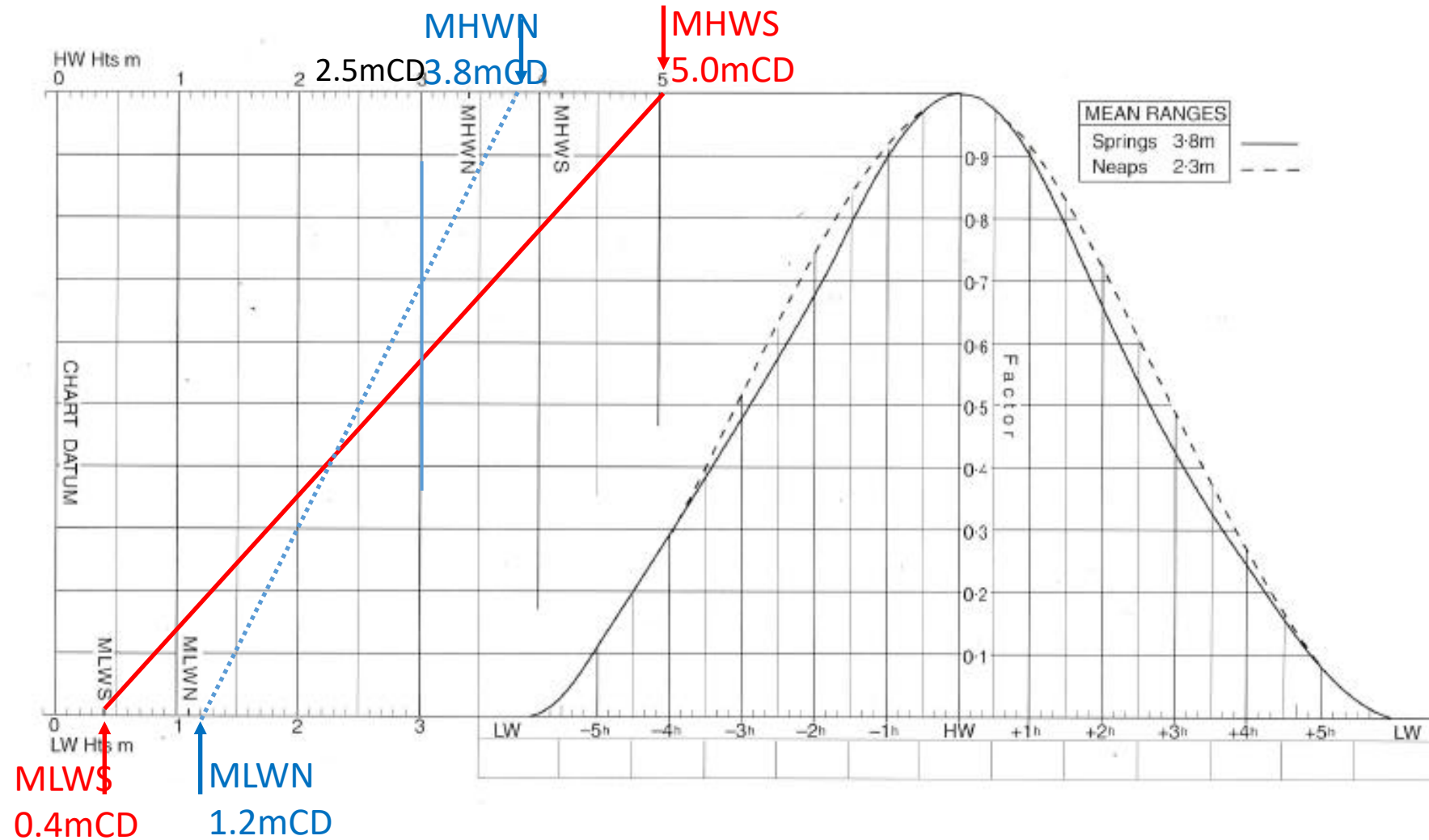
Section at East end of New Marina

- Section shows creek bed level.
- Vessel draft levels control the water levels needed for passages:-
 - 0.5m = small vessels.
 - 1.0m = gigs, motor cruisers stern draft of barges.
 - 1.5m = typical yachts – eg Sonatas.



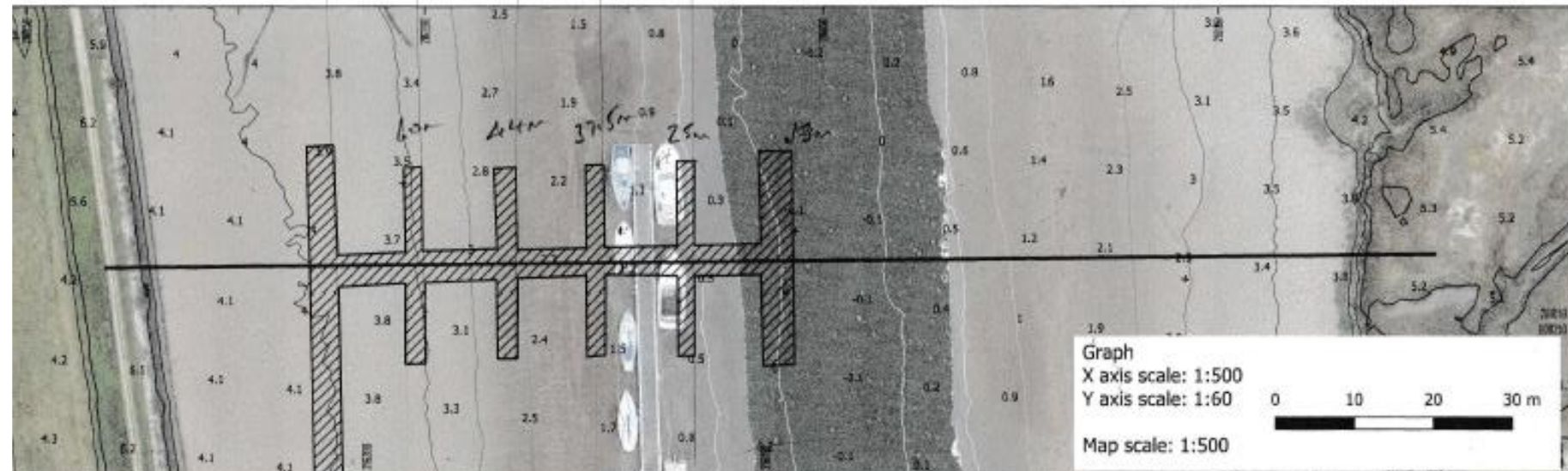
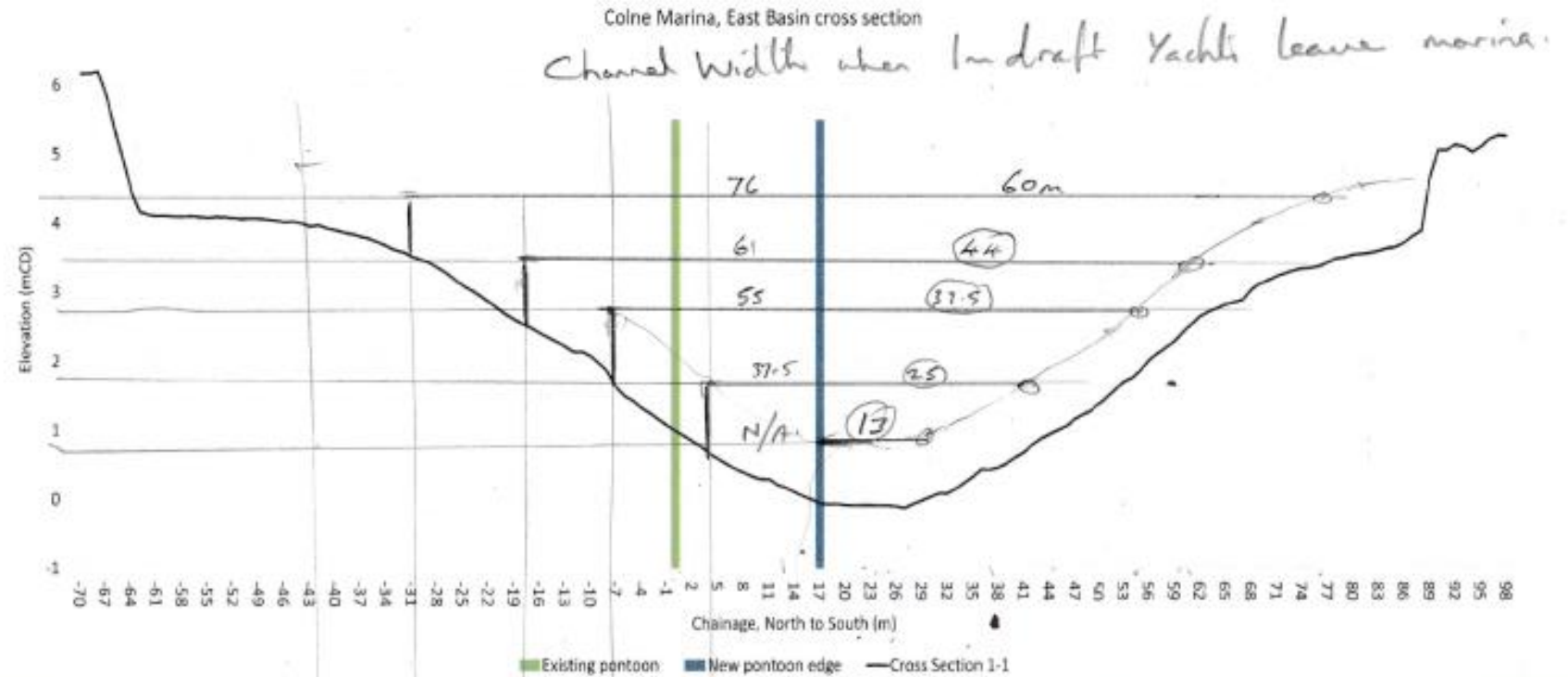
Brightlingsea Tide Cycle (based on Walton)

- Admiralty tidal cycle data for Walton corrected for Brightlingsea.



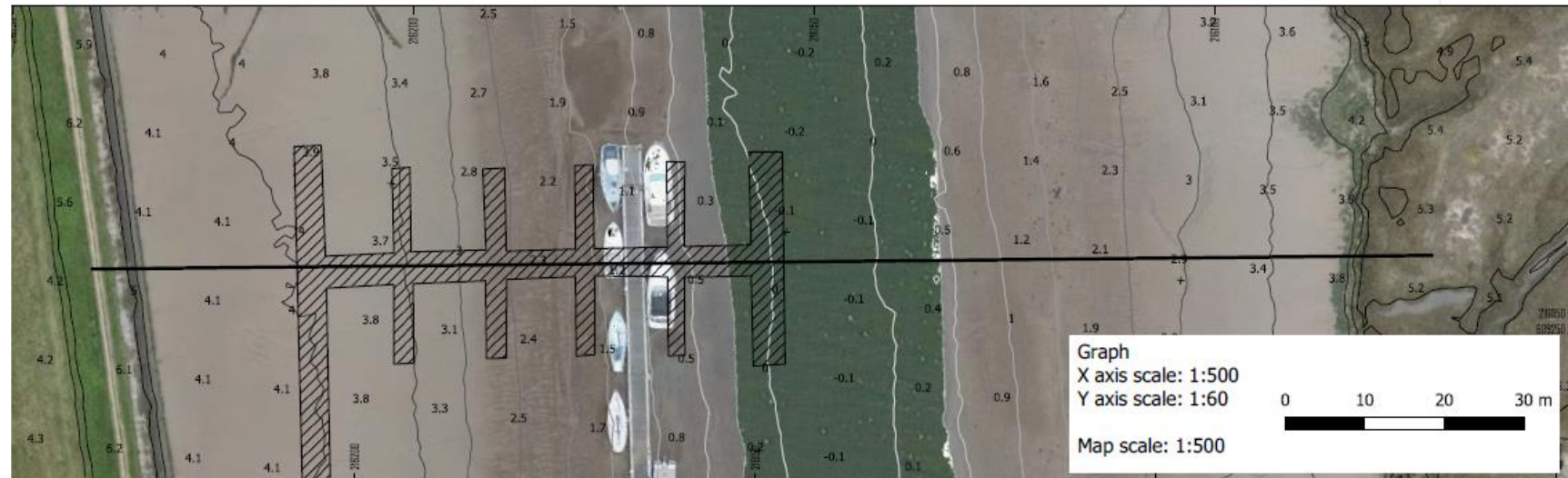
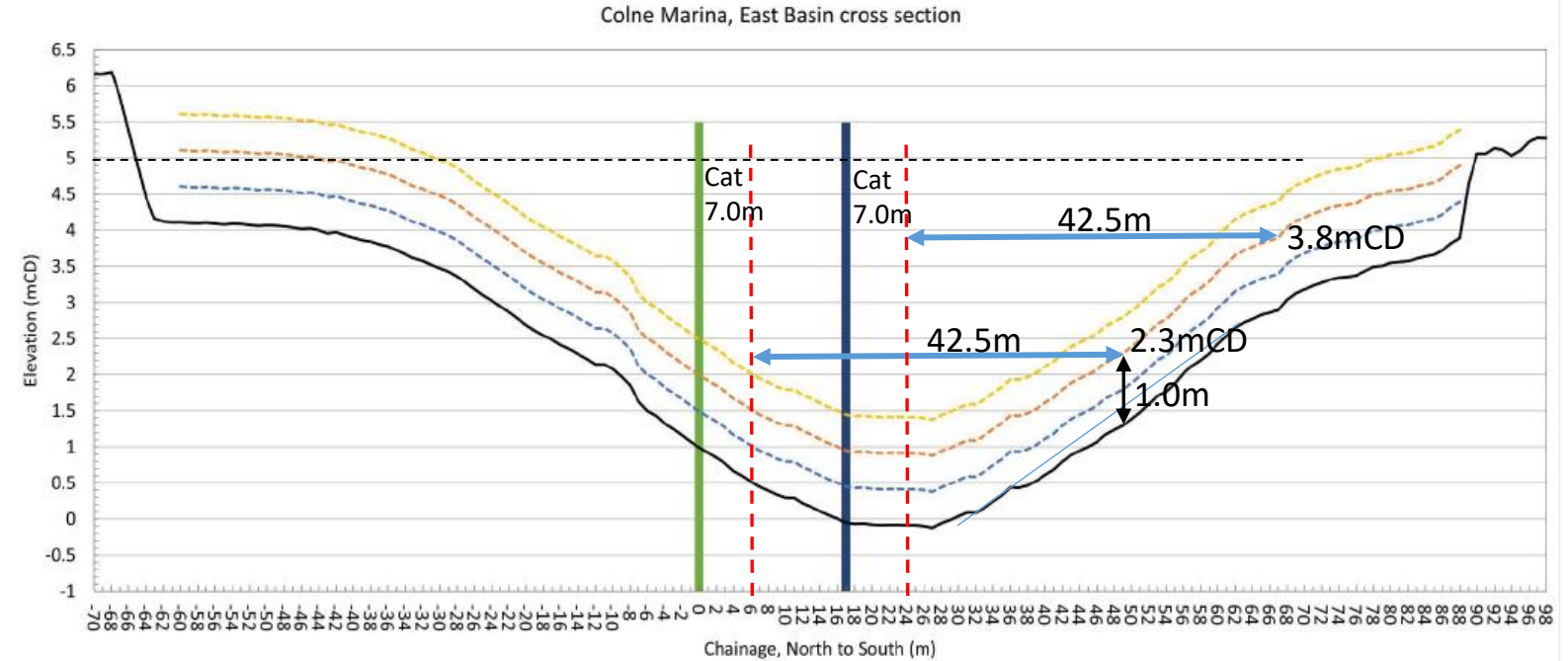
Vessels leaving Proposed East Basin

- Proposed East Basin Finger Pontoons shown.
- Based on 1m vessel draft.
- Water levels to exit marine finger pontoons shown.
- Only the southern most (deep water) pontoon has less than 25m channel width to turn out of marina.
- Southern Pontoon only 13m channel width.



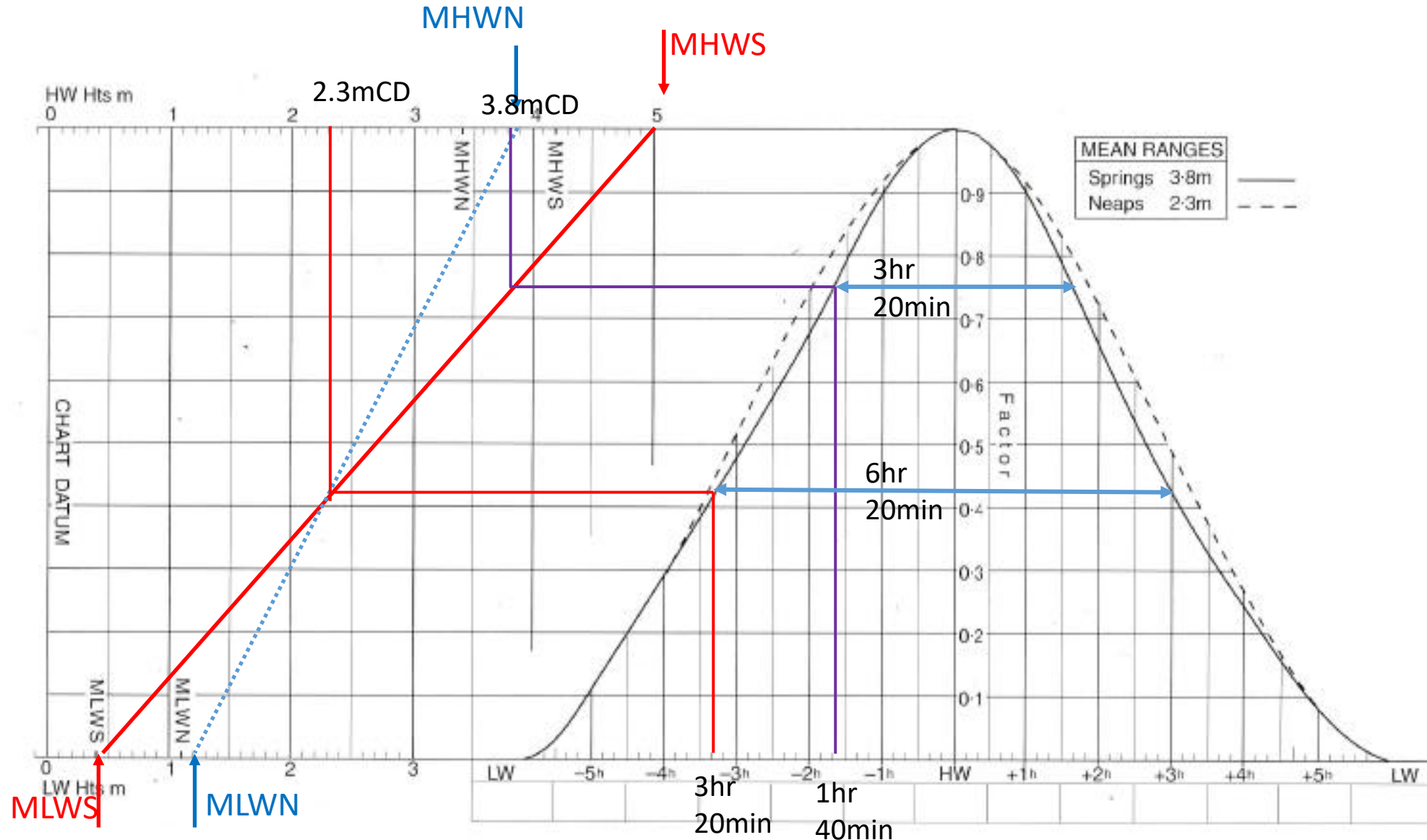
4 Gigs Abreast - Oar tips of 7.62m with 4 gaps of 3m = 42.5m

- Consider existing tide levels required for Gig races.
- 4 Gigs abreast
 - 4 gigs - unlikely but allows for yacht passing.
 - Oar tips – 7.62m.
 - Water depth at oars = 1m.
 - Min clear space – 3.0m.
 - Min total width – 42.5m.
 - Allow 7m wide vessel on pontoon.
- Existing pontoon - 2.3mCD
- Proposed pontoon – 3.8mCD
- Time required to run Gig races
 - 11 pairs at 2min intervals = 22min.
 - Races last 25min.
 - Fleet time = 47min.
 - Change = 30min.
 - No of fleets = 3
 - Total race time = $(3 \times 47) + (2 \times 30) = 201\text{min.}$



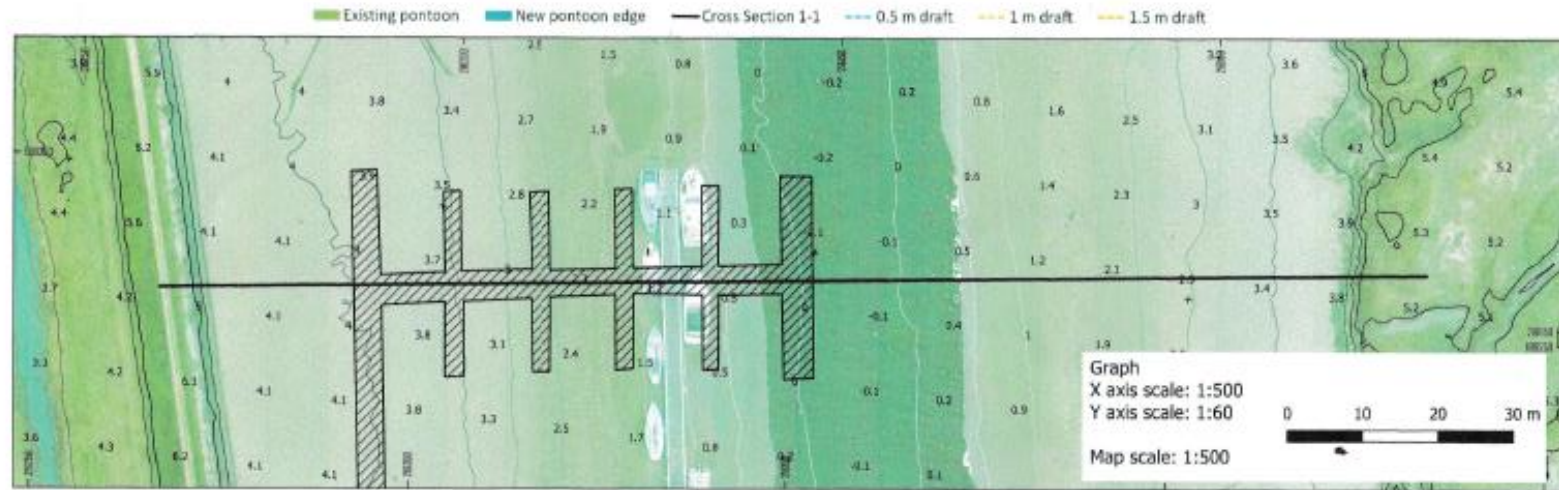
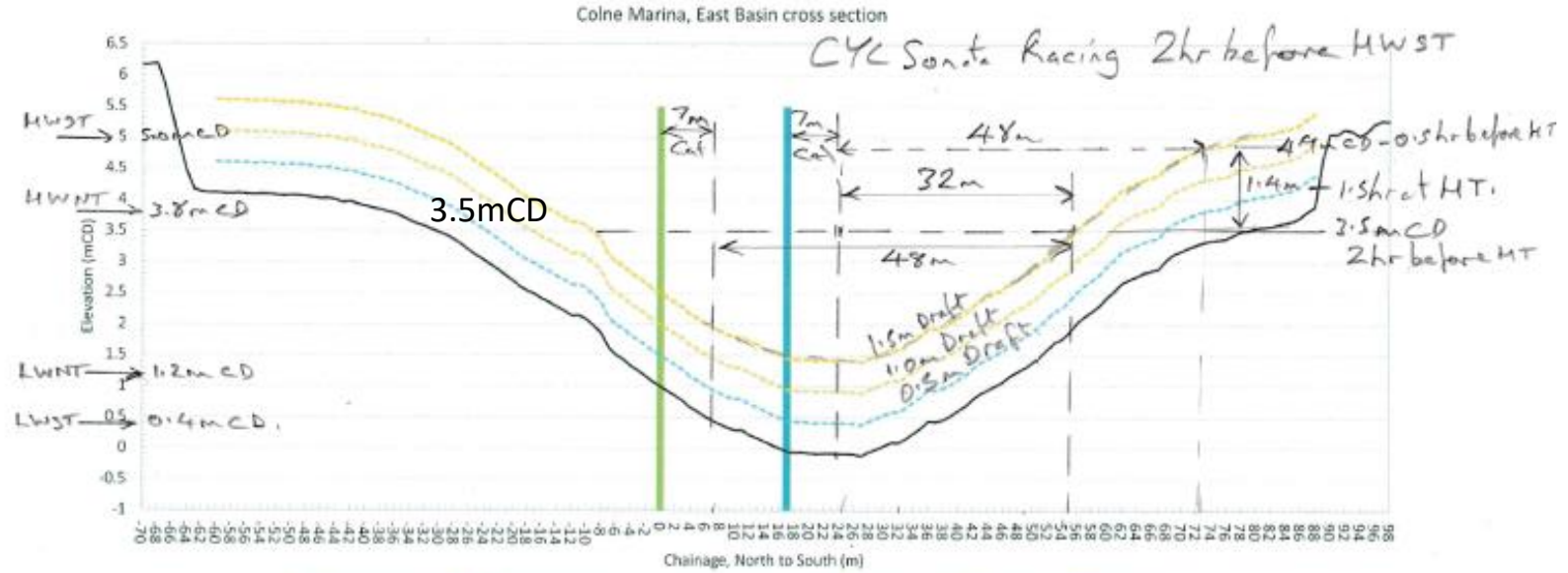
4 Gigs Abreast – Width = 42.5m - Tide MHWS = 5.0mCD.

- Total time required for Gig races is 3hr 21min.
- Existing pontoon - race window is 6hr 20min.
- Proposed pontoon - race window is 3hr 20min.



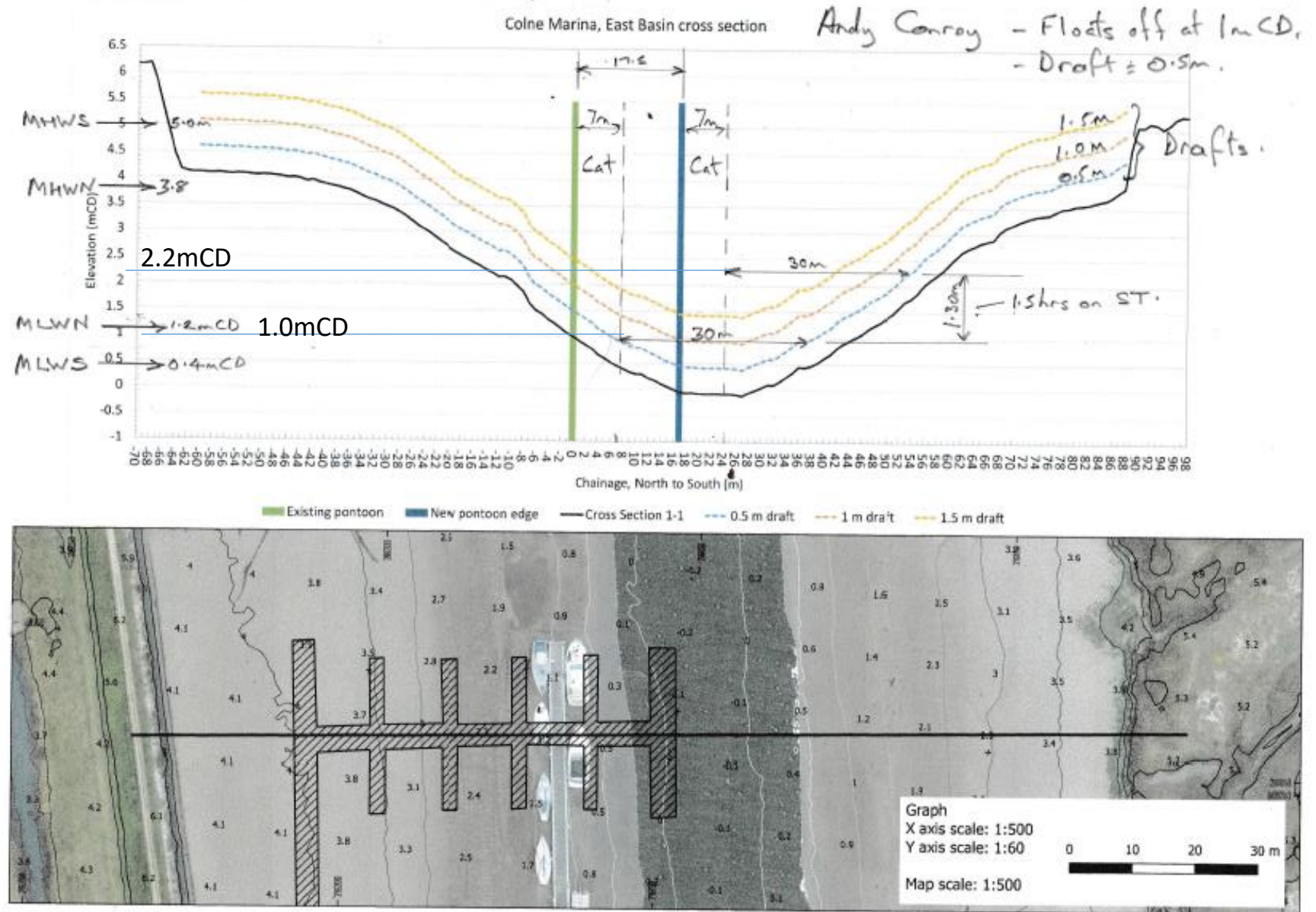
CYC Sonata Yachts

- Sonata draft = 1.5m.
- Sonata races can start 2hrs before MHWS at 3.5mCD, when the channel width is 48m.
- Existing pontoon - race window is 4hrs.
- Proposed pontoon - race window is 1hr.

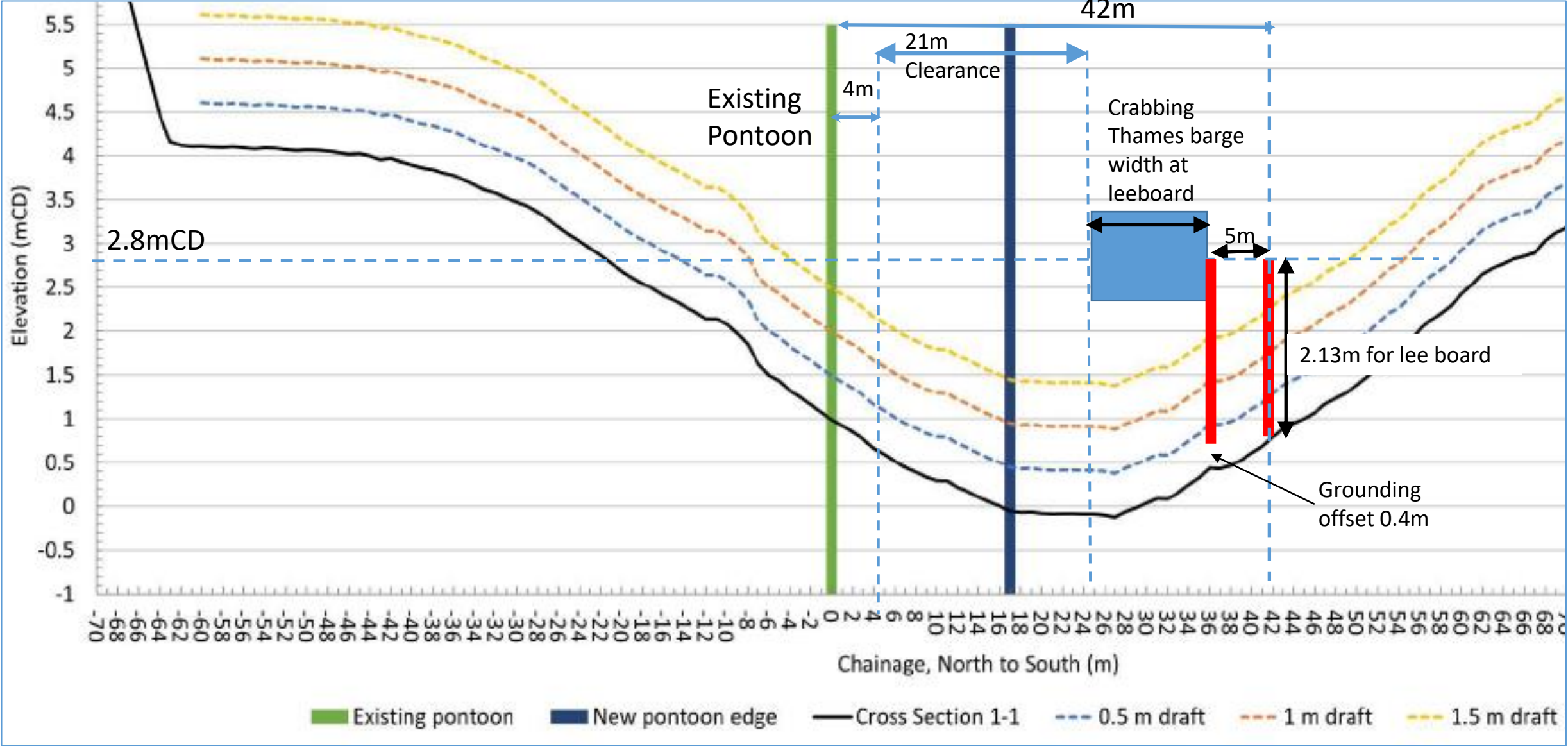


Craft with 0.5m draft. – Moored at Hickman's boat yard

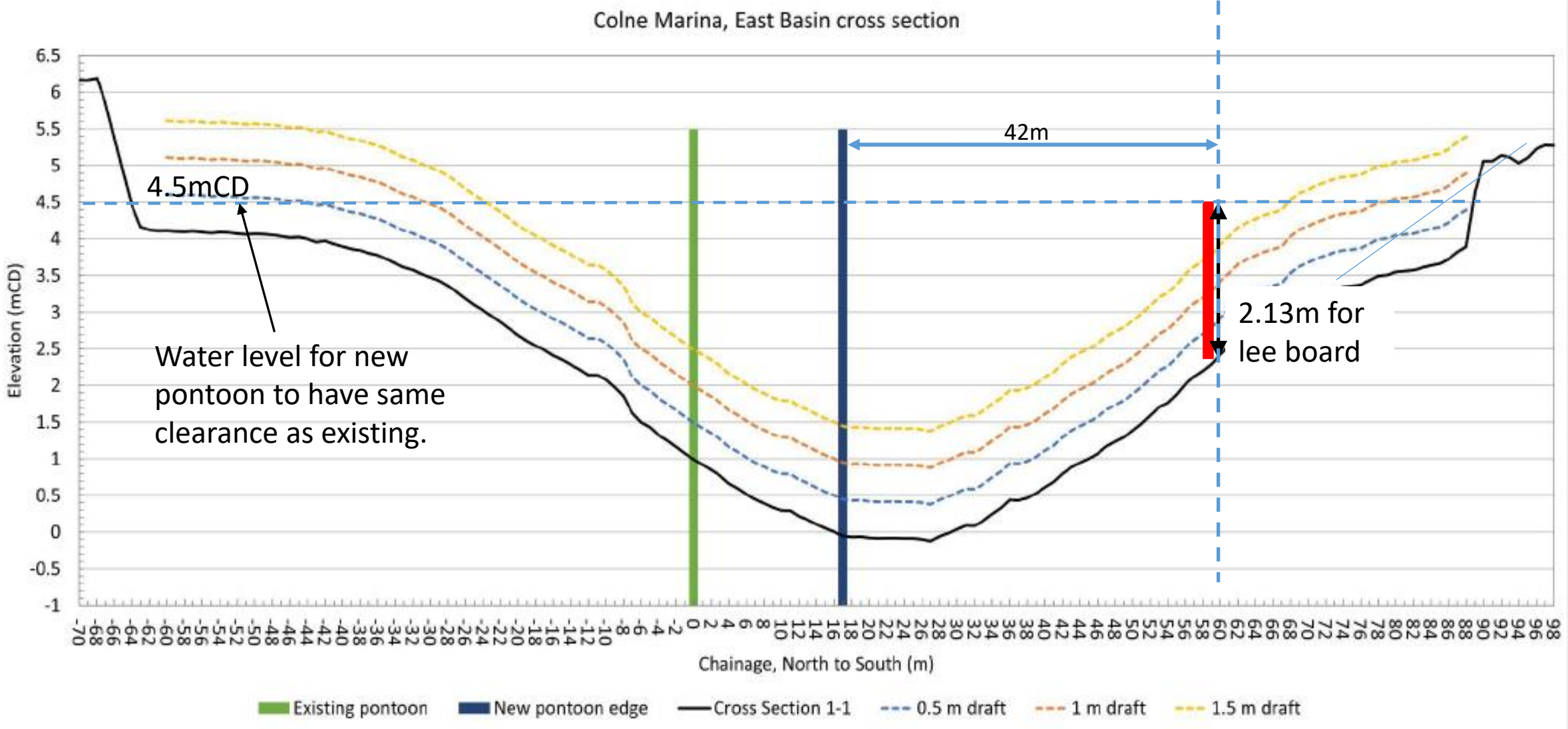
- Craft will float off from Hickman's tidal moorings at 1mCD.
- Existing pontoon - channel width at 1mCD tide level is 30m.
- Proposed pontoon – channel width at 2.2mCD tide level is 30m.
- Existing pontoon – Access window is up to 9hrs.
- Proposed pontoon - Access window is reduced to up to 6hrs.



Eastern Basin Existing Pontoon - Thames Barge - existing safe passage - Lee boards at 2.13m



East Basin – Proposed pontoon – To establish 42m clearance



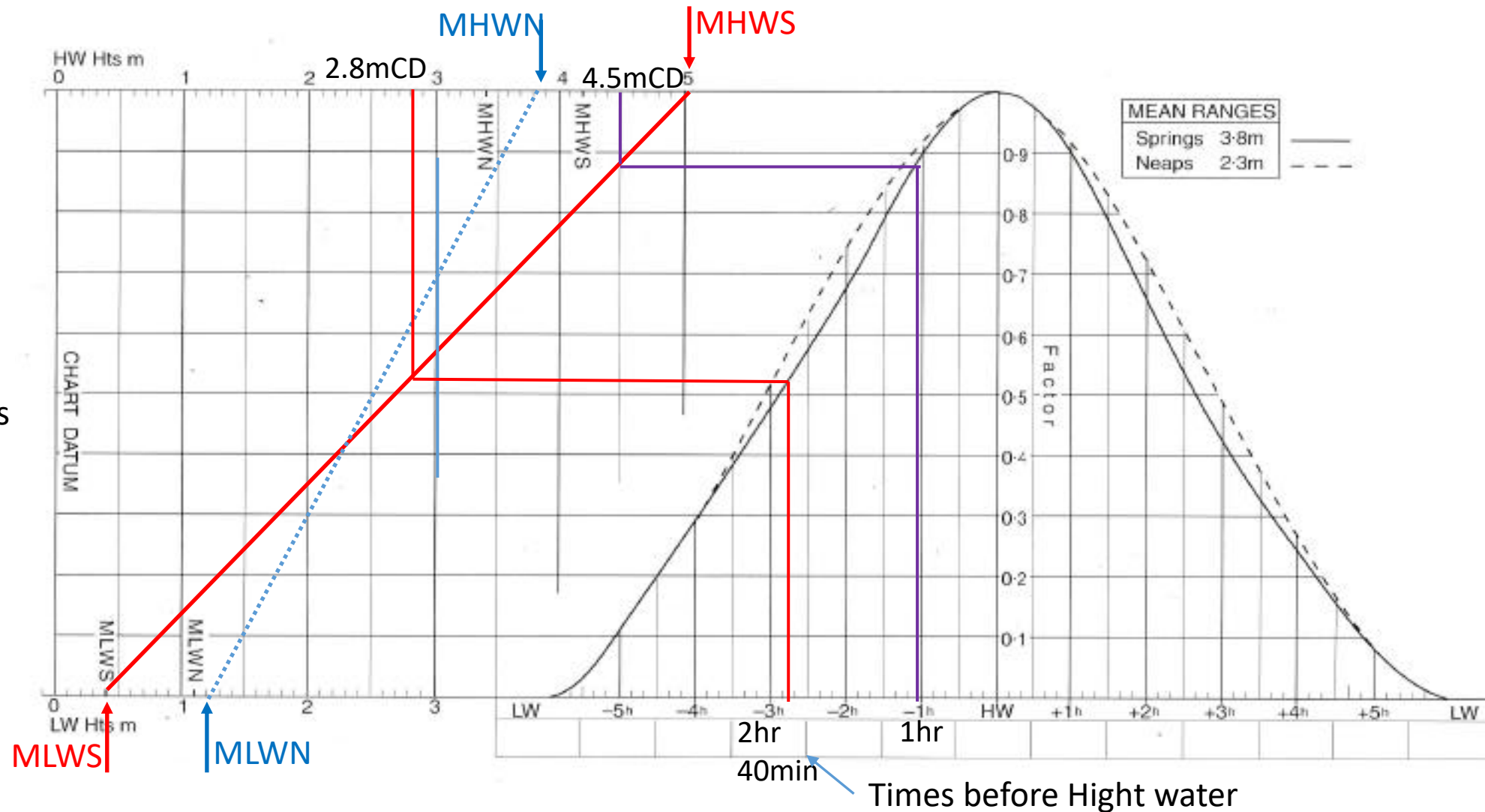
Thames Barge – Tide levels.

Spring tides -

- For the existing pontoon the 42m safe passage requires a tide level of 2.8mCD at 2hr 40min before high tide.
- For the proposed pontoon the 42m safe passage requires a tide level of 4.5mCD at 1 hr before high tide.
- On Spring tides – delay is 1hrs 40min.

Neap tides –

- The barge cannot pass the proposed pontoons at neap tides.



Conclusion

- The Bathymetric data shows that the proposed pontoons would significantly reduce the ability of leisure users to access the main channel.