

Great Yarmouth Third River Crossing

RYA's Narrative Case for Accompanied Site Inspection (Tue-09:00-19-Nov-2019)

Time	Viewing	RYA's Purpose	RYS's Description & Case
09:15	1. Drive across Breydon Bridge	View Waiting-Pontoons	<p>(i) The viewed small waiting-pontoon serves both Breydon and Haven bridges.</p> <p>(ii) The waiting pontoon is situated remote from the point-of-risk which lies at the bridge itself</p> <p>(iii) By situating new waiting pontoons immediately alongside the new bridge, risk of collision with passing vessels and current-effect from passing vessels are increased as they manoeuvre through the opening</p> <ol style="list-style-type: none"> a) Required possible use of bow-thrusters by passing vessels will provide a sideways force at least equal to that of a collision, or greater for steering back onto intended track; b) Vessels passing against a stream and constrained through harbour laws, to speed-over-the-ground may actually travel through the water at <12-knots (max permitted s.o.g. + opposing water current); this will cause considerable vessel wake, resulting in consequential Yaw, Veer and Surge on any moored boat; in turn stressing mooring lines and fixtures <hr/> <p>(iv) Mitigation of the risks could be effected by situating waiting-pontoons remotely from the bridge piers.</p> <ul style="list-style-type: none"> • Response at TR010043 (Applicant's 7.5T (RYA)), Table 5.1 Ref.3, that <ol style="list-style-type: none"> a) Pontoons at 50m should be long enough to provide flexibility for boats to moor in best/safest position away from the bridge, b) in principle for a larger flotilla of boats the operator would arrange an immediate separate opening. • Response is considered acceptable.
09:30	7. Bridge Crossing Point	Evidence of Narrowing	<p>(i) The ~88m river-width will be reduced to ~56m between bridge-piers</p> <p>(ii) The buttresses</p>
10:00	Drive across Haven Bridge	Evidence of Water Current	<p>(i) The Applicant at TR010043-000738 (NCC/GY3RC/EX/029 pNRA), Appendix D, Art. 5.1 &5.2 states that peak flow rates of 4–5 knots can be experienced; that with a bridge-piers narrowing these rates may increase 60% or more (up to anticipated 8 knots)</p> <p>(ii) The flow viewed at Haven Bridge during ASI was estimated at <2 knots, but was nevertheless very evident</p> <p>(iii) Such flows will provide considerable risk to boats approaching or departing the waiting pontoons, since the velocity gradient between full flow in the stream and zero in current-lee of buttress, all within the hull length of the boat will provide unpredictable conditions.</p> <hr/> <p>(iv) Mitigation of the risk is addressed in exactly the same manner as #iv above (#a long enough pontoon to allow single boats ample manoeuvring space and #b the anticipated operating regime for larger flotillas would arrange an early additional opening)</p> <ul style="list-style-type: none"> • Response will be considered; The Applicant will arrange a HAZID session for harbour users including the Harbourmaster [TR010043 pNRA, Table 5.1, Ref.4], to date January-2020.

Time	Viewing	RYA's Purpose	RYS's Description & Case
10:00		Evidence 3-Span nature of Haven bridge	<ul style="list-style-type: none"> (i) The free-standing two piers at Haven Bridge provide ~24% restriction to current-flow (ii) The buttress piers at the new bridge will reduce river-width from ~88m to ~56m between buttresses, approximately ~36% restriction. (iii) If the new bridge were designed in similar manner as a 3-span construct, flow rates would likely not be impacted as much (iv) Mitigation is not offered, save that the initial dimension assessments were based on cost.