

Norfolk County Council

Local Impact Report

A47 North Tuddenham to Easton Dualling – submitted
Development Consent Order Application

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1. Introduction

- 1.1. This report sets out Norfolk County Council's position with regard to the submitted Development Consent Order (DCO) application made under section 56 of the Planning Act (2008).
- 1.2. The County Council is a statutory consultee given that the proposed development is a Nationally Significant Infrastructure Project (NSIP) under the above Act and is located:

Between North Tuddenham and Easton, comprising nine kilometres of new dual carriageway running to the south of the existing A47 at Hockering and north of the existing A47 at Honingham. (See Appendix 1, location plan)
- 1.3. The principal role of the County Council in responding to the above proposed dualling application, is in respect of the Authority's statutory role as:
 - Highways Authority;
 - Minerals and Waste Planning Authority;
 - Lead Local Flood Authority; and
 - Public Health responsibilities.
- 1.4. In addition, the County Council have an advisory environmental role and economic development function, which has also fed into the response to the DCO application.
- 1.5. The issues raised below simply relate the County Council's statutory and advisory functions.

2. Background

- 2.1. This is a Development Consent Order (DCO) application for dualling part of the A47, between North Tuddenham to Easton, which will be determined by the Secretary of State. The application is defined as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008.
- 2.2. The County Council responded to the pre-application version of this proposal in March 2020. At that time the Council supported the principle of dualling the A47 between North Tuddenham and Easton, subject to a number of detailed comments being resolved with Highways England.

3. The Proposal – Development Consent Order Application

- 3.1. The County Council has assessed the proposal on the following basis:
- 3.2. The proposal comprises nine kilometres of new dual carriageway between North Tuddenham and Easton, running to the south of the existing A47 at Hockering and north of the existing A47 at Honingham.

Once the scheme is opened, it would form part of the A47 trunk road and the wider strategic road network. It would be managed by Highways England. The existing A47 would be de-trunked and become the responsibility of Norfolk County Council.

3.3. New / amended junctions comprise:

- Two new junctions where the A47 passes over the local roads: one where Berrys Lane meets Wood Lane (described throughout as Wood Lane Junction) and one where Blind Lane meets Taverham Road (Norwich Road Junction)
- Removal of the existing roundabout at Easton to create a free-flowing A47 road. Access west of Easton would be via the new Wood Lane junction. The Norwich Western Link would also connect at this junction
- Building four bridges for the existing A47 to pass over or under: the new Mattishall Lane Link Road, the proposed Wood Lane junction, the River Tud and the proposed Norwich Road junction
- Two new lay-bys on the A47 between Fox Lane and the proposed Wood Lane junction, and police observation points
- Closure to through traffic of: Church Lane (East Tuddenham), Berrys Lane, Blind Lane and Church Lane (Easton), north of the A47
- Widening of the junction of Rotten Row and Church Lane (East Tuddenham)

Converting sections of the existing A47 for local needs involves:

- Converting to a Class B road north of Honingham, with a new cycle track between, and the new Dereham Road link road and Honingham roundabout
- Reducing to a single lane in front of St Andrews Church, Honingham, with inclusion of passing places, parking places, turning area and security gate

New walking, cycling and public rights of way amenities include:

- A new route for walkers and cyclists linking Honingham with St Andrew’s Church below the A47 via the proposed Honingham Church underpass
- A new route for walkers and cyclists linking Easton with Lower Easton over the A47 via a proposed Easton footbridge

New drainage systems include:

- New outfalls to the River Tud
- Dry culverts to maintain overland flow paths
- New attenuation basins, with pollution control devices, to control discharges to local watercourses

Other details include:

- Compounds, material storage areas and temporary vehicle parking located within the scheme boundary when construction is taking place
- Diverting or installing new utilities infrastructure, such as a high-pressure gas pipeline, electricity cables, water pipelines and electronic communications cables
- Environmental measures embedded into the Proposed Scheme design to reduce the environmental effects and deliver wider benefits, such as noise barriers, low noise road surfaces, permanent mammal crossings and new wetland habitats.

4. Local Impacts

4.1. This section of the report assesses the Environmental Statement (ES) and other supporting documentation in respect of the County Council’s key functions and sets out the Authority’s proposed response / comments.

4.2. Overview

The proposal is outlined in Section 3 and shown in Appendix A. In summary, the proposal is to dual the existing single carriageway section of the A47 between North Tuddenham and Easton. Together with the proposals to dual Blofield to Burlingham, this scheme will result in the A47 being to dual carriageway standard all the way from Dereham to Acle. Highways England is also bringing forward a major improvement at

the A47 / A11 Thickthorn Junction, Norwich, and improvements – yet to be devised – at Vauxhall and Harfreys junctions in Great Yarmouth.

4.2.1. **Comments**

The principle of dualling the A47 is fully supported. This has been a longstanding objective of the county council. The county council leads the A47 Alliance, which has been campaigning for full dualling of the A47 from Lowestoft to the A1 at Peterborough with appropriate grade-separation. The current proposals meet this aspiration, providing a dual-carriageway standard A47 together with grade-separated junctions.

4.3. **De-trunking**

Following completion of the scheme, those parts of the existing A47 that would no longer form part of the trunk road network, for example, the original single carriageway sections of the A47 between North Tuddenham and Easton which will be superseded by the new dual carriageway, would be de-trunked. Responsibility for ongoing management and maintenance would fall to Norfolk County Council as the local highway authority.

Whilst the county council would receive additional maintenance funding through the national grant agreement formula (due to the additional road length being maintained) this is not likely to be of any significance. It would not be sufficient to bring roads or structures up to standard (if they require this). To date we have not been provided with data indicating what assets might require attention in the short to medium term.

4.3.1. **Comments**

No agreement has been made to accept any current Highways England assets and we will not do so until an agreement process including exchange of data and provision of funding regarding assets which may require attention in the short to medium term has been completed.

The agreement should be based on the condition and number of the assets to generate either a sum of funding to be transferred to Norfolk County Council, or the asset brought up to an as new or good condition. The county council would expect to receive a commuted sum, agreed with Highways England, for future maintenance of transferred assets.

4.4. **Norwich Western Link**

This scheme and the county council promoted Norwich Western Link Road (NWL) are in close proximity geographically as well as in their timing. The dualling scheme would provide a connection to the proposed NWL via the Wood Lane junction, as can be seen in Appendix B. In terms of timing, the NWL is programmed to start on site in 2023 with the road completed and open to traffic in late 2025. Easton to Tuddenham dualling is programmed for a start date in 2023 and be open for traffic in 2024.

There has been, and continues to be, extensive dialogue between Highways England and Norfolk County Council as scheme promoters. This has provided an understanding of the two schemes' impacts – both as individual, stand-alone schemes and in combination – and design and construction details where the two schemes physically would join.

The next section details the comments the council is proposing to make on these two aspects. This takes into account that construction of the A47 dualling will have impacts, particularly traffic impacts on the surrounding road network. Some of these would be addressed when the NWL is open to traffic. However, should delivery of the NWL not subsequently come forward, or come forward some time after completion of A47 dualling, it would be expected that any significant issues should be addressed as part of the A47 scheme.

4.4.1. **Comments**

4.4.2. *Non-motorised user (NMU) route across NWL*

The A47 scheme includes a proposed cycle track between the realigned Wood Lane and Hall Farm Underpass. This is shown as looping round the NWL arm of the Wood Lane junction. In discussions with Highways England, Norfolk County Council understands that this is a temporary arrangement and, on completion of the NWL, will be superseded by the permanent facilities being planned as part of the NWL scheme.

The county council considers that this is an acceptable arrangement.

However, we have concern that local users will not appreciate the temporary nature of Highways England's proposals in this area and would expect Norfolk County Council to provide a crossing of the NWL at the proposed A47 Wood Lane junction. This is not supported by the county council.

(Document reference: GENERAL ARRANGEMENT PLANS
REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-
CH-31010 The rights of way and access plans – sheet 10)

4.4.3. *Wood Lane junction – single carriageway link*

The link road between the two roundabouts at the Wood Lane junction is proposed as a single carriageway through an underpass beneath the dualled A47. Norfolk County Council has raised concerns about the capacity of this, its possible future long-term capacity and also about its resilience should there be an incident on the underpass.

This part of the network is proposed to form part of the local, non-trunk road network and future maintenance and management would fall to the county council. The county council needs to be assured that its design can accommodate future traffic flows (as it is through an underpass it would be difficult / expensive to widen in the future) and that the network can be properly managed in the event of any incidents occurring in the underpass.

(Document reference: GENERAL ARRANGEMENT PLANS REGULATION 5(2)(o) SHEET 9 OF 23 HE551489-GTY-LSI-000-DR-CH-31009)

4.4.4. *Wood Lane street lighting*

The lighting strategy for the Wood Lane junction has not been sufficiently defined to assess the interface with the NWL. This issue needs to be resolved between Highways England and the county council.

(Document reference: TR010038-000123-3.1 Draft Development Consent Order, page 47 paragraph (d) includes street lighting as further development works.)

4.4.5. *Honingham Lane Stopping Order*

Honingham Lane has been included in the DCO order limits, but it is unclear what orders or works are proposed for this road. It is not listed in the draft DCO. (Document reference: WORKS PLANS REGULATION 5(2)(j) SHEET 21, 22 and 23)

4.4.6. *DCO Order Limits overlap with NWL site extent*

The DCO Order limits at the Wood Lane junction overlap the proposed NWL site extent boundary. Granting of the DCO should ensure that the NWL proposals can be delivered after the DCO is in force.

(Document reference: GENERAL ARRANGEMENT PLANS REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-CH-31010)

4.4.7. *Wood Lane junction – NWL Arm Order*

The NWL arm of the Wood Lane Junction is not highlighted as a new / improved / altered highway or other road. Also, there is no reference number for this arm therefore it is not clear what order if any is proposed.

(Document reference: TR010038-000208-2.5 Rights of Way and Access Plans, Sheet 9)

4.4.8. *Wood Lane speed limit*

There is an existing 50mph speed limit traffic regulation order along Wood Lane. The proposed link road to the existing Wood Lane should also be restricted to 50mph.

(Document reference: TRAFFIC REGULATIONS PLANS REGULATION 5(2)(o) SHEET 10 OF 23 HE551489-GTY-LSI-000-DR-CH-35010)

4.5. **Highways Impacts**

The highway impacts of the A47 North Tuddenham to Easton Dualling scheme are set out in Development Consent Order (DCO) document 7.1 Case for the Scheme.

4.5.1. With regard for the need for the scheme this document notes that “The main issues for the route relate to capacity; some of the links and junctions are currently over capacity and/or will be over capacity. The limited capacity impacts on the route reliability and creates journey time delays. It also can cause traffic to divert onto the highway network and generate further issues. There are safety issues in certain locations where there are currently high collision and incident rates that could be addressed.”

4.5.2. The DCO report sets out the traffic impact of the scheme on the A47 trunk road and the adjoining roads which are the responsibility of Norfolk County Council. In the main analysis (Core Scenario), these figures assume that the Norwich Western Link (NWL) will be in place because it is classified as "near certain" due to being in government's Large Local Major scheme programme. In order to identify the impacts attributable to the A47 scheme and those due to the NWL alone, the DCO report also sets out a diagram showing the main analysis figures alongside an alternative set with the NWL scheme removed.

4.5.3. From the report it is clear that the combination of both schemes (A47 dualling and the NWL) increases traffic levels on the A47 as they provide more attractive routes and draw traffic from minor roads. The analysis also demonstrates the impacts of the NWL in providing an alternative route around Norwich because at the eastern end of the A47 dualling scheme, traffic levels would increase further if it wasn't for the NWL.

4.5.4.

What is also clear is that with no NWL in place traffic levels on Sandy Lane, Wood Lane and Taverham Road increase due to the A47 dualling scheme. Ringland Parish is concerned about a potential intermediate condition whereby the A47 dualling is complete but the NWL is not. With the removal of the Easton roundabout they are expecting higher traffic from the new junction at Blind Lane / Taverham Road with traffic from the A47 using Taverham Road through to Ringland and beyond to the A1067. To counter this, they have proposed that Honingham Lane south of Ringland is stopped up.

The obvious mitigation measure for these impacts is the NWL. However, we need an understanding with Highways England as to how to deal with the interim situation as it is likely that the A47 dualling scheme will come into operation before the NWL is opened to traffic.

It should also be noted that the county council has been working with Weston Longville to deal with mitigation measures (traffic calming) should the NWL be delayed.

4.5.5 **Comments**

Based on the assessment, Norfolk County Council's principal concern is the interim situation (following opening of the A47 dualling scheme and opening of the proposed NWL) as it is likely that the A47 dualling scheme will come into operation before the NWL is opened to traffic. If this situation does arise, it is proposed that Norfolk County Council and Highways England agree that they will work together to monitor the actual impacts of the introduction of the A47 dualling scheme on the local road network using traffic counts and other appropriate techniques. If it then becomes apparent that interim measures will be required until such time as the NWL is implemented, or if for any reason it is not to be delivered, Norfolk County Council and Highways England agree to work collaboratively using their respective powers to devise and implement appropriate interim measures. The presumption would be that any measures are funded by Highways England as they are essentially a consequence of the A47 scheme.

4.5.6. The county council also has concerns about the scheme's potential impacts on the adjacent Longwater Interchange. Highways England need to present clear evidence that this junction would not be affected by the proposal and – if it is – to propose appropriate mitigation.

4.6. **Food Enterprise Park**

Broadland District Council adopted a Local Development Order for the Food Enterprise Park (FEP). This sets out that development of the site, comprising some 19 hectares, will be permitted for (amongst other things) the following purposes: Agri-tech businesses which make use of the local agri-science base; food technology; processing and manufacturing; and storage and distribution. The LDO sets out that, prior to commencement of development, a scheme of works shall be agreed by Broadland District Council in consultation with the county council and, where appropriate, Highways England. The scheme of works shall

include the following, unless otherwise agreed with Broadland, and identify triggers for the implementation of each component:

- Realignment of priority at the junction of Dereham Road / Church Lane
- A right turn Lane from Dereham Road into Church Lane
- A scheme of widening improvements to Church Lane
- Vehicular access to the LDO site either off Church Lane / Red Barn Lane or directly from the A47
- Enhanced footway and cycle facilities to connect with Dereham Road
- The closure of Blind Lane to vehicular traffic.

4.6.1. The proposal from Highways England shows a repositioned Easton roundabout at the junction with Blind Lane (the Taverham Road junction). Blind Lane is however not proposed to be connected into this junction since Highways England propose that it be closed. This is due to local stakeholders' concerns about additional traffic using Blind Lane, and its unsuitability for this, should it be left open. (Berry's Lane, a similar north-south route south of the A47 is also proposed to be closed for similar reasons.) Whilst the new proposed junction arrangements potentially provide excellent access to the FEP, Highways England's scheme does not currently provide an access, or allow a new access to be constructed from Bind Lane, since this is not proposed to be connected to the roundabout junction. Therefore, whilst the proposed junction is an integral element of delivering the FEP vision an access is not proposed to be delivered at this point by Highways England. Their expectation appears to be that an access would be delivered post-scheme by the FEP at their expense; the likely cost of such an access being potentially significantly higher following the trunk road scheme than it would be today (because it would require not only a connection to Blind Lane to be made but also significant construction work to connect Blind Lane to the proposed new junction).

Discussions with Highways England are ongoing and Highways England are investigating whether such an access could be constructed as a part of the main A47 dualling works. Whilst the additional cost would still be expected to be met by the developer, it is potentially significantly cheaper than undertaking it as a separate scheme post-A47 dualling. To enable this, the FEP would need to secure any necessary consents, such as planning consent, prior to A47 construction.

If an access to the FEP is not provided at this point there is likely to be an unacceptable increase in heavy goods movements through the village of Easton as the result of the FEP not having an appropriate alternative access once the Easton roundabout is closed.

4.6.2. **Comments**

The council considers that the proposed arrangements at Blind Lane do not include a suitable access for the Food Enterprise Park (FEP) and do not suggest an alternative for how access might be provided. The FEP is a significant development comprising: Agri-tech businesses which make use of the local agri-science base; food technology; processing and manufacturing; and storage and distribution. A Local Development Order has been granted for the proposal.

The council considers that Highways England should retain the connection of Blind Lane to the A47, via the new roundabout junction south of the A47 forming part of the Taverham Road junction. Blind Lane could be closed at a point to the south if concerns about additional through traffic resulting from the A47 dualling scheme materialise following opening. Such an arrangement could allow the FEP to form an access direct to the A47 at this point. If an access to the FEP is not provided at this point, there is likely to be an unacceptable increase in heavy goods movements through the village of Easton as the result of the FEP not having an appropriate alternative access once the Easton roundabout is closed.

4.7. **Socio-Economic Impacts**

There are potentially significant economic benefits arising from the dualling proposal in terms of:

- Local employment creation
- Business sectors affected by construction
- Productivity benefits to businesses, and other wider economic benefits arising from dualling.

4.7.1. **Comments**

The county council would certainly want to see opportunities for inclusive growth and social mobility included in the socio-economic opportunities for Norfolk. We would be willing to work with Highways England or the appropriate agency to support this.

The county council will continue to work proactively with Highways England to encourage apprenticeships, work experience and internships being included at an appropriate stage in the project.

- 4.7.2. Productivity and other wider economic benefits will arise from the completed schemes. These include journey time savings and reliability improvements, benefitting businesses. These are to be welcomed.

4.8. **Environmental Issues**

An Environmental Statement (ES) has been prepared to accompany the DCO Application. This sets out a description of the proposed scheme and the reasonable alternatives considered in the development of the design, the environmental setting, potential impacts and the likely significant effects of the Proposed Scheme on local communities and the environment, and the measures proposed to mitigate these effects.

The Environmental Statement: Non-Technical Summary provides a summary of the ES in non-technical language. This section considers each of the issues in the non-technical summary in turn.

4.9 **Air Quality**

The Highways England assessment concluded that it is unlikely that the construction of the scheme would have a significant effect on air quality or affect the UK's ability to comply with the Air Quality Directive.

The assessment also concluded that during the operation of the scheme there would be no significant adverse effects on the air quality at both human and ecological receptors.

With no significant effects predicted, no mitigation is required.

4.9.1 **Comments**

The county council supports improvements to air quality and would want to see continued monitoring including in operation of the scheme following construction. The county council would expect the construction phases to be co-ordinated with the appropriate district councils and local highways teams to minimise, for example, dust, construction vehicle emissions (eg from engine idling) and any short-term impacts of increased stationary traffic close to any local populations.

4.10. **Cultural Heritage**

Cultural heritage includes archaeology, historic buildings / structures and historic landscapes including parks and gardens.

The Environmental Statement: Non-Technical Summary sets out that the Proposed Scheme will have both beneficial and adverse effects on cultural heritage, but also states that potential adverse impacts have been reduced or eliminated through the design and mitigation. A programme of archaeological recording and publishing is proposed to mitigate adverse impacts where they could not be avoided.

Residual adverse effects on setting have been identified as a result of construction

and operation activities on the following heritage assets:

- St Peter's Church (NHLE 1305921 Grade I Listed Building) - Moderate
- St Andrew's Church (NHLE 1170701 Grade II* Listed Building) - Large
- Church Farm House (NHLE 1051542 Grade II Listed Building) – Slight
- Berry Hall (NHLE 1396730 Grade II Listed Building) - Slight

Positive impacts are noted as being:

- The setting of the Grade I listed St Michael's Parish Church in Hockering and three other Grade II listed buildings near the

- existing A47 in Hockering due to moving traffic further away and maintaining an appropriate density of planted screening
- Planned conservation of two mileposts along the route of the existing A47, which Highways England will also propose for listing by Historic England.

4.10.1. **Comments**

Archaeology

A significant amount of archaeological investigations has already been undertaken in association with the above mentioned scheme. Geophysical survey and archaeological trial trenching have been carried out within most of the 'redline' area of the Proposed Scheme.

Following review of reports on the geophysical survey and trial trenching we agreed an outline scope for post-consent archaeological mitigation with Highways England's archaeological consultant at the end of November last year.

We recommend that that the following requirements are included with the draft DCO:

- 1) No part of the authorised development is to commence until, for that part, a written scheme of investigation of areas of archaeological interest, reflecting the relevant mitigation measures, has been submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the relevant planning authority; Norfolk County Council (Historic Environment strategy and advice team); and Historic England on matters related to its function.
- 2) The authorised development must be carried out in accordance with the scheme referred to in sub-paragraph (1);
- 3) The authorised development shall not be put into first use until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the scheme referred to in sub-paragraph (1) and the provision to be made for analysis, publication and dissemination of results and archive deposition has been secured.

4.10.2. *Arboriculture*

NB: This section is in reference to document 6.3 Environmental Statement Appendices: Appendix 7.6 – Arboricultural Impact Assessment:

The Arboricultural Impact Assessment (AIA), in accordance with BS5837:2012 'Trees in relation to design, demolition and construction, recommendations' submitted by RSK ADAS Ltd, dated January 2021 is fit for purpose (based on the information provided at the time of survey) with regards to assessing existing tree quality and calculating impacts. The report also gives clear advice with regards to relevant legislation,

construction techniques, utility installation and other on-site methodology to mitigate impacts to trees.

However, there are a significant number of category A and B trees designated for removal that should be considered for retention if the road layout changes. By examining the stem diameter measurements in the AIA Tree Survey Schedule and general observation notes, it is likely that a number of these trees are either ancient, veteran or have veteran features.

Ancient and veteran trees can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands. They are irreplaceable habitats with some or all of the following characteristics (as stated in the .gov.uk guidance note: [Ancient woodland, ancient trees and veteran trees: protecting them from development - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-protecting-them-from-development)):

An ancient tree is exceptionally valuable. Attributes can include its:

- Great age
- Size
- Condition
- Biodiversity value as a result of significant wood decay and the habitat created from the ageing process
- Cultural and heritage value.

Very few trees of any species become ancient.

All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value.' The National Planning Policy Framework (NPPF), updated in 2018, includes a provision that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons" (paragraph 175c). It is assumed that this development has been classed as 'wholly exceptional', in which case it should:

1. Avoid impacts
2. Reduce (mitigate) impacts
3. And compensate as a last resort.

In reference to document 6.8 Environmental Masterplan:

The Environmental Masterplan details replanting proposals in detail. It is not clear, at this stage, how mitigation planting has been calculated to ensure 'net-gain' will be achieved, although this is currently not required for NSIPs. This requires further clarification.

Trees and woodlands are part of the wider landscape mitigation that will be required and it should be the quality and resilience of the resulting

landscape, taking all habitats into account, rather than the number of replacement trees that will dictate whether the mitigation is acceptable. We would expect a minimum 30- year compensation strategy to be submitted, based on a calculation of habitat loss and demonstrating net gain. This strategy would usually include the area surrounding the application boundaries and should consider the following examples:

- Planting of new woodlands, hedgerows with trees, individual and tree groups
- Management plans and schedules to maintain newly planted trees and woodlands
- Connecting woodland and ancient and veteran trees separated by development with green bridges
- Planting individual trees that could become veteran and ancient trees in future
- Management agreements with adjacent landowners to provide or assist with woodland management to improve tree resilience and biodiversity
- Providing management schedules for existing veteran and ancient trees / woodlands nearby
- Extending existing woodland and ancient woodland through natural regeneration / rewilding
- Selective veteranisation of specific trees.

In addition, should the proposals be approved, it should be conditioned and submitted for approval prior to works commencing, that the AIA will be updated to include a:

- Tree Constraints Plan
- Tree Protection Plan
- Arboricultural Method Statement
- Timetable for Implementation of Tree Protection Works.

4.11. **Landscape**

The Landscape and Visual Effects Assessment has identified that during construction there would be a loss of existing trees and hedgerows and a change to the existing agricultural land use. People's views would also be affected, including views of earthworks, construction vehicles and work associated with the installation of overbridges.

During the initial stages of operation, the scheme, including the road, vehicles and structures along the highway, would be visible however once tree and hedgerow planning is established, visibility of the Proposed Scheme and associated landscape features would revert to a state comparable to that of the existing situation.

The assessment concludes that the Proposed Scheme would not result in an overall significant residual effect on the landscape.

4.11.1. **Comments**

In reference to Chapter 7 of the Environmental Assessment – Landscape and Visual Effects:

Norfolk County Council considers that:

- Paragraph 7.2: Suitable expertise is provided for such an assessment.
- Paragraph 7.3.2: Where losses are unavoidable, we would of course support suitable mitigation for these losses. Whilst not required, it would be beneficial to see enhancements that offers Net Biodiversity Gain in line with the upcoming environment bill and Norfolk County Council Environment Policy. It will also be important for the mitigation to be tailored to the areas in which it is being placed, what may be suitable at one end of the road, may not be so suitable at the other end. We support the use of Local Landscape Characters to help identify these changes in the landscape.
- Paragraph 7.4.1: Suitable guidance is being used and adhered to, and we welcome other relevant references being taken account of.
- Paragraph 7.4.5: Comments on Visual Receptors are discussed below.
- Paragraph 7.4.6: Covers a well-considered and range of assessment criteria, it is encouraging to see such things as night/day impacts and perception of the landscape.
- Paragraph 7.4.8: We support the consideration of deeper planting in key location to offer increased screening during winter months when vegetation is not in leaf.
- Paragraph 7.4.10: There appears to be 21 months between Start of construction works and Open for traffic, whilst the estimated duration of construction is listed as 23 months. This may just need clarification if part of the road is to be opened whilst other parts are still under construction.
- Paragraph 7.4.11: Comments on Cumulative Effects Assessment are discussed below.
- Paragraph 7.4.12: Verified Photomontage Methodology is discussed below.
- Paragraph 7.4.14: We understand and accept the need to amend the scope of the assessment following a review of changes in DMRB LA 107 Landscape and Visual Effects.
- Paragraph 7.4.15: Tables 7-1 and 7-2 lay out the proposed scope in terms of both landscape and visual effects. We broadly agree with the elements which have been scoped in and out of the assessment.
- Paragraph 7.4.16: We also acknowledge the change in guidance on Visual Representation of Development Proposals and are pleased to see that whilst it does not change the approach, that the amended guidance has been considered.
- Paragraph 7.4.18: We are satisfied that the viewpoint locations have been agreed with both Breckland District Council and South Norfolk District Council.
- Paragraph 7.6.2: We are happy with the 1km from DCO boundary study area of the LVIA and the justified reasoning and support the

consideration of receptors beyond 1km where deemed necessary.

- Paragraph 7.7.1-7.7.10: We agree with the General Context as laid out within the Baseline conditions. Landscape features including Trees and Hedgerows in the vicinity of the site, and with the potential to be impacted are extensive, and as stated in the AIA, some of these are very high in quality. But it should be noted that even trees of low Arboricultural quality, can still play an important part in the landscape.
- Paragraph 7.7.17: Landscape Character areas are discussed below.
- Paragraph 7.7.36 – 7.7.50: We support the representative viewpoints and the reasons for selection. The receptors listed appear to be well considered and justified.
- Paragraph 7.8.2 – 7.8.5: We note that separation of Construction and Operational Impacts, but wonder if the removal of existing woodland, individual trees and areas of linear highway planting is a consideration during operation as well as the construction phase as even mitigation planting will not offer a direct replacement of what has been lost.
- Paragraph 7.9.1: We support the measures proposed for mitigation during construction.
- Paragraph 7.9.2: The protection and retention of existing vegetation will be imperative to minimise impacts of the scheme, so we fully support the appointment of an Arboricultural consultant. My Arboricultural colleague will be able to comment on the suitability of the tree protection and standard to be adhered to.
- Paragraph 7.9.6: States the opening year to be 2025, whilst 7.4.10 states it to be October 2024. This should be clarified. All planting and mitigation measures should have taken place prior to opening. Depending on the correct year of opening, the Year 15 date will also need to be altered to reflect this.
- Paragraph 7.10.4 – 7.10.6: There is extensive losses of landscape features and notable tree losses as a result of this scheme. It will be hard to offer replacements at such scale, but mitigation must be well thought out and the locations carefully considered so as to both minimise the visual impacts of the scheme and minimise the landscape scale impacts on a wider scale.
- Paragraph 7.10.9 – 7.10.11: We agree that the overall removal of existing vegetation, earthworks and presence of construction plant, materials, machinery, construction compounds and construction lighting will have an adverse and significant impact on the local landscape character during construction and will, however temporary, change the perception of the area from a tranquil rural landscape to one of much more activity, movement and perceived development.
- Paragraph 7.10.12 – 7.10.15: We broadly agree with the conclusion that the construction period would give way to minor

adverse (day) and slight adverse (night) visual impacts. We note the potential for lighting during the winter months, but from the dates are led to assume this will only be one season October 2023-March 2024 which will minimise impacts.

- Paragraph 7.10.16: We broadly agree with the effects on representative viewpoints as laid out in Table 7-8 during the construction phase.
- Paragraph 7.10.39 – 7.10.40: We broadly agree that the initial impact of operation on the landscape character of the area would be significant and of moderate adverse magnitude, decreasing to not significant and slightly adverse magnitude at Year 15.
- Paragraph 7.10.41: The sense of tranquillity lost due to the scheme is notable and would impact the experience of those both living near to the scheme or using recreational routes within the vicinity.
- Paragraph 7.10.49: We note and agree with the conclusions drawn that the visual impacts of night-time effects, it appears that no conclusion is given to day-time effects, but the assessments given for the representative viewpoints are agreeable.
- Paragraph 7.10.53: The residual significant moderate adverse effects in Year 15 at Viewpoint 4 (Sandy Lane Properties beside A47) and Viewpoint E (Church Lane) are of concern.
- Paragraph 7.10.57: The same applies to the residential receptors identified as having significant visual effect in Year 1, and more so those where the effect remains at year 15. Namely R11: Hill View Properties which is identified as large adverse, and R14: Newgate house, R18: Sycamore Farm Properties, R21/R22: Beside Sandy Lane which are all identified as moderate adverse. Whilst these are not widespread and extensive concerns, they are still impacts that will affect those living in those properties.
- Paragraph 7.10.62 – 7.10.64: Whilst the Year 1 impacts on Footpath receptors are disappointing as these routes will likely be primarily used for their recreational benefit and views, we understand that some impacts are unavoidable. It is however encouraging to see that by Year 15 the new planting will have reduced this impact.

In reference to Chapter 15 – Cumulative Effects Assessment:

(Please note only elements relevant to Landscape and visual effects have been reviewed).

The document has been reviewed for its inclusion of Landscape and Visual consideration, but comments cannot be made on the suitability of the methodology or the suitable qualifications of those who have undertaken the assessment.

- Paragraph 15.3.6: We support the overall ZOI of 4km and note the increase boundary for the ZOI to 2km in relation to Landscape and Visual Impacts.

- Paragraph 15.5.32: States that “An assessment of inter-project cumulative effects has not been undertaken for other environmental topics as no scoping report has been submitted for the proposed Norwich Western Link (NWL) development. This is considered a Tier 3 development under Advice Note Seventeen guidance and it is assumed that the NWL will assess the Proposed Scheme in their coming EIA”, however this is incorrect. A Scoping report can be found on Norfolk County Council Planning Portal under the reference SCO/2020/0001. The Cumulative Effects Assessment should be updated to take account of this, and therefore include an assessment of other topics including Landscape and Visual Impacts.
- Paragraph 15.7.3: The cumulative landscape and visual impacts will need to be reassessed in line with the advice given above regarding the NWL.

In reference to Planning Policy Context (Appendix 7.1):

The document provides a thorough and suitable summary of Planning Policy Context.

In reference to ZTV and Verified Photomontage Methodology (Appendix 7.2):

1.1.3 Suitable methodology has been used and relevant and industry standard best practise and recommendations referred to.

In reference to Landscape Character Areas (Appendix 7.3):

1.1.1 Suitable Landscape Character Studies have been used to conduct this assessment.

It is noted there are a number of areas where the constructional and operational activities will give rise to adverse and significant impacts on the landscape characters of the area the scheme passes through. This is of particular concern where the impacts are concluded to be “large adverse” magnitude of change and “major adverse” significance of effect – such as the construction phase within LCA D2. (paragraph 1.4.12). However, it is noted that construction impacts should be short lived and no more than 23 months in time. This same LCA also has such impacts in Year one of operation, decreasing to minor adverse magnitude of change and slight adverse significance by Year fifteen.

The conclusions drawn from this assessment should be used to inform the Landscape Plan in order to minimise impacts where possible through avoidance and minimisation of impact, and where there is no scope to do this mitigation and compensation should be integrated into the scheme.

In reference to Visual Receptors (Appendix 7.4):

We are happy that the Visual Receptors have been agreed in consultation with the relevant district authorities. We have not undertaken a review of these at this stage.

In reference to Representative Viewpoints (Appendix 7.5):

We are happy that the Viewpoints have been agreed in consultation with the relevant district authorities. We have not undertaken a review of the viewpoints at this stage. 1.1.2 I have been unable to locate: Figure 8.4 (Visual Context) (TR010038/APP/6.2)

In reference to Arboriculture Impact Assessment (Appendix 7.6):

(Please note for these comments, this has only been reviewed from a Landscape perspective and not in relation to Arboricultural expertise – see Norfolk County Council Arboricultural Comments)

The AIA appears to conform to industry standards and be fit for purpose. There are a considerable number of large trees proposed for removal. We would of course, in the first instance prefer to see these trees retained where possible, and amendments made to the scheme to allow the retention of more trees. Trees in such large numbers play an important part in the wider landscape and act as features seen from great distances. Where the retention of trees is not possible, then suitable mitigation in line with Norfolk County Council's tree policy would be our next expectation. Whilst this will not replace the loss of mature and veteran trees, it will form the foundation of the future landscape. The location of such trees, tree belts, hedges and woodland should be carefully chosen to not just screen the development, but also be reflective and respectful of the wider landscape.

In reference to the Environmental Masterplan TR010038/APP/6.8:

(Please note this has been viewed at a strategic level, there is no easy way to navigate the document at such a scale digitally with no location plan and I have no means to print a copy of the full plans at a legible scale)

The plans provide detailed proposals for the landscaping of the scheme. Further planting specification and planting details will be required, as well as management plans for the establishment and long-term maintenance of the various landscaping, landscape features and landscaped elements. Detailed design may be required for some elements when specifications are confirmed further during the process.

4.12. **Biodiversity**

The Environmental Statement Non-Technical Summary notes that there are valuable habitats and species of nature conservation importance that could be adversely affected by the proposed scheme and that, although avoidance of impacting trees and hedgerows was a key consideration throughout the design stage, there will be some areas of these habitats that will need to be lost.

The summary states that mitigation measures have been identified to safeguard the conservation status of wildlife populations through both the construction and operational phases.

The summary identifies potential unmitigated impacts of the proposed works as being the loss of nesting, roosting, resting, commuting and foraging habitat for a range of protected and notable species. Mitigation measures will be implemented during the construction and operational stages to reduce the effects of the scheme on individuals and populations of such protected and notable species.

The summary states that following the implementation of the mitigation measures during construction and operation, there would be residual significant effects on barn owls, this significant effect would be until agreements are in place with landowners to place suitable nest boxes, and bats.

Also following mitigation, there will be a moderate adverse residual effect on hedgerows, deciduous woodlands, and grazing marsh as a result of the long maturity period for planting; grasslands and ponds will however have a slight beneficial effect.

4.12.1. **Comments**

In reference to the age of survey data:

Some of the survey data collected is considered out of date in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM's) advice note on the lifespan of ecological reports and surveys (CIEEM; 2019). Norfolk Biodiversity Information Service (NBIS) were consulted for records of designated sites and protected and notable species in 2017 and for designated sites again in 2020. We recommend that the applicant fully updates the desktop study with protected species data too.

In reference to the site boundary:

The site boundary has been amended since some of the surveys have been undertaken and therefore some of the reports need updating in-line with the current proposals.

In reference to survey areas:

The Zone of Influence (ZoI) (the distance over which the proposed scheme might affect protected species) varies for different ecological features (e.g. bats and plants depending on their sensitivity to environmental change (CIEEM, 2018). Importantly it also differs

between genus. For bats the ZOI for bat activity and roost surveys (see Table 8.2 of Chapter 8 of the ES) should be informed by the Bat Conservation Trust's Core Sustenance Zones (CSZ). (*CSZ refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost.*' (Bat Conservation Trust, 2021)).

Similarly, in line with CIEEM (2019) guidelines on EcIA, the ES should consider the known barbastelle maternity colony at ROARR! Dinosaur Park/Morton-on-the-Hill, which uses the woods between the A47 at Easton/North Tuddenham in the south, and the A1067 Fakenham Road to the north.

In reference to in combination impacts
The CSZ for bats should, in line with BCT recommendations, inform the Zone of Influence for the Cumulative Effects Assessment (CEA).

As previously stated in comments in response to the Preliminary Environmental Information Report (PEIR) the CEA should consider cumulative effects on ecological receptors in combination with the Norwich Western Link.

Please also note that a request for an EIA Scoping Opinion (reference 20211198) has been submitted to Broadland District Council for an extension to the Roarr! Dinosaur Adventure Park, and should be considered within the CEA.

In reference to mitigation measures:

4.12.2. The applicant states in their biodiversity statement they have undertaken their assessment in accordance with LA 108 Biodiversity and LD 118 Biodiversity design. We recommend asking the applicant to demonstrate that mitigation measures proposed are effective. Section 4.5 of LD 118 Biodiversity design states "only mitigation measures that are effective and proven shall be included in project design". However, it has not been demonstrated that mitigation measures are effective where proposed, for example "hop overs" are proposed in the bat crossing point report.

In reference to monitoring:

Where monitoring is required, we recommend asking the applicant to outline the following points as detailed in section 4.1.1. of LA 108 Biodiversity:

- 1) monitoring methodology;
- 2) mechanisms for implementation;
- 3) criteria for determining success/failure;
- 4) frequency and duration of monitoring; and
- 5) frequency of reporting.

In reference to Defra Metric 2.0:

Section 8.4.15 of Chapter 8 of the ES states “Biodiversity gains and losses have been assessed by using the Defra metric 2.0, which has informed the proposed mitigation measures to minimise the effects of the Proposed Scheme.” The calculations have not been provided and it is not clear if net gain will be achieved. If there is off-site mitigation/ compensation proposed no details of off-site mitigation/ compensation has been provided.

All reports need to be consistent and the recommendations in Chapter 8 of the Environmental Statement need to be in-line with the recommendations of the targeted botanical and protected species reports.

4.12.3. *Bats*

In reference to the Bat Survey Report (Appendix 8.12):

Section 5 of the Bat Activity Survey Report, Annex E highlights that further transect and static surveys are required to aid confirmation of potential crossing points used by bats, however due to COVID restrictions transect surveys were only undertaken in April 2020. Transect surveys were not carried out in May 2020 and surveys in June comprised of more targeted crossing point activity. Best practice (Collins; 2016) recommends a combination of transects and static surveys.

Transect surveys also have limited ability to identify spatial and temporal variations in bat activity as they are biased towards the dusk period, and where the surveyor is when they encounter a bat. We recommend that there is greater use of static bat detectors to record bat activity within the site/along linear landscape features (see Stahlscmidt & Bruhl, 2012).

Bat Survey report mitigation section 7.1.1. states “CIEEM advise that survey results more than 3 years old are unlikely to be valid (CIEEM, 2019)”. It should be noted in accordance with CIEEM’s guidance on the age of survey data, where survey data is over 18 months of age, a site visit is required and some or all of the ecological surveys will need updating and also the desktop study data information may also need updating.

There appears to be some uncertainty in Table 5-1 with regards to some of the type of roosts identified for example ‘potential maternity’ and ‘potential day roost’, additionally some species remain unidentified. Full impacts on bats cannot be determined until the type of roost and species involved has been identified. The report highlights that a bat licence will determine specific mitigation. Section 4.4- 4.8.LD 118 Biodiversity Design outlines the requirement that mitigation and compensation

measures should be specific and proportionate to the nature, magnitude and duration of the impact. However, the proposed mitigation/compensation measures for impacts on roosting bats has not been provided. Section 7.1.3 refers to “although artificial bat roosting habitat cannot replace the range of natural cavities and features that trees provide, they can create additional roosting opportunities for a variety of species (particularly where no potential existed previously) and boxes can be fitted on trees.” It is not clear how many bat boxes, what type, design to mitigate impacts on roosting bats are proposed. Section 8.11.6 of the Chapter Biodiversity document briefly refers to “Schwegler 1FF bat boxes recommended in the licence”.

It is noted that thermal imaging equipment was not used during emergence/ re-entry surveys. We previously recommended in our response to the PEIR document the use of infra-red/thermal imaging equipment when undertaking emergence surveys of the trees to obtain more accurate population counts.

No collision surveys have been undertaken to-date. These surveys could be undertaken to provide a baseline against which changes post - construction can be measured. We would recommend the use of detector dogs, as these have been shown to be significantly more effective at searching for animals than human surveyors.

In reference to the Bat Crossing Point Report (Appendix 8.13):

We previously recommended in our response to the PEIR document the use of infra-red/thermal imaging equipment when undertaking emergence surveys of the trees to obtain more accurate population counts, and the use of IR/TI is also important for identifying the height that bats cross the landscape and collision risk modelling.

It is noted that the use of the thermal imaging scope (Pulsar Helion XP28) was proposed for a minimum of two of the six further surveys at each of the four chosen crossing points, however due to COVID restrictions it was only possible to employ thermal imaging equipment on one survey at crossing points one, seven and nine. It is not clear which element of the COVID restrictions prevented the use of the scope in accordance with the original proposals. That being said, it is not clear why the scope could not be used on every occasion at the survey points.

Section 4.1.2 of the bat crossing points report states “in order to identify any further ‘potential unseen bat crosses’ which may not have been visually observed. Due to visibility limitations as light levels fall during the surveys it becomes harder to see bats and bats may cross the road without being seen (particularly on darker, more overcast nights). This is a common, unmanageable limitation of bat surveys.” However, this would be manageable with the use of thermal imaging equipment as outlined above.

Hop overs and fencing are recommended at bat crossing points, however it has not been demonstrated that this would be an effective mitigation measure to protect bats. Mitigation measures must take into account specific species differences. Many factors are likely to affect levels of use and the 'attractiveness' of the proposed mitigation measures for bats, including size, alignment, connection to existing flight lines, roadside vegetation and land use.

The monitoring recommendations in section 5.4 of the bat crossing points report are vague and do not outline the criteria for determining success.

In reference to the Bat Hibernation Report (Appendix 8.11):

Section 8.7.57 of the Biodiversity Chapter states "Between December 2019 and February 2020 further automated detector hibernation surveys were undertaken on T1, T8 and T9. Results for all ten trees are that hibernacula are likely absent and five trees contained features that could be used as summer roosts and not for hibernation. The five trees were surveyed for summer roosts during 2019. However, Section 5.2.1 of the hibernation survey report highlights that "As it is not possible to conclude with a degree of certainty whether bats are or are not hibernating in trees one, eight and/or nine based upon this data an accurate impact assessment on hibernating bats cannot be undertaken." The report outlines in section 5.3 of the report that further surveys are required.

4.12.4. *Otters and Water Voles*

In reference to the Otter and Water Vole Survey (Appendix 8.14): Section 4.2.1. states "one potential otter holt was found at Point 3." The full scale of the impacts on otters has not yet been determined because it is unclear if this is an otter holt.

Section 3.4.1 states "Throughout the survey area, there were sections that could not be surveyed due to the water depth or dense vegetation. These sections were bypassed, and the survey continued in areas that were accessible further along the water courses. This is a significant constraint, as an accurate density of water voles on each water course could not be calculated." It is not clear if various methods of access were explored to enter the water course, such as a using a boat or using waders was explored.

Area 3c is not shown on the plans showing the results of the surveys in Appendix A.

The report and biodiversity chapter recommends the translocation of water voles in the area where the Proposed Scheme will cross the river to a receptor area that has previously been enhanced with vegetation and allowed to mature so the site is suitable to receive the water voles. The location of the proposed receptor area needs to be provided.

4.12.5. *Reptiles*

In reference to the Reptile Survey Report (Appendix 8.7):

This report, detailing surveys undertaken in 2019, is intended as an update to the reptile survey undertaken by Amey in 2016 (Amey, 2017).

The reptile report states “Field surveys, including one visit to place artificial refugia on site and nine subsequent visits undertaken in May, June, July, August and September to survey the refugia and site for reptiles.” Froglife (1999) Advice Sheet 10 states “to establish presence, generally at least seven visits in suitable weather conditions at the appropriate time of year may be required. For detailed surveys to gain some idea of relative population size or to identify key areas, at least 20 visits per season, in suitable weather, are recommended”. However, eight survey visits were undertaken in Area B to determine population size.

4.12.6. *Barn Owls*

In reference to the Barn Owl Survey Report (Appendix 8.9):

Table 6.1 highlights that the development will result in the loss of a breeding site at location 5, however elsewhere it is stated that a breeding site will only be lost at location 3.

Two alternative barn owl nest boxes to mitigate for the loss of a single nest box at site 3 and five additional nest boxes appear to be proposed in locations less than 1.5km from the A47 road, for example within Type 1 habitat or in areas of created rough grassland. Barn owl boxes must be placed no closer than 1.5km from the road (Shawyer, 2011).

It is noted that the barn owl report recommends “compensatory rough grassland should be created alongside the motorway” to compensate for foraging habitat that will be lost”. The report also states, “efforts should also be undertaken to render the roadside verges unsuitable for foraging barn owls, though regular cutting, this will deter them from foraging alongside the carriageway”, this contradicts the earlier statement. The recommendations must be consistent. Section 4.5 of LD 118 Biodiversity design states “only mitigation measures that are effective and proven shall be included in project design”.

Shawyer, C.R., 2011. Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester.

4.12.7. *Birds*

In reference to the Breeding Bird Survey Report (Appendix 8.8) and the Wintering Bird Survey Report (Appendix 8.10):

Section 2.4 highlights that a data search from the National Biodiversity Network (NBN) Atlas was undertaken. A record search of Local Records Centre data does not appear to have been undertaken but instead NBN gateway data is relied upon. NBN gateway data is not necessarily comprehensive or are not at a fine enough resolution to inform local decisions. Some sensitive records (such as rare species data) are not available for public view, and this could result in an erroneous assumption being made that a given species is absent from a particular area.

Whilst web-based sources such as the NBN Atlas, a biodiversity database, provide a useful dataset, these should be used to complement, rather than as a substitute for, records held by the Local Environmental Records Centre (LERC) or equivalent. In all cases it should be made explicit in the ecological report that a data search has not been undertaken, justification for the absence of a data search should be included, the likelihood of key information being missed as a result should be assessed, and the implications of this clearly set out (CIEEM; 2020).

It is noted that nest boxes are proposed but it is not clear what type of nest boxes. The locations of nest boxes would need to be appropriate and consideration should be given to the increased risk of collision in close proximity to the carriageway.

Section 4.5 of LD 118 Biodiversity design states “only mitigation measures that are effective and proven shall be included in project design”.

CIEEM; March 2020. Guidelines for accessing, using and sharing biodiversity data in the UK. Available at: <https://cieem.net/wp-content/uploads/2016/03/Guidelinesfor-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

4.12.8. *Terrestrial Invertebrates*

In reference to Terrestrial Invertebrate Survey Report (Appendix 8.3):

No desk study was undertaken as part of the assessment. The report states “It is assumed that a data search will be undertaken as part of the impact assessment at a later stage.” However, an impact assessment including invertebrate records does not appear to have been undertaken.

Further surveys are recommended for Units K,L and RY1, which could not be accessed for survey during 2019 because of continuous livestock presence, these do not appear to have been undertaken yet.

The report states “Three areas of district value for invertebrates were identified – off Church Lane, East Tuddenham (Unit TU), south of Hall Farm, Honingham (Hall Farm Meadows), and off Mattishall Road, Hockering (Unit 88). A further area, Easton Church fields, is considered to be of local value.” The report goes on to state that “Hall Meadows are due to be bisected by the new route of the A47, which will also cross the River Tud. This would represent a major negative impact on this invertebrate habitat, valued at district level, and will therefore require mitigation. The habitats might be more challenging to mitigate, as they are less replaceable than the drier grasslands, and may require offsite compensation. Remaining areas should be managed in order to provide continuity of invertebrate habitat.” However, section 8.7.27 of Biodiversity – Chapter 8 of the ES states “The terrestrial and aquatic invertebrate assembly has been assessed as a biodiversity resource of local level importance. The reports must be consistent and mitigation/ compensation must be effective and proven. There is no mention of off-site compensation for terrestrial invertebrates in Chapter 8 – Biodiversity of the ES.

4.12.9. *Vegetation and trees*

In reference to the Botanical Survey Report (Appendix 8.1):

The botanical report refers “offsite compensation may be required for Unit RYW”, however there is no mention of off-site compensation in Chapter 8 of the ES. It is not clear from the information provided if the entirety of Unit k will be retained. Unit K is woodland on a shoulder of the Tud valley, which has continuously occupied the site since the Tithe map of 1836-1850 and is possibly ancient woodland.

In accordance with section 4.2 of LD 118 Biodiversity design needs to address adverse impacts on biodiversity resources as far as possible through the use of a hierarchical system for the identification and assessment of impacts in accordance with requirements in LA 104. Examples of measures to avoid or prevent impacts include consideration of alternative route corridors, or alternative design options, to avoid sensitive sites. It has not been demonstrated that the mitigation hierarchy has been followed, for example it is not clear if Unit K “could be completely avoided by a relatively minor southward shift in the route” as recommended in the botanical report.

In reference to the Arboricultural Impact Assessment:

We fully support the recommendations of the Arboricultural and Woodland Officer's comments including that the significant number of category A and B trees designated for removal should be considered for retention if the road layout changes. Ancient and veteran trees are irreplaceable habitats.

4.12.10. *Badgers*

In reference to the Badger Survey Report (Appendix 8.15):

There are areas of suitable badger habitat located immediately outside of the survey area. It is not clear why these areas were not included within the survey area given their proximity to the site and their suitability to support badgers.

Natural England's standing advice is that sett entrances must be monitored over an extended period of time, eg up to 4 weeks, to see if they're active. The setts were not monitored in accordance with Natural England's advice on survey effort therefore it is not possible to have confidence in the results provided to date. There are several setts that are listed as partially active in sections 4.1.1 of the report and in Table 4.1.17 and therefore it is not clear if these setts are active or disused. Further surveys were recommended at one of the setts, however this survey work has not yet been undertaken.

Section 3.2.2 and 3.2.3 highlights that some areas of the survey area were not surveyed and were inaccessible. The ecologist must attempt to gain access to these areas to survey for badgers.

It is not clear from the information in the biodiversity chapter or the badger survey report the impacts on any setts identified and the mitigation measures proposed. The details provided in the badger survey report do not match the details provided in the biodiversity chapter. The proposed locations of badger underpasses have also not been provided.

Sett 13 is marked on Appendix A as disused, however it is stated within the report that this is a 'potential sett'.

4.12.11. *Designated Sites and Priority Habitats*

County Wildlife Sites must be shown on Figure 8.1. The Biodiversity Chapter outlines potential indirect impacts on County Wildlife Sites, however from the information provided including the Environmental Master Plan some of the County Wildlife Sites appear to be directly impacted by the proposed works, for example there is a drainage feature proposed in a section of Brook House Marshes CWS.

4.12.12. *Cumulative Effects Assessment (Chapter 15)*

Section 15.5.32 states “an assessment of inter-project cumulative effects has not been undertaken for other environmental topics as no scoping report has been submitted for the proposed NWL development. This is considered a Tier 3 development under Advice Note Seventeen guidance and it is assumed that the NWL will assess the Proposed Scheme in their coming EIA.” However, a scoping report has been submitted for the Norwich Western Link (planning ref: SCO/2020/0001) which is located on Norfolk County Council’s planning portal.

4.13. **Geology and Soils**

No designated geological sites are located in the study area. The land surrounding the Proposed Scheme is mainly agricultural fields with small residential areas dispersed along the existing A47.

The Proposed Scheme would result in permanent land take and temporary land take of Grades 2, 3a, 3b and 4 agricultural land (very good through to poor quality), though the scheme has sought to minimise the areas of land take. The permanent land take from the Proposed Scheme would result in significant residual effects on agricultural soil. A Soil Management Plan will be developed to preserve the land quality and restore the areas of temporary land take to their previous condition.

Only minor evidence of contamination has been found from historical activities. Therefore, there are no special remedial activities recommended for the Proposed Scheme.

4.13.1. **Comments**

No comments in respect of this particular topic in the submission.

4.14. **Material Assets & Waste**

The assessment concludes that there is not predicted to be any significant environmental effects from the use of material assets and generation of waste during the first year of operational activities due to limited material use and waste generation from infrequent maintenance activities.

Overall, the materials used are predicted to include over 31% of recycled material and over 70% of the material generated will be re-used or recycled.

4.14.1 **Comments**

The comments set out below relate to Norfolk County Council in its capacity as the Minerals and Waste Planning Authority. The comments have been made on the Environmental Statement Appendix 10.3 - Mineral Impact Assessment.

The Mineral Planning Authority (MPA) welcomes the inclusion of a Mineral Impact Assessment as part of the proposed scheme.

The MPA agrees with the summary of mineral resources within the scheme and the constraints which are outlined in paragraph 10.4.4.

The MPA also agrees with the assessment of reuse suitability of site-won materials, as outlined paragraphs 10.6.5-10.6.24. The use of the Specification for Highway Works Series 600 to grade materials for use into classes is considered appropriate.

The MPA notes that an estimate of site won material likely to be extracted during the construction phase is included, for the following superficial geological deposits likely to be encountered.

- Alluvium: 4,450m³ approx 60% class 1, 40% class 2
- Sheringham Cliffs Formation: 29,500m³ approx 60% class 1, 40% class 2
- Lowestoft Formation: 580,000m³ approx 20% class 1, 80% class 2

The MPA recognises that this an estimate and that a full assessment of the reuse potential of material will be required as it is excavated. Paragraph 10.7.8 states that any opportunity to reuse the excavated material will be taken.

In conclusion, the MPA considers that the Mineral Impact Assessment appropriately assesses the safeguarded mineral resources for the proposed scheme and contains an appropriate strategy for identifying suitable material for reuse in the construction phases of the scheme.

Norfolk County Council, in its capacity as the Mineral Planning Authority considers that if the scheme is required to follow the strategy outlined in the Mineral Impact Assessment this will effectively address mineral safeguarding issues relating to resource sterilisation.

4.15. **Noise and Vibration**

The Environmental Statement Non-Technical Summary notes that there will be sensitive receptors, such as residential homes, near to the proposal, and that receptors that are close to the A47 are already exposed to relatively high noise levels due to road traffic.

The assessment concludes that:

- Significant effects due to construction noise are unlikely however a significant adverse temporary effect is predicted at Acorn Barn due to construction noise from the adjacent drainage works
- Significant effects due to construction vibration are not expected, subject to monitoring and effective implementation of mitigation
- Potential significant effects from construction traffic are unlikely.

At the operational stage there will be a number of significant residual traffic noise effects, both adverse and beneficial. A majority of the beneficial noise effects are due to the expected change in road user behaviour (traffic re-routing) due to the Proposed Scheme.

Significant adverse effects at the majority of receptors are due to traffic re-routing at locations where mitigation is not practical. Adverse effects at the remaining receptors are due to:

- More road users choosing to access the improved A47.
- Significant effects remaining at some locations despite mitigation being included
- Some noise barriers not being provided for receptors far from the proposed scheme where the marginal benefits provided by a noise barrier does not affect the outcome of the assessment

Noise Important Areas are not predicted to experience any significant effects due to the Proposed Scheme.

4.15.1 **Comments**

The county council would expect disruption to be kept to a minimum during the A47 dualling construction period and would want to work with Highways England, or its contractors, on managing traffic during the works.

4.16. **Population and Human Health**

The Environmental Statement Non-Technical Summary notes that the main communities located by the Proposed Scheme include Hockering, Honingham and Easton, with scattered properties along the length of the Proposed Scheme. The surrounding area is predominantly arable with some areas of woodland used by the community. Paths are mostly located between Hockering and Honingham communities.

The assessment concludes that, during construction:

- Access along the local road network for local residents and businesses across the study area may be disrupted whilst traffic management measures are in place, resulting in longer journey times and a degree of temporary severance
- There would be some adverse amenity effects for human health, specifically in terms of noise, dust and visual intrusion. Mitigation measures would minimise these effects.
- Agricultural holdings within the DCO boundary would experience disruption to farming operations including, in some cases, severance of farm and field access. Where possible, new access arrangements have been designed though these result in longer journey times and requires the removal of mature trees and hedgerows.

Permanent impacts would include:

- Changes in severance for private property and housing, community land, community assts, development land and businesses in the communities of Great Witchingham, Upper Wensum, Mattishall and Easton
- Access arrangements to some private properties and businesses would change, some of which would result in a significant moderate adverse effect

- Permanent land take from a consecrated field adjacent to St Peter's Church, resulting in a significant adverse effect
- Users of footpaths Hockering FP7, Honingham RBI and Ringland Lane / Dog Lane crossing, are anticipated to experience significant residual adverse effects as a result of path closures and journey length increases
- Improved connectivity between Hockering and Easton for pedestrians and cyclists through the provision of a new footway/cycleway and safe crossings as part of the Proposed Scheme
- Permanent agricultural land-take is required which will impact the wider agricultural holdings in different ways, potentially leading to increased costs or a reduction in turnover. Three agricultural holdings would result in permanent significant adverse effects.

4.16.1 **Comments**

In addition to the previous comments on short term impacts of dust and air quality relating to construction process (Section 3.35). In addition, we would want to minimise long term impacts on accessibility to and use of walking, cycling and other active travel routes for the whole local population covering a range of health conditions. We would also want to avoid reduced ability to access, for example, open or wooded space for recreational activity. Additional active travel routes to join up communities are supported and if the overall proposal has the effect of making active travel appear more attractive in terms of, for example, segregated pathways and / or traffic speed and visibility, we would support this. Use of green or wooded space to mitigate traffic noise and maintain or enhance the cooling effects of such environments would be supported.

Norfolk County Council fully supports the range of improvements and additional walking, cycling and horse-riding (WCH) provision this scheme provides to the A47 corridor in this part of the county, but at the same time feel strongly that there are some very obvious missed opportunities or apparent lack of understanding of the breadth and range of WCH usage that could actually result in increased local and short-distant motor-vehicle usage rather than, as such provision is intended, encourage more cycling and walking as a travel or recreation choice.

Notable aspects of the scheme include the creation of a WCH route the full length of the scheme following the existing A47 corridor from Hall Lane in the west to Dereham Road at Easton. This is a significant increase in east-west WCH facilities providing the opportunity for WCH commuting and travel into Norwich. This is a combination of new provision with existing and local roads, although we are disappointed to note that some existing roads are not to be closed to motor vehicles as originally proposed, although the reasons for this are accepted. The other notable provision is the new WCH overbridge in the location of Easton roundabout providing a grade-separated crossing. Other proposed improvements to crossings, additional sections of segregated

WCH routes along existing and new roads, and the diversion and upgrade of a public footpath to a cycle path or bridleway to provide a WCH connection between minor roads are all welcomed as improvements to the county's WCH provision.

We are pleased this scheme is resolving a problematic short public footpath (Hockering FP12) created during the construction of the current A47 through closure but would like to see a solution for a similar situation – Hockering FP11 – put forward. In respect to any PRoW diversions, plans should depict the legal alignment of the PRoW as shown on the Definitive Map and not what is found on the ground, to avoid the creation of short, disconnected, unusable PRoW (as in Hockering FP12) and ensure new facilities on the ground correspond to the legal alignment.

Our main area of concern is that no crossing facility, either by underpass or overbridge in the immediate vicinity of Hockering FP7 is to be provided. The scheme will create a highways maintainable short, potentially inaccessible, cul-de-sac public right of way between the current and new A47. We feel this is a missed opportunity to provide another WCH overbridge (especially a green bridge). This is further segregation of communities than currently and will also remove from Hockering residents the current option of a quickly accessible countryside walk using the PRoW network to the south. The provision of WCH facilities along existing and proposed roads and bridges, does to some extent provide this link, but the significant additional distance, makes this a WCH travel (or long-distance recreation) choice and not a short distance recreation choice and so is excluding a significant area of WCH provision.

Another area of concern is the proposed WCH provision in the vicinity of the proposed Norwich Western Link. (see also [Section 3.12-3.19](#)). In addition to east-west provision, the diversion and alignment of sections of Honingham Restricted Byway 1 (RB1) appear to be dependent on the alignment and WCH provision of the proposed Norwich Western Link (NWL). The county council would want to continue its dialogue with Highways England on such matters to ensure that delivery of measures associated with the A47 scheme are coordinated with the delivery of the NWL and that any continuation of routes for WCH must be considered. The county council would also want to ensure that it will not be burdened with unusable additional PRoW or other WCH provision on completion of the schemes.

There are other matters of concern with the diversion of RB1. It appears that the section of it not being diverted does not link at its northern end with the new WCH provision. This needs to be addressed to provide continuity and accessibility even though there is additional WCH in the vicinity. Where the diverted RB is to cross a highway or be concurrent with the new private means of access, it is imperative that the public access rights on this type of PRoW (ie horse and carriage) are fully

understood so that suitable crossing facilities, segregation methods, surfaces and most importantly widths of route, are installed.

4.17

Road Drainage and the Water Environment

The Environmental Statement Non-Technical Summary identified the key surface water receptors to be the River Tud, ordinary water courses and ponds local to the Proposed Scheme, with the River Wensum identified as a potential receptor as it is located immediately downstream of the River Tud.

Potential impacts to the surface water environment include:

- Flooding of nearby downstream receptors
- Increased pollutants in routine runoff and from accidental spillage
- Loss or degradation of natural channels
- Change in surface water quality and aquatic environment due to construction
- Loss of seven ponds.

Key groundwater receptors include Secondary superficial aquifers and the Chalk principal aquifer. Potential impacts to the groundwater environment include:

- Subsurface structures acting as a barrier to groundwater flow
- Temporary groundwater control within the saturated aquifers, impacting on indirect receptors
- Water quality impacts.

The non-technical summary states that the new carriageway will discharge primarily to the River Tud and its tributaries. Drainage has been designed to attenuate to runoff rates of a 1 in 100-year storm event (plus a 20% climate change allowance). The Proposed Scheme design incorporates the treatment of road drainage prior to discharging.

Mitigation measures required include habitat restoration and the replacement of ponds one for one.

No significant adverse residual effects are expected as a result of the Proposed Scheme during construction or operational phases with the adoption of specified mitigation measures.

4.17.1

Comments

We confirm that consultation has been on-going in August, September and November 2020 and January and February 2021. We acknowledge there are some remaining comments that require addressing. We acknowledge that some of the on-going activities relate to requests for clarification or further information comments from the Lead Local Flood Authority (LLFA) during 2020 and 2021.

These relate to the comments provided in March 2021 for the Flood Risk Assessment and the request for further clarification regarding several aspects of the design related to Oak Farm and Hockering culverts and the requirement for compensatory flood storage in February 2021. No agreement has yet been made. We have not stated that no flood floodplain compensation storage is acceptable. We acknowledge that, in principle, flood compensatory storage at Oak Farm and Hockering might not be possible due to the local topography and land availability. However, further evidence previously requested must be provided to determine the extent of the off-site impacts before NCC can come to an agreement. The current Environmental Statement chapter has overstated the position of the LLFA, while the Flood Risk Assessment presents a fairer summary of the current position.

The Environmental Statement indicates further information about the flood storage compensation will be provided during detailed design stage. However, the LLFA seeks assurances that this work will be undertaken to determine the impacts of the current proposed design in its ability to manage the potential future flood risk that could be derived from this scheme.

We are aware that the temporary drainage design during construction is yet to be confirmed. At present, the high-level summary of the temporary drainage approach requires some clarifications. For example, are the proposed settlement ponds mentioned in section 13.5.6 of the Environmental Statement (ES) temporary ponds or are they the proposed permanent ponds? The LLFA seeks assurances that further information and work will be undertaken in the future in the interests of managing potential future flood risk that could be derived from this scheme. In relation to the drainage strategy, no information regarding the proposed drainage approach is provided for the construction stage. Therefore, the information presented in the ES chapter 13 is not substantiated by the current evidence base. The LLFA seeks assurances that further information will be provided regarding the construction drainage strategy to ensure there is no increase in flood risk during the construction phase, prior to the permanent surface water drainage system becoming operational.

In section 13.9.22 of the Environmental Statement, it is indicated that of the 12 outfalls, nine will be new outfalls. The new outfalls will discharge to surface water via filter drains and vegetated detention basins or wetlands to provide water quality or quantity improvements. While it is appreciated that the existing outfalls and drainage system are currently

being surveyed, it is not clear what water quality processes will be applied to the existing outfalls in the current ES.

We note that the drainage strategy report does not refer to the LLFA's Developer Guidance.

Further Information We would like to make you aware that the Greater Norwich Level 2 Strategic Flood Risk Assessment was published in February 2021 and can be found at <https://www.gnlp.org.uk/regulation-19-publication/evidence-base> in its own section. We suggest appropriate consideration is given to relevant aspects of this recently published study.

In addition, please note that any works on ordinary watercourses and flow paths would normally require an ordinary watercourse consent prior to construction. The LLFA in Norfolk seeks assurances that this proposed scheme will be undertaken in accordance with the principles and regulations associated with ordinary watercourse consents and that applications will be made within an adequate timescale. This is to ensure the management of potential future and residual flood risk that could be derived from this scheme.

- 4.17.2 The LLFA considers there to be an issue regarding the requirements section for surface and foul water drainage. The LLFA would like the draft DCO to be updated to recognise the right organisations by naming them rather than the planning authority (which does not normally have involvement in these aspects).

Please see the proposed wording below.

Requirements

Surface and foul water drainage

8.—(1) No part of the authorised development is to commence until for that part written details of the surface water drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee.

(2) No part of the authorised development is to commence until for that part written details of the foul drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted to and approved in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function.

(3) The surface water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing

by the Secretary of State following consultation by the undertaker with the Norfolk County Council as Lead Local Flood Authority on matters related to its function as statutory consultee, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

(4) The foul water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with Anglian Water on matters related to its function, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

4.17.3 It is noted that there is no mention of the ordinary watercourse consenting process. Therefore, the LLFA would like to include the proposed wording below into the DCO:

Works in a watercourse(s)

x.—(1) No stage of the works involving the crossing, diversion, alteration, replacement and installation of new structures of any designated main river or ordinary watercourse may commence until a scheme and programme for any such permanent or temporary crossing, diversion, alteration, replacement and installation of new structure in that stage has been submitted to and, approved by the Secretary of State in consultation with Norfolk County Council, the Environment Agency, relevant drainage authorities and Natural England.

(2) The designated main river or ordinary watercourse must be crossed, diverted, alteration, replacement and installation of new permanent or temporary structures in accordance with the approved scheme and programme.

(3) Unless otherwise permitted under paragraph (x.1), throughout the period of construction of the works, all ditches, watercourses, field drainage systems and culverts must be maintained such that the flow of water is not impaired or the drainage onto and from adjoining land rendered less effective.

4.17.4 Furthermore, we note that there is no mention of the need to involve the LLFA in relation to the review of the temporary surface water drainage plan as part of the EMP. This needs to be addressed. We request that this be added as a requirement, maybe as a part 3 to 8 for the temporary works.

4.18 **Climate**

The construction, operation and use of the Proposed Scheme is predicted to increase carbon emissions. The Environmental Statement Non-Technical Summary states that guidance on gauging the significance of carbon emissions in EIA is evolving, but that a definitive assessment of materiality is not possible.

Additional measures have been adopted as part of the design of the Proposed Scheme to reduce carbon emissions. This is on top of the recent UK government announcement on ending the sales of new petrol and diesel vehicles by 2030 which will further reduce the Proposed Scheme's end user carbon emissions.

The non-technical summary also sets out that the vulnerability of the proposal to projected changes in climate during operation has been assessed, and it has been deemed resilient. Therefore, no significant effects as a result of climate change are anticipated. This will be reviewed when updated climate projections become available.

4.18.1

Comments

Norfolk County Council adopted its Environmental Policy at the end of 2019. This included a commitment to move towards carbon neutrality across all sectors by 2030. Emissions from the trunk road network would be included within this. In order to help meet the commitment in its environmental policies the council would want Highways England to commit to undertaking work across the trunk road network to understand in more detail the carbon emissions arising from use of this network and how these might be mitigated.

Norfolk County Council supports Highways England's efforts to reduce the footprint of the construction process.

The county council would want to work closely with Highways England to identify measures to reduce carbon emissions on the trunk road network, eg by installation of Electric Vehicle charging points to encourage electric vehicles, and understand how these will be brought forward, their impact on emissions reduction and how they dovetail with measures that local partners are taking on the local transport network and across other sectors.

5.

Conclusion

Norfolk County Council supports the principle of dualling the A47 between North Tuddenham to Easton subject to:

- (a) The implementation of appropriate highway, historic environment, and surface water conditions / requirements being resolved through the DCO process
- (b) The detailed comments set out in this report being addressed through the DCO process.

The County Council continues to work with Highways England, as evidenced in our Statement of Common Ground, in order to resolve the above issues.

Appendix A: Proposed Scheme Plan



