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A47 North Tuddenham to Easton

Scheme Number: TR010038

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9.23 Applicant's Responses to Deadline 5 Comments

The Infrastructure Planning (Examination Procedure) Rules 2010
Rule 8(1)(c)

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The Infrastructure Planning (Examination Procedure) Rules 2010

A47 North Tuddenham to Easton Development Consent Order 202[x]

9.23 APPLICANT'S RESPONSE TO DEADLINE 5 COMMENTS

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1 INTRODUCTION

1.1.1 The Development Consent Order (DCO) application for the A47 North Tuddenham to Easton scheme was submitted on 15 March 2021 and accepted for examination on 12 April 2021.

1.1.2 The purpose of this document is to set out Highways England's (the Applicant) comments on the following submissions by third parties at Deadline 5 (26 November 2021):

- Richard Hawker's Deadline 5 Submission (**REP5-017**).
- Weston Longville Parish Council's Comments on Issue Specific Hearing 2 Action Points (**REP5-018**).

1.1.3 This document also sets out the Applicant's comments on the following submission by third parties at Deadline 4 (12 November 2021):

- Appendix A to A C Meynell's Written summary of oral submissions made at Issue Specific Hearing 2 (**REP4-023**) comprising a Technical Note review by Mr Joe Ellis of RPS Consulting of the Applicant's 9.15 Alternative Wood Lane Junction Options Appraisal (**AS-022**), submitted to the ExA by the Applicant on 25 October 2021.

1.1.4 The following sections present the responses where additional information or clarity from the Applicant is required.

2 KEY ABBREVIATIONS

2.1.1 The following common abbreviations have been used in the Applicant's submissions to the Examination:

- dDCO = draft Development Consent Order
- DMRB = Design Manual for Roads and Bridges
- ExA = Examining Authority
- NPSNN = National Policy Statement for National Networks 2014
- NWL = Norwich Western Link
- the Scheme = the A47 North Tuddenham to Easton dualling scheme

3 MR R HAWKER

3.1.1 Richard Hawker's Deadline 5 submission (**REP5-017**) is available at:

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010038/TR010038-001361-Richard%20Hawker%20-%20DL5.pdf

3.1.1 In summary, the submission raises 19 question arising from Chapter 4 'Transport Assessment' in the Case for the Scheme (**APP-140**). The Applicant's response to these questions is presented in the below table.

Comment	Applicant Response WBD
Q1 We have not been given a complete and consistent set of recorded traffic flows: in Figure 1, below, I have collated all the 24-hour flow figures we have for the relevant locations.	Section 4.2 in the Case for the Scheme (**APP-140**) details the baseline data collection for the traffic modelling assessment. The baseline dataset includes the collection of volumetric traffic count, network and vehicle journey time data sources. This information is used in the model development process to calibrate and validate the baseline model. The fully calibrated and validated base year model then provides a stable basis to undertake the future year assessment of the Scheme. As such it is not necessary to release the collected traffic data. Figure 4.18 presents the Average Annual Daily Traffic flows for the Scheme at the Baseline Year and in the Do Minimum and Do Something modelling scenarios. Chapter 2 of the Scheme Design Report (**AS-008**) describes Scheme development. This outlines how feasibility assessment, consultation on options and selection of the preferred route announcement took place.
Q2 The count locations have been given several different reference numbers, for different survey dates, which makes correlation very difficult. I have asked for a correlation list, but have been refused. In the NCC 2019 matrix, location descriptions are poor; grid references are given, so I have had to look these up on an OS map to ascertain exactly where they are. Why could not a consistent unique (and preferably descriptive) reference number be used, and useful location names be given? It is particularly regrettable that the two agencies have not combined on this simple aspect	While both the A47 and NWL schemes are modelled on similar software, the traffic models are independent of one another and will vary due to different development timelines (e.g. base year model, assumptions as to opening year) and different effects on the surrounding local network. However, the Applicant has been working collaboratively with the NWL project delivery team to make sure there is a consistent traffic modelling methodology for both schemes. The Applicant has engaged with Norfolk County Council throughout the design development process, sharing traffic models, survey data and submitted design, and traffic proposals for cross review. The Statement of Common Ground with Norfolk County Council (**REP4-003**) confirms agreement on traffic modelling; see items 113 to 116 in Section 3.2. The Applicant has consulted with Highways England's Safety, Engineering & Standards (SES) Transport Planning Group (TPG) (on all traffic modelling aspects) who undertake independent assurance and governance checks and also with Norfolk County Council to validate the traffic modelling and junction proposals.
Q3 para 4.2.4 The model is stated as having been calibrated to a 'high level of accuracy'. What does this mean? What tolerance on what values? Where are figures which could demonstrate a level of accuracy ?	The Applicant notes that Mr Hawker asked the same question at the Local Liaison Group, Traffic Modelling call on the 28 February 2021 and was provided with a detailed response at the time which was also then issued via email. Detail on the base year model calibration and validation are outlined in section 4.3. of the Case for Scheme (**APP-140**). As stated in section 4.3.4 of the Case for the Scheme, the base model was developed in accordance with the Department for Transport's Transport Appraisal Guidance (TAG) Unit M3.1: Highway Assignment Modelling (2020). TAG guidance provides detailed guidance on developing, calibrating and validating a highway assignment model. The main comparison between the observed and modelled flow is the Geoffrey E. Havers (GEH) statistic. The statistic uses the following formula to calculate a value for the difference between observed (survey data) and modelled (SATURN flow) traffic flow: $$GEH = \sqrt{\frac{(M-C)^{2}}{(M+C)/2}}$$ Where: • GEH is the GEH Statistic • M is the modelled flow • C is the observed flow The GEH statistic takes account of the fact that when traffic flows are low the percentage difference between the observed flow and the modelled flow may be high, but the significance of this difference is small and conversely, a small percentage difference on a large base might be important. Section 4.3.5 confirms that TAG criteria were achieved for link flow calibration and validation, with TAG criteria also achieved for journey time validation.
Q4 para 4.2.6, and Fig 4.2 In June 2015, MCTC and ATC were taken. Where are the results? What did they show? Just those from a few key locations (e.g. Wood Lane) would help give confidence.	See response to Q1, above. The Applicant notes that Mr Hawker requested Turning Count Data for the A47

Comment	Applicant Response WBD
There is no MCTC at Roundwell, nor Norwich Rd Costessey. These are crucial cross-valley routes, or alternatives to A47 to access city.	junctions for both 2015 and 2019 via a direct email to the Applicant's scheme inbox on the 28 May 2021. The data was provided by the Applicant on the 8 June 2021 in an excel file, which included a map of the locations for 2015 and 2019.
Q5 Fig 4.18 Are these 5-day AADT or 7–day AADT? Are the outputs of the NATS 2015 different from these figures?	These are Annual Average Daily Traffic Flows (AADT) which represent average traffic conditions across all 365 days of the year. Therefore, they include weekends and are representative of seven days of the week. The flows shown in Figure 4.18 are derived from the NATS 2015, 2025 and 2040 traffic model scenarios. As stated in paragraph 4.3.1 of the Case for Scheme (**APP-140**) the model contains AM and PM peak hours (08:00 to 09:00 and 17:00 to 18:00) and an Inter Peak (IP) average hour (10:00 to 16:00) time segments. These time segments are used to derive the overall AADT flows.
Q6 para 4.2.7, and Fig 4.3 In May, Jun, July 2016 MCTC and ATC were done 12 hours per day. Where are figures? Again, there is no MCTC at Roundwell, nor Norwich Rd Costessey. There is one shown on Ringland Lane, Costessey, on an uninterrupted stretch of road. This makes no sense. Were ATC results taken to confirm totals from the MCTCs?	See response to Q1, above.
Q7 para 4.2.8 and Fig 4.4. In Oct 2019 'Further surveys' were done. What surveys were done? Fig 4.4. shows locations (only on A47 itself). Where are figures? I have received 24-hour 5-day and 7- day AADT results from NCC, but generally excluding the locations shown on Fig 4.4.	See response to Q1, above.
Q8 para 4.2.9 Queue length data. These were measured at the same time as MCTC surveys (what year?) How was queue length measured? Where are the results ?	See response to Q1, above.
Q9 para 4.2.11 The following acronyms are mentioned, with no explanation. What are they, how are they used, and where are the results ? Trip Matrices; SERTM; Mobile phone prior matrix traffic movement data; Google, Trafficmaster, Traffic signal data (NCC). I have had an explanation of only some of these, but they should all be detailed in this document.	**Trip Matrix** - Is the origin-destination matrix (or Production/Attraction) of the trip movements used to represent the number of trips across the model's study area. **SERTM** - defined in paragraphs 4.2.10 and 4.2.11 of the Case for Scheme (**APP-140**). SERTM stands for South East Regional Transport Model. In summary, SERTM is the south-east regional SATURN model. Highways England has developed a series of regional traffic models under a consistent framework to support the delivery of the schemes identified in the road investment strategy (RIS). The entire strategic road network (SRN) and major associated links in England are represented in five strategic models representing the north, the Trans-Pennine south (or Northern Powerhouse area), the midlands, the south-west and the south-east. **Mobile phone prior matrix traffic movement data** - paragraph 4.2.11 explains that mobile phone prior matrix traffic movement data was adopted in the study to inform the development of the Scheme assessment 2015 base year model. As stated in paragraph 4.3.3, mobile phone data is the primary source used for deriving the distribution of trips in the base year prior demand matrices in the schemes impact area. **Google** – provides information on the transport network, including site photography (Google street view) and aerial photography. For the model development the Applicant used the Google information to inform the network coding and calibration. **Trafficmaster** – defined in 4.2.13. Trafficmaster data contains vehicle GPS information sourced and centrally purchased by the Department for Transport [redacted] It is used to collect journey time data along the selected routes for the model validation. **Traffic signal data (NCC)** – This is data from Norfolk County Council relating to the staging and timing of traffic signals in the NATS study area. This information is used to inform the network coding.
Q10 para 4.2.13 Fig 4.5 Journey time routes are shown. I describe them below with my comments. How were these routes decided upon? Some have little to do with either the A47 3 dualling or the NWL (NT1, NT2) or are routes which would seldom be chosen (NT6). How were journey times measured or calculated, and where are the results? What are the conclusions? NT1 Light Blue Bawdeswell to Drayton via A1067. NT2 Purple Dereham to Lyng via old A47, thence to A1067. NT3 Green Start of Dereham by-pass via A47 to B1108 jctn on Southern By-pass.	As discussed in paragraph 4.3.3 of the Case for the Scheme (**APP-140**), the journey time data is used to validate the traffic model. It provides an independent check on the levels of delay and travel times calculated by the calibrated model. Journey time routes are collected across the wider study area, as well as the A47 mainline corridor, to provide an overall assessment of the model's validation. It is expected, as part of model validation, that a wide range of journey time routes are considered. As mentioned in paragraph 4.2.13, TrafficMaster data (defined above) was obtained for the period October 2014 to September 2015. The TrafficMaster data was used to obtain the journey time observations along each section of the selected routes by direction and by time period. These journey times

Comment	Applicant Response WBD
NT4 Dark Blue From Dereham via Yaxham and E Tuddenham to Honingham Rdbt on A47 (no-one calls it the Norwich Roundabout). NT5 Yellow Attlebridge via W Longville, Berry's La, Barnham Broom to Kimberley. NT6 Brown B1135 at Yaxham via Kimberley to B1108 then to Southern By-pass.	include the travel time across the link as well as at the junctions. As discussed in the above response to Q3 and Section 4.3 of the Case for the Scheme, the Department for Transport's (DfT's) TAG sets out criteria to assess the models journey time validation performance. As discussed in paragraph 4.3.5 of the Case for the Scheme, TAG criteria were also achieved for the journey time validation assessment.
Q11 p50 – Two more technical terms with no explanation: SATURN, converged assignment impacts; flows across screens; independent traffic data; integrity and profile of trip matrix.	**SATURN** is defined in a footnote to paragraph 4.3.2 of the Case for the Scheme (**APP-140**): *Simulation and Assignment of Traffic in Urban Road Network (SATURN):* [redacted] SATURN is a widely used software package for the traffic assessment of highway schemes. All of the regional models developed by the Applicant use the SATURN software platform. **Converged assignment** is discussed in paragraph 4.3.9: Based on the origin-destination demand and the available highway network supply capacity, the NATS SATURN assignment model's algorithm calculates the equilibrium traffic flows on individual road links. The underlying principle of this equilibrium, or steady state, is outlined in DfT's TAG Unit M3.1 guidance: Traffic arranges itself on networks such that the cost of travel on all routes used between each OD (Origin-Destination) pair is equal to the minimum cost of travel and all unused routes have equal or greater cost. **Flows across screenlines**: A screenline is an arbitrary line on a map which could follow rivers, railway lines or natural boundaries which crosses a number of parallel roads. Screenline analysis provides a means of comparing the results of a traffic model with observed traffic counts along the section of the roads which are crossed by the screenline. The combination of traffic counts on the screenline is used to compare the model and observed counts and if they pass the criteria set out in DfT's TAG Unit M3.1: Highway Assignment Modelling (2020). **Independent traffic data**: As discussed in paragraph 4.3.3 of the Case for the Scheme, traffic counts are used to calibrate the model based on a matrix estimation (ME) procedure. For validation, a number of counts are not included in the ME (independent traffic counts) in order to check the validity of the calibrated model against the independent counts. **Integrity and profile of trip matrix**: As discussed in paragraph 4.3.3 the SATURN ME process adjusts the prior trip matrix based on the strategic traffic assignment and the observed count data. In accordance with TAG guidance a variety of checks were undertaken to ascertain that ME has not altered the integrity and profile of the trip matrix.
Q12 p52 Mentions NATS 2012 for the first time, in regard to the 'development process' What does this mean? TAG criteria claim to have been achieved. What are these criteria?	The NATS 2015 model was developed from the previous NATS 2012. Figure 4.8 outlines the development process. See the Applicant's response to Q2 above for discussion on TAG criteria.
Q13 p53 Applicant claims that the model gives a 'robust basis for forecasting'. What evidence is offered to substantiate this claim?	Calibration and Validation of the model according to TAG criteria provides a base year model with a robust basis for forecasting. See the Applicant's response to Q2 above for discussion on TAG criteria.
Q14 Para 4.3.9 mentions the existence of origin and destination pairs in the modelling. Why cannot this data be presented?	See the Applicant's response to Q1, above. The Applicant notes that Mr Hawker raised this question at the Local Liaison Group held on 28 February 2021 and a detailed response was provided by the joint A47 / NWL Traffic Specialists. The presentation (circulated by email) contained a series of Select Link Analysis (SLA) demonstrating the origin & destination of trips in the AM peak based on the 2019 NATS Model developed by the NWL team that was used to provide context to the question raised by the joint team. The select link analysis was undertaken on the following links: 1. C98 Lyng Road (just north of the existing A47 2. B135 Wood Lane (North of Existing A47) 3. Ringland Road at Lower Easton 4. C162 Longwater Lane (south of the Longwater Lane / West End junction)
Q15 para 4.4.6 The Do Minimum (DM) scenario does include the NWL, and it is noted that on para 4.4.6 it is stated that it would join to the A47 with Wood Lane at an at-grade roundabout. Already, the roundabouts at Honingham and Easton massively restrict flow – this will certainly do the same, more so as the NWL contributes more traffic. The type of junction must surely affect the flow of traffic on both the A47 and the NWL itself. How has this been accounted for? Were other junction options considered, such as light-controlled	Chapter 4 of the Case for the Scheme (**APP-140**) presents sensitivity scenarios to compare traffic modelling with and without NWL. Section 4.4.7 of the Case for the Scheme (**APP-140**) states the Do Minimum (DM) is defined as the core highway network scenario without the A47 North Tuddenham to Easton scheme, against which the Scheme's impact changes are compared. As defined in the uncertainty log, in the wider area network the Norwich Western Link, Thickthorn and Blofield Scheme Improvements are classified as "Near Certain" and therefore included.

Comment	Applicant Response WBD
junctions, which could improve flow?	In order to formulate a Do Minimum (DM) scenario with the NWL in place, and in the absence of any NWL layout plan, the Applicant made an assumption on what that layout would be – this is stated in paragraph 4.4.6 of the Case for the Scheme (**APP-140**). As discussed in paragraph 4.4.6, in the DM scenario the existing A47/Wood Lane/Berrys Lane staggered T-junction is assumed to be upgraded to an at-grade five arm roundabout with two circulatory lanes, connecting the A47 to the Norwich Western Link. This therefore represents an upgrade to the existing network capacity provided by the staggered T-junction. It should be noted that this assumption is related to the 'without' A47 Scheme DM scenario. Therefore, no further DM options have been considered, as the option assessment is principally related to comparing the one DM scenario with the Do Something (DS) 'with' A47 Scheme scenarios.
Q16 p63 More technical terms unexplained; ARCADY – assessment of roundabout capacity. How are the planned roundabouts assessed using this process? What are the results?	Paragraph 4.4.13 of the Case for the Scheme (**APP-140**) defines ARCADY within footnote 25 as *"ARCADY is the acronym for (Assessment of Roundabout Capacity And DelaY). This software, produced by the Transport Research Laboratory (UK), models traffic capacity, queues and delays at roundabouts.* [redacted] Section 4.10 (**APP-140**) details the Operational Modelling Assessments. Tables 4.18 to 4.21 show the results of the ARCADY junction operational assessment for both the AM and PM 2040 Do Something (DS) scenarios. Paragraph 4.10.1 explains how the Ratio of Flow to Capacity (RFC) and maximum queue length from ARCADY are the two primary measures of junction arm performance for a roundabout.
Q17 Para 4.6.3 How is 'delay' defined and assessed? Where are the results?	Paragraph 4.6.5 of the Case for the Scheme (**APP-140**) defines traffic delays. Traffic Delay results are provided in Tables 4.6, 4.9, 4.10, 4.13 and 4.14.
Q18 Table 4.5 (peak-hour flows) Figures are stated as 'modelled' traffic flows for base year 2015. Are these outputs from the model, or actual survey results? Each-way flows are given for the A47; why not for the side roads? These figures refer to locations described on Fig 4.19. These do not carry numbers, and do differ in places from those on Fig 4.18. Why are they different?	The Applicant notes that Mr Hawker submitted a request to the scheme inbox on the 18 May 2021 asking three questions that arose from his review of the submitted Case for the Scheme (**APP-140**): 1. Please can you advise what PCU means? 2. Please can you provide traffic flow numbers split between classes of vehicle and for periods outside the peak hours. 3. Flows are given in both directions for the A47 but not for the sideroads; please can you provide information? The Applicant responded to all three questions on the 27 May and included a table to provide two way flows on sideroads and included "Inter Peak" flows. As stated in paragraph 4.6.3 of the Case for the Scheme, the base year modelled traffic flows along the A47 corridor as well as the key locations in the surrounding impact area are shown in Table 4.5. As these locations focus on the direct scheme impact, on the side roads only the results in the direction approaching the A47 are provided. Further information on the peak hour two-way traffic flows on the local network are detailed in paragraphs 4.8.15 to 4.8.16. Table 4.5 and Table 4.6 provide peak hour flows (PCU), volume over capacity ratio (V\C) and delay results for the key locations defined in Figure 4.19. Figure 4.18 shows Annual Average Daily Traffic flows (AADT). These results are provided over a wider area to also include the local roads as well as the A47 mainline.
Q19 Para 4.6.8 What is MCC data ? This has not been mentioned before (for weekdays in October 2019).	MCC refers to Manual Classified Count

4 WESTON LONGVILLE PARISH COUNCIL

4.1.1 Weston Longville Parish Council's Deadline 5 submission (**REP5-018**) is available at:

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010038/TR010038-001365-Weston%20Longville%20Parish%20Council%20-%20Other-%20Response%20to%20Actions%20arising%20from%20ISH%202.pdf

4.1.2 The submission comprises comments on the ExA actions arising from the issue specific and compulsory acquisition hearings held in November 2021. The Applicant's response to their comments is presented in the below table.

Comment	Applicant Response WBD
2. Provide references to demonstrate that the scheme has always proposed to include two junctions along its along its length, along with its intent to remove the Easton roundabout and provide a junction to the west of the Easton roundabout.	The responses to these questions are set out on pages 2 and 3 plus Appendix A of the Applicant's Response to Examining Authority's Action List from ISH1, ISH2, CAH1 and CAH2 (**REP4-016**). Appendix A responds to the ExA's request to provide evidence to demonstrate the size of the Wood Lane Junction required should the Norwich Western Link not be provided. Further to the above responses, the issue was also addressed in the Applicant's response in Section 8 'Chris Cockcroft' of the Applicant's Responses to Deadline 4 Comments (**REP5-016**). This comment demonstrates the need and selection of the Scheme's Wood Lane and Norwich Road junctions was determined before the NWL route consultations and preferred route announcement, so the Scheme was not influenced by the choice of the NWL route options. *"The ExA is directed to responses RR-006.5 and RR-050.5 in the Applicant's Responses to the Relevant Representations (**REP1-013**), which cover the need for and location of the proposed Norwich Road roundabout.* *It is important to note that Applicant's requirement to consider developments with approved planning consent or identified as 'Near Certain' in accordance with the Department of Transport's Transport Appraisal Guidance[1]. This is explained in Section 4.3.21 Local Developments and Section 4.4 Major Highway Schemes, of the case for the Scheme (**APP-140**).* *It is also important to clarify that Norfolk County Council held route option consultations on the selected four Norwich Western Link routes in late 2018 / early 2019, with the Preferred Route Announced in July 2019.* *The Applicant's Scheme Assessment Report (SAR)[2] summarises the scheme development works undertaken during Stages 1 & 2 (December 2015 to November 2017) of the route options assessment; the preferred route decision making is also explained in Section 2 of the Case for the Scheme (**APP-140**). Appendix N of the SAR outlines the four shortlisted Scheme options assessed, which demonstrates that two junctions were considered as required by the A47 Scheme as a standalone scheme prior to the NWL Scheme being considered:* • ***Junction 1** - On the axis of Berrys Lane and Wood Lane.* *The Scheme is independent of the proposed Norwich Western Link (NWL) road scheme and would proceed without the NWL coming forward. However, if the Scheme was built without the NWL a junction is still required to connect the A47 with the B1535 (Wood Lane), which is the assigned local highway authority heavy goods vehicles (HGV) route and also provides access for Hockering and parishes north and south to the Strategic Road Network.* • ***Junction 2** - west of Easton to replace the existing Easton at-grade roundabout, which the Scheme removes.* *In line with Scheme objectives, to provide a more free-flowing network, the existing Easton roundabout is to be removed. The location of the new Norwich Road junction at Easton was determined based on the requirement for a fully grade separated junction, whilst taking into account the existing constraints such as the Grade 1 listed St Peter's Church, existing accesses and sideroads, Orsted cable route, Food Enterprise Zone planning permission and local topography.*
4.**Provide the evidence to demonstrate the size of roundabout required should the Norwich Western Link not be provided** Untangling the design and decision making chronology with respect to the Wood Lane, Norwich Road and Easton junctions is difficult, interwoven and influenced as it was by with the choice of either option C or D for the Norwich Western Link (NWL). Option D, which was the one favoured in the public consultation, joined the dualled A47 close to Taverham Road but was moved eastwards to accommodate the concerns of residents. In the event Norfolk County Council chose Option C. Thus began a process of adjustment with roads added, closed, and removed according to the pressure exerted by different groups and interested parties and it is clear from the DCO responses that this process is continuing. WLPC wholly accepts the right of all those affected by the road to make their case. However National Highways (NH) seem to have lost sight of the original objective. The HE High Level Strategy contained in the A47 North Tuddenham to Easton Junction Sideroad Report published in February 2020 states that the development of the scheme was based on maintaining the old A47 and 'connecting severed roads or accesses either with new connector roads or utilising the existing local road network'. Its hard to judge how much this failure to sustain strategic focus arises from the delays and changes in contractors and senior personnel which have dogged this project. It now seems that the pressure to complete the project is having an equally deleterious effect. Recent submissions to the ExA suggest a wish to call into question whether the Norwich Road roundabout is necessary at all. If this suggestion gains any kind of traction, it has significant consequences for Weston Longville if the dualled A47 is not accessible from Ringland Lane, Weston Road and Honingham Lane leaving only the B1535 and C167 open for cross valley traffic , regardless of whether the NWL is built or not. Given the range of representations from different interested parties WLPC believes that NH should stop trying to square the circle. There would appear to be enough fundamental flaws in the design and locations of the proposed junctions to justify going back to the drawing board in order to produce a design which answers the question, 'What would the junction and side road strategy look like if the NWL was not regarded as 'certain ?'. Minimally there should be no changes made at this stage without a full assessment of the consequences for the B1535 and C167 with and without the NWL.	
Action 8 **Respond to the comment raised by the Interested Party with respect to the potential to relocate the proposed environmental mitigation area from the land to the west of Wood Lane junction, to an area to the south.** If, as it would appear, the proposal to relocate the proposed environmental mitigation area from the land to the west of the Wood Lane junction to the south is in order to allow for the construction of a service station then Weston Longville Parish Council (WLPC) would object. There is no demonstrable need for service station at this point on the network and it would have the effect of drawing in more traffic on to the already overburdened B1535 and C167 with or without the NWL.	The response to this question is on page 4 of the Applicant's Response to Examining Authority's Action List from ISH1, ISH2, CAH1 and CAH2 (**REP4-016**). This response directs the ExA to the Applicant's response RR-022 of the Applicant's responses to relevant representations (**REP1-013**).

[1] Available at: [redacted]

5 JOE ELLIS (RPS), ON BEHALF OF A C MEYNELL

5.1.1 At Deadline 4 (12 November 2021), A C Meynell's below submission of 'Written summary of oral submissions made at Issue Specific Hearing 2' (**REP4-023**) included an Appendix A Technical Note review by Mr Joe Ellis of RPS Consulting of the Applicant's 9.15 Alternative Wood Lane Junction Options Appraisal (**AS-022**).

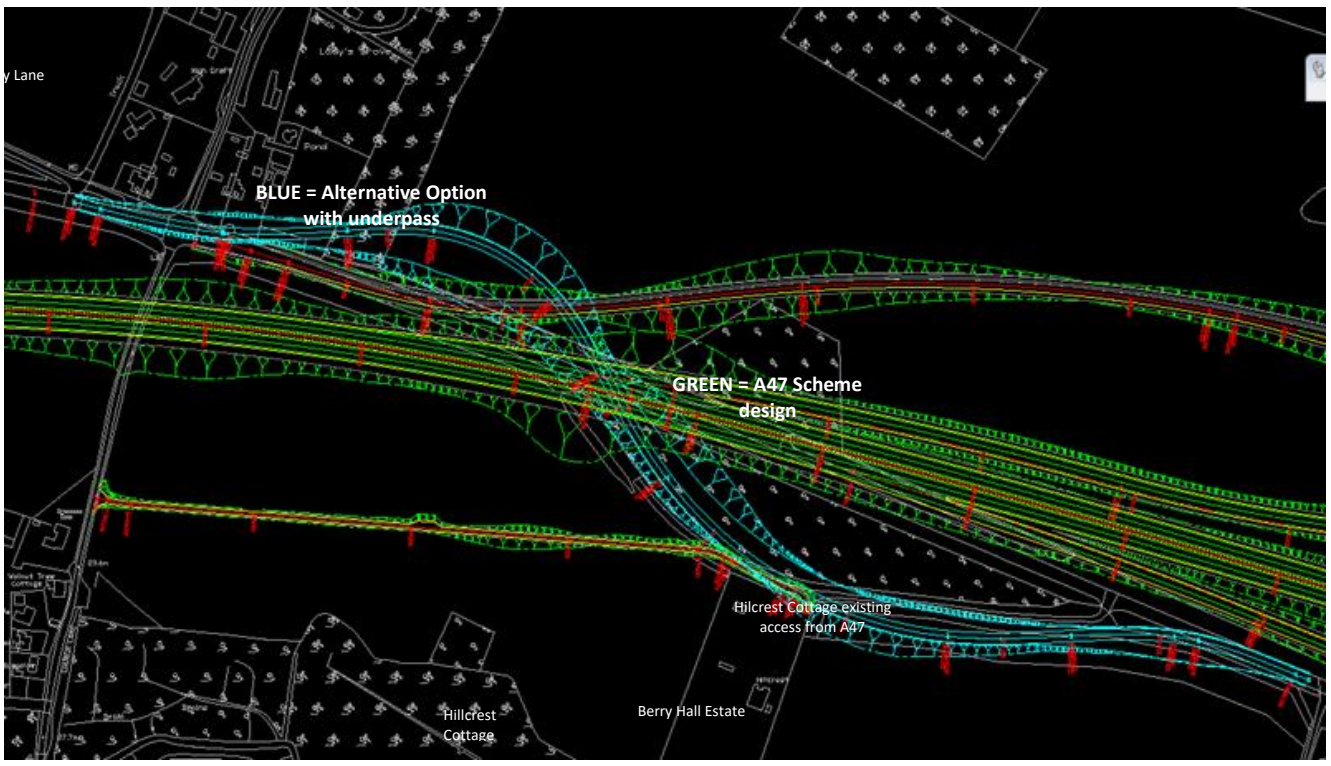
https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010038/TR010038-001336-DL4%20-%20A%20C%20Meynell%20-%20Written%20summary%20of%20oral%20submissions%20made%20at%20ISH2%20Rev%201.pdf

5.1.2 At Deadline 6, the Applicant submitted an update to the 'Alternative Wood Lane Junction Options Appraisal' (**AS-022**) and that update contains responses to the following issues raised in the comments by Joe Ellis:

- Inclusion of an operational traffic analysis where Berrys Lane is closed in all alternative options – see Section 4.
- Confirming UK DMRB was used to design the sideroads in agreement with the Local Highway Authority (Norfolk County Council), who will adopt these sideroads, due to the absence of a local highway authority design standard – see Section 3.4.
- Clarification of competence and independence of the safety review – see Section 5.1.
- Clarification of concern relating to additional departures from the standard, even though Applicant's Scheme includes has agreed departures – see Section 5.4.
- Clarification why a short link between the existing A47 and southern alternative Wood Lane junction a safety concern relating – see Table 5-6 and 5-7.

5.1.3 In addition to the above, the Applicant's response to the further issues is:

- **Lady's Grove underpass** would require realignment and lowering of the existing A47 at the underpass, to avoid raising the mainline over 5m, within a low point susceptible to flooding. This would require exceptionally deep pumped drainage, contrary to compliance with The Construction (Design and Management) Regulations 2015 (CDM 2015) to minimise construction and operational maintenance safety risks (e.g. working in confined spaces). In addition, the existing A47 would need to be realigned further north and south to achieve the vertical geometry to enter/exit a deeper underpass. This would cause additional permanent landtake which would be required from residential gardens of several private houses outside the DCO boundary, including loss of woodland and arable land within Berry Hall Estate (see indicative illustration below).



- **Wood Lane Junction drainage** in the Alternative Option designs would require a revised approach to the location of the drainage basins and River Tud outfall for the surface water runoff due to removing of the realigned existing A47 connection to the proposed Wood Lane junction. Based on the existing topography, a drainage basin would be required south of the alternative Wood Lane junction, in the vicinity of the existing A47 junction with Berrys Lane. Though the aim would be to locate a drainage basin between the existing and new A47 mainline, there is a risk the drainage basin could be required south of the existing A47 within the Berry Hall Estate. In all scenarios, significant engineering works would be required to install a drainage outfall pipe through the Berry Hall Estate, east or west of Berrys Lane, to a new outfall in the River Tud. Due to the volume of discharge flow, the existing drainage asset along the eastern side of Berrys Lane is not likely to be suitable to use in the alternatives proposed.
- **National Grid Gas (NGG) pipeline diversion** still needs to use the field north of Merrywood House, east of Berrys Lane, and an arable field north of the new A47 mainline. The Applicant has confirmed with the Pipeline Operator, NGG, that the new mainline alignment in the alternative options has not moved north far enough to allow NGG to tie into the existing pipeline without crossing the existing A47. Therefore, the gas pipeline diversion's southern connection to the existing pipeline needs to remain in the Berry Hall Estate field north of Merrywood House. This also means the alternative options would require additional landtake north of the A47, beyond the Scheme design DCO boundary, in addition to extra costs and impacts to install the longer pipeline.
- **Anglian Water pipeline diversion** around the south side of the southern roundabout. The alternative design options avoid this, however the Applicant is currently exploring with Anglian Water the potential to retain or divert the existing pipeline in-situ under the southern roundabout in the Scheme design to avoid the need for a diversion south of the roundabout and associated impact on landtake. This opportunity is reflected in the utility diversion investigation area illustrated in the utilities

limit of deviation for diversion works shown as orange hatching on sheet 9 of the Works Plans (REP3-003). The ability to achieve this outcome will be confirmed at the detailed design stage in liaison with Anglian Water, who have indicated a willingness to explore this option but want to see the detailed design of the junction before agreeing to any such proposal.

- **Construction compound and material storage areas** would need relocating to north of the proposed alternative designs, beyond the DCO boundary and increasing existing landtake from the two landowners, east and west of Wood Lane.
- **Cyclists** would benefit from the proposed Lady's Grove underpass, but retaining use of the existing Berrys Lane and Dereham Road for cyclists would increase the prospect of cyclists traveling north-south across Wood Lane junction, rather than using the safer, separated route via the diverted RB1 and Hall Farm underpass.