

A47 Wansford to Sutton Dualling

Scheme Number: TR010039

Volume 6

6.1 Environmental Statement

**Chapter 4 – Environmental assessment
methodology**

APFP Regulation 5(2)(a)

Planning Act 2008

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

July 2021

Infrastructure Planning

Planning Act 2008

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

A47 Wansford to Sutton
Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT
Chapter 4 – Environmental assessment methodology

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010039
Application Document Reference	TR010039/APP/6.1
BIM Document Reference	HE551494-GTY-EGN-000-RP-LE-30004
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Version	Date	Status of Version
Rev 0	July 2021	Application Issue

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4. Environmental Assessment Methodology

4.1. Environmental Scoping

- 4.1.1. The purpose of the scoping process is to determine which environmental topics should be included in the Environmental Statement (ES) process, the level of detail to which they should be assessed and to set out the proposed methodologies to be used in preparing the Environmental Statement (ES).
- 4.1.2. The Environmental Impact Assessment (EIA) Scoping Report (**TR010039/APP/6.5**) was produced for the Proposed Scheme and submitted to the Planning Inspectorate in February 2018.
- 4.1.3. The EIA Scoping Report (**TR010039/APP/6.5**) considered the environmental topics as per Regulation 5(2) of the Infrastructure Planning (EIA) Regulations 2017.
- a) Population and human health
 - b) Biodiversity
 - c) Land, soil, water, air and climate
 - d) Material assets, cultural heritage and the landscape
 - e) The interaction between the factors referred to in sub-paragraphs (a) to (d)
- 4.1.4. The structure of the report and topics used were written in accordance with the Design Manual for Roads and Bridges (DMRB) and The Planning Inspectorate Advice Note 7: Preliminary Environmental Information Screening and Scoping.

Scoped In

- 4.1.5. The EIA Scoping Report (**TR010039/APP/6.5**) and subsequent EIA Scoping Opinion (**TR010039/APP/6.6**) identified the need to scope the following topics into the ES:
- Air quality
 - Cultural heritage
 - Landscape and visual
 - Biodiversity
 - Geology and soils
 - Material assets and waste
 - Noise and vibration
 - People and communities (now referred to as population and human health)

- Road drainage and the water environment
- Climate
- Combined and cumulative effects (now referred to as cumulative effects assessment)

4.1.6. The exact scope is detailed in the EIA Scoping Report (**TR010039/APP/6.5**).

4.1.7. The EIA Scoping Report (**TR010039/APP/6.5**) was submitted to the Planning Inspectorate in order to request a Scoping Opinion (**TR010039/APP/6.6**). The EIA Scoping Report was issued to consultees by the Planning Inspectorate and the responses from these consultees have formed the Scoping Opinion (**TR010039/APP/6.6**) received from the Planning Inspectorate on 19 March 2018. The Scoping Opinion (**TR010039/APP/6.6**) is the official response from the Planning Inspectorate, giving comment on the proposed approach detailed in the EIA Scoping Report (**TR010039/APP/6.5**).

4.1.8. The DMRB environmental and sustainability standard was re-written and published in 2019 and 2020. Where updates to standard have changed scope compared to that stated in the 2018 Scoping Report (**TR010039/APP/6.5**), consultation has been undertaken with the Planning Inspectorate and relevant environmental bodies. This is detailed in individual environmental chapters of this ES and responses to Scoping Opinion are recorded in Appendix 4.1 (Scoping Opinion responses) (**TR010039/APP/6.2**).

4.1.9. There have been a few changes to the description of the Proposed Scheme since the Scoping Opinion (**TR010039/APP/6.6**) was issued. Changes include modifications to the eastern extent of the Proposed Scheme, where the alignment was moved from south of the A47 to the north. A review of the outcomes to the Scoping Opinion (**TR010039/APP/6.6**) deemed that it was not necessary to re-submit a scoping report. This was agreed with the Planning Inspectorate in January 2020.

Scoped Out

4.1.10. Following consideration, the following topics are 'scoped out' of the ES.

Major accidents and disasters

4.1.11. Regulation 5 (4) of the Infrastructure Planning (EIA) Regulations 2017 requires an assessment of '*the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned*'.

- 4.1.12. For the Proposed Scheme, a separate chapter assessing the potential impacts of major accidents and disasters during the construction and operation phase is not required for the following reasons:
- The Proposed Scheme is not considered to have high vulnerability to major accidents or disasters. Whilst the legislation is not explicit, the language of the revised Infrastructure Planning Regulations 2017 is aimed towards hazardous industries or operations (those with a ‘high vulnerability’ to major accidents).
 - The design, construction and operation of the Proposed Scheme must comply with legal requirements, codes and standards, such as:
 - Health and Safety at Work etc. Act 1974 (HSWA)
 - The Management of Health and Safety at Work Regulations 1999
 - Construction (Design and Management) (CDM) 2015 Regulations
 - The Workplace (Health, Safety and Welfare) Regulations 1992
 - Design Manual for Roads and Bridges (DMRB)
- 4.1.13. The term major accidents and disasters refers to events both within and external to the Proposed Scheme that have the potential to cause significant harm to the environment (including but not limited to populations, biodiversity, land, soil, water, air, material assets and cultural heritage).
- 4.1.14. A major hazard pipeline is located within the Proposed Scheme boundary and another within 500m of the Proposed Scheme boundary. The safety risk associated with the pipelines has been considered within the Proposed Scheme risk register (held by the Principal Contractor) and the location of the pipelines are included on the utility diversion drawings for the Proposed Scheme. Therefore, further assessment of these pipelines within the ES has been scoped out.

Heat and radiation

- 4.1.15. Regulation 4 (1) (d) of the Infrastructure Planning (EIA) Regulations 2017 require “*an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases)*”. As the Proposed Scheme is a highways scheme located in a rural setting, it was concluded unlikely that heat and radiation effects associated with the Proposed Scheme would be unlikely and so assessment of these effects was proposed to be scoped out of the ES. This recommendation was accepted as part of the Scoping Opinion (**TR010039/APP/6.6**).

Transboundary effects

- 4.1.16. Regulation 32 of the EIA Regulations 2017 requires the Secretary of State to consider any likely significant effects on the environment of a European Economic Association (EEA) State. Transboundary effects have been scoped out of this ES, as none of the impact pathways reach other EEA member states.

4.2. Surveys and predictive techniques and methods

- 4.2.1. The principal standard used to assess and report environmental effects in this ES are contained in DMRB LA 101 Sustainability and Environment. The methodologies used for the assessments for individual topics in this ES are based on those set out in the EIA Scoping Report (**TR010039/APP/6.5**), Scoping Opinion (**TR010039/APP/6.6**) and Preliminary Environmental Information Report (PEIR) for the Proposed Scheme (2018), and discussions with relevant consultees.
- 4.2.2. In preparing the ES, Highways England has applied the key principles, topics, approaches and criteria set out in these documents; however, where appropriate these have been supplemented using latest standards, guidance and professional judgement. Individual environmental chapters provide further detail where appropriate, on surveys and methods. This is reported in each of the individual topic chapters of this ES.

Updates to guidance and standards

- 4.2.3. The DMRB standard has been updated since the completion of key documents in the EIA process, in particular the Scoping Report and Scoping Opinion. These documents shape the scope of the environmental assessments reported in this ES.
- 4.2.4. Where changes in the guidance and standards required a change in approach as detailed in the Scoping Report, the relevant environmental bodies have been consulted and the approach agreed. This is reported in each of the individual topic chapters of this ES.

Key stages of EIA consultation

- 4.2.5. This section describes specifically the environmental consultation that has been undertaken with relevant consultation bodies during the development of the Proposed Scheme design in advance of the DCO application submission. Details of the wider consultation undertaken as part of the Proposed Scheme is contained within the Consultation Report (**TR010039/APP/5.1**) including details on consultation with statutory stakeholders identified in the Planning act 2008 as well as non-statutory stakeholders.

- 4.2.6. Highways England Option 2 was modified in April 2021 and engaged with the following environmental bodies during the Proposed Scheme development:
- Environmental Agency
 - Peterborough County Archaeologist
 - Natural England
 - Historic England
 - Peterborough City Council
 - The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire
 - Landyke Community Trust
- 4.2.7. A summary of the topic specific consultation is outlined in the respective topic chapters (**TR010039/APP/6.1**) where relevant.

Non-statutory consultation

- 4.2.8. An extensive non-statutory stakeholder mapping exercise was undertaken to identify relevant stakeholders and their key interests. This list was used to inform the participants of a six-week non-statutory public consultation, which was held between 13 March and 21 April 2017 and included public information exhibition events held on the 23, 24 and the 25 of March 2017.
- 4.2.9. The purpose of the non-statutory consultation was to seek views on the outline proposals and route options for the Proposed Scheme from the general public and statutory consultees, including local authorities and other interested bodies. It was stated by Highways England that comments received as a result of the consultation process will be considered.
- 4.2.10. Highways England prepared a Consultation Report following this consultation, detailing how people, stakeholders and interested bodies were consulted and the feedback received. This report can be accessed via the following link:

https://highwaysengland.citizenspace.com/he/a47-wansford-to-sutton-dualling/results/a47-wansford-cons-report_final_080817.pdf

EIA Scoping Report

- 4.2.11. This Environmental Statement (ES) shapes the assessment in each of the environmental topic chapters. The Scoping Opinion (**TR010039/APP/6.6**) is the official response from the Planning Inspectorate, giving comment on the proposed approach detailed in the Scoping Report (**TR010039/APP/6.5**).
- 4.2.12. The EIA Scoping Report (**TR010039/APP/6.5**) was submitted to the Planning Inspectorate in February 2018. The Planning Inspectorate subsequently issued

the scoping report to statutory consultees, with a deadline to respond with comments. The resulting Scoping Opinion (**TR010039/APP/6.6**) from the Planning Inspectorate with consultee responses was received by Highways England in March 2018.

- 4.2.13. Responses received from statutory consultation and the Scoping Opinion (**TR010039/APP/6.6**) were taken into consideration and incorporated into the design and assessment process, where appropriate.

Preliminary environmental information report (PEIR)

- 4.2.14. The PEIR was produced in July 2018 to inform the public, landowners, prescribed bodies and other stakeholders about the ongoing EIA work and the preliminary information on the environmental impacts of the development proposals.
- 4.2.15. The PEIR was used as a basis to inform stakeholders during the nine week statutory consultation period (26 February to 30 April 2020), including public exhibitions and engagement with environmental bodies.
- 4.2.16. Further detail on the consultation and responses are detailed in the Consultation Report (**TR010039/APP/5.1**) and referenced within the individual topic chapters of this ES (**TR010039/APP/6.1**) where appropriate.
- 4.2.17. The PEIR is available to view on the Proposed Scheme's website:

https://highwaysengland.citizenspace.com/he/a47-wansford-to-sutton-statutory-consultation/supporting_documents/A47%20Wansford%20to%20Sutton%20Preliminary%20Environmental%20Information%20Report%20PEIR.pdf

Statutory consultation

- 4.2.18. An extensive statutory consultee stakeholder mapping exercise was undertaken to identify relevant stakeholders and their key interests. This list was used to inform the participants of a six week statutory public consultation, which was held between the 18th of September and 12th of November 2018 and included public information exhibition events held on the 29th of September and the 1st, 4th and 6th of October 2018.
- 4.2.19. The purpose of the consultation was to provide an opportunity to comment on the updated proposals for the Proposed Scheme, ahead of Highways England submitting an application to the Planning Inspectorate for a Development Consent Order (DCO). On conclusion of the statutory consultation period, a consultation report was produced (**TR010039/APP/5.1**).

- 4.2.20. Highways England delivered the consultation under Section 42 of the PA 2008 in parallel with consultation under Section 47 and Section 48 of the PA 2008. All consultation materials made available under Section 47 of the PA 2008 were also available to Section 42 consultees.

Targeted engagement

- 4.2.21. Highways England issued a project update brochure to local residents, businesses in the consultation zone and section 42 consultees. This was to provide an update on the Proposed Scheme and set out the changes made by the Applicant to its design since the statutory consultation in 2018. The update can be accessed via the following link:
- 4.2.22. Due to the design amendments, a design development report was made available to consultees. This report provided information on these amendments as well as providing a comparison assessment on the key changes between the design presented to statutory consultees in 2018 and the design of the Proposed Scheme in 2020. Engineering, environment, traffic and costs had been considered in the assessment. The design development report can be found here:

<https://s3.eu-west-2.amazonaws.com/assets.highwaysengland.co.uk/roads/road-projects/A47+Wansford+to+Sutton+dualling/Design+Development+Report.pdf>

4.3. General assessment assumptions and limitations

- 4.3.1. This ES considers the potential impacts of the Proposed Scheme as described in Chapter 2 The Proposed Scheme (**TR010039/APP/6.1**), that could result in likely significant effects.
- 4.3.2. Potential impacts and their effects cannot be predicted with absolute certainty. Predictions are limited by the quality and certainty of information available and the accuracy of predictive techniques employed. The assessments presented in the ES therefore indicate the likely magnitude of impacts and the significance of effects rather than providing precise predictions of effects.
- 4.3.3. Individual topic chapters provide further detail where appropriate, including limitations and assumptions. The extent to which these limitations and assumptions are likely to affect the assessment outcome is also outlined in the individual environmental chapters.

Traffic assessment scenarios

- 4.3.4. For assessment purposes, the future baseline without the Proposed Scheme is referred to as the 'Do-Minimum' (DM) scenario. The 'Do-Something' (DS)

scenario is the future baseline with the Proposed Scheme included. Therefore, the potential environmental effects are predicted by identifying the differences in effects between the DS scenario and the DM scenario.

4.4. Significance criteria

- 4.4.1. The ES reports the likely significance of environmental effects using established significance criteria, as presented within DMRB LA 104 revision 1 Environmental assessment and monitoring. This requires an assessment of the receptor or resource’s environmental value (or sensitivity) and the magnitude of change (impacts).
- 4.4.2. The DMRB states that the approach to assigning significance of effect relies on reasoned argument, professional judgement and taking on board the advice and views of appropriate organisations. For some individual topic chapters, predicted effects may be compared with quantitative thresholds and scales in determining significance.
- 4.4.3. Assigning each effect to one of the five significance categories enables different topic issues to have consistent terminology in their conclusions, to assist the decision-making process. These five significance categories are set out in Table 4-1.

Table 4-1 : Description of the significance of effect categories

Significance category	Typical description
Very large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Source: DMRB, LA 104 Environmental Assessment and Monitoring, Table 3.7

- 4.4.4. The environmental value will be identified for each of the individual topics that have been carried forward from the scoping exercise for further environmental assessment, along with the magnitude of change. In this way, the potential significance of environmental effects will be determined for each relevant environmental topic. Five significance categories can result from the assessment, as defined in Table 4-2.
- 4.4.5. It is important to note that significance categories are required for positive (beneficial) as well as negative (adverse) effects. The greater the magnitude of impact on a receptor, the more significant the effect. For example, the

consequences of a highly valued environmental resource suffering a major detrimental impact would be a significant adverse effect.

- 4.4.6. Where the table allows for more than one significance, for example Slight or Moderate, the assessment will report the worst case scenario. Where worst case scenario is not appropriate in the assessment, justification on the approach will be provided.
- 4.4.7. Effects that are identified as Moderate or above (beneficial or adverse) will be considered significant.

Table 4-2 : Assessing significance of potential effects

Environmental value (sensitivity)	Magnitude of potential impact (degree of change)					
	No change	Negligible	Minor	Moderate	Major	
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large	
High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large	
Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large	
Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate	
Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight	

Source: DMRB LA 104 Environmental Assessment and Monitoring, Table 3.8.1

- 4.4.8. As per the DMRB standard, Chapter 5 (Air quality), Chapter 12 (Noise and vibration) and Chapter 15 (Climate) (TR010039/APP/6.1) do not explicitly follow this general approach to determine the significance of effects, due to the nature of the topics and their methodologies. The criteria used to determine the significance of effects are outlined in the individual topic chapters of this ES.

Mitigation measures

- 4.4.9. Measures to avoid, reduce or compensate for likely significant adverse effects fall into three categories:
 - Mitigation of likely significant environmental effects: these are measures taken to avoid or reduce negative effects. Measures may include locating the development and its working areas and access routes away from areas of high environmental sensitivity, fencing off sensitive areas during the construction period, or timing works to avoid sensitive periods. Measures to implement mitigation associated with construction and operation detailed in the ES are described in the Environmental Management Plan (EMP)(TR010039/APP/7.5). Embedded mitigation measures are outlined in Chapter 2 (Proposed Scheme) (TR010039/APP/6.1).

- Compensation: the use of replacement areas to make up for the loss of, or permanent damage to resources. Any replacement area should be similar to, with appropriate management and have the ability to reproduce the functions and conditions of those resources that have been lost or damaged. Compensation may also be in the form of a financial payment.
 - Offsetting: the provision of a benefit that is related to the effect but is not a like-for-like replacement of the feature to be lost.
- 4.4.10. Priority has been given to the avoidance of effects at source, whether through amending the design of the Proposed Scheme or by regulating the timing or location of activities. Where it has not been possible to avoid significant negative effects, opportunities have been sought to reduce the effects, ideally to the point where they are no longer significant through mitigation measures. Where this has not been possible, opportunities for compensation have been explored, as detailed in the topic chapters of this ES.
- 4.4.11. Each individual topic chapter provides a description of enhancement measures that have been considered as part of this Proposed Scheme and have been assessed as part of the ES (where practicable).
- 4.4.12. The assessment of residual effects will take into account the effectiveness of the mitigation measures proposed in the individual topic chapters.

Implementation and enforcement of mitigation

- 4.4.13. Mitigation would be secured by way of requirement in the Development Consent Order (DCO) including that the Proposed Scheme is undertaken in accordance with the EMP, which includes detailed provision on mitigation of construction impacts and specific mitigation obligations in key topic areas such as landscaping, drainage and contaminated land.
- 4.4.14. The DCO places a legal responsibility on the designers and construction contractors to comply with the DCO requirements. Discharge of these requirements where relevant would be consent from the Secretary of State, generally following consultation with relevant planning or environmental authority.

4.5. Duplication of assessment

- 4.5.1. This ES has been prepared with reference to environmental assessments that have been carried out, or are ongoing, for nearby developments. In this way, duplication of assessment or survey effort has been avoided and consistency of approach, unless scheme-specific factors determine otherwise, can be assured.
- 4.5.2. Chapter 15 (Cumulative effect assessment) (**TR010039/APP/6.1**) of this ES provides further information on the assessment approach.