Reference	Highways England Comment	RHS Response
REP1-038-1	Highways England has had a lot of discussion with RHS and has provided a very substantial amount of traffic modelling data to RHS. Further requests for information from RHS have been met	<ul> <li>TTHC has reviewed the latest 'corrected' version of the traffic model output which was received in GIS format on 18/12/19 against the original Transport Assessment Report (APP-136) and the Transport Assessment Supplementary Information Report (REP2-011) but has been unable to replicate the flows stated in the reports. The outputs from the reports/models are not consistent.</li> <li>Examples of this (for traffic in and around Ripley) were discussed at a further SoCG meeting with Atkins on 21 January 2020.</li> <li>Atkins undertook to check and correct this information. TTHC has since received (on 23/01/20) RHS flow plots and (on 24/01/20) total traffic flow plots which are now being reviewed.</li> <li>TTHC has also requested 2015 base plots from HE which has advised that they are in preparation.</li> </ul>
REP1-038-2	Access Highways England does not accept that the Scheme would worsen the access to and from the RHS Garden Wisley; to the contrary, it will be improved. The Scheme removes unsafe access from Wisley Lane to the A3 and replaces it with a safe access at the Ockham Park junction, namely the Wisley Lane diversion. The implications of this on changes to journey distances is presented below. Drivers approaching the RHS Garden Wisley from M25 J10 (and A3 north of J10) currently represent approximately 50% of RHS generated traffic. These drivers would experience a negligible change in journey distance approaching the garden and the Scheme would reduce their journey time around M25 J10. When leaving the garden to travel towards the M25 J10 (and A3 north of J10), their journey	Access As noted at ISH2, the RHS maintains its position that the DCO Scheme would result in the worsening of access to and from the RHS Garden and that the RHS Alternative Scheme would result in much improved access arrangements compared to the DCO Scheme. Despite its <u>current</u> poor highway layout, there is no evidence that the existing Wisley Lane connection with the A3 is inherently unsafe. Most of the accidents on the A3 occur as a consequence of queuing back from J10 (shunt type accidents), which the DCO Scheme should reduce. , The Applicant's Side Road Addendum (SRA) Report (which the ExA has asked to be included in the Examination Library) states at

distance would increase by approximately 2.4 km (1.5 miles) but would involve safer access to the A3.

Drivers approaching the RHS Garden Wisley from the south currently represent approximately 34% of RHS generated traffic; with 24% currently approaching via the A3 and 10% currently approaching through Ripley. With the Scheme in place, those drivers that decide to route via Ripley would experience a negligible change in distance approaching the garden; whilst those drivers routing via M25 J10 (up to 24%) would experience a 6 km (3.7 mile) increase in journey length to the garden. When leaving the garden, those opting to travel via Ripley would experience a 3.5 km (2.2 mile) reduction in journey length, whilst those routing via M25 J10 would experience a 2.5 km (1.6 mile) increase in their journey. Analysis of changes in journey distances due to the Scheme and proportions of RHS traffic using different routes is provided in the Transport Assessment Supplementary Information Report submitted at Deadline 2 (Volume 9.16). paragraph 3.1.1 page 18 that 6 accidents over the six-year period between 2010 and 2015 were directly related to the Wisley Lane connection with the A3. At paragraph 6.1.2 on page 66, the same report states that if Wisley Lane were to be kept open with a widened A3, there would on average be one more accident per year.

However, there has been no analysis by the Applicant of the consequence of the closure of the Wisley Lane connection elsewhere on the network – in the absence of the connection traffic from Wisley Lane seeking to join the A3 would need to travel further on the highway using the new Link and the new connection with the Ockham Roundabout, circulate around the roundabout passing the other arms of the junction before joining the northbound on slip and joining the A3 to the south of where it would have connected with the retention of the Wisley Lane connection. None of the implications of this extra travel has been assessed by the Applicant. The Applicant's assessment is therefore flawed both in terms of decisions which resulted in the DCO Scheme and in the context of the RHS Alternative Scheme.

Further, the Applicant has sought to increase the number of accidents it associates with the Wisley Lane access to the A3.Within REP1-044, it was noted at paragraph 5.10 that the September 2019 Technical Note (see Appendix B of REP1-044) suggested that a Wisley Lane access onto the A3 northbound would result in two extra accidents per annum rather than the one suggested in the SRA noted above.

However, more recently, in the BDB Pitmans letter of the 24/12/19 [Overview REP3 -xxx Appendix 4], it has now been suggested by the Applicant that accidents specifically related to weaving from the Wisley Lane connection with the A3 amount to some 20 accidents for the five-year period 1/12/13 to 30/11/18.

	However, a check against the Accident Plot provided by the Applicant on the last page of its September 2019 Technical Note (Appendix B of REP1-044) shows that with the exception of just 1 accident, the Applicant has incorrectly assumed that every accident which has occurred on the A3 from Wisley Lane to a point 900m north has been a result of the Wisley Lane junction, which clearly cannot be the case – as set out above, most of these are "shunt" type accidents related to queuing back from Junction 10.
	Further discussions are being undertaken with the Applicant in this regard in order to advance the SoCG.
	Journey distances have been checked against the Applicant's CAD plans and it is expected in conjunction with the SoCG that the key distances north and south will be agreed.
	Trip distribution data in relation to RHS-related activity has been collected by different sources by the Parties and, although similar, these sources are not directly comparable. There are discussions ongoing in respect of the SoCG which seek to 'narrow the gap' between these sources.
	This, along with traffic modelling of RHS trips, will then be used to provide an agreed range of potential effects of the DCO Scheme in respect of the changes in vehicle travel and to consider the wider safety implications of the DCO Scheme and RHS Alternative.

South facing slip	South Facing Slip
Please see response to Questions 1.13.6, 1.13.7, 1.13.11, 1.13.15, 1.13.18 of the Highways England's the Examining Authority's Written Questions (Volume 9.18). <i>Retention of Wisley Lane's direct "left out" connection to the A3</i> We have demonstrated in the schematic provided in our Technical Note dated September 2019 that the actual weaving length (Lact) is only 953 m. The minimum weaving length required by design standards is 1 km and therefore the BHS Alternative scheme does not comply with the appropriate standards	Whilst it is noted that the Applicant states (within REP2-013) its proposals do not preclude the future implementation of the south facing slips at Ockham, they note various 'challenges and constraints' to their delivery. This is within the context of more than 3 years of design development which has sought to address similar issues elsewhere within the DCO Scheme.
With regard to weaving, we disagree with the suggestion by RHS that it is only the Wisley Lane traffic which is heading northbound on the A3 towards London which actually results in a weaving component from the slip. There will be traffic joining the northbound A3 from the Ockham Park junction wishing to get from Lane 1 and Lane 2 to Lane 3 and Lane 4 to continue north into London on the A3.	Firstly, third party land would be needed to provide south facing slips at Ockham but such issues have not prevented the promotion of the DCO Scheme where third party land is of course required for other components of the proposals.
There will also be traffic in lane 3 and subsequently lane 4 through and beyond the Ockham Park Junction that will want to access the diverge leading to the M25. The introduction of a merge from Wisley Lane will introduce additional vehicles and weaving movements, which drivers will not be expecting. Therefore, it will increase the risk of accidents, particularly because the vehicles merging	The enlargement of the Ockham Roundabout (to deliver south facing slips) is as shown on the attached plan (TTHC drg M16114-A-052A). The modifications within the Flood Zone are relatively modest, particularly within the context of the new Wisley Lane link provision.
from Wisley Lane will be slow moving. Highways England maintains that TD42/95 is the design standard for Major/Minor priority at grade junctions, which is what this particular element of the Scheme should be, but the design standards do not allow this type of junction on Dual 3 Iane All Purpose (D3AP) roads and therefore by implication it is not permitted for use on Dual 4 Iane All Purpose (D4AP) roads. As proposed by RHS, Highways England maintains that CD122 is not the correct design standard to be used for the RHS Alternative Scheme.	In respect of the weaving distance to Ripley Services, TTHC drg M16114-A-051 shows one means of how the 1km weaving distance could be achieved for both directions of travel on the A3.

		Improved Wisley Lane connection to A3 Northbound
		The review of the proposed RHS Alternative Wisley Lane connection to the A3 Northbound against highway standards is currently subject to SoCG discussions. At this stage the parties continue to disagree.
		Within REP1-044, TTHC provided a response to the Applicant's position in respect of this matter.
		Confirmation that Wisley Lane will be subject to a 30mph speed limit in the DCO Scheme will enable the standard applied by TTHC to some components of the RHS Alternative to be less onerous than that assumed to date.
REP1-038-3	Highways England does not accept that the RHS Alternative Scheme would result in much improved access arrangements compared to the Scheme. The RHS alternative contains two additional elements to the Scheme: a left out from Wisley Lane on to the A3 and south facing slips at Ockham Park junction. First, the existing junction between the A3 and Wisley Lane is unsafe. The operation and continued retention of the junction already breaches current standards set out in the Design Manual for Roads and Bridges relating to separation, weaving and merging distances and there is evidence that its presence is a significant contributory factor in the poor accident record of this cartion of the A3	Responses to the Applicant's safety claims in respect of the existing Wisley Lane junction are provided above. Also, the proposed RHS Alternative provides an improved slip road arrangement which has been designed to meet the highway standards set out in CD122 as explained in REP1-044. These are matters which are being discussed as part of SoCG exchanges.
	This is because there would be greater conflict between traffic merging from Wisley Lane and traffic on the A3 northbound carriageway manoeuvring in to the two nearside northbound lanes in preparation for exit at M25 junction 10. The nearside of the two exit lanes would also be free-flowing at junction 10, which is a further important safety factor as traffic is likely to be moving more quickly. Highways England is not aware of any other examples of such a side road junction being retained on a D4AP road and where there is a 2-lane drop within 1 km of the next junction.	Within the 1km weaving context, the 2-lane drop described by the Applicant during ISH2 is not precluded by the standards. Indeed, there is less than 1km weaving distance between J12 and J13 of the M60 Motorway junctions and a two lane drop downstream. This section of Motorway has recently been improved to Smart Motorway standard and yet these characteristics have been retained, despite being one of the busiest sections of motorway in the UK (170,000 veh ADT).

Secondly, the retention of a left turn out of Wisley Lane would not comply with	The Applicant states that their traffic modelling shows Wisley Lane
the relevant design standards. Fundamentally, there is insufficient space	traffic routing via Ripley but that they have a signing strategy that will
between Wisley Lane and M25 junction 10 to achieve an acceptable standard of	promote the A3 route (with its numerous u-turns). However, the
merge lane for traffic exiting from Wisley Lane. For these reasons, a left turn out	Applicant doesn't know how much traffic will follow the signed route
should not be retained and the Scheme therefore makes provision for an	and that the modelling is therefore a worst-case assessment for Rinley
alternative access road to be provided, namely the Wisley Lane diversion	in this regard. Aside from the points made in respect of signage in
The traffic modelling shows traffic routing via Pinley in the morning and evening	PED1-044 (from paragraph $4.16$ ) and in addition to the Applicant pot
needs although it doos not follow from this that in reality Pinloy High Stroot will	knowing how much traffic will use their proposed signed route as
become the proferred route for all Wieley Lane meyoments to and from the	chowing now much traine will use their proposed signed route as
become the preferred fould for all wiskey Lane movements to and from the	opposed to Ripley, we also know that the Applicant has been unable
south. This is because the modelling cannot reflect the impact that the signage	to validated trainc models of Ripley which reflect the congested
strategy will have on users as it assumes that all traffic takes the lowest cost	conditions which already occur. There can simply be no confidence in
route in terms of distance and time. The modelling is therefore a worst-case	the Applicant's proposals or their assessment of the effects of the
assessment for Ripley in this regard.	DCO Scheme.
	The Anglian standards there is an institiantian for one distinction the
Noreover, there is no highway justification for providing south-facing slips at the	The Applicant suggests there is no justification for providing south-
Ocknam Park junction on account of the Scheme. The traffic modelling results	facings slips at Ocknam. The RHS maintains that south facing slips are
presented in the Transport Assessment Report (see section 7.6) [APP-136] shows	justified and should have been assessed as a reasonable alternative to
that the Ockham Park junction will operate within capacity in the future with the	the DCO Scheme.
Scheme in place.	
The modelling and economic the day conclude that the Coheman would have a	The DUC Alternative Coherene mouth he considered in the constant
The modelling and assessments also conclude that the Scheme would have a	The RHS Alternative Scheme must be considered in the context
limited effect on the operational performance of the local road network through	Habitats Regulations Assessment as an alternative which would cause
Ripley, and there is no justification to bring forward south-facing slips as	less harm to the Thames Basin Heaths SPA as it would generate 3.3
mitigation for the Scheme's limited impact on that settlement.	million fewer miles/annum and consequently reduce the levels of
	Nitrogen deposition.
New york databased as a fifteener to entitle and a second databased to a fifteener for	The second se
Nor would there be sufficient justification to provide the slips as mitigation for	The guidance on consideration of alternative solutions is clearly set
the effect on the RHS Garden Wisley's visitors who travel to the Gardens from	out in the Commission notice "Managing Natura 2000 sites, The
the south. These journeys would, as a result of the Scheme, lose the benefit of	provisions of Article 6 of the 'Habitats' Directive 92/43/EEC". This
direct access to Wisley Lane from the A3 and would incur an increase in return	document has been provided to the inquiry in full as it has been
journey times of approximately seven minutes if they follow the signed route.	referred to by Mr Baker in his evidence and will also assist the ExA on
However, the volume of traffic that would benefit from south-facing slips would	other issues. Section 3.7.4 (p57) examines the consideration of

be small in absolute and relative terms and insufficient to justify their inclusion in	alternatives. Of relevance is the fact that alternatives cannot be ruled
the Scheme. It is also important to recognise that any effect on Wisley Lane	out on cost alone and that the absence of alternatives 'must be
traffic should be balanced against the significant benefits that the Scheme would	demonstrated'.
deliver in providing a safer alternative access.	
South facing slips at Ockham Park junction are not required to mitigate any	
impacts due to the Scheme and, consequently, they do not form part of the	
Scheme.	
The Scheme does not preclude future implementation of south facing slips at	
Ockham Park junction. However, it is evident that there are several challenges	
and constraints associated with providing them, including the likely need to	
acquire land outside the highway boundary, which would need to be overcome	
to demonstrate that they are deliverable without detriment to either the free or	
safe operation of the A3, affordable and offer the most appropriate solution to	
the identified problem. These include that:	
<ul> <li>the Ockham Park roundabout would need to be enlarged and the B2215</li> </ul>	
Portsmouth Road, the B2039 Ockham Road North and the Wisley Lane	
diversion connections with the Ockham Park Roundabout would need to re-	
aligned. The roundabout is located within the Stratford Brook flood zone	
(Zone 3) and adjacent to both a Site of Nature Conservation Importance (SNCI)	
and a historic landfill site, so these factors would need to be taken into account	
in any provision of new slips.	
<ul> <li>the Ripley services on the A3 are located only 1.5 kms south of Ockham Park</li> </ul>	
junction. Consequently, there is insufficient distance between the junctions to	
provide a design with a standard compliant weaving length between the merge	
and diverge sections of the respective on and off slip roads. A minimum	
weaving length of 1000 m is required for a compliant design where only	
approximately 650 m northbound and 690 m southbound can be achieved.	
Therefore, the accesses off the A3 to the Ripley services would have to be	
relocated to accommodate south facing slips at the Ockham Park junction to	
achieve a compliant design; and	

will NOT gative. Where fect <b>must be</b>
ps in the data. negative effect. is clearly set out ra 2000 sites, The 3/EEC at ains as to the linked to the plan will have to arly demonstrates magnitude of heme.
ips ips is c <i>ra 22</i> <i>3/E</i> <i>ain</i> <i>y wi</i> arly marly

	The evidence of Professor Laxen and Mr Hibbert also demonstrates that the deposition modelling grossly underestimates the magnitude and the extent of N dep. The actual levels arising from the scheme, both in isolation and in combination with other plans or projects is therefore unknown.
	The basic argument HE is presenting is that it is acceptable to increase nitrogen loadings within the buffer as this area does not support the interest features of the SPA. This approach is unlawful. It is a fundamental tenet of the Birds Directive (Directive 2009/147/EC) that member states must take steps to ensure that degraded habitats are restored.
	<ul> <li>Article 3 states,</li> <li>1. In the light of the requirements referred to in Article 2, Member States shall take the requisite measures to preserve, maintain or re- establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1.</li> <li>2. The preservation, maintenance and re-establishment of biotopes and habitats shall include primarily the following measures:</li> <li>(a) creation of protected areas;</li> <li>(b) upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones;</li> <li>(c) re-establishment of destroyed biotopes;</li> <li>(d) creation of biotopes.</li> </ul>
	It is clear that the coniferous forest within the site should be manged (in this case removed and converted to heathland) to improve the ecology of the site and increase the carrying capacity of the SPA for the interest features of the site. Indeed, removal of conifer trees is part of the current management of the site.

	This precise point was tested at a previous inquiry into Land south of Wallisdown Road, Poole, Dorset (Talbot Village Trust) APP/Q1255/V/10/2138124 (27 February 2012), in refusing an appeal the inspector stated that an appropriate assessment should 'take account of the potential for the restoration of the site to favourable conservation status, as opposed to taking the view that the proposed scheme would not have an effect because, as a result of the poor condition of the site the interest features are not present'.
	As the HE has conceded the RHS Alternative Scheme has not been assessed and therefore HE has not demonstrated the absence of a reasonable alternative that would be less damaging to the SPA.
As discussed in the response to the RHS Air Quality Representation [REP1-041], even though the RHS Alternative Scheme has not been assessed, there is no basis for the proposition that it would have a notable effect on nitrogen deposition rates within the SPA compared to the Scheme. This is because the traffic modelling undertaken by Highways England has predicted that all the traffic travelling to and from RHS Wisley from the A3 south will access the gardens via Ripley and the results of the air quality assessment in the Environmental Statement, Chapter 5: Air Quality [APP-050] take this into account. Accordingly, the effect of this routing would be the same as the south facing slips forming part of the RHS Alternative Scheme in air quality terms.	Further comments on Ripley are provided the response to point 4.2.2 in REP2-022, where it is pointed out that the new calculations are not valid.
The assessment has shown that even with this traffic, changes in NO2 concentrations at receptors in Ripley near the High Street would be small or imperceptible, and still below air quality criteria. Hence, even though the RHS Alternative Scheme has not been assessed, it can be considered that it would not have a significant effect on NO2 concentrations at receptors in Ripley. To provide	Further comments on the assessment of traffic using the signposted route are provided in the response to point 2.1.2 in REP2-022.

	further clarification, an additional assessment (please see Response to RHS-DL-1 AQ REP1-041, Volume 9.17) was carried out to assess the effect of the traffic using the signposted route (i.e. via junction 10) and the additional traffic was shown to be unlikely to have any measurable effect on the reduction in species-richness as a result of changes in the nitrogen deposition rates and would still not cause an adverse effect on the integrity of the site.	
	Although the RHS Alternative Scheme has not been assessed by Highways England, it can be considered that any reduction in CO2 emissions as a result of this Alternative would be negligible. Estimates of CO2 emissions as a result of the two routes that could be taken by traffic travelling between RHS Wisley and the A3 to the south are provided in Table 1 of the Response to RHS-DL-1 AQ REP1 - 041, Volume 9.17. The key driver to reducing CO2 emissions will be through national policy measures, such as the move to zero emission vehicles.	
REP1-038-5	<ul> <li>The Statement to inform Appropriate Assessment (SIAA) [APP-043] has been carried out correctly. The findings of the SIAA identify an adverse effect on the Thames Basin Heaths SPA as a result of the land take required by the Scheme (paragraph 7,4,7 of the Habitats Regulations Assessment: Stage 2 [APP-043]. However, an adverse effect as a result in changes in air quality was ruled out. This assessment of changes in air quality was correctly carried out, as explained below. The HRA has followed the process as outlined in:</li> <li>The Planning Inspectorate (2016) Habitat Regulations Assessment Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects;</li> <li>Highways England (2009) The Design Manual for Roads and Bridges (DMRB) Volume 11, Section 4, Part 1 Assessment of Implications (of Highways and/or Road Projects) on European Sites (Including Appropriate Assessment) (HD 44/09)</li> <li>As detailed in 5.3 Habitats Regulations Assessment Annex B [APP-041], the HRA process, including the methods for assessing air quality impacts on the SPA, both alone and in combination, was agreed with Natural England (refer to item 2.0 of</li> </ul>	See comment above on errors and omissions.

meeting minutes for 27 March 2018, as found in A.13 of the Statement of	
Common Ground with Natural England [APP-138]).	
The SIAA considered the nitrogen deposition (Ndep) levels at six transects within	The SIAA (APP-043) used incorrect data to inform the assessment, as
the Ockham and Wisley Commons component of the Thames Basin Heaths SPA	it did not consider NOx concentrations against the critical level, used
(N dep levels are reported in Tables 7 and 8 in 5.3 Habitats Regulations	incorrect deposition velocities to calculate Ndep, did not include
Assessment: Stage 2 [APP-043], transect locations are illustrated in Figures 4 and	ammonia in the Ndep calculations, and did not allow for traffic to RHS
5 of the Habitats Regulations Assessment Figures [AS-012]).	Wisley following the signposted route. It also did not carry out a valid
The assessment considered nitrogen deposition levels at a range of distances	in-combination assessment. These matters are explained in more
from the road edge for each transect, allowing comparisons of the existing 2015	detail in the responses to REP2-022.
baseline, 2022 with no Scheme and 2022 with the Scheme.	
As agreed with Natural England, the assessment focused on increases of greater	
than 1% of the critical load when comparing the 2022 with no Scheme data	
against the 2022 with the Scheme data (refer to item 2.0 of meeting minutes for	
27 March 2018, as found in A.13 of the Statement of Common Ground with	
Natural England [APP-138]).	
The critical loads were taken from Air Pollution Information System (APIS)	
website, which gave three critical load class habitat types for the Ockham and	
Wisley Commons SSSI component of the Thames Basin Heaths SPA:	
• Fen, marsh and swamp – Valley mires, poor fens and transitional mires (critical	
load 10-15 kg N/ ha/year);	HE has omitted to set out the critical load for coniferous woodland
<ul> <li>Dwarf shrub heath – Dry heaths (critical load 10-20 kg N/ ha/ year); and,</li> </ul>	that are cited on the APIS website for Thames Basin Heaths (App. Y).
<ul> <li>Dwarf shrub heath – Northern wet heath (critical load 10-20 kg N/ ha/ year)</li> </ul>	
In addition, as outlined in paragraphs 7.9.23-7.9.26, the Environmental	The lead author of NECR210, Dr Simon Caporn, has confirmed to Prof.
Statement Chapter 7: Biodiversity [APP052] also assessed the changes between	Laxen that this part of the report was not designed to provide a basis
2022 with no Scheme and 2022 with the Scheme for every point of each transect	for defining significance. It merely demonstrates the changes in Ndep
within the Ockham and Wisley Commons SSSI, against the increase in nitrogen	affect species richness. HE has taken this evidence out of context and
deposition required to reduce measured species richness by one, as taken from	applied it inappropriately. Notwithstanding the errors in the
Table 21 of Natural England Commissioned Report NECR210.	calculations of Ndep one cannot take Table 21 in NECR210 to justify
	an increase in Ndep because it is too small to cause a loss of one
	species.

	The approach is flawed, how could HE know that the current levels of Ndep are not close to a tipping point that would cause a species to disappear? If this were the case, then a tiny increase could result in the loss of a species. Neither does this approach take into account the past loss of species due to Ndep and the requirement to reduce Ndep levels to at or below critical loads. It is the view of Mr Baker and Prof. Laxen that the use of Table 21 in the way proposed is a completely unscientific approach and a distortion of the data presented in the NECR210 report.
The approach to the air quality assessment with regards to the SPA, SSSI, and in combination was agreed with Natural England. The methodology aligns with the existing guidance and the advice from Natural England. In addition, the methodology and findings of the appropriate assessment were also reviewed and agreed with Natural England, the RSPB and Surrey Wildlife Trust (as recorded in the meeting minutes on 28 June 2018 (Item 4.0) and 09 October 2018 (Item 5.0, page 64), in the Habitats Regulations Assessment Annex B [APP-041]). As noted in the response to the points raised in REP1-041, NOx concentrations were correctly projected forward using the LTTE6 factors in accordance with Highways England's Interim Advice Note (IAN) 170/12 v3, as noted in paragraph 5.5.23 of APP-050).	
There is no statutory requirement for ammonia to be included in the air quality assessment as discussed in the response to REP1-041. Paragraph 5.8 of the National Policy Statement for National Networks states that the air quality assessment should be consistent with Defra's published future national projections. Ammonia is not included in Defra's emission factors toolkit, nor is it included in Highways England DMRB guidance, and so there is no requirement for assessment. A sensitivity test was carried out to show the potential effect of including the contribution of ammonia as discussed in the response to REP1-041. This showed that there would be no material effect to the conclusions of the SIAA.	The statement 'There is no statutory requirement for ammonia to be included in the air quality assessment' is incorrect. Under the Habitat Regulations there is a legal requirement to ensure that any HRA fully assesses all the pathways which may have an adverse effect upon a European site. This was established in the case law eg Briels Case C- 521/12, para 27 'The assessment carried out under Article 6(3) of the Habitats Directive cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on

		the protected site concerned (see, to that effect, Sweetman and Others ELI:C:2013:220, paragraph 44 and the case-law cited) '
	The nitrogen deposition calculations were undertaken using the correct	Further comments on deposition velocities are provided in the
	deposition velocity in the DMRB guidance at the time, however since then the	response to point 2.8.1 in REP2-022.
	deposition velocities have been revised. The revised nitrogen deposition	The air quality assessment has not shown the in-combination impacts
	calculations are provided in the response to REP1-041 and still show no adverse	of other plans and projects. This is discussed further in the response
	effect on the qualifying features of the site. This is further discussed in the	to point 2.9.1 in REP2-022.
	response to 3.4 below.	
	The air quality assessment takes into account traffic from other plans and	HE has not carried out the assessment correctly.
	projects in the wider area, in addition to the Scheme, as documented in	
	paragraph 5.11.3 of APP-050, and therefore allows for in combination effects.	
	Therefore, Highways England is able to confirm that the assessment was carried	
	out correctly	
REP1-038-5	The Habitats Regulations Assessment: Stage 2 [APP-043] is compliant with case	As set out above, the HRA is not legally compliant.
	law and guidance on the carrying out of habitats assessments under the Habitats	
	Directive and Habitats Regulations. Paragraph 39 of the Ecology and Habitats	
	Regulations Assessment representation [REP1-043] submitted on behalf of RHS	•
	concludes that the TBHSPA is already receiving nitrogen deposition that is far in	
	excess of critical loads and the conservation objectives for the site include an	
	below this is not correct	
	As stated in paragraph 4.21 in Natural England's approach to advising competent	
	authorities on the assessment of road traffic emissions under the Habitats	
	Regulations (Natural England (2018)). "If none of the site's sensitive qualifying	
	features known to be present within 200 m are considered to be at risk due to	
	their distance from the road, there is no credible risk of a significant effect which	
	might undermine a site's conservation objectives".	
	The reference to the Ockham and Wisley Commons SSSI component of the SPA	
	exceeding the critical load for nitrogen deposition in paragraph 7.2.31 of the	

Habitats Regulations Assessment: Stage 2 [APP-043] is referring to the lower limit of the critical load range (10 kg N/ ha/ year). The lower limit of the critical load range was selected for assessing 1% of the lower limit of the critical load range when comparing the 2022 with no Scheme data against the 2022 with the Scheme data as it is the most sensitive value. The lower limit of the critical load range for heathland (taken from the APIS critical loads for habitat types within the Ockham and Wisley Commons SSSI component of the SPA, as explained in paragraphs 7.2.29 and 7.2.30 of the Habitats Regulations Assessment: Stage 2 [APP-043]) was used in the SIAA to maximise the sensitivity for detecting any increases in nitrogen deposition by 1% of the	
critical load. However, critical loads are presented in APIS as a range. The critical load range for heathland habitats within the Ockham and Wisley Commons SSSI component of the SPA is 10-20 kg N/ ha/ year.	These statements on the range of critical loads are misleading. HE asserts that their assessment is precautionary and therefore their assessment is likely to err on the side of caution. This is not the case.
Whilst the SIAA [APP-043] considered the lower limit of the range, this was selected as a precautionary approach to investigating risks. The Natural England Commissioned report NECR210 (2016) Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance used the upper limit when determining if critical loads were exceeded.	Professor Laxen's evidence demonstrates that a key sources of nitrogen deposition (e.g. ammonia from road traffic) has been omitted from the assessment. The NERC210 (2016) report does NOT advocate the use of the upper limit when determining critical loads. Indeed, the report in fact explicitly states the opposite for example at section 5.7 it is stated richness. ' <i>The implication of this is that</i> <i>ecosystems may be showing sensitivity to N deposition at much lower</i> <i>levels of N deposition than previously thought and certainly at the</i> <i>lower end of the critical load ranges.</i> '
The Thames Basin Heaths SPA is designated for its qualifying species (Dartford warbler, nightjar and woodlark) rather than its habitats.	This statement shows a fundamental lack of understanding of basic ecological principles. The qualifying species are reliant on the quality of the habitat to support their populations. Increased nitrogen causes

	reduction in species diversity and loss of flowering plants. It increased ground level shading (reduction in bare ground) which is likely to have adverse effects upon invertebrate species and thereby reduce the availability of food sources for the interest features of the site.
The APIS data for the qualifying features of the Thames Basin Heaths SPA (http://www.apis.ac.uk/srcl/select-a- feature?site=UK9012141&SiteType=SPA&submit=Next) shows that nitrogen deposition loads are below the upper critical load threshold for dry heaths for all three of the qualifying features of the SPA and therefore the nitrogen deposition loads within the SPA do not exceed the critical load threshold for nitrogen deposition. Therefore, in terms of Advocate General Kokott's opinion, the critical loads for nitrogen depositions are not exceeded within the heathland habitats where the qualifying features of the SPA occur. The SIAA considered the nitrogen deposition levels at six transects within the Ockham and Wisley Commons component of the Thames Basin Heaths SPA,	APIS presents critical loads as a range but makes clear that the minimum of the critical value range should be applied during screening, with any modifying factors considered and applied at the detailed assessment stage (page 9 of <b>App. X</b> ). The recommended values for use in a detailed assessment are 10 kgN/ha/yr for both dry heaths and coniferous woodland (page 6 on <b>App. X</b> http://www.apis.ac.uk/sites/default/files/downloads/APIS%20critical load_range_document.pdf) These statements on the range of critical loads are therefore misleading. The NERC210 (2016) report does NOT advocate the use of
comparing nitrogen deposition data for 2022 with no Scheme data against 2022 with the Scheme. As agreed with Natural England (see item 2.0 of meeting minutes for 27 March 2018, as found in A.13 of the Statement of Common Ground with Natural England [APP-138]), the SIAA assessed whether the 2022 with Scheme calculations would lead to a significant change (increases of greater than 1% of the lower limit of the critical load) in nitrogen deposition rates, when compared to the 2022 without Scheme data. In addition, the Environmental Statement	the upper limit when determining critical loads. Indeed, the report in fact explicitly states the opposite for example at section 5.7 it is stated, 'The implication of this is that ecosystems may be showing sensitivity to N deposition at much lower levels of N deposition than previously thought and certainly at the lower end of the critical load ranges.'
assessed for increases of 0.8 kg N/ha/yr. After taking into account the updated air quality data (as described in Appendix B of the comments response to the Royal Horticultural Society air quality representation [REP1-041]), the increases of 1% or greater between the 2022	The upper critical load is not relevant. The APIS website clearly states that lower levels should generally be used for assessments. This statement is consequently incorrect. See <b>App. X</b> .

without Scheme and 2022 with Scheme data are confined to within 50 m of the road. The qualifying species occur within the heathland habitats of the Ockham and Wisley Commons SSSI component of the SPA. As demonstrated in Figures 4 and 5 of the Habitats Regulations Assessment Figures [AS-012], there is a belt of Scots pine-dominated woodland along the edge of the A3 and M25, forming a buffer of at least 150 m between the road and the heathland where the qualifying species occur.	The discussion of increases does not take account of the contribution of ammonia to N deposition. Thus, the values in the Table are not correct.
This woodland buffer protects the habitats that the SPA qualifying species utilise from the nitrogen deposition emissions from the road. For each transect, the distance of the heathland from the road, and the nitrogen deposition rates (2022 with and without Scheme) for that distance (up to 200 m from the road) are listed below, based on the updated air quality data. As can be seen, at the distance that the heathland is situated from the road, there is negligible difference between the nitrogen deposition loads for the 2022 without Scheme and 2022 with Scheme, with either no perceptible change, or in the majority of cases, minor improvements. On this basis, the SIAA correctly ruled out adverse effects on the SPA as a result of air quality changes resulting	As highlighted above, the extent of the increased nitrogen deposition has not been calculated correctly and the actual deposition arising from the scheme is likely to be significantly higher than that which is current erroneously predicted by the HE. Therefore, even notwithstanding the need for restoration, effects may extend beyond the current extent of the so-called conifer woodland buffer.

from the Scheme, either alone or in combine Transect Approximate N dep rate distance of heathland			mbination,	ation, and is there		efore robust. 2022: no Scheme vs operational Scheme	
	from the road (up to 200 m)	Distance from road of receptor point (Receptor ID in brackets)	2022 without Scheme at the distance where heathland occurs	2022 with Scheme at the distance where heathland occurs	Change in N dep rate	Change as % of critical load (based on lower limit of 10 kg N/ ha/ year	
Transect 1: running south from M25 at the A3 northbound off-slip (at M25 J10, to west of A3)	155 m	150 m (R163)	16.12	16.12	0.00	0.0%	
Transect 2: running south from M25 at the A3 southbound on-slip (at M25 J10, to east of A3)	No heathland within 200 m	200 m (R194)	15.80	15.77	-0.03	-0.3%	
Transect 3: running west from A3 at the A3 northbound off-slip (at M25 J 10)	175 m	150 m (R147)	15.86	15.83	-0.03	-0.3%	
Transect 4: running east from A3 at the A3 southbound on- slip (at M25 J10)	No heathland within 200 m	200 m (R156)	15.68	15.65	-0.03	-0.3%	
Transect 5: the A3 northbound, to the south of J10 (adjacent to Bolder Mere, to west of A3)	180 m	150 m (R132)	15.10	15.04	-0.06	-0.6%	
Transect 6: the A3 southbound, to the south of J10 (adjacent to Bolder Mere, to east of A3)	No heathland within 200 m	200 m (R140)	15.13	15.07	-0.06	-0.6%	
The RHS Alternat	ive Scheme	e cannot be	provided I	pecause the	e left-out	merge	
junction from Wi	sley Lane to	o the A3 nc	orthbound i	s not safe,	and it can	not be	
provided in accordance with DMRB design standards. Accordingly, it would not							
meet the Scheme		s and is not	a teasible	alternative	. Further,	it it were	
require SPA land	to be taker	iant designj n	, ше кпз А	iternatives	scheme W	oulu	
	from the Scheme         Transect         Transect 1: running         south from M25 at         the A3 northbound         off-slip (at M25 J10,         to west of A3)         Transect 2: running         south from M25 at         the A3 northbound         on-slip (at M25 J10,         to east of A3)         Transect 3: running         west from A3 at         the A3 southbound         off-slip (at M25 J10)         Transect 4: running         east from A3 at the         A3 southbound on-         slip (at M25 J10)         Transect 5: the A3         northbound, to the         south of J10         (adjacent to Bolder         Mere, to west of A3)         Transect 6: the A3         southbound, to the         south of J10         (adjacent to Bolder         Mere, to east of A3)         The RHS Alternatt         junction from Wi         provided in accord         meet the Scheme         possible to provider         require SPA land	from the Scheme, either aloTransectApproximate distance of 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	The Scheme has been designed to minimise the amount of land take (both permanent and temporary) from the SPA, and an additional substantial permanent land take cannot be considered a less damaging solution.	
REP1-038-7	Highways England does not agree with the level of reduction in visitor numbers to the RHS arising from the Scheme as set out in the Hatch Regeneris report included with the RHS Written Representation [REP1 -039] nor that the Scheme would have a severe economic impact on the RHS.	The RHS commissioned a survey to formally canvas opinions on the potential impact the scheme will have upon the frequency of visits. The sample size, whilst relatively small, is still of sufficient size to provide credible insight into the views of the wider population of visitors to RHS.
		HE has provided no evidence to support their opinion that there DCO Scheme will have no impact upon RHS visitor numbers.
	In outline, the Hatch Regeneris report is flawed in a number of respects: The RHS data overstates distances and journey times. The journey distance and time changes in Table 4 and 5 do not accord with Highways England's data and Highways England hopes that the recent data sharing exercise will address this.	The RHS considers the journey distances used within its analysis are broadly consistent with the HE data and will not materially affect any of the outcomes of the RHS economic analysis.
		The HE journey time data is reliant upon the accuracy and predicative capability of their traffic models. The RHS has previously indicated its concerns with some of the local calibration and validation of the baseline model on routes leading to / from RHS Wisley Garden and this remains the case.
	• Some of the key questions in the RHS survey were leading and have produced a misleading and in some instances exaggerated outcome.	The questions in the RHS survey were not "leading" but were designed to portray, in a simple self-completion survey format, the negative traffic delay and disruption that resulting from the RHS Scheme. The survey was administered by fully trained and briefed market research staff (Plus Four Market Research).

For example, the response to Question 9, states that over a third (36% of visitors) felt that it [the changes to the journey times] would impact how frequently they would visit. The response does not explain that approximately 58% of the respondents stated that the additional journey time would not affect how frequently they would visit the garden.	The responses to Question 9 clearly include the 58% of respondents who stated the additional journey time would not affect their frequency of travel. These responses are fully accounted for within the RHS analysis and no negative impacts are attributed against these individuals.
• On the basis that only those travelling along the A3 from the south would be affected on their journey to RHS Wisley, and that this represents approximately 24% of total visitors, the RHS forecast reduction in total visitor demand of 6.5% implies that a quarter of these visitors would cease to visit. This would be unlikely on account of such a small increase in journey distance and time.	HE trip distribution assumptions are derived from a single Automatic Number Plate Recognition (ANPR) survey on Tuesday 16th May 2017, 6am to 7pm. Table 3.6 of the Motion Report (REP2-040) shows daily visitor profiles and indicates that Monday and Tuesdays have under 50% of the daily visits than any other day of the week. Whilst not disputing the accuracy of the ANPR data, the RHS do not consider it to be representative of all visitor trips to the RHS Wisley Site. The data used by RHS is drawn from its database of visitor trip origins across the year and so provides a more representative assessment across a typical year.
• The additional distances that RHS Wisley Gardens visitors will need to travel to the Scheme (that does not include south facing slips at Ockham Park junction) is dependent on whether visitors from the south choose to follow the signposted route to and from the A3 via Junction 10 or choose to route via Ripley.	The RHS agree with this observation and had already taken this into account within its analysis. The HE model forecasts that 100% of trips will divert via Ripley but the RHS considers this, in part, reflects the limitations of the HE traffic model in accurately representing delays. The proportion of trips diverting via Ripley will also depend on whether mitigation measures are introduced in Ripley that will encourage RHS traffic to remain on the A3.
RHS has estimated that Wisley Gardens will attract approximately 1.494 million visitors a year due to their 10-year investment plan [Appendix M of REP1-044], which will generate approximately 626,650 vehicle arrivals and departures annually. Although Highways England does not know the expected growth	The figures presented by HE for the two options appear inconsistent with each other. The RHS await revised figures.

	profile of RHS Wisley, if all this growth is assumed to occur by 2022, then the total annual additional distance due to the Scheme would be approximately 355,400 kms (213,700 miles) if visitors to and from the south choose to route via Ripley, or approximately 1.9 km (1.16 miles) if visitors to and from the south choose to route via J10 (the signposted route). Note that these figures include visitors travelling to/from other directions as well as from the south.	
	• The RHS analysis overlooks the significant improved road safety provided by the Scheme.	The RHS consider the RHS Alternative Scheme to be as safe as the DCO Scheme and so the RHS do not consider there will be any material difference in road safety. In addition, the HE analysis demonstrates that the distances travelled by RHS visitors will increase and so the exposure to accident risks could, potentially, increase.
	• The Hatch Regeneris report is based on a worst case scenario and therefore cannot be relied upon as evidence of the likely economic impact on the RHS Wisley.	It is recognised that there are differences in opinion between RHS and HE in relation to the input variables, but the RHS do not consider there to be anything within its approach that represents an inherent worst-case scenario.
	Highways England is considering the Hatch Regeneris report in more detail and will be providing a response as soon as possible.	
REP1-038-8	Highways England does not agree with the wider economic impacts associated indirect and induced impacts to the RHS arising from the Scheme as set out in the Hatch Regeneris report included with the RHS Written Representation [REP1 - 039] nor that the Scheme would have a severe economic impact on the RHS.	THE RHS has conducted its wider economic impacts in line with DfT Transport Analysis Guidance and HM Treasury Green Book requirements. Whilst it is accepted that HE and RHS have differences of opinion on various input data, the RHS consider there can be no dispute on the overall approach adopted by the RHS.
		HE has indicated they do not believe that the DCO Scheme would have severe economic impact on the RHS but they have presented no analysis to support this claim.

<ul> <li>In outline, the Hatch Regeneris report is flawed in a number of respects:</li> <li>The sample was small and taken in late autumn and so the responses may differ from those that would be received in peak season. Whilst the report notes that the sample matches well with typical Wisley visitors; it does not provide details on the similarities and account for scaling the result up from the sample of 645 (from 293 questionnaires) to represent impacts on annual trips.</li> </ul>	The sample size, whilst relatively small, is sufficient to be statistically representative of the annual visitor population. As the survey was conducted in the Autumn half-term holidays, the profile of visitors is similar to those that would be received in peak season. This is evidenced in terms of the ratio of members to paying adults, as well as the age distribution of respondents. The RHS, therefore, maintain that the sample provides credible insight into the views of the wider population of visitors to RHS.
<ul> <li>The questionnaire as reported asked visitors about the impact of an additional journey time of 10 minutes on journeys to Wisley, implying a 10 minute increase on a 1 way trip to RHS. However, the calculations appear to use the survey responses about the impact of the 10 minute increase on visit numbers in relation to the estimated increase in round journey time to and from Wisley, thereby overstating the impact.</li> </ul>	The DCO Scheme would result in different journey times impacts for individuals' depending on whether they are travelling to and from the RHS Site. To counter this challenge, the survey was administered by qualified survey staff who provided a briefing on the wider context and explain the variety of impacts.
• The questionnaire only asked for respondents' reaction to one potential increase in journey time (10 minutes). As noted in the report, it is likely that visitors' response to increased journey time will not be linear and responses to shorter increases in journey time should have been asked.	As HE has indicated, the RHS analysis already indicates that the impacts may not be linear and this has been taken into account within the RHS assessment. At the time of the survey, HE had not provided data on potential journey time impacts; however, the selection of 10 minutes represented a tangible change in journey time from which the RHS could base its analysis.
<ul> <li>The phrasing of the questionnaire tended to invite negative responses by presuming the additional journey time would cause frustration rather than asking a more neutral question such as how respondents would feel about the increase in j journey time.</li> </ul>	Increasing visitor journey times is, by definition, a negative impact. Presenting a scale of "not frustrated" through to "highly frustrated" is considered to represent the only reasonable response to this question.

	• The report doesn't give sufficient information to fully replicate the calculations and it seems there may be some additional uplift factors included. Indeed, the basis for the 15% reduction in trips for the additional RHS anticipated scenario is not clear. The report refers to the view that the disruption of construction impacts may be more off putting to visitors than their current estimate allows for (but this would apply only to the years of construction whereas the example applies the higher rate of visit reduction to operational years too.	No additional uplift factors have been included, with all elements stated within the report. The disruption during construction has only been applied during the forecast years of construction.
REP1-038-9	Highways England has raised a number of points above that show it does not agree with the economic analysis provided in relation both to those points above as well as this one.	The RHS analysis of the RHS Alternative Scheme is based upon the same robust set of survey data, trip distribution evidence, journey distance, and journey time data used in the assessment of the DCO Scheme. This evidence demonstrates that the provision of south- facing slips and retention of the left-turn egress from Wisley Lane onto the A3 will negate the significant economic disbenefits of the DCO Scheme.
REP1-038- 10	A construction sequence and programme is set out in section 2.4 of the Environmental Statement, Chapters 1-4: Main Report [APP-049]. Following the appointment of the principal contractor, Highways England will facilitate discussions between the appointed contractor and the RHS regarding the construction programme.	Whilst additional detail on the impact of the DCO Scheme construction phase has now been presented by HE (REPO2-011), this focusses upon the level of traffic that may divert from the strategic road network onto the local road network. It remains unclear how much additional journey time will be incurred by visitors travelling through the roadworks to RHS Wisley Garden. This is a critical element of the assessment of socio-economic impacts of the DCO Scheme, as the level of traffic delay translates directly into lost economic output.
REP1-038- 11	Tree root surveys have been undertaken and the results are still being analysed to inform on the potential to retain the trees. This analysis will include detailed design reviews in these locations to see if any bespoke engineering solutions can be used to enable their retention should the survey results show that to be necessary.	The RHS reserves its position in this regard.

REP1-038- 12	RHS has not explained why it considers the land take to be excessive. Plot 11/2 is included to provide permanent rights to enable works to be undertaken and maintained to improve the biodiversity of this field and woodland fragment to ensure that it is suitable to be considered as part of the SPA compensation land. The field at Plot 11/2 has been selected due to its location and potential to be	To be dealt with at the CPO Hearing.
	features of the SPA). The size of the plot (6.1 ha) is appropriate to provide a 1:1 ratio to compensate for the loss of permanent land take from the SPA (5.9 ha). An additional SPA compensation land parcel (Old Lane Compensation Land, 2.0 ha) has been provided to ensure that the adverse effects of the permanent loss of 5.9 ha of SPA are offset and to ensure that a 1:1 ratio is maintained. Further detail on the selection process of the SPA compensation land is provided within the HRA Annex C Report [APP042].	
REP1-038- 13	It is not possible to remove the skew from the orientation of the bridge and keep the existing access to and from Wisley Lane and Elm Lane open during construction. Furthermore, the bridge cannot be straightened without taking more land from the SPA. The RHS alternative would not, therefore have a lesser effect on the SPA and so cannot be regarded as a feasible alternative solution for the purposes of the assessment required under the Habitats Directive.	The RHS does not accept this proposition.