

M3 Junction 9 Improvement

Scheme Number: TR010055

8.26 Applicant Response to Questions from the ExA in the Report on the Implications for European Sites

APFP Regulations 5(2)(q)

Planning Act 2008

**Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009**

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8.26 Applicant Response to Questions from the ExA on the Report on the Implications for European Sites

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1.1 Introduction

- 1.1.1 This document has been prepared to provide supporting information to the Examining Authority (ExA) on the questions directed to Natural England set out within the **Report on the Implication for European Sites (PD-013)**. The questions relate to the **Habitats Regulations Assessment (7.5, Rev 2)** and **Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity)** of the **ES (6.3, Rev 1)**.
- 1.1.2 The ExA has requested that Natural England submits to the Examination the comments which it provided to the Applicant following its Deadline 4 submission. As the Applicant has had sight of these comments the Applicant has included them within **Section 1.3** of this report, along with the Applicant's responses to these points which were submitted to Natural England on 20 September 2023. For completeness, **Section 1.4** of this report also sets out Natural England's comments to the Applicant, received on 4 October 2023, along with the Applicant's responses submitted to the Examination at Deadline 6.
- 1.1.3 The Applicant may update this document as appropriate following Natural England's response at Deadline 6, but it considers that early sight of the Applicant's position will assist the ExA at this late stage of the Examination.

1.2 Background

- 1.2.1 Following submissions relating to the **Habitats Regulations Assessment (7.5, Rev 1)** and **Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity)** of the **ES (6.3, Rev 1)** at Deadline 4, the Applicant received comments from Natural England on 6 September 2023.
- 1.2.2 The Applicant received further comments from Natural England on the **Habitats Regulations Assessment (7.5, Rev 2)** and **Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity)** of the **ES (6.3, Rev 1)** on 4 October 2023.
- 1.2.3 The ExA's **Report on the Implication for European Sites (PD-013)** and **3rd written questions and requests for information (ExQ3) (PD-012)** were published on 6 October 2023. The **Report on the Implication for European Sites (PD-013)** identifies that the air quality assessment is one subject relating to the **Habitats Regulations Assessment (7.5, Rev 2)** where Natural England does not agree with the Applicant's outcome.

1.3 Applicant’s Deadline 4 Submission

- 1.3.1 Following submission of the **Habitats Regulations Assessment (7.5, Rev 1)** and **Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity)** of the **ES (6.3, Rev 1)** at Deadline 4, the Applicant received comments from Natural England on 6 September 2023. These are set out in **Table 3.1** and **Table 3.2** below, along with the Applicant’s response which was provided to Natural England on 20 September 2023.
- 1.3.2 In addition, further updates were made to the **Habitats Regulations Assessment (7.5, Rev 2)** as indicated in **Table 3.1** and **Table 3.2**, which was resubmitted at Deadline 5.

Table 3.1: Natural England comments on **Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity)** of the **ES (6.3, Rev 1)**, received 6 September 2023

Natural England Comment (received by email 6 September 2023)	Applicant’s Response (issued to Natural England by email on 20 September 2023)
1.1.4 The use of the current APIS background data and revised critical loads in the revised assessment is welcomed.	Noted.
1.2.9 In-combination methodology - traffic - The consideration of in-combination projects within the traffic model is welcomed – including consideration of local plan allocations. It would be useful to understand which year has been assumed within the model – and, if the “opening year” - how developments coming forward after this have been assessed in-combination (our meeting on 8 th June indicated that 2027 was the worst case – but this is not developed in the assessment). Confirmation that the “worst case” traffic numbers have therefore been assessed should be provided. Where use of national	<p>A summary of the specific growth by Local Authority is summarised in Table 4.3 (Uncertainty Log Development Summary) of the Combined Modelling and Appraisal Report (7.10, Rev 1) and details of each development are provided in Appendix A of the Combined Modelling and Appraisal Report (7.10, Rev 1).</p> <p>The delivery of the developments (and local plan allocations) is inherently uncertain in terms of both quantum and date, but appropriate methodologies are considered to have been applied to ensure a robust assessment of potential future changes in traffic flows has been undertaken. We would invite</p>

Natural England Comment (received by email 6 September 2023)	Applicant’s Response (issued to Natural England by email on 20 September 2023)
<p>growth rates has been made, confirmation that these reflect predicted growth in the south-east – around the proposed development – rather than generic national growth should be provided.</p>	<p>Natural England to review the data contained within Table 4-3 (Uncertainty Log Development Summary) of the Combined Modelling and Appraisal Report (7.10, Rev 1).</p>
<p>In general, it is unclear how the in-combination traffic impacts are included in the assessment. It appears to assume “DS-DM” is a proxy for emissions from the project alone, which includes some quantum of in-combination traffic as well (projects which are dependent on the proposed development). However, “DM” includes projects which are not in the current baseline, so clarification as to how these are included in the in-combination assessment would be welcomed. It is possible that their inclusion in the “future baseline” means that they would be included within the appropriate assessment (as part of any exceedance or non-exceedance of a critical level/ load) but it is not clear how they would be included in screening, where it is only the (in-combination) process contribution that is relevant.</p>	<p>It is considered that the Do-Something (DS) scenario inherently considers the in-combination impacts of the Scheme. Whilst it is technically correct that the Do-Minimum (DM) traffic model includes changes in traffic flows associated with other developments that are considered likely to come forward prior to the Opening Year of the Scheme, as the Scheme is a revision to an existing road junction (as opposed to a new road or facility) it is not possible to isolate it’s impacts as these are entirely due to traffic using the highway network in both the DM and DS scenarios. The inherently cumulative nature of this assessment is recognised in paragraph 3.4.4 of the Planning Inspectorate’s Advice Note (PAN) 17:</p> <p>Cumulative effects assessment relevant to Nationally Significant Infrastructure Projects. The Advice Note states:</p> <p><i>‘Certain assessments, such as transport and associated operational assessments of vehicular emissions (including air and noise) may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Where these assessments are comprehensive and include a worst case within the defined assessment parameters, no additional cumulative</i></p>

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	<p><i>assessment of these aspects is required (separate consideration may be required of the accumulation or inter-relationship of these effects on an individual set of receptors e.g. as part of a socio economic assessment)'</i></p>
<p>1.2.13 In-combination methodology – non-road sources - The additional search for non-road projects is noted and welcomed. However, this should be assessed within the screening/ appropriate assessment stages rather than be excluded in the methodology passages. The reasoning for in-combination assessment at screening is that projects which alone would not cause Likely Significant Effects (LSE) (i.e. generating <1% of the relevant critical level/ critical load at the protected site), could do in-combination. The assessment of the identified AD plant concluded at the time it would not generate LSE alone or in-combination with relevant plans/projects at the time of assessment. However, the current assessment is whether the M3J9 project in combination with the AD plant (and other plans/ projects) would result in such LSE. This requires to be assessed.</p>	<p>The potential for in-combination impacts from non-road sources was reviewed and identified an Anaerobic Digestion facility, the Habitats Regulations Assessment (HRA) for which concluded no significant effects alone or in-combination. Natural England confirmed this in 2023 (Natural England Ref 414103, dated 23 January 2023):</p> <p><i>Natural England notes that the Air Quality assessment provided with the consultation has screened the proposal to check for the likelihood of significant effects from aerial emissions on the above named European sites. The screening report recommended detailed assessments of potential impacts from construction emissions and ammonia emissions.</i></p> <p><i>These detailed assessments conclude that the proposal can be screened out from further stages of assessment because significant effects are unlikely to occur, either alone or in combination. On the basis of information provided, Natural England concurs with this view.</i></p>
<p>1.3.3 Assessment methodology - The assessment of impacts should be undertaken as a result of the project alone, and then, if the 1% threshold is not</p>	<p>As described above, the assessment is inherently in-combination as the traffic model includes changes in traffic flows associated with other developments that are considered</p>

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<p>exceeded, in-combination. This is not the methodology outlined in this paragraph which states “ (if) pollutant concentrations will increase by less than 1% of the relevant threshold, at the point where the air quality transect intersects within the designated habitat, in line with Figure 2.98 within LA 105 effects are assessed as not significant”.</p>	<p>likely to come forward prior to the Opening Year of the Scheme.</p>
<p>1.3.4 River Itchen SAC – It would be helpful to present the results of the assessment/ location of transects etc within this document, and the assumed critical levels and critical loads. Eg para 1.3.6 indicates “<i>Most of the air quality transects show that levels of nitrogen and NOx will have increases below 1% of the critical load or level, or will see reductions.</i>” Without sight of the full results this cannot be confirmed. The statement “or will see reductions” does not make sense in the context of a road scheme where emissions will be generated. If consideration is made against the current scheme or against some future background this could be considered in the appropriate assessment but at screening/ LSE, the only consideration is the process contribution at the protected site.</p>	<p>As referenced in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1), the full results can be found in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1) and plans showing the transect locations are set out in Figure 5.4 (12 sheets) of Chapter 5 (Air Quality – Figures) of the ES (6.2, Rev 1).</p> <p>Modelling indicates reductions in some areas. These are mentioned for context. The assessment is precautionary and for each receptor, focuses on the transect showing the highest increases.</p> <p>We would invite Natural England to review the Figures identifying the location of the transects - Figure 5.4 (12 sheets) of Chapter 5 (Air Quality – Figures) of the ES (6.2, Rev 1) and Appendix of the air quality modelling results – Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1) submitted as part of the Development Consent Order (DCO) application.</p>

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<p>This does indeed indicate (e.g. Table 1.2) that for some receptors “DS” is less than “DM” which is not appropriate for the assessment of ecological impacts. It does not assess the impact caused by the proposed development – distinct from the “change” in impact, presumably caused by the road in its existing alignment. It is acknowledged that the proposed development is therefore a “betterment” of the existing situation – but this does not imply that emissions from the (new) development are acceptable or would not undermine the conservation objectives of a protected site. If the modelling methodology cannot distinguish the emissions caused by the proposed development itself or in combination (for example, by comparing against the current pollution background on APIS), it would be precautionary to assume that >1% of the critical load/level of the relevant pollutants is generated. Therefore, further ecological assessment is required - at which point the impact of the predicted environmental concentration (PEC) could be taken into account, and whether any change in pollutant levels could be undermining the conservation objectives.</p>	<p>The assessment has been undertaken in accordance with Design Manual for Roads and Bridges LA 105 Air quality (Highways England, 2019) and Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) (Natural England, 2018), which indicates that changes in pollutant concentrations are used to assess the risk of impacts. There are indeed some transects where due to changes in road alignment (and use) there are predicted decreases in concentration of air pollutants due to the Scheme; equally there are increases at some transects. The assessment is precautionary and for each receptor, focuses on the transect showing the highest increases. Further information on absolute increases in pollutants has been added to the Habitats Regulations Assessment (7.5, Rev 2).</p>
<p>The critical levels used for ammonia (in Table 1.4 of the results document) appear to be set for the higher plant level (3µg/m³) rather than the lower plant level</p>	<p>Mosses and lichens are not qualifying features of the River Itchen Special Area of Conservation (SAC). APIS indicates</p>

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<p>(1µg/m³) even though the habitats listed at Table 1.1 include habitats where mosses and lichens are integral components. This should be revised.</p>	<p>mosses and lichens are not an integral feature of qualifying features of the SAC. As such 3µg/m³ is appropriate.</p>
<p>1.3.7 The assessment of NO_x and “total nitrogen” (presumably Ndep) indicates that levels of 3.9% of the NO_x critical level and 5.4% of the Ndep critical load would be generated. (Table 1.3 in the results document indicates that the maximum NO_x concentration would be 12% and Table 1.2 that the max Ndep would be 13.7% - but it is assumed this is not within the SAC itself as per para 1.3.7).</p>	<p>This assumption is correct. Modelling transects start at road edge, not at the edge of the SAC.</p>
<p>If the following paragraphs (1.3.8-1.3.10) are assumed to be the appropriate assessment, it is unclear why, for example, the proposed concentrations/ deposition are not provided – for example, NO_x would be below its critical level at all but the closest roadside transect point, which could be an argument for the conservation objectives not being undermined. However, the results document indicates that the habitat type at “ERIP” transect is “Low and medium altitude hay meadows (E2.2)” with a critical load of 10-20kgN/ha/yr. The current background is 15.66kgN/ha/yr and the “DS” concentration 19.28kgN/ha/yr. Therefore the lower critical load is exceeded, and the assessment requires to consider other factors such as how sensitive the qualifying features are (for example, the</p>	<p>Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1). Further information on absolute increases in pollutants has been added to the Habitats Regulations Assessment (7.5, Rev 2), along with assessment of potential effects to the integrity of the SAC.</p>

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<p><i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation), the footprint of impact, trends in pollution, any modifying factors on APIS for the habitat types etc – and use this information to establish whether the conservation objectives would be undermined.</p> <p>A more logical approach, including consideration of the conservation objectives and whether the proposed development would undermine them (possibly in table form, cross referencing to figures showing the location of the relevant transects, exceedance footprints and location of designated sites), would allow a more robust assessment. It is considered that the justifications provided in relation to trends in NOx generally declining, and the importance of surrounding land use and the extent of flushing influencing nutrients in rivers to a greater extent than Ndep are highly relevant – however, independently they do not address the question of whether the conservation objectives at this site would be undermined, given the predicted nature and extent of pollution, and the qualifying features. It is accepted that at the relevant point of the SAC (where the pollution would exceed 1%) not all qualifying features are present and the “fully aquatic species” will be affected differently to species which are also</p>	

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<p>dependent on the adjacent terrestrial habitats (such as otter) and it is appropriate to separate these.</p>	
<p>1.3.15 River Itchen SSSI – Similar comments as for the SAC apply. It would be more helpful to present the AQ modelling results (alongside the habitat types/ relevant critical levels and loads etc) – highlight where 1% is exceeded in combination, if the critical level/ load is exceeded, and assess the relevance of the pollution to the relevant habitat type. The footprint of pollution, trends etc can also be considered. For example, at the named “ERIG” transect, the intersection with the SSSI at 40m from the road is not predicted to exceed the critical level for NOx – which could be used as an indicator that the predicted NOx pollution from the proposed development would not adversely affect the vegetation.</p> <p>The range of information provided at paras 1.3.19-1.3.26 is relevant – and overall it is likely that the small predicted increases are unlikely to harm the qualifying features in the SSSI given other sources, the distance from the road and the nature of the affected habitat (rich fen which is a relatively nutrient rich habitat, especially in lower latitudes – with ongoing water level management to improve resilience). However, at present the presentation of the assessment makes this difficult to conclude.</p>	<p>It is welcomed that Natural England agrees that it is likely that the small predicted increases are unlikely to harm the qualifying features in the Site of Special Scientific Interest (SSSI). Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1).</p>

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<p>1.3.28 St Catherines Hill SSSI – Similar points as above apply. Although the information provided is relevant, it requires to be set against the qualifying features/ critical levels and loads etc to allow consideration as to whether the additional pollution would adversely affect the qualifying features/ habitats of the SSSI.</p>	<p>It is welcomed that Natural England agrees that it is likely that the small predicted increases are unlikely to harm the qualifying features in the SSSI. Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1). Whilst the Applicant acknowledges the error on critical loads, this is due to recent updates but does not affect the overall conclusion of the assessment.</p>
<p>1.3.38 Cheesefoot Head SSSI – Similar points to above apply. The predicted increase in Ndep is greater at this site than the aforementioned SSSIs (and % exceedance could be greater given the lower critical load for the calcareous grassland at this site is 10kgN/ha/yr, not 15 as stated at 1.3.41). Therefore consideration should also be given to the footprint of pollution/ exceedance given the relatively small size of the SSSI. At present it is not clear that there is sufficient evidence presented to be able to exclude the potential that addition of >0.5kgN/ha/yr (>5% of the critical load) would not potentially adversely affect the habitat (species composition or species richness).</p>	<p>Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1). The air quality modelling transects provide a geographical reference of pollution levels at 10m spacings into the SSSI (in accordance with the Design Manual for Roads and Bridges and set out in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1), and therefore the footprint of increases in pollution has been a key consideration in the assessment, as has the position of the SSSI adjacent to the A272. Whilst the Applicant acknowledges the error on critical loads, this is due</p>

Natural England Comment (received by email 6 September 2023)	Applicant's Response (issued to Natural England by email on 20 September 2023)
	to recent updates but does not affect the overall conclusion of the assessment.
<p>1.3.48 River Test SSSI – Similar points to above apply re assessing the site against critical loads/ levels and the qualifying features in a logical fashion. The Ndep critical load for Broadleaved deciduous woodland is 10kgN/ha/yr, not 15 as stated at 1.3.52. The assessment undertaken in NECR210 does not include woodland habitats, so it is especially inappropriate to apply the 0.4kgN/ha/yr criteria in such habitats. The consideration of acid deposition and the buffering capacity of the soil/ water is likely to be appropriate, although presentation of the comparative critical loads for acid deposition would be helpful.</p>	<p>Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1). Whilst the Applicant acknowledges the error on critical loads, this is due to recent updates but does not affect the overall conclusion of the assessment.</p>
<p>1.3.59 Highclere Park SSSI – Similar points to above apply. It is noted that nearly 9% of Ndep at the SSSI arises from traffic sources, and Ndep is not really on a declining trend in the area. Ammonia is also increasing, and the SSSI is designated in part for lichens. Therefore although the overall predicted exceedances are low, over a small area, further site specific consideration is likely to be merited.</p>	<p>Information on critical levels and loads and absolute increases in pollutants is provided in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and formed part of the assessment, with results set out in full in Appendix 5.3 (Designated Habitats Backgrounds and Operational Phase Results) of the ES (6.3, Rev 1). This includes the information on ammonia previously requested by Natural England and demonstrates that at the edge of the SSSI the predicted increase in ammonia is 0.01 µg/m³ (from 1.94µg/m³ to 1.95µg/m³) and is likely to be imperceptible against background variation.</p>

Natural England Comment (received by email 6 September 2023)	Applicant's Response (issued to Natural England by email on 20 September 2023)
<p>1.4 Conclusions – Although some information has been provided, overall there is not enough evidence presented in a way to be able to support the conclusion that effects from changes in traffic emissions from the Scheme will be not significant. Some of this information may be available in other documents submitted to the examination, and extraction of that into table format into this document would assist in assessment of the proposed impacts.</p>	<p>The Applicant has responded above where additional information requested by Natural England can be found within the application documents.</p>

Table 3.2: Natural England comments on **Habitats Regulations Assessment (7.5, Rev 1)**, received 6 September 2023

Natural England Comment (received by email 6 September 2023)	Applicant's Response (issued to Natural England by email on 20 September 2023)
<p>Table 3.1 (p18) It is unclear why construction and operational air emissions (due to exhaust and dust from construction traffic) are considered only in terms of their ultimate impact on water quality. It is also unclear that construction emissions from site plant were considered – although temporary, depending on the timescale of construction and location of plant within the site, these could affect the R Itchen SAC without mitigation.</p>	<p>Further information has been added to the Habitats Regulations Assessment (7.5, Rev 2), to address this point.</p>
<p>It should be noted (p31) that the 1% screening threshold must be applied in combination if the project alone generates <1%. Although an AD plant was identified, this was not included in the assessments</p>	<p>Further information has been added to the Habitats Regulations Assessment (7.5, Rev 2), to address this point. See also references to the AD plant in responses above.</p>

<p>undertaken to assess whether the projects in combination generated >1%. The extent of in-combination traffic included in the assessment is also unclear as the assessment used “DS-DM” which includes in combination traffic in the transport model, but not in the calculation of exceedances.</p>	
<p>P34 –potential operational impacts from air quality are noted – further information provided in Appendix F table F2 – and LSE cannot be excluded. NE agrees with this conclusion.</p>	<p>Noted</p>
<p>However, construction impacts are not included as having LSE and it is not clear why given they are listed as a potential pathway to AQ impacts at p18 and the potential is listed at the assessment criteria at p24 onwards (e.g. works to the existing carriageway, walking/cycling/ horseriding facilities, areas for drainage requirements, utilities diversion, construction phase vehicle movements could result in changes to air quality as a result of construction activities) – without further assessment in the section at p32 onwards. At our meeting on 8 June 23 it was accepted (subject to seeing the assessment within the HRA) that potential air quality impacts cause by construction vehicle movements and generator emissions had been considered and that no significant effects were identified due to the location and expected duration of vehicle movements. However, this does not appear to be addressed in the HRA. In practice the mitigation measures to reduce dust listed in Section 4.2.14 would</p>	<p>Further information has been added to the Habitats Regulations Assessment (7.5, Rev 2), to address this point.</p>

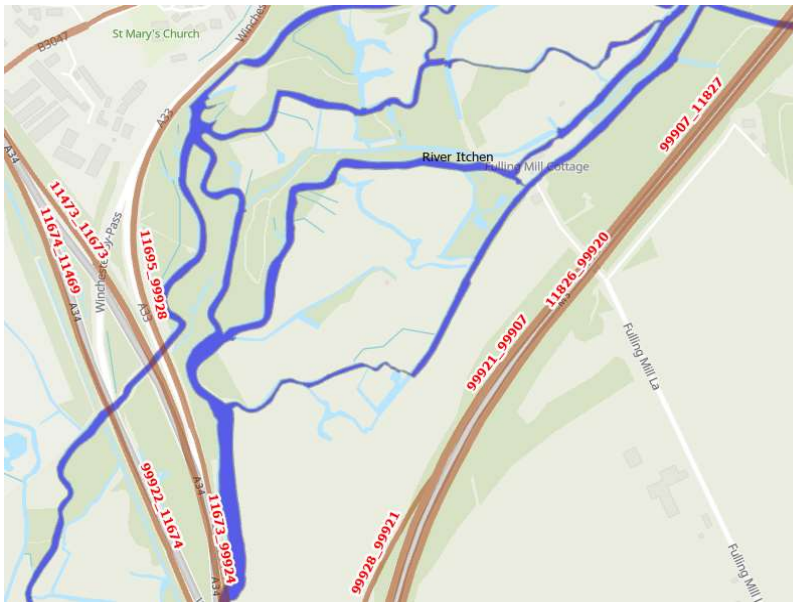
<p>likely be sufficient to avoid at least some construction impacts – however, these are listed as protections for against water-quality induced changes– and the air quality effects that could arise from these should also be considered.</p>	
<p>4.1.3 Air quality could also not be ruled out as having LSE. 4.11 Comments on operational AQ impacts are as indicated per Section 1.3.4 onwards in the AQ report. Consideration against the relevant critical levels and critical loads is required rather than just consideration against the 1% threshold (which is used to identify LSE only). In particular, the sensitivity of the Ranunculion fluitantis and Callitriche-Batrachion vegetation within the watercourses to NOx/ Ndep should be considered, and whether the arguments made re phosphorus limitation and other N-sources and flushing apply for this site, given the predicted footprint of pollution etc</p>	<p>Please refer to responses provided above which relate to potential air quality effects on the individual points in River Itchen Special Area of Conservation.</p>
<p>The comments on in combination assessment also apply, for traffic and non-road sources.</p>	<p>Further information has been added to the Habitats Regulations Assessment (7.5, Rev 2), to address this point.</p>

1.4 Applicant’s Deadline 5 Submission

1.4.1 Following the Applicant’s response to Natural England on 20 September 2023 and the updated **Habitats Regulations Assessment (7.5, Rev 2)** being submitted to the ExA at Deadline 5, the Applicant received further comments from Natural England on 4 October 2023. These are set out in **Table 4.1** below, along with responses from the Applicant.

Table 4.1: Natural England comments on the updated **Habitats Regulations Assessment (7.5, Rev 2)**, received 4 October 2023

Natural England Comment (received via email on 4 October 2023)	Applicant's Response submitted at Deadline 6
<p>The HRA has been updated with information on construction etc, and NOx/Ndep. Overall, the assessment on the impacts on the River Itchen SAC would seem to be sufficient to exclude AEOI [for the project alone]. Construction impacts for the SAC have been explained and it is fair to exclude AEOI from them due to their very temporary nature.</p>	<p>Noted. The Applicant welcomes agreement from Natural England that adverse effects on the integrity of the River Itchen SAC, from the Scheme alone, can be excluded.</p>
<p>In relation to the comments on in-combination methodology – traffic (1.2.9), they have presented the Local Plan allocations (proposed dwellings and proposed jobs) included within the model, which is welcomed. They acknowledge there is a lot of uncertainty in terms of numbers and date of delivery – but they do show that the numbers at 2027 are less than the numbers at 2047 (unsurprisingly). However, the assessments for the AQ assessment/ HRA have been based on the opening year (2027) data, so use the 2027 assumptions on dwellings/ jobs to reflect additional vehicles on the road network. This therefore ignores potential developments coming forward after 2027 that will impact on the road network. This is an inherent problem with National Highways approach – and NH's arguments about vehicle emissions having declined more by 2047 etc are understandable, though not really reliably quantified (especially with the recent policy change on petrol cars being available up until 2035 rather than 2030 for example). Therefore, the in combination assessment for this project does not consider the full allocation of dwellings</p>	<p>It is acknowledged that the application of traffic data from the traffic model associated with 'opening year' (2027) results in lower traffic flows than would occur if 'horizon year' (2047) traffic data were applied as a result of anticipated traffic growth. The Opening Year is a worst-case scenario for air quality due to decreasing background concentrations and emissions from traffic (particularly NOx and NH₃ which are only released by internal combustion engine vehicles) given the electrification of the fleet (and other policy measures).</p> <p>Whilst there is some uncertainty about the trajectory of fleet electrification, it is considered inevitable that by 2047, a much greater proportion of the fleet will be fully electric than it will be in 2027 and not contribute to NOx or NH₃ emissions (or N-dep). Equally the replacement of older, higher-emitting diesel and petrol vehicles will occur regardless.</p> <p>Clearly traffic growth could lead to some erosion of this decrease in emissions, but the rate of traffic growth is</p>

Natural England Comment (received via email on 4 October 2023)	Applicant's Response submitted at Deadline 6
<p>proposed in the local plan beyond 2027 so is not Habs Regs compliant – even though we acknowledge they have followed NH's approach.</p>	<p>generally accepted to be far less than the rate of reduction in NOx emissions from traffic which is driven not only by fleet electrification but also renewal of older petrol/diesel vehicles which have far greater NOx emissions.</p> <p>To demonstrate this, the traffic models for 2027 and 2047 have been interrogated for the key road links close to the River Itchen, specifically the A34 and M3, as illustrated below:</p>  <p>The map displays the River Itchen flowing through a landscape. Key roads shown include the A34 and M3. Several European Sites (ES) are identified with red numbers: 11472, 11673, 11692, 11609, 11695, 86696, 99922, 11674, 11673, 99920, 99978, 99921, 99971, 99907, 11876, 99920, 99907, 11877, and 11877. Other landmarks include St Mary's Church, Filling Mill Cottage, and Filling Mill La.</p>

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	<p>The flows for road links in proximity to the River Itchen SAC for both 2027 and 2047 traffic model scenarios are presented in the following Table and indicate AADT flow increases of between 10 and 17% over the 20-year period.</p>																																														
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	<p>This demonstrates that, even if all the anticipated traffic growth between 2027 and 2047 were to occur by 2030, the emissions of NOx for most road links would be lower than considered in the air quality modelling and Habitats Regulations Assessment (7.5, Rev 2).</p> <p>Given that this relates to 2047 traffic flows with 2030 emission rates, the further decrease in NOx (and NH₃) emissions from traffic between 2030 and 2047 would inevitably result in the assessed Opening Year scenario being worst-case.</p> <p>The degree of electrification of the fleet assumed within these predictions was derived by DfT/Defra in 2019. It is relatively modest and does not reflect the ban on sale of new petrol or diesel cars (originally planned for 2030 but now moved back to 2035). The emission calculation assumes that electric cars are responsible for 5% of the miles driven in 2027 and 9% in 2030. More recent updated projections (in the TAG databook) indicate that electric cars will comprise over 20% in 2027, over 35% in 2030 and over 60% by 2040 of the UK fleet. Whilst these predictions may be</p>				

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	<p>revised, they were not applied in the assessment which relied on far more modest electric vehicle uptake rates.</p> <p>It is therefore considered that this confirms the generally-accepted approach (as per Design Manual for Roads and Bridges LA 105 Air Quality) that Opening Year is an appropriate worst-case assessment approach and no further assessment of potential in-combination effects post 2027 is necessary.</p> <p>Additionally, any uncertainty regarding the interaction between the rate of increase in traffic flows and the electrification of the fleet would only be short-term, and any effects on biodiversity interests due to nitrogen will only be a consequence of long-term impacts.</p>
<p>The comment on in-combination methodology – non-road sources (1.2.13) has not addressed our concern. It is accepted that at the time of assessment the applicant for the identified AD plant indicated there were no impacts from the proposed development alone or in-combination presumably as the in combination impact at whichever protected site was considered was <1%, and NE agreed. However, for this assessment, these emissions require to be assessed in combination with those caused by the M3J9 proposal which was not included in the in-combination assessment for the AD plant.</p>	<p>Within the Planning Inspectorate's Advice Note (PAN) 17 (Planning Inspectorate, 2019) it is acknowledged that applicants are required to identify and cease assessment work at a particular point in time in order to be able to finalise and submit an application. To allow assessment work to progress, a 'cut-off date' for the consideration of any new 'other development' was set at 30 June 2022. This is noted in Chapter 15 (Cumulative Effects) of the Environmental Statement (ES) (6.1, APP-056).</p> <p>The AD facility application (Winchester City Council planning application ref 22/02037/FUL) was received on 9 September 2022, which is about 10 weeks after the cut-off date for consideration of any new 'other development'.</p>

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	<p>Consequently that application therefore falls outside the requirements for assessment and therefore was not included in the Environmental Statement (6.1-6.3, APP-042 – APP-153).</p> <p>Notwithstanding, the Applicant has reviewed the Air Quality assessment that was submitted in support of the AD facility which concluded 'no significant effects alone or in-combination with other project or plans'. Whilst that would seem to preclude the risk of in-combination impacts with the Scheme, the AD assessment reported the following impacts on the River Itchen SAC in terms of NO_x, NH₃ and subsequent deposition. It should be noted that the AD application only predicted impacts at a single location to represent the SAC (not defined within the reporting) which would have been at its closest point.</p> <ul style="list-style-type: none"> ▪ Annual NO_x: 0.1 µg/m³, equivalent to 0.4% of critical level; ▪ Annual NH₃: 0.01 µg/m³, equivalent to 0.4% of the critical level; ▪ Nitrogen deposition: 0.07 kgN/ha/yr, equivalent to 0.7% of the critical load; ▪ Acid deposition: 0.006 keq/ha/yr, equivalent to 0.6% of the critical load. <p>The assessment set out in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the</p>

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	<p>ES (6.3, Rev 1) and the Habitats Regulations Assessment (7.5, Rev 2) concludes that the River Itchen SAC is likely to be phosphorus-limited rather than nitrogen-limited, and subject to constant flushing effects from water flows. Consequently, were the AD plant included in the in-combination assessment, due to the predicted contributions from the AD plant which are very small, this is unlikely to alter the conclusions of the assessment conducted prior to the submission of the AD application.</p>
<p>Comments on the River Itchen SAC (1.3.4) cross refer to other documents in the examination - some of which I had reviewed, but others I had not found, so I accept the information requested is in the examination. It would have been more useful to present the relevant information within the single document rather than have a paper-trail across many, but I accept that is not obligatory. The applicant has made changes to the HRA to take account of absolute increases in NOx and Ndep (eg section 4.11/ table 4.1) which is welcomed. Ammonia is not considered numerically, though as mentioned in para 4.11.12 of the amended HRA, overall the critical level is not exceeded and the project would add <1% of the critical level to the SAC so it does not require further consideration. Ndep is still exceeding 1% up to 200m from the road, and they have not fully assessed the relevant qualifying features and whether the conservation objectives would be undermined. However, overall their assessment makes reasonable arguments eg: the qualifying feature being likely to be phosphorus limited rather than nitrogen limited per</p>	<p>Noted. The Applicant welcomes agreement from Natural England that adverse effects on the integrity of the River Itchen SAC, relating to the Scheme alone, can be excluded.</p>

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<p>literature included in APIS. Given the small exceedance and the fact the critical load is exceeded, but within the middle of the range rather than over the upper end of the range (with calcareous sites likely to be less sensitive than acid ones), it seems petty to insist we need more info to be able to exclude AEOI. (Caveat – this would be the project alone, as we are not happy with the in combination assessment)</p>	
<p>Comments on the critical levels for ammonia being 3ug/m3 for the SAC are accepted. However, the relevant transects cover the SSSI as well, where the habitats do have bryophytes and lichens as integral – and a separate assessment against the 1ug/m3 critical level has not been undertaken.</p> <p>They have noted that we would consider the qualifying features of SSSIs would be unlikely to be harmed – however, presentation of the data is still less than clear and they have not amended this in line with our comments. I accept much of the information is included within the examination though (though not the full footprint of exceedance). They have not amended the assessment in line with the revised critical loads – so I am not sure we can advise there would be no significant effect quite yet. They say it would not affect the overall conclusion of the assessment but have not presented the information as to how the changes of critical loads alter their previous conclusions.... There was already some exceedance of 1% for Ndep at some of the sites, so this would increase (and the area affected increase) as the critical loads have decreased.</p>	<p>The assessment of potential operational effects on designated habitats from vehicle exhaust emissions has been undertaken with regard to standard industry guidance - the <i>Design Manual for Roads and Bridges LA 105 Air Quality</i> (Highways England, 2019) in this instance However due to comments received from Natural England on Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1) and the Habitats Regulations Assessment (7.5, Rev 2) submitted in November 2022, further information has been provided which exceed the requirements of the Design Manual for Roads and Bridges, and other guidance documents have been drawn upon including <i>NEA001 Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations</i> (Natural England, June 2018).</p> <p>On the basis of this hybrid approach which utilises supplementary guidance, the Applicant considers that the data and assessment presented in Appendix 8.3 (Assessment of Operational Air Quality Impacts on</p>

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<p>In summary it appears that whilst there have been some improvements to the approach there are still some significant gaps in the assessment, the ecological impacts have not been properly considered (over reliance on modelling figures rather than consideration of impacts on the habitats of concern) and justifications for conclusions have not been comprehensively provided.</p>	<p>Biodiversity of the ES (6.3, Rev 1), the Habitats Regulations Assessment (7.5, Rev 2), and within responses to Natural England's comments during the course of this Examination, are both robust and sufficient to support the conclusions of the assessment.</p>
<p>In the document "Applicants response to NE comment on Appendix 8.3" – they refer to the "<i>Planning Inspectorate's Advice Note 17: Cumulative effects assessment relevant to Nationally Significant Infrastructure Projects</i>" which advises that "<i>Where these assessments are comprehensive and include a worst case within the defined assessment parameters, no additional cumulative assessment of these aspects is required</i>". The point we should make is that in our view the in-combination assessment doesn't include a worst case scenario as no in-combination impacts are considered after the opening year.</p>	<p>Further clarification of the in-combination impacts is provided above which confirms the standard approach that Opening Year is appropriate for assessing potential worst-case impacts.</p> <p>It is considered that the response above demonstrates that, even if all the anticipated traffic growth between 2027 and 2047 were to occur by 2030, the emissions of NOx for most road links would be lower than considered in the air quality modelling and as set out in the Habitats Regulations Assessment (7.5, Rev 2).</p> <p>Given that this relates to 2047 traffic flows with 2030 emission rates, the further decrease in NOx (and NH₃) emissions from traffic between 2030 and 2047 would inevitably result in the assessed opening year scenario being a worst-case and no further assessment of potential in-combination effects post 2027 is necessary.</p>

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	<p>Further to this, the approach adopted in Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality applies a 'GAP Factor' to the NOx emissions, which means that the NOx concentrations are uplifted to negate a large proportion of the anticipated decrease in NOx emission from traffic that will occur prior to 2027. Hence the 2027 data presented in the air quality modelling to inform the Habitats Regulations Assessment (7.5, Rev 2) can be considered to be precautionary predictions associated with a worst-case scenario.</p>

1.5 Conclusions

- 1.5.1 In relation to discussions conducted to date relating to potential air quality effects, Natural England has confirmed that adverse effects on the integrity of the River Itchen SAC, resulting from the Scheme alone, can be excluded.
- 1.5.2 The Applicant considers that there are only two outstanding matters for which it is now seeking agreement with Natural England on HRA matters. These are the two points relating to the assessment of potential in-combination effects from air quality as set out in **Table 4.1**, namely:
- The use of 2027 as the opening year in the modelling work
 - The inclusion of the Anaerobic Digestion plant
- 1.5.3 In relation to the first point, in **Table 4.1**, the Applicant has provided a comprehensive response explaining that opening year used in the assessment is an appropriate worst-case approach and asserts that no further assessment of potential in-combination effects post 2027 is necessary.
- 1.5.4 In response to the second point, in **Table 4.1**, the Applicant has provided a response setting out why it is not appropriate for the AD plant to be included within the in-combination assessment. Notwithstanding, the Applicant has evaluated the potential in-combination effects of the AD plant with the Scheme, and as a result maintains that the conclusions of the **Habitats Regulations Assessment (7.5, Rev 2)**, namely that there will be no adverse effects on integrity of the River Itchen SAC from potential air quality effects, remain valid.
- 1.5.5 On the basis that it considers that all points without exception have been adequately responded to, there should be no outstanding points of agreement on this subject with Natural England.