



**Canal &
River Trust**

Making life better by water

Response to High Speed Two: Phase 2b Design Refinement Consultation

September 2019

Please find below the response of the Canal & River Trust (the Trust).

We're the charity who look after and bring to life 2000 miles of canals & rivers. Our waterways contribute to the health and wellbeing of local communities and economies, creating attractive and connected places to live, work, volunteer and spend leisure time. These historic, natural and cultural assets form part of the strategic and local green-blue infrastructure network, linking urban and rural communities as well as habitats. Our waterways are on the doorstep of 8 million people and reach some of the most deprived communities within the UK. By caring for our waterways and promoting their use we believe we can improve the wellbeing of our nation.

The Trust's work is focussed on making life better by water. The key objective therefore for the Trust, in responding to the consultation, is to protect our assets and interests and to ensure that as the proposal develops the impacts of the scheme on our inland waterways network or affecting third party restoration projects are appropriately mitigated.

The Trust has a range of charitable objects:

- o to preserve, protect, operate and manage Inland Waterways for public benefit:
 - o for navigation;
 - o for walking on towpaths; and
 - o for recreation or other leisure-time pursuits of the public in the interest of their health and social welfare;
- o to protect and conserve for public benefit sites, objects and buildings of archaeological, architectural, engineering or historic interest on, in the vicinity of, or otherwise associated with Inland Waterways;
- o to further for the public benefit the conservation protection and improvement of the natural environment and landscape of Inland Waterways;
- o to promote, facilitate, undertake and assist in, for public benefit, the restoration and improvement of Inland Waterways;
- o to promote and facilitate for public benefit awareness, learning and education about Inland Waterways, their history, development, use, operation and cultural heritage by all appropriate means including the provision of museums;
- o to promote sustainable development in the vicinity of any Inland Waterway for the benefit of the public, in particular by:
 - o the improvement of the conditions of life in socially and economically disadvantaged communities in such vicinity; and
 - o the promotion of sustainable means of achieving economic growth and regeneration and the prudent use of natural resources; and
- o to further any purpose which is exclusively charitable under the law of England and Wales connected with Inland Waterways;

provided that in each case where the Trust undertakes work in relation to property which it does not own or hold in trust, any private benefit to the owner of the property is merely incidental.

The comments below are made specifically in relation to the changes outlined in the Design Refinement Consultation. These comments should be read alongside the matters that the Trust have identified in previous consultations in relation to the locations specified. The Trust wish to re-iterate that we will require the crossing designs to follow the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.

The Trust hopes that the following comments are helpful and looks forward to further dialogue with HS2 Ltd to ensure that the developing proposal addresses the impacts on and opportunities for the waterway network.

Please direct any queries to John Harris, HS2 Project Lead, Canal & River Trust, Aqua House, 20 Lionel Street, Birmingham. B3 1AQ. Telephone: 07710 175244, email: john.harris@canalrivertrust.org.uk

Proposed Design Refinement 3: What are your views on the proposed replacement of the cut and cover tunnel under junction 10 of the M42 with a 2km bored tunnel ?	
The Trust has no objection to the proposed bored tunnel. We do however have comments to make on the changes in the Pooley Country Park area adjacent to the Coventry Canal and those in the Bodymoor Heath area near to the Birmingham & Fazeley Canal.	
Issue	Without prejudice potential mitigation
Pooley Country Park, Coventry Canal	
<u>Amenity of the canal</u>	<u>Amenity of the Canal</u>
<p>The re-alignment of Pooley Lane is of significant concern to the Trust. The current proposal re-aligns Pooley Lane to pass between the canal and the viaduct abutment. It appears that the re-aligned Pooley Lane is to serve commercial premises, potentially another property and the Country Park. Regardless of the future of the other premises and the Country Park the introduction of the road carrying vehicles to and from the commercial premises will further alter the character of the canal in this area, bringing more road vehicles into the canal corridor environment. Given the profile of the land, with canal being in a cutting on its south-western side, retaining structures may be required to support the road near the canal.</p> <p>The Trust would like to understand whether this road is to be an adopted highway. We are also concerned that with the alignment shown there is significant potential for fly tipping near the canal.</p>	<p>Move the re-aligned Pooley Lane away from the canal. It is suggested that an additional two spans are introduced into the Pooley Lane Viaduct to the south of chainage 178+700. Pooley Lane could then pass through the southernmost span circa chainage 178+600. The existing ground is more uniform in level in this location reducing the potential for retaining structures being required to support the lane. If insufficient headroom is available in this location there is the potential for the existing land level to be reduced. Appropriate screening of the land from the canal would also be required.</p> <p>If the re-aligned Pooley Lane is not to be an adopted highway the Trust would want to see measures which strictly control the vehicular access to the lane.</p>

<p>We highlight that the introduction of an access track (not a road) around the abutment of the Trent & Mersey Canal Viaduct at the intersection of HS2 Phase 1 and 2a at Fradley raised similar concerns for the Trust, resulting in a petitioning point. This has now been addressed by the re-routing of the access track via an undertaking between the Secretary of State and the Trust.</p> <p>The Trust does not know the intended future for Pooley Country Park. Should this remain as publicly accessible recreational land then the Trust requests that any redesign takes into account the amenity of the canal and encourages access between the two recreational facilities.</p> <p>We note changes to the layout of the woodland and grassland habitat creation proposed on the north-eastern side of the Coventry canal. The stability of the canal embankment (see the utilities section below) will need to be considered in relation to any planting proposals. The new layout may assist with screening noise from other sources such as the West Coast Mainline and the M42 Motorway.</p>	
<p><u>Drainage</u></p> <p>There appear to be changes or further details of the drainage arrangements.</p> <p>A drainage discharge is shown to the mooring area in the ownership of Warwickshire County Council.</p> <p>The Trust wish to understand how any pumped discharge from the Tamworth tunnel will be disposed of. This applies during construction and operation.</p>	<p><u>Drainage</u></p> <p>We re-iterate that the Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p> <p>Where drainage is to waterspace not owned by the Trust the impact of downstream flooding needs to be considered and discussed with the Trust. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p>
<p><u>Utilities</u></p> <p>A utility diversion is shown along the eastern side of the canal and then crossing the canal to the south of the HS2 Viaduct crossing.</p> <p>The canal is constructed on an embankment along its eastern edge in this location. The utility diversion is shown running parallel with the canal for</p>	<p><u>Utilities</u></p> <p>The Trust require that the utility crossing of the canal is underground.</p> <p>Engineering proposals must investigate and deal with potential subsidence issues. The Trust requires there to be no works that could affect the stability of the embankment or further load the embankment. The environmental</p>

<p>some distance. The embankment has some seepage/hydrophilic vegetation, a historical backscar and is known to have been affected by mining subsidence. It is unknown if the mining subsidence has ceased. There is a risk that construction or permanent works could affect the stability of the embankment.</p>	<p>impact of any mine treatment works must consider and appropriately mitigate the impact on the canal environment.</p>
<p><u>Land Ownership</u></p> <p>We commented at Working Draft Environmental Statement (WDES) stage that Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-407b Grid H8 showed our Infrastructure Trust Property was to be used for grassland habitat creation. No explanation was provided for this use. We are pleased to note that this land has been excluded in the design refinements consultation plan.</p>	
<p>Bodymoor Heath, Birmingham & Fazeley Canal</p>	
<p><u>Highway Matters</u></p> <p>The Trust owns Bodymoor Heath Bridge, which is a Grade II listed structure on Bodymoor Heath Lane. We welcome the change of the road layout to include a roundabout in the vicinity of the canal bridge. This should reduce traffic speeds on the highway and over our bridge. We request that HS2 are satisfied that this layout will not result in traffic queuing at the roundabout and then backing up onto our bridge creating an accident risk and a risk of bridge strikes.</p> <p><u>Access to Marston Lock</u></p> <p>Our understanding is that as part of Phase 1 that the Trust were to be provided with an alternative means of access with vehicles to Marston Lock. We understand that this arrangement will now need to be a permanent arrangement due to the proposed closure of Marston Lane. The alternative route is to be provided by an upgraded Seeney Lane which we assume will pass over Seeney Lane Overbridge. The Trust seeks clarity from HS2 as to the proposed capacity of the bridge and lane, width of the carriageway, weight limit, the ability of vehicles to satisfactorily complete the turn onto the existing roadway parallel to the western side of the M42 and to ensure that the route is suitable for our needs in lieu of Marston Lane.</p>	<p><u>Highway Matters</u></p> <p>A road safety assessment should be undertaken. This should determine whether additional traffic calming or management is required and should be implemented on or over the bridge to prevent the risk of bridge strikes as a result of the change to the road layout.</p> <p><u>Access to Marston Lock</u></p> <p>The Trust requires confirmation that the route to be provided along Seeney Lane meets the Trust's requirements for access to Marston Lock.</p>

<p>Proposed design refinement 5: What are your views on the proposal to realign the route as it passes Trowell to avoid the need to realign the M1?</p> <p>The canal in this area will still be severely impacted. The new route closes off the opportunity to provide some mitigation by re-aligning the canal. Despite the removal of issues related to the re-alignment of the M1, the realignment creates other challenges with the introduction of the Stanton Gate Erewash Canal Underbridge. Our detailed comments on the changes can be found below.</p>	
<p><u>Issue</u></p>	<p>Without prejudice potential mitigation</p>
<p><u>Amenity of the canal - Impact of the route change</u></p> <p>The proximity of the Erewash Valley Railway Lines and the Erewash Canal present a significant challenge for HS2 in crossing both of them on the northern edge of Sandiacre. We consider that if a portal crossing of the canal is required then its impact is almost impossible to appropriately resolve. The magnitude of such a structure would lead to the canal environment being adversely affected with the structure over sailing the canal for many metres with supporting structures on either side of the canal. The Trust has experience of such structures in the West Midlands with the motorway network creating a legacy of problems for the canal environment. The Trust does not wish to see a repeat of this. The Trust, in our WDES response, advised that we require discussions with HS2 about a realignment of the canal as the optimum response to the HS2 route in the WDES, enabling a less skewed, simpler crossing to be formed.</p> <p>The proposed revised alignment of HS2 closes off the opportunity for re-routing of the canal to form a simpler crossing, as envisaged by the Trust. As such we do not consider that this option remains available.</p> <p>A structure to support the highly skewed HS2 line, which straddles the canal will not be acceptable to the Trust.</p>	<p><u>Amenity of the canal - Impact of the route change</u></p> <p>We would welcome discussions with HS2 to investigate potential solutions to this very difficult crossing.</p>
<p><u>Matters relating to the introduction of the Stanton Gate Erewash Canal Underbridge</u></p>	<p><u>Matters relating to the introduction of the Stanton Gate Erewash Canal Underbridge</u></p>

<p>The introduction of the Stanton Gate Erewash Canal Underbridge, the retention of the road known as Stanton Gate and the crossing of the HS2 line results in a net increase in crossings over the canal compared to previous proposals. The three crossings will be concentrated within approximately 200m of one another along the canal. The additional bridge, with woodland habitat creation on the non-towpath side of the canal is likely to create a sense of enclosure on this part of the canal. We have already highlighted above our concerns about the impact of the HS2 on the canal north of Sandiacre. The introduction of a further bridge will exacerbate the impact on this well used canal corridor. As a result, the Trust does not want to see a net increase in bridges in this location.</p> <p>We consider that further information is required to justify the need for a new highway crossing of the canal along with the retention of the existing crossing.</p> <p>No profiles have been provided of the Stanton Gate Erewash Canal Underbridge. The Trust require that appropriate headroom for both the towpath and the navigation is provided. Given the lack of information it is unclear whether the road will be horizontal when it crosses the canal or is intended to be sloping downwards from west to east to allow for clearance over the Erewash Valley Lines and then under HS2. A sloping crossing has implications for the aesthetics of the bridge structure and this is of concern to the Trust. The canal is also in a cutting on its western side. The Trust require that further information is provided to enable us to understand this proposal. Should this proposal progress we wish to input into the design of this crossing.</p> <p>The Stanton Gate Erewash Canal Underbridge should provide for an Equalities Act compliant access to the canal for pedestrians and cyclists.</p> <p>As with the HS2 crossing of the canal, it should be noted that as the water feed to the canal is from the Langley Mill area, a significant water flow will have to be maintained in the canal at all times during construction to keep the canal full downstream.</p>	<p>To prevent a net increase in bridges over the canal, remove the existing Stanton Gate highway crossing of the canal. This bridge has a poor relationship with the canal, being of low headroom and inferior aesthetic quality. The utility crossing immediately to the south of the canal bridge should also be undergrounded. In addition, create an attractive canalside environment to replace the crossings. This should include the retention of the existing canal access points at Stanton Gate. Removal of the Stanton Gate crossing will also require the provision of replacement car parking to enable to Trust to access the canal around 3x per week for water control purposes.</p> <p>The Trust require the highway crossing design to follow the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p>The landscape treatment of the eastern side of the towpath boundary needs to be agreed with the Trust to minimise views of the existing railway.</p>
<p><u>Amenity of the canal – changes to the Stanton Gate Auto-Transformer Station, Balancing ponds and access tracks</u></p>	<p><u>Amenity of the canal – changes to the Stanton Gate Auto-Transformer Station, Balancing ponds and access tracks</u></p>

<p>At the WDES stage we commented on the siting of the Stanton Gate Auto-Transformer Station. We stated that “This needs to be relocated to a less sensitive location. If this is not possible then localised hedgerow and woodland planting around this would be appropriate”. The footprint of the Auto-Transformer Station has been amended with the longest side facing the canal, increasing its impact on the canalside setting. Two balancing ponds are now proposed in this area, with associated inspection access tracks, adding to the visual intrusion in the landscape.</p>	<p>We consider that the Auto-Transformer Station should be re-located to a less sensitive location. If this is not possible it’s orientation should be considered to limit its impact on the canal, along with localised hedgerow and woodland planting to supplement the existing landscape structure. There should be clustering of the Auto-Transformer Station and the balancing ponds away from the canal to minimise intrusion and cumulative impact on the landscape.</p>
<p><u>Drainage</u></p> <p>The drainage arrangements for the balancing pond and drainage ditch to the east of the track are unclear. The Trust seeks clarification of the drainage proposals in this area.</p>	<p><u>Drainage</u></p> <p>The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p>
<p><u>Nottingham Canal</u></p> <p>It is now proposed that HS2 will be in a cutting as it crosses the disused Nottingham Canal, eliminating the potential to safeguard the route for future restoration.</p>	<p><u>Nottingham Canal</u></p> <p>Appropriate archaeological recording should take place, including consideration of some interpretation works in publicly accessible areas</p>
<p>Proposed design refinement 6: What are your views on the proposal to change the height of the route on the approach into Leeds ?</p> <p>Very limited information has been provided to enable us to assess the impact of this change on the waterway corridor. Visualisations from the waterway corridor are required. We have provided some comments below.</p>	
<p><u>Impact on the Waterway</u></p> <p>The proposal to increase the height of the route has also changed the horizontal alignment in places. The re-alignment of the HS2 route to the south of the Hallam Line, east of the M1 moves HS2 further away from the waterway corridor which is welcomed.</p> <p>The extent to which the HS2 crossing of the M1 will be visible from the waterway corridor is unclear. The Trust require HS2 to explain what the arc feature is which is shown on the profile drawing.</p>	<p><u>Impact on the Waterway</u></p> <p>We note that further work is required to establish what level of impact the proposed change will have on the rail supported businesses located along the Network Rail corridor to ensure as many as possible can remain in situ. Whilst acknowledging this, the Trust request that the point at which the HS2 spur line crosses the Hallam Line is moved westwards. This is to remove the HS2 Leeds spur line and its associated infrastructure from the immediate waterway corridor.</p>

<p>It is intended that the HS2 line will cross the Hallam Line immediately west of the M1 crossing. The nature of the engineering structure required to facilitate this is likely to be such that it straddles the Hallam Line. The Trust has a number of matters to raise in respect of this:</p> <ol style="list-style-type: none"> 1. Encroachment into the navigation. The Trust objects to the permanent acquisition of the navigation. 2. The structure will have a significantly detrimental impact on the character of the waterway, which has already been acknowledged for its sense of place and tranquillity in the Landscape Character Area. The towpath also carries the Trans Pennine trail and National Cycle Network Route 67. The HS2 structure will be located on a bend in the waterway which will make it a prominent feature in the waterway corridor. The underside, as well as the outline, of the structure will be visible to users of the waterway corridor with no obvious opportunity for mitigation. There will also be a cumulative impact with the Leeds East Viaduct. 3. The WDES scheme showed an access road running to the north side of the HS2 line, in or adjacent to the navigation. The Design Refinement Consultation shows no such feature, which improves the situation for the navigation. 4. A number of utility diversions are required. Maintaining these as overhead crossings will add to the visual clutter in the area. 5. The Leeds East RSD Sectioning Autotransformer station is located in a very prominent location when viewed from the navigation, with an access track shown to be located between it and the waterway. The Trust need to understand the details of the Auto Transformer station to understand the extent of mitigation required. Currently only woodland habitat creation is shown and no landscape mitigation planting. 	<p>As much of the existing waterside vegetation should be retained to provide screening to the three transport corridors in this area.</p> <p>The Trust seeks undergrounding of the utility crossings of the waterway.</p>
<p><u>Drainage and Abstraction</u></p>	<p><u>Drainage and Abstraction</u></p>

<p>Private agreements permitting the discharge of surface water to the waterway exist in this area. Any proposals should look to ensure that these discharges are not impacted. There may also be abstractions from the navigation in this area.</p>	<p>Any land acquired by HS2, that discharges surface water to the waterway, will require the consent of the Trust to permit the continued discharge.</p> <p>Please liaise with the Trust over abstractions from the waterway in this area.</p>
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