

**High Speed Rail 2
London – West Midlands
Additional Provision 2
&
Supplementary Environmental Statement**



**Response from
Staffordshire County Council
and
Lichfield District Council**



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INTRODUCTION

This document is a response to the HS2 London – West Midlands Supplementary Environmental Statement (SES) and Additional Provision 2 (AP2) consultation; this response has been jointly prepared by Staffordshire County Council and Lichfield District Council.

As a result of petitioning the hybrid Bill, both Councils welcome the changes brought forward by AP2 and believe that the amendments will contribute to reducing the environmental and social impact of the railway in Lichfield District. Overall, it appears that the design amendments require less temporary agricultural land take which is welcomed

The Council's believe that, through detailed design development, concerns outlined within this response can be addressed through continued dialogue.

NON-TECHNICAL SUMMARY AND VOLUME 1

Table 1.1: Non Technical Summary	
Page and Paragraph reference	Comments and points to address
Part 6 CFA 22 Page 60	There is inconsistency between Cultural Heritage and Ecology paragraphs regarding loss of Little Lyntus Ancient Woodland.
Page 167	An increase of 7,550,315t of inert surplus excavated material is indicated across the whole of the phase one route. Work is being undertaken to identify opportunities for off-site re-use of this material with the aim of achieving a landfill diversion rate of 90%. It is not clear whether or not this will include use of materials for Phase Two of the project should construction timescales be brought forward for sections of the Phase Two route.
Table 1.2: Volume 1 – Introduction and Methodology	
Page and Paragraph reference	Comments and points to address
It is not clear how the continuing data gaps due to lack of ecological survey will be addressed.	

VOLUME 2: COMMUNITY FORUM AREA REPORTS

This section contains outlines overarching comments on the two Community Forum Area (CFA) reports and map books, 21 and 22. This is followed by more detailed comments contained within tables 2.1 to 2.4.

ECOLOGY

Amendments to the route in CFA 21 and CFA 22 are welcomed and reduce ecological impacts to some degree. Severance of habitats remains an issue, linked to landscape impacts due to the line and associated infrastructure. A limited green bridge, (a modified grey bridge) that consists of a single hedgerow adjacent to a minor road, is proposed in CFA21 at Brockhurst Lane.

Natural England defines green bridge functions as follows:

- Better integrate roads and railways into their surrounding landscape and reduce the visual impact of transport infrastructure by retaining continuity of important landscape features.
- Mitigate the severance impacts of road and rail networks on walkers, cyclists and horse riders and enhance the user experience by make crossings more attractive.
- Mitigate the severance impacts of road and rail networks on wildlife by providing crossing points for range of species such as deer, bats, birds, and dormice.
- Be a wildlife home in their own right through the incorporation of design features such as bat roosts and water features, and if managed appropriately, provide a resource for certain species such as pollinators.

In their review of evidence of green bridge function Natural England found that these structures do provide mitigation for ecological severance, with evidence of wildlife use recorded on a large number of bridges. Green bridges were found to provide habitats in their own right, with established bridges complementing and connecting the surrounding habitat. Some evidence was also found to show that green bridges can be used to address landscape and access severance. Beyond these aspects some evidence was also found to demonstrate a role in providing wider ecosystem services, for example by recycling rainwater to irrigate the bridge structure. A minimum width of 20 metres is recommended.

It is recommended that the Natural England emerging Green Bridges Guide be used to inform design and location of green bridges in CFA21 and CFA22, particularly in relation to CFA22 CT-06-128. The Wood End Lane Overpass might be a logical location for a green bridge given the regionally important bat assemblage identified in this area and the acknowledged impacts of the line.

LANDSCAPE AND VISUAL ASSESSMENT

It is understood that the Plans and Map Books illustrating the Proposed Scheme are conceptual. Both Councils have previously raised concern that plans refer to 'Landscape mitigation planting (scrub / woodland)', and these concerns remain.

Excessive use of scrub planting is not necessarily appropriate habitat replacement for lost woodland or hedgerow either ecologically or in terms of landscape character. Information Paper E16 explains that for operational reasons the height of planting is to be limited planting closer to the line and it is expected that the principles of this are already known. It should therefore be possible to distinguish between scrub and woodland and therefore demonstrate that ecology and landscape character have been fully considered in formulating the design concept.

In relation to detailed design development, the lowering of the alignment could offer the opportunity to reduce the effect of visual severance of the landscape caused by the railway. In some areas, dependant on local landform and adjacent land use it may be possible to leave the crest of false cuttings without tree and shrub planting and facilitate more distant views, rather than flanking the entire length of the alignment with woodland/ hedge planting.

CFA22 - Wittington to Handsacre:

The most significant change is the lowering of the railway to pass under the A38. Section 5.7 of CFA22 Report summarises that in the area south and east of Lichfield, the extent of high level embankments has been reduced and the height of the engineered landform is lowered, and there are fewer viaducts. Para 5.7.10 states that as a result, visual effects in particular would be lessened in comparison to the original scheme. Whilst overall the visual effects are still reported as significant in year 1 of operation, in an appreciable number of viewpoint locations the LVIA identifies that effects would no longer be significant in year 15 as opposed to remaining significant in the original scheme (5.7.17). This is mostly as a result of the lower embankments being more rapidly assimilated into the landscape as mitigation planting matures.

Regarding the AP2 realignment of the Handsacre Link south of the Trent and Mersey Canal, Section 5.7 acknowledges there is a reduction in visual intrusion as a result of lowering of the alignment. However, there are some adverse visual effects expected on some viewpoints. The realignment reduces the level of visual intrusion resulting from the high level embankments and viaducts originally proposed, which overall, on balance, would represent an improvement on the original and is welcomed.

A general concern related to the effects during construction, such as the use of land for temporary storage and compounds do not appear to be fully considered within the SES. In CFA22 the reduced construction compounds and the removal of a requirement for sidings at Streethay will reduce effects on landscape character in this area. Whilst this is not assessed as significant in the updated Landscape and Visual Impact Assessment (LVIA) the Councils believe this would be locally beneficial.

CFA 21- Drayton Bassett, Hints and Weeford:

AP2 puts forward lowered alignments at the Gallows Brook floodplain and to the west of Hints. Whilst the LVIA notes no significant change in landscape impact the stated aim is to visually screen the scheme and reduce noise (Section 4, Table 2). The amended route at Gallows Brook is assessed as having reduced visual visibility (5.1.189). At Hints the main effect of the modification will be to screen the overhead line equipment and train movement. It is not clear from the documents whether the upper elevations of the Rookery Retaining Structure will be entirely screened to views from the north and east by false cutting, but if it is not entirely screened the use of locally appropriate/recessive facing will aid mitigation. PhotomontageLV-01-142 illustrates the importance of quality of design and use of visually recessive materials to reduce visual effects of over-bridges.

The evidence in the Amended ES indicates that reduced visual effects will arise from the AP2 proposal when compared with the original hybrid Bill scheme, and the scheme would be assimilated into the landscape more rapidly than the original proposal due to the reduced height of engineered landform and viaducts. When compared with the original hybrid Bill scheme this will reduce long term detrimental effects on the county's landscape and visual amenity of local residents and visitors to the area.

It will be essential that elements of the design such as viaducts and bridges should be high quality, visually lightweight iconic structures that will allow permeability through the landscape, contribute to a sense of place and enhance the landscape.

TRAFFIC AND TRANSPORT

Both CFA reports 21 and 22 suggest that there will be a reduction in HGV construction traffic as a result of AP2, this is welcomed. The temporary southbound slip road from the A38 into the working areas to the east of Streethay is welcomed.

However, CFA 22 outlines that during the peak of construction there will be between 590 – 720 HGV's during the busy period of peak construction activity accessing the road head on Wood End Lane. Furthermore there will be 320-380 HGV's accessing the A38 road head east of Streethay; both flows quoted are combined two-way vehicle trips. The County Council has concerns with the impacts construction traffic will have on the safety and functionality of the A38 Hilliard's Cross junction; however it is encouraging to see that HS2 Ltd will incorporate appropriate measures to mitigate the impact of construction traffic at this junction as outlined in paragraph 16.4.26.

The supplementary environmental statement does not appear to assess the cumulative impacts of traffic management proposals on the A38 at Streethay as well as the increased traffic from construction. The County Council is concerned that the increased disruption and congestion as a result of HS2 activities could result in increased traffic using the local highway network to

avoid the A38 past Lichfield. The County Council understands that local traffic management plans will be prepared in consultation with the local highway authority but requests that, in this case, it is prepared collaboratively with Highways England.

The County Council notes the proposed construction traffic routing and requests that HGV construction traffic makes use of the A38 and Primary Road network rather than the local highway network through Lichfield City centre.

Local concern remains for the proposed access adjacent to Hayes Meadow Primary School; both Councils are aware of initial dialogue with representatives of the school and expect HS2 Ltd/the nominated undertaker to continue in dialogue during design development.

Table 2.1: Volume 2 – CFA 21 Drayton Bassett, Hints and Weeford Report

Page and Paragraph reference	Comments and points to address
Cultural Heritage	
3.1.9	This considers that ‘none of the identified developments affect the assessment of the SES scheme’s likely operational [should this read construction?] impacts on cultural heritage.’ While it is recognised that mitigation measures are laid out as part of the draft CoCP and are not likely to change, this section should recognise that the geophysical surveys conducted subsequent to the production of the original ES have identified new areas of archaeological potential. Indeed the Impact Assessment (Volume 2 SES AP2 ES Appendix CH-003-21) considers that potential archaeology at DHW403, DHW166, DHW141 and DHW125 will all be impacted by AP2. This should be clearly stated within S3.1.9.
Ecology	
3.2.18	Acknowledges permanent adverse effect on the integrity of the Snake’s Hill and River Oxbow, Black Brook SBI which will be significant at a county/metropolitan level. And that this is a new significant effect that was not reported in the main ES. It is stated that no further mitigation is required yet Map CT-06-120 does not show replacement habitat creation for all of the affected SBI with a substantial portion of species-rich grassland lost to rail track and woodland planting with no new grassland area shown.
3.2.20	Refers to loss of a copse off Drayton Lane now thought to be ancient woodland; there appears to be no mapping of this in Vol 5 map book. This also appears to be a new significant effect.
3.2.25	States that the species-rich rush pasture and swamp habitat within the SBI that is within the land required for construction of the scheme was identified as a feature of county/metropolitan value in the main ES and mitigation was provided accordingly, with grassland enhancement and creation in adjacent fields. Map CT-06-120 fails to show this and therefore conflicts with a net loss of habitat of principal importance appearing to be the result. .
3.2.26	States that the copse off Drayton Lane, which has characteristics of ancient woodland, is within the land required for construction of the scheme. States that the landscape woodland planting area along Shirrall Drive and Drayton Lane adjacent to the copse will be changed to ecological woodland habitat creation, as shown on

	map CT-06-117 in the SES and AP2 ES Volume 2 Map Book to address the new significant effect. I find no definition in any glossary of “to ecological woodland habitat creation” or “landscape woodland planting” in the ES or AP Vol 2 so this is a meaningless change. One would hope, given all the undertakings in the ES regarding ecological connectivity, no net loss of habitat etc. that all woodland planting would be designed to be ecologically valuable rather than only some areas. It is disturbing to find that this is not the case and puts the entire commitment to no net loss in doubt. An explanation is requested. It would be expected that ancient woodland loss would be mitigated by means of measures such as woodland soil and coppice stool translocation.
5.1.158	It is not clear where the mitigation/compensation proposed in this section will be as it does not appear to be shown in Vol 2 map book for CFA 21. CT-06-120 appears to show less, rather than more, grassland compensation.
5.1.161	States that the culvert at Milditch Wood Ditch will be increased in size to give a height of 2.5m, to allow bats to use it to cross the route to mitigate loss of connectivity due to changes but this cannot be seen on Map book for CFA 21 nor is there dimension detail to allow assessment of effectiveness.
5.1.163	This section repeats the original ES error in assuming that newly planted woodland can provide good quality habitat for bats and adequately compensate for loss of mature woodland. The ES needs to acknowledge this impact and propose advance planting to help reduce this impact.
Landscape and Visual Impact	
p.20	It is hoped that, through detailed design and ground investigation, the propped retaining wall within the cutting at Hints could be amended to a solution which is more sympathetic to the area e.g. ground anchor type system.
Traffic and Transport	
p.19 & p26	The lowering of Drayton Lane and Shirral Drive by approximately 3.2m is welcomed however, the highway authority still have concerns regarding the horizontal alignment of Drayton Lane and expect this to be resolved through detailed design and the approvals regime under Schedule 4 of the Bill.
p. 20	There are no significant concerns relating to the amendment to Public Footpath No 9 Hints which will now pass through an underpass which is to be modified to allow access for agricultural vehicles. We would expect the underpass to be graded appropriately and surfaced to avoid retaining mud and water which is likely if shared with agricultural vehicles.

p.20	Public Footpath's No's 13 and 14 Hints will now cross a green overbridge carrying Brockhurst Lane rather than a separate green overbridge. This creates a shorter diversion of Footpath No 13 than originally proposed and this is welcomed. We would expect there to be clear segregation of vehicles and pedestrians to avoid any potential conflict.
p.28 5.1.32	Public Footpath No 11 Hints will now follow a shorter diverted route to the east of HS2 before crossing the line beneath Black Brook Viaduct. This amendment is welcomed.
p.35 5.1.94	The concerns expressed in the ES remain despite the amendment to lower Drayton Lane. This is recognised by HS2 Ltd although mitigation measures to address the potential conflict between construction traffic and users of the Heart of England Way (which runs along the lane) do not appear to have been put forward.
P.54 5.1.232	As noted in this paragraph Brockhurst Lane is not adopted highway 200m west of the route. Further discussion is required to understand who will own and maintain the diverted Brockhurst Lane as it is not yet clear.
Water Resources and Flood Risk	
<p>Where the route crosses the Gallows Brook as it enters the County, it was proposed to cross the watercourse with a viaduct. This is now amended to an embankment and two culverts.</p> <p>The CFA21 report and Volume 5 report suggest upstream flood levels will increase by 21mm as a result of the change. This is described as not significant, but presumably this will increase the number of times the farmer's field floods, with a potential loss in agricultural fields. If this is the case, there does not appear to be specific mitigation features provided locally. Presumably upstream storage areas could be provided; as they were in the initial proposed scheme. This does not appear to fit with HS2 Ltd's design criteria of designing out or minimising impacts as far as is practically possible.</p>	
Table 2.2: Volume 2 – CFA 21 Drayton Bassett, Hints and Weeford Map Book	
Page and Paragraph reference	Comments and points to address
Ecology	
CT-05-118 Construction Phase	Provision of Access Rights shown affecting Bangley Lane likely to impact Bangley Lane Biodiversity Alert Site hedgerow that is habitat of principal importance and possibly Important hedgerow under the Hedgerow Regulations. This Hedgerow is situated on the Eastern boundary of Bangley Lane off Cranebrook Hill Road

	<p>near Great Bangley Farm. Structurally the hedge is valued in particular for its canopy species richness as it includes 12 hedge canopy species. The hedge has standard trees, a bank and an associated species-rich road verge. Any lane widening should be designed to avoid this hedgerow and verge. There is no clarity of impacts. It should be noted from the 27/03/15 meeting with HS2 Ltd that HS2 are looking to see if they can reinforce the hedgerow to connect with the ancient woodland, but this will not be included in AP2. Clarity on how this will be included is required.</p>
<p>CT-05-118 Construction Phase</p>	<p>Access for utilities shown along Bangley Lane. This may affect Waggoner’s Lane Site of Biological Importance. This Hedgerow is situated on the Eastern boundary of Waggoner’s Lane off Cranebrook Hill Road opposite to White House Farm. Structurally the hedge is valued in particular for its large width, height and shape. The hedge has eleven standard trees along its length and two young trees, which are important for the regeneration of the hedge. The hedge is associated with a ditch. Any lane widening, if required, should be designed to avoid this hedgerow. There is no clarity of impacts of this temporary use.</p>
<p>CT -06-120 Proposed Scheme</p>	<p>Changes reducing impact on Rookery Wood are welcomed and are as discussed with HS2 Ltd in March 2015. Brockhurst Lane Green Overbridge does not qualify as a green bridge as shown on this drawing. It appears to be a narrow bridge supporting a lane and a hedgerow and not a substantive green bridge, which is disappointing. The idea that species such as great crested newts and lizards will be able to cross the railway as indicated by David Collins during the meeting of 27/03/15 is not supported by examples of such crossings taking place. There is limited evidence of how bats use such crossings but I would be concerned that a single hedgerow would not create favourable conditions for bat movement even after establishment growth due to turbulence and air pressure changes resulting from frequent train passage. A wider green overbridge is recommended with at a minimum a double hedgerow to create a more sheltered bat commuting corridor. Example from Highways England guidance:</p>



The handbook of Road Ecology (van de Ree et al 2015) has analysed research on bats and road crossings with the conclusion that location on existing flight-lines, mature vegetation on the bridge and increased bridge width are important for success of such features. It is noted that such a structure is proposed for AP2-014-006. Given the lack of evidence of bat use of such crossings, monitoring is recommended.

CT-06-120	Map CT-06-120 fails to reflect mitigation found in s.3.3.25 of Volume 2 – CFA 21 and therefore conflicts with this and demonstrates a net loss of habitat of principal importance.
Traffic and Transport	
CT-06-118	There are no significant concerns relating to the amendment to Public Footpath No 9 Hints which will now pass through an underpass which is to be modified to allow access for agricultural vehicles. We would expect the underpass to be graded appropriately and surfaced to avoid retaining mud and water which is likely if shared with agricultural vehicles.
CT-06-120	Public Footpath's No's 13 and 14 Hints will now cross a green overbridge carrying Brockhurst Lane rather than a separate green overbridge. This creates a shorter diversion of Footpath No 13 than originally proposed

	and this is welcomed. It is expected that clear segregation of vehicles and pedestrians, to avoid any potential conflict, is provided.
CT-06-120	Public Footpath No 11 Hints will now follow a shorter diverted route to the east of HS2 before crossing the line beneath Black Brook Viaduct. This amendment is welcomed.
CT-07-117	Public Bridleway No 9 Drayton Bassett which links to Drayton Lane is shown incorrectly as Public Footpath No 6 Drayton Bassett.
Waste and Mineral Resource	
CT-06-121	As with Community Forum Area 22, are there landscape areas that afford potential mitigation for the impact of the scheme on underlying mineral resources? E.g. additional land required for drainage infrastructure. Note that the original environmental statement included a CFA report for section 21 that referred to prior extraction of minerals as a mitigation measure (refer to paragraph 8.4.40).
Table 2.3: Volume 2 – CFA 22 Whittington to Handsacre Report	
Page and Paragraph reference	Comments and points to address
Cultural Heritage	
In general this document seems to be a much more considered response on the cultural heritage of the CFA than that provided for CFA21.	
S10.3.14	This section states there has been no evidence recovered for Palaeolithic or Mesolithic human activity within the Trent and Tame valleys of Staffordshire. Following a strip map and record exercise at Tucklesholme Quarry (on the River Trent) between 2012 and 2014, an assemblage of 123 flints were recovered from a distinct archaeological surface. The identifiable tools dated to the late upper Palaeolithic (c10,300BC) and represented a tool-making and processing site situated in a braided river landscape created by the retreating ice. Close by a palaeochannel was fully investigated and was found to contain, at its basal layer a late Devensian glacial sequence followed by a transition into the present Holocene (c.10,000BC) interglacial with representation of pre-Boreal colonising birch and willow woodland. This evidence suggests that human activity was present within the Trent shortly after the initial retreat of ice from this landscape; there may be more evidence for this recolonization elsewhere within Staffordshire's river valleys.

Ecology	
3.2.12 -3.2.17	SES: The additional bat survey work carried out shows that the complex of habitats that includes Ravenshaw Wood, the Slaish, the Trent and Mersey Canal, Fradley Wood, Woodend Lock woodland and other features in the local area is of regional importance for bats supporting 10 recorded species. This bears out comments made on the original ES by SCC. It is very useful to have the data collected which shows the complex patterns of bat use of the landscape over different times of year and how bats rely on several landscape features. This would form a valuable case-study to inform bat conservation and impact assessment of linear and large-scale projects
3.1.13	This states that Fulfen wood is to be partially removed and Little Lyntus is to be completely removed (both woodlands now considered to be Ancient Semi Natural Woodland). However, 3.2.29 appears to suggest that only 0.05 ha is permanently lost (Little Lyntus) but the majority - 1.35ha- retained. Further clarification is required.
3.2.27	SES: The statement that the original route would result in impacts on bats of regional significance is supported. The data collected makes this very clear. AP2: Changes to the route found in AP2 which reduce impact are supported.
3.2.37	Identifies seven species of bat at risk of collision mortality due to the design and location of the track. It is difficult to support the ES finding that the impacts are unlikely to result in significant effects on the conservation status of any of the species concerned as this does not appear to be based on evidence. The relocation of the line in AP2 should reduce impacts but collision risk appears high as the route runs through important foraging habitat of several species as shown on EC-22-001 – EC-22-010.
6.3.55	There appears to be no assessment of the impact of the realignment of a 600mm gas main within Ravenshaw Wood to permanent realignment north of Ravenshaw Wood.
11.3.6 Page 159 and 11.3.13	Ravenshaw Wood, Black Slough and Slaish SBI – states that this SBI is within the land required for AP2. It appears from maps (CT-05-128 and CT-06-128) that only part of the SBI is within land required. Clarification is sought given the very significant difference in impacts on ancient woodland, habitats and a regionally important assemblage of bats
11.3.11	The finding that Big Lyntus Wood represents NVC W15 is surprising for this locality a community between W10 and W11 (also a habitat of principal importance) seems more likely and is characteristic of sandy soils in Staffordshire. I note that other local woods are characterised as W10. It is important that the woodland

	community is correctly characterised so that impacts are properly assessed and compensatory planting is ecologically appropriate. It is recommended that this characterisation is re-visited. An explanation of why some woodlands have been subject to NVC survey and others have not is sought.
11.3.19	Woodend Lock woodland is identified as wet woodland to be wholly lost to AP2 scheme. Given the rarity of wet woodland in the County it is important that compensatory habitat is also wet woodland and that levels of ground, and local hydrology be managed to enable this habitat to be created and to be sustained. Provision of this appropriate compensation is not shown on CT-06-127 which does not include replacement planting in the Curborough Brook floodplain.
Page 178 Notable plants	Small-leaved lime within Big Lyntus SBI and within Little Lyntus wood. If affected, translocation of the coppice stools would be expected due to the rarity of such features and their significance within the ancient woodland plant communities.
Page 178 Notable plants	Veteran field maple on the field boundary of Hanch Wood. This is on the boundary of the land required for the scheme. Protection would be expected in line with NPPF guidance. Detailed design work for the Network Rail Norton Bridge Rail Improvement scheme resulted in retention of a large number of mature boundary trees and three close to utilities works. This kind of detailed design work would be expected to ensure impacts are minimised in accordance with the NPPF.
11.4.27	Identifies potential abandonment due to disturbance of a Daubenton's bat roost (these are rarely found) No mitigation is proposed
11.4.30 – 11.4.35	Identifies severance impacts for a number of bat species found in a regionally important assemblage. This includes habitat loss, severance, loss of a large amount of definite and potential bat roosting habitat. No crossing structures are proposed for these species while the small culvert proposed is below the size that monitoring of such structures has shown is likely to be utilised by bats. Severance may therefore be greater than that acknowledged s.11.4.35 identifies this as a significant impact on a regionally important bat assemblage. This is exacerbated by impacts very close by to a bat assemblage of district importance Insufficient mitigation is therefore proposed for a regionally important protected species assemblage. Further design work is recommended to improve connectivity and reduce bat collision risk given location of the route on well-used foraging and commuting areas. It is recommended that potential for use of green bridges to mitigate severance be investigated, following Natural England guidance.
11.4.49 – 11.4.53	Assessment of impacts on woodland is contradictory. S.11.4.49 acknowledges that Ancient Woodland is irreplaceable yet 11.4.53 states that The compensation will result in a permanent beneficial effect on the

	conservation status of woodland habitat. These two statements are not reconcilable and represent under-estimation of impacts and of effectiveness of mitigation and compensation.
11.4.57	Refers to compensatory planting to address impacts on bats but fails to recognise the time span before this will form valuable foraging habitat for bats and fails to recommend advance planting to help address this issue.
11.4.62	Further assessment of impacts on the Daubenton's roost in the culvert is welcomed. Recorded Daubenton's roosts in the County are rare and mitigation of loss is difficult. Creation of a replacement structure is recommended.
11.5.1	Advance planting is recommended where possible to link with proposed bat (and other species) crossing points. Where advance planting is not possible, early planting, as soon as possible in the scheme should be a requirement for contractors. Consideration is required of means of reducing collision risk where crossings are likely, as acknowledged, not to be used by all bat species.
11.5.12	Consideration is given to means of reducing collision risk where crossings are likely, as acknowledged, not to be used by all bat species and where a significant impact is identified. It is noted that at the meeting in March 2015 SCC asked if there was potential for bat connectivity on the Wood End Lane rail overbridge. HS2 Ltd undertook to investigate this due to the significance of the bat assemblage. No green bridge has been included and no reasoning for the omission provided. Given the regional importance of the bat populations this appears to be under-mitigation and not in line with mitigation for bats elsewhere on the line. It is agreed that design of planting can be used to reduce risk but not to eliminate it. There remains considerable uncertainty regarding the impact on bats using the Ravenshaw Wood/Trent and Mersey Canal/Fradley Wood habitat complex. Monitoring is therefore recommended. Given the significant status of the bat assemblage in the Ravenshaw Wood/Trent and Mersey Canal/Fradley Wood area and the good baseline data collected monitoring here could provide valuable information to inform Phase Two and other schemes.
11.5.15	Conclusions that the loss of the barn owl pair will be mitigated are unfounded in the absence of secured mitigation or certainty that establishing nest sites and creating new foraging habitat away from the route will compensate for barn owl mortality. The residual impact should be acknowledged.
Noise and Vibration	
P.39.	Changes result in an addition residential building on Broad Lane as being eligible for noise insulation during

5.9.3	the construction phase.
P.40. 5.9.9	The AP2 changes result in a reduction from 4 to 2 dwellings eligible for noise insulation during operation phase. This is welcomed although the County Council continue to seek assurances that HS2 Ltd will continue to explore all other mitigation options in order that the noise impact is further reduced and in particular with regard to external noise levels in amenity areas.
P.282 15.3.2	A number of key construction activities have been identified as being required to be carried out overnight. SCC seek assurances that the noise impact is minimised to a non-adverse level by the use of temporary screening and where this is not feasible to provide temporary accommodation to residents during the period of the night time works
P.289 15.4.22 table 23	The changes as a result of AP2 have not improved the major adverse effect on the acoustic character of the area in the vicinity of Darnford Lane. The County Council continue to seek assurances that HS2 Ltd will work towards minimising the impact and reducing the number of properties affected.
P.289 15.4.22 table 23	The AP2 changes still have a major adverse effect on dwellings south of Handsacre. Although the numbers impacted are lower (60, previously 80), the County Council still believe that this is unacceptable and continue to seek assurances from HS2 that further work will be carried out in order to improve mitigation in this area.
Traffic and Transport	
p. 29 5.3.5	There are no significant concerns relating to the amendment to Public Footpath No 16 Whittington which will now pass through an underpass which is to be modified to allow access for golf buggies and small maintenance vehicles to use it. We would expect the underpass to be graded appropriately and surfaced to avoid retaining mud and water which is likely if shared with vehicles.
p. 28 5.2.4	We welcome the decision to remove the Streethay Construction Sidings which would have meant for significant disruption to users of Public Footpath No 6 Streethay who would have been denied access to the route for a number of years. Access on the footpath will now be maintained via an overbridge.
p.41 5.10.5	If construction traffic is now going to operate alongside Public Footpath No 6 Streethay we would expect there to be clear segregation of vehicles and pedestrians to avoid any potential conflict.
p.51 6.2.9	The Councils understand that there are local concerns from the residents of Whittington regarding the height of the railway over Lichfield Road (10m). Both authorities request HS2 Ltd to explore options for lowering the route over Lichfield Road if possible.

p. 53 6.2.16	There are no significant concerns relating to the minor diversion of Public Footpath No 20 Whittington.
p. 56 6.2.32	There appears to be no clear justification for the length of the proposed diversion of Public Footpath No 0.392 Kings Bromley has been provided and we remain concerned about the length of the proposed diversion (440 metres longer) as pointed out in our comments made in the Environmental Statement consultation. It is not entirely clear why the proposed underpass cannot be constructed on the existing alignment of the footpath which runs close to an attractive woodland and further details regarding this are requested. There are no significant concerns relating to the amendment to Public Footpath No 6 Kings Bromley Parish which, via a diversion, will now pass through an extended underpass.
p.63 6.3.24	The County Council has concerns regarding the proposed alignment of Cappers Lane and anticipates an improved alignment to be developed as part of detailed design. The authority understands Schedule 4 of the Bill contains provision for the nominated undertake to submit plans and specifications for the works and seek approval from the authority.
p. 66 6.3.39	The County Council welcomes the information regarding the proposed temporary diversions in relation to the public rights of way on this section of the railway, the longest of which appears to be 9 months. The authority requires information about the length of the temporary diversion of Public Footpath No 44 Alrewas which was not included.
p. 300 16.4.19	The County Council requires full details of the mitigation measures proposed by HS2 Ltd during construction particularly in relation to the following public rights of way mentioned in this section: Public Footpath No 0.392 Kings Bromley which will require pedestrians to cross roads used by construction traffic; Public Bridleway No 17 Whittington, Public Footpath No 6 Streethay and Public Footpath's No's 31 and 44 Alrewas – where construction vehicles will operate alongside path users.
16.3.7	Bus service changes: <ul style="list-style-type: none"> • Service 765 no longer operates • Services 785/786, X55 and X60 – Lichfield to Tamworth and Polesworth • Services 7, 7B, 7E, X7, X12 and 810 – Fradley, Lichfield, Streethay and Burton upon Trent
16.3.11	Lichfield District Local Plan Strategy 2008-2029 (https://www.lichfielddc.gov.uk/Council/Planning/The-local-plan-and-planning-policy/Resource-centre/Local-Plan-documents/Downloads/Local-Plan-Strategy/Local-Plan-Strategy-policies-maps.pdf) commits to the delivery of the remaining sections of the Lichfield Southern Bypass which is required to make the plan acceptable in transport terms. It is programmed for the new road to open

	in 2019 which will result in a different junction layout at the A51 Tamworth Road/ A5206 London Road signalised junction in the 2021 assessment year.
16.4.26	A commitment to providing mitigation for A38 Wood End Lane (Hilliard’s Cross) is required rather than an expectation that appropriate mitigation measures are brought forward.
Waste and Mineral Resource	
Table 21	This indicates moderate impacts on mineral resources but of minor significance in the areas of land underlying Whittington Heath; and under land between Gorse Farm and northern edge of the AP2 revised scheme. There is no change to the significance of the effects on the mineral resource as a result of the additional proposals.
12.4.34	<i>This states that “Mitigation of the effects on mineral resources can include prior extraction of the resource for use within the project or elsewhere. Extraction may be limited to landscaped areas within the AP2 revised scheme adjacent to rather than beneath the trackbed, which will require good founding conditions. A plan will be discussed and agreed in advance of the construction works with the landowner, the Mineral Planning Department at Staffordshire County Council and any other interested parties to assist in achieving an effective management of minerals within the affected location of the MCA.”</i> This comment has been previously made in respect of CFA21 and is supported in principle if suitable areas can be worked.
Water Resources and Flood Risk	
The diversion of the water course at Cappers Lane appears to result in a 7mm rise upstream. During detailed design it is expected that this could be revised to eliminate this increase. Additional modelling will need to be undertaken to model actual culvert details.	
Table 2.4: Volume 2 – CFA 22 Whittington to Handsacre Map Book	
Page and Paragraph reference	Comments and points to address
Ecology	

<p>Not all changes affecting sites designated for ecological value appear to be shown in this Map Book. Changes affecting Big Lyntus and Little Lyntus Ancient Woodlands, Curborough House hedgerows SBI and Fradley Wood are not shown. Given the regionally important bat assemblage identified in this area clarity of impacts is important.</p>	
	<p>Not all changes affecting protected species (bats) appear to be shown in this Map Book. Changes affecting bat using woodland east of Ravenshaw Wood such as Woodend Lock SBI are not shown</p>
CT-06-127	<p>CT-06-127 does not include replacement planting in the Curborough Brook floodplain to compensate for loss of the Woodend Lock wet woodland. Planting of another woodland type would not adequately compensate for this loss of habitat of principal importance. Habitat connectivity loss is also not compensated for.</p>
<p>Traffic and Transport</p>	
CT-05-123b Construction Phase	<p>Public Footpath No 16 Whittington is labelled twice. One is clearly an error as it points to the Satellite Compound.</p>
CT-06-125	<p>There are no significant concerns relating to the proposed diversion of Public Footpath No 6 Streethay which will now cross an accommodation overbridge. If a private vehicular right to cross the bridge is to be bestowed on any future landowners or occupiers then the fact that the route is a public highway will take precedence. The use by private vehicles is subject to, and subordinate to, the public's right. In other words pedestrians have a public right and vehicles need to give way to them not the other way around. This might necessitate widening of the track and the provision of passing places but HS2 Ltd need to make any future landowners or occupiers aware that where there is a conflict the public right is dominant.</p>
CT-06-123b	<p>Public bridleway and public footpath rights cannot exist on the same alignment. In this case a section of Public Bridleway No 17 Whittington between 'Sandy Lane' and its junction with the Lichfield Road needs to be extinguished. The section of Public Footpath No 16 Whittington which runs between the Lichfield Road and the point at which Public Bridleway No 17 Whittington reaches Sandy Lane needs to be upgraded to maintain public bridleway rights for pedestrians, horse riders and cyclists.</p>
CT-06-123b	<p>There are no significant concerns relating to the amendment to Public Footpath No 16 Whittington which will now pass through an underpass which is to be modified to allow access for golf buggies and small maintenance vehicles to use it. We would expect the underpass to be graded appropriately and surfaced to avoid retaining mud and water which is likely if shared with vehicles.</p>
CT-06-126	<p>There are no significant concerns relating to the amendment to Public Footpath No 31 Alrewas (now Public</p>

	Footpath No 31 Fradley and Streethay Parish) which, via a diversion, will now pass through an underpass.
CT-06-127	There are no significant concerns relating to the amendment to Public Footpath No 44 Alrewas (now Public Footpath No 35 Fradley and Streethay Parish) which, via a diversion, will now pass beneath Curborough Brook Underbridge and Curborough Brook Viaduct. The County Council welcomes the proposed alignment of Wood End Lane in the vicinity of the Trent and Mersey Canal.
CT-06-128	No clear justification for the length of the proposed diversion of Public Footpath No 0.392 Kings Bromley has been provided and we remain concerned about the length of the proposed diversion (440 metres longer) as pointed out in our comments made in the Environmental Statement consultation. It is not entirely clear why the proposed underpass cannot be constructed on the existing alignment of the footpath which runs close to an attractive woodland and further details regarding this are requested.
CT-06-129	The County Council understands the provisions in the Bill for the approval of new accesses onto the highway but does have concerns regarding the location of new junctions on the A515 for Shaw Lane and the access to Ravenshaw Cottage – particularly with the junction of Wood End Lane being approximately 350m away. It is expected that this will be resolved as part of detailed design and approval.
CT-06-130a	There are no significant concerns relating to the amendment to Public Footpath No 6 Kings Bromley Parish which, via a diversion, will now pass through an extended underpass.
Waste and Mineral Resource	
CT-05-127	Confirms the realignment of the HS2 link with the WCML at Handsacre and therefore reduces the impact on sand and gravel resources north of the Trent and Mersey Canal which have been included within an area of search in the new Minerals Local Plan 2015 to 2030. Clarity is required to understand how and when the Safeguarding area for the Phase One route will be revised accordingly.

VOLUME 3: ROUTE WIDE EFFECTS

Table 3.1: Volume 3 – Route Wide Effects	
Page and Paragraph reference	Comments and points to address
5.2.11-5.2.15	SES: Fails to address the additional survey work resulting in identification of a regionally important bat assemblage at Ravenshaw Wood/Trent and Mersey Canal/Fradley Wood habitat complex.
19.6.9	This paragraph indicates that the majority of the reduction in on-site reuse of excavated materials results from changes in CFA22 (approx. 5.8Mt)
19.6.49	Confirms that the majority (approximately 96%) of inert surplus excavated material will be disposed off-site to inert waste landfill in the South East.
19.6.76	Highlights opportunities for the use of excavated materials to be used in the restoration of quarries. This is supported given that in Staffordshire there are quarries that could receive excavated materials as backfill.

VOLUME 4: OFF ROUTE EFFECTS

Table 4.1: Volume 4 – Off Route Effects	
Page and Paragraph reference	Comments and points to address
	<p>The Council's note that as part of the proposals there will be satellite construction compounds located along the West Coast Main Line between Handsacre and Colwich. It is noted that a construction compound is proposed within Armitage with Handsacre. The Armitage with Handsacre compound is located on a site close to existing residential property (with current proposals to develop further housing adjacent) and with an access served via the aforementioned area. If going forward the plans remain to develop the said compound area the Council's would ask that attention be paid to the proximity of the compound to existing residential occupiers and the effects that construction works and related traffic would have on the amenity of the area and its residents. The Council's recognise that in terms of design and appearance some control over this will be possible under the planning regime; however this is unlikely to wholly address the perceived problems. If an alternative site could be found which lessens or removes such impacts this would be favoured by the Council's and HS2 Ltd should be encouraged to review this aspect of the proposals.</p>

VOLUME 5: TECHNICAL APPENDICES

Table 5.1: Volume 5 – Technical Appendices: Supporting Information and Planning	
Page and Paragraph reference	Comments and points to address
SES and AP2 ES Appendix EC-001-003 s.2	This fails to refer to changes to Snake’s Hill and River Oxbow, Black Brook SBI in CFA 21 made since the ES
Table 5.2: Volume 5 – Technical Appendices: CFA 21 Drayton Bassett, Hints and Weeford Report	
Page and Paragraph reference	Comments and points to address
Cultural Heritage	
Appendix CH- 003-21	<p>Within the construction and operation impact columns it identifies ‘nature of impact including mitigation’. No mitigation is suggested in these tables. While this will come through discussions, an initial consideration of potential mitigation by the schemes historic environment consultants would have been welcomed.</p> <p>Having reviewed the individual geophysical survey reports (CN035-CN043) for CFA21 the County Council has no overriding concerns regarding their content apart from a request that in future more attention be paid to the presence of typos within these reports. It is requested that each of these reports (and the earlier Geophysical survey reports from this CFA) be submitted in full at the earliest opportunity in hard copy and as digital files for inclusion on the Staffordshire Historic Environment Record (HER).</p>
Table 5.3: Volume 5 – Technical Appendices: CFA 22 Whittington to Handsacre Report	
Page and Paragraph	Comments and points to address

reference	
Cultural Heritage	
Appendix CH-003-21	<p>Within the construction and operation impact columns it identifies 'nature of impact including mitigation'. No mitigation is suggested in these tables. While this will come through discussions, an initial consideration of potential mitigation by the schemes historic environment consultants would have been welcomed.</p> <p>Having reviewed the geophysical survey at CN045 and have no overriding concerns regarding its content apart from a request that this report (and the earlier Geophysical survey reports from this CFA) be submitted in full at the earliest opportunity in hard copy and as a digital file for inclusion on the Staffordshire Historic Environment Record (HER).</p>
Water Resources and Flood Risk Assessment	
WR-003-022 Section 6	<p>It is stated that there is no historical flooding known in the County; however it should be noted that there have been reported flooding incidents from residents in the area of Cappers Lane which could be attributed to the ordinary watercourse that runs alongside Mill Farm.</p> <p>There have been some reports of flooding in the area of the Streethay Junction where the line will be run under the A38, but these appear to be sewer related problems.</p> <p>Although there are no official records, it should be noted that there are flooding problems in the agricultural fields to the south of the Fradley Park industrial estate. This would be associated with the tributaries of the Mare Brook and the updated flood map for surface water should give a good indication of the extent of the flooding.</p> <p>There are recorded problems of flooding from the Curborough and Full Brook which affect Watery Lane and the sprint course to the east.</p>
Modelling Appendix WR-004-015	<p>Within the Modelling appendix appears, that due to the desk based nature of the studies, very few details of existing culverts have been used in the modelling and the sizing of these has been based on assumptions. It is expected that modelling will be further detailed with actual culvert dimensions at detailed design stage.</p> <p>Looking at the Bourne Brook model, although the modelling of the proposed viaduct seems to indicate no significant increases to flood risk as a result of the structure, a new highway linkage is proposed between the A515 and Shaw Lane crossing just downstream of the viaduct. This does not appear to have been included in</p>

	the model. However, this new highway linkage is highly likely to have an impact on the floodplain, unless it is accepted that the new linkage will flood regularly or unless the new highway will itself be raised on a viaduct above the floodplain.
Table 5.4: Volume 5 – Technical Appendices: Route wide topics	
Page and Paragraph reference	Comments and points to address
Waste and Mineral Resource	
Table 25	Table 25 of the appendix indicates that the quantity of excavated material that will be produced during the construction of the AP2 revised scheme in the Whittington to Handsacre area will increase by more than 400,000t to 2,436,795t but there is no indication of material requiring off-site disposal. Will material be reused along other sections of the project?
Table 1d of annex 1	This indicates that the balance of excavated material will provide an overall surplus of 3,576,615t at CFA21 but there will be a shortfall of 1,965,826t in CFA22 Whittington to Handsacre. To what extent would the surplus in CFA21 be used to meet the shortfall in CFA22?
Table 5.5: Volume 5 – Technical Appendices: Off route	
Page and Paragraph reference	Comments and points to address
No comments	
Table 5.6: Volume 5 – Technical Appendices: Traffic and transport (TR-001-000)	
Page and Paragraph reference	Comments and points to address
3.16.19	Lichfield District Local Plan Strategy 2008-2029 (https://www.lichfielddc.gov.uk/Council/Planning/The-local-plan-and-planning-policy/Resource-centre/Local-Plan-documents/Downloads/Local-Plan-Strategy/Local-Plan-

	<p>Strategy-policies-maps.pdf) commits to the delivery of the remaining sections of the Lichfield Southern Bypass which is required to make the plan acceptable in transport terms. It is programmed for the new road to open in 2019 which will result in a different junction layout at the A51 Tamworth Road/ A5206 London Road signalised junction in the 2021 assessment year; therefore the 2021 assessment contained in this document is not accurate. Staffordshire County Council has scheme designs and a Linsig model of the new junction that is available for HS2 Ltd to test the HS2 2021 construction traffic against.</p>
3.16.40	<p>The junction assessment for A38/ Wood End Lane (Hilliards Cross) in 2021 with HS2 construction traffic has only been made for the scenario with a mitigation scheme in place. This scheme is described in the paragraph as a 'potential mitigation scheme' and is therefore not a committed scheme. In the absence of committed mitigation the impact of HS2 traffic should be assessed against the existing junction layout.</p> <p>The junction assessment only considers the part of Hilliard's Cross to the West of the A38 and therefore excludes potential difficulties for HGVs merging with traffic travelling on the A38. This has the potential to prevent vehicles from exiting the Wood End Lane/ A38 overbridge slip roads/ A38 northbound off slip junction even with the potential improvements in place. Once mitigation measures have been confirmed an assessment should be made of the operation of Hilliard's Cross as a whole.</p>