

# M60/M62/M66 Simister Island Interchange

**TR010064**

## **ENVIRONMENTAL STATEMENT APPENDICES**

### **APPENDIX 8.13 HABITATS REGULATIONS ASSESSMENT REPORT**

APFP Regulation 5(2)(g)

Planning Act 2008

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

Infrastructure Planning

Planning Act 2008

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

**M60/M62/M66 Simister Island Interchange  
Development Consent Order 202[ ]**

---

**ENVIRONMENTAL STATEMENT APPENDICES  
APPENDIX 8.13 HABITATS REGULATIONS ASSESSMENT REPORT**

---

<b>Regulation Reference</b>	Regulation 5(2)(g)
<b>Planning Inspectorate Scheme Reference</b>	TR010064
<b>Application Document Reference</b>	TR010064/APP/6.3
<b>Author</b>	M60/M62/M66 Simister Island Interchange Costain Jacobs Partnership Project Team & National Highways

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
P01	April 2024	FOR DCO APPLICATION

## CONTENTS

<b>Appendix 8.13 Habitats Regulations Assessment report.....</b>	<b>iv</b>
<b>Executive summary .....</b>	<b>iv</b>
<b>1 Introduction .....</b>	<b>1</b>
1.1 Purpose of this report.....	1
1.2 Structure of this report .....	1
1.3 HRA process overview.....	2
1.4 Standards and guidance used in the assessment.....	3
1.5 Consultation .....	4
1.6 Scope of the assessment.....	4
1.7 Other consents.....	8
1.8 Statement of qualification.....	8
<b>2 Description of the Scheme .....</b>	<b>9</b>
<b>3 Assessment methodology and assumptions .....</b>	<b>10</b>
3.1 Stage 1 - Assessing likely significant effects.....	10
3.2 Stage 2 - Assessment of effect on integrity of the European site due to changes in air quality.....	11
3.3 Interpretation of case law .....	13
<b>4 European sites potentially affected by the Scheme.....</b>	<b>15</b>
4.1 Site identification.....	15
4.2 Conservation objectives and site integrity .....	17
4.3 Vulnerabilities / sensitivities .....	18
4.4 Baseline conditions .....	18
4.5 Future changes in baseline conditions.....	19
<b>5 Stage 1 screening .....</b>	<b>20</b>
5.1 Introduction .....	20
5.2 Potential impacts of the Scheme.....	20
5.3 Summary of screening consultation .....	22
5.4 Stage 1 screening conclusion .....	22
<b>6 Stage 2 statement to inform an appropriate assessment.....</b>	<b>24</b>
6.1 Assessment of effect on the integrity of the European site .....	24
6.2 Consultation on Stage 2 statement to inform an appropriate assessment conclusions .....	25
6.3 Stage 2 statement to inform an appropriate assessment conclusion .....	25
<b>7 Stage 3 Derogation .....</b>	<b>26</b>

<b>Acronyms and initialisms .....</b>	<b>27</b>
<b>References .....</b>	<b>28</b>

## LIST OF ANNEXES

<b>Annex A DMRB screening matrix.....</b>	<b>32</b>
<b>Annex B Planning Inspectorate Advice Note 10 Summary Table.....</b>	<b>39</b>
<b>Annex C Greater Manchester Ecology Unit Desk Study Records .....</b>	<b>43</b>
<b>Annex D Figures .....</b>	<b>44</b>

## LIST OF TABLES

Table 3.1 Critical Levels and Lower Critical Loads for the Rochdale Canal SAC .....	11
Table 4.1 European sites identified that meet the screening criteria.....	15
Table 4.2 European sites identified.....	16
Table 4.3 The attributes and targets that apply to this assessment (extracted from Natural England’s supplementary advice for Rochdale Canal SAC (Natural England, 2019)) .....	17
Table 5.1 Summary of the changes air quality in the part of the Rochdale Canal SAC affected by construction ARN (M62) .....	21
Table 5.2 Summary of the changes in air quality in the part of the SAC affected by operation ARN (M62).....	21
Table 5.3 Summary of the changes in air quality in the part of the SAC affected by operation ARN (M60).....	22
Table A.1 DMRB screening matrix.....	32
Table B.1 Effects considered within the assessment.....	39
Table B.2 Planning Inspectorate Advice Note 10 Summary Table for the effects of the Scheme alone.....	40
Table C.1 Extract of relevant desk study records from the Greater Manchester Ecology Unit for the Rochdale Canal.....	43

## Appendix 8.13 Habitats Regulations Assessment report

### Executive summary

National Highways (the 'Applicant') has submitted an application under section 37 of the Planning Act 2008 for an order to grant development consent for the M60/M62/M66 Simister Island Interchange (the 'Scheme').

This document comprises the Applicant's information to inform the Habitats Regulations Assessment process. It has been drafted to provide the Secretary of State the information necessary to undertake an appropriate assessment (as required by Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 (as amended)) as part of the determination process for the Development Consent Order (DCO). This document reports the results of the Stage 1 Screening, determining the likely significant effects on European sites, and the Stage 2 Statement to Inform an Appropriate Assessment, assessing adverse effects on the integrity of European sites as a result of the Scheme. The report also explains why the Scheme does not engage the derogation provisions of the Conservation of Habitats and Species Regulations 2017 (as amended)).

This assessment has been completed using the standard described within Design Manual for Roads and Bridges (DMRB) LA 115 Habitats Regulations Assessment (Highways England, *et al.*, 2020a), which sets out the requirements for assessment and reporting of the implications, from construction, operation and maintenance of highways and/or road projects on European sites. These assessments are compatible with, and incorporate relevant guidance from, Natural England and the Planning Inspectorate's Advice Notes, in particular Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects.

The European site identified (Rochdale Canal SAC) is approximately 5km east of the Scheme Order Limits but has no connection to the Scheme. Therefore, considering the zone of influence of the Scheme, impacts are deemed to be limited to changes in air quality as a result of vehicle emissions during construction and operation.

The Applicants Stage 1 Screening assessment found:

- No likely significant effects, as a result the changes in air quality from construction vehicle emissions on the M62, for the Rochdale Canal alone and in-combination with other plans and projects because there is a predicted improvement in air quality during construction.
- Likely significant effects could not be discounted, as a result the changes in air quality from operational vehicle emissions on the M62 and M60, for the Rochdale Canal, when considered alone and in-combination with other plans and projects because the changes in NO<sub>x</sub>, NH<sub>3</sub> and nitrogen deposition were predicted to be greater than 1% of the APIS thresholds.

The Applicant's Stage 2 Statement to Inform an Appropriate Assessment concludes, beyond reasonable scientific doubt, that the Scheme will not adversely affect the integrity of the Rochdale Canal SAC during its construction or operational phases, either alone or in combination with other plans or projects because the SAC qualifying species has a wide

tolerance of nutrient levels and the canal, as a mesotrophic waterbody, is not sensitive to changes in air quality.

The Applicant has concluded there would be no adverse effects on the integrity of any European site, and accordingly there is no requirement for consideration of derogation at Stage 3.

# 1 Introduction

## 1.1 Purpose of this report

- 1.1.1 National Highways (the 'Applicant') has submitted an application under section 37 of the Planning Act 2008 for an order to grant development consent for the M60/M62/M66 Simister Island Interchange (the 'Scheme').
- 1.1.2 This report comprises the Applicant's information to inform the Habitats Regulations Assessment (HRA) process. It has been drafted to provide the Secretary of State the information necessary to undertake an appropriate assessment (as required by Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 (as amended)) as part of the determination process for the Development Consent Order (DCO).
- 1.1.3 This report reports the results of the Stage 1 Screening, determining the likely significant effects (LSEs) on European sites, the Stage 2 Statement to Inform an Appropriate Assessment, assessment of adverse effects on the integrity of a European site(s) as a result of the Scheme, and whether there is a requirement for consideration of derogation at Stage 3 HRA.

## 1.2 Structure of this report

- 1.2.1 This report comprises an Executive Summary and seven sections as described below:
- Executive summary
  - Chapter 1: Introduction – provides a brief overview of the HRA process and standards and guidance used
  - Chapter 2: Description of the Scheme – describes the Scheme and the elements pertinent to the assessment
  - Chapter 3: Assessment methodology and assumptions – sets out the methods used in the assessment and key assumptions
  - Chapter 4: European sites potentially affected by the Scheme – identifies the European sites and effect pathways to be included within the assessment
  - Chapter 5: Stage 1 screening – the assessment of likely significant effects
  - Chapter 6: Stage 2 statement to inform an appropriate assessment – this section assesses the effect pathways screened in to determine if there is an adverse effect on the integrity of the European sites
  - Chapter 7: Stage 3 derogation – this section assesses whether or not the derogation stage is required
- 1.2.2 In addition, this report includes four supporting annexes:
- Annex A: Design Manual for Roads and Bridges (DMRB) screening matrix

- Annex B: Planning Inspectorate Advice Note 10 summary table
- Annex C: Greater Manchester Ecology Unit desk study records
- Annex D: Figures

## 1.3 HRA process overview

- 1.3.1 The Conservation of Habitats and Species Regulations 2017 has been amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, however the wording of the regulations applicable to this assessment is unchanged, with the exception of how the protected site network is referred to (see paragraph 1.3.2 below). The legislation applicable to the HRA process is hereafter referred to as the Habitats Regulations and any specific regulation referred to in this document is a reference to the relevant regulation in the Habitats Regulations.
- 1.3.2 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 creates a national site network within the UK which comprises the protected sites already designated under the Conservation of Habitats and Species Regulations 2017. In this report the sites within the national site network have been referred to by their designation (see paragraph 1.3.6 below) or together as European sites.
- 1.3.3 A HRA is required under Regulation 63(1) of the Habitats Regulations in certain circumstances. Regulation 63(1) provides as follows:  
*‘A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—*  
*(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*  
*(b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives.’*
- 1.3.4 The Scheme is not directly connected with or necessary to the management of a European site, and therefore Regulation 63(1) applies.
- 1.3.5 The HRA process is made up of several stages to fulfil the requirements of Regulations 63, 64 and 68 and these are illustrated in Figure 2.3 of DMRB LA 115 (Highways England, et al., 2020a) and described as follows:
- Stage 1 Screening – the process to determine if there are any LSE on European sites either alone or in combination with other plans or projects.



- Stage 2 Statement to Inform an Appropriate Assessment – to determine whether it can be ascertained, in view of the conservation objectives, that the plan or project (either alone or in combination with other projects and plans) would have any adverse effect on the integrity of a European site. If the potential for adverse effects on the integrity of a European site cannot be ruled out, potential mitigation measures to alleviate those adverse effects should be identified and assessed. Stages 1 and 2 would provide the information to allow the competent authority to fulfil Regulation 63.
- Stage 3 Derogations – includes the assessment of alternatives, imperative reasons of overriding public interest and compensatory measures. Where it is not possible to rule out no adverse effect on the integrity of a European site, the decision maker may only grant consent if satisfied that there are no alternative solutions; that the plan or project must be carried out for imperative reasons of overriding public interest; and that compensatory measures have been secured. Stage 3 Derogations would provide the information to allow the competent authority to fulfil Regulations 64 and 68 and ensure the overall coherence of the national site network is protected.

1.3.6 European sites include Special Protection Areas (SPAs) and potential SPAs, Special Areas of Conservation (SACs) and proposed (includes possible and candidate) SACs, Ramsar sites (listed and proposed) and areas secured as sites compensating for damage to a European site.

## 1.4 Standards and guidance used in the assessment

1.4.1 The Scheme is a Nationally Significant Infrastructure Project (NSIP) and the following National Highways standard and Planning Inspectorate advice note has been used in completing this assessment:

- Highways England, *et al.* (2020a) DMRB LA 115 Habitats Regulations Assessment.
- Planning Inspectorate (2022) HRA Advice Note 10: HRA relevant to nationally significant infrastructure projects.

1.4.2 This assessment has been completed in accordance with DMRB LA 115, which sets out the requirements for assessment and reporting of the implications, from construction, operation and maintenance of highways and/or road projects on European sites.

1.4.3 The matrices from DMRB LA 115 (Highways England, *et al.*, 2020a) have been completed and are provided in Annex A of this report. As the Scheme requires a DCO, a summary table required by the Planning Inspectorate in accordance with its updated Advice Note 10 version 9 (Planning Inspectorate, 2022) has also been completed (this is provided in Annex B).

1.4.4 The assessment of the effects of changes in air quality on European sites has been carried out in accordance with DMRB LA 115 (Highways England, *et al.*, 2020a) and DMRB LA 105 Air Quality (Highways England, 2019).

1.4.5 In completing this assessment, other documents have been used as guidance for specific elements of the process. These are listed as follows:

- Planning Inspectorate (2019) Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects
- Highways England (2019) DMRB LA 105 Air Quality
- Highways England (2020b) DMRB LA 113 Road drainage and the water environment
- Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) (Natural England, 2018)

## **1.5 Consultation**

1.5.1 Natural England are the key statutory nature conservation body for this HRA report and have been consulted via the statutory consultation process as well as through the Discretionary Advice Service they provide.

1.5.2 The Scheme has carried out a number of rounds of public consultation as follows (see the Consultation Report (TR010064/APP/5.1) for further details):

- Options consultation (2020)
- Statutory consultation (2023)
- Supplementary consultation (2023)

1.5.3 The advice provided by Natural England in relation to the conclusions of the HRA report are set out in Section 5.3 and 6.2 of this report.

## **1.6 Scope of the assessment**

### **Data used**

1.6.1 The assessment has used the following sources of evidence when describing the baseline conditions of the receptors potentially affected by the Scheme:

- SACs, SPAs and Ramsar site Environmental Systems Research Institute (ESRI) shapefiles (Joint Nature Conservation Committee (JNCC, 2019))
- SAC and SPA with marine components ESRI shapefiles (JNCC, 2019)
- SAC and SPA citations – JNCC (JNCC, n.d.) and Natural England Designated Sites Viewer (Natural England, n.d.)
- Ramsar site citations – JNCC (JNCC, n.d.) and Ramsar Sites Information Service (Convention on Wetlands Secretariat, n.d.)
- Greater Manchester Ecology Unit – Ecological Search SD80Z Rochdale Canal, Floating Water Plantain records (see Annex C of this report)

- Responses from consultation with Natural England (see Sections 5.3 and 6.3 of this report).
- Chapter 2: The Scheme of the Environmental Statement (TR010064/APP/6.1).

1.6.2 The assessment has used the following sources of evidence when describing the likely changes to environment as a result of the Scheme:

- The predicted changes in the concentrations of NO<sub>x</sub> and NH<sub>3</sub>, and the predicted changes in nitrogen and acid deposition as calculated by the project team according to the methods described in Chapter 5: Air Quality of the Environmental Statement (TR010064/APP/6.1).
- The results of the air quality modelling for the construction and operational phase and specifically to European sites as reported in full within Appendix 5.2: Air Quality Results of the Environmental Statement Appendices (TR010064/APP/6.3).
- European Site Conservation Objectives: Supplementary advice on conserving and restoring site features Rochdale Canal Special Area of Conservation (SAC) UK0030266 (Natural England, 2019)

### Identifying sites

1.6.3 DMRB LA 115 recommends that identification of potential effects should be made where the route corridor or project meets any of the following criteria:

- Is <2km from any SAC, candidate SAC (cSAC), potential SAC (pSAC), SPA, potential SPA (pSPA) or Ramsar site.
- Is <30km from any SAC, cSAC or pSAC where bats are one of the qualifying interests.
- Crosses or lies adjacent to, upstream of, or downstream of a watercourse which is designated part or wholly as a European site.
- Has a potential hydrological or hydrogeological linkage to a European site containing a groundwater dependent terrestrial ecosystem (GWDTE) which triggers assessment in DMRB LA 113 (Highways England, *et al.*, 2020b).
- Has an affected road network (ARN) which triggers the criteria for assessment of European sites within DMRB LA 105.

1.6.4 Additional European sites should be subject to screening where the existence of ecological connectivity between schemes and European sites is identified beyond the screening criteria.

1.6.5 Additionally, in England, HRA screening matrices are completed for route corridors or projects, in addition to the assumptions within LA 115, where they are within relevant Sites of Special Scientific Interest (SSSIs) impact risk zones (IRZs) in accordance with the Multi-Agency Government Information for the Countryside (MAGIC) v3.0.

- 1.6.6 Consideration of hydrological connectivity between the Scheme and European sites covers flood risk, hydrology, water quality and geomorphology.
- 1.6.7 Localised air quality impacts from highway schemes are considered most likely to occur within 200m of major roads. Assessment of designated sites is only undertaken for any designated sites located within 200m of the ARN, in accordance with DMRB LA 105, as no likely significant effects can be concluded alone beyond 200m.

### **Zone of influence**

- 1.6.8 The potential impacts of the Scheme, associated with the construction and operational phases, are listed below. The area over which those changes would occur is described as the zone of influence (Zol).
- Temporary and permanent land take during construction
  - Direct mortality of species during construction
  - Changes in air quality as a result of dust emissions during construction
  - Changes in air quality as a result of vehicle emissions during construction and operation
  - Change in noise, light and visual stimuli as a result of construction and operation
  - Changes in water quality in receiving water courses during construction and operation
  - Introduction of non-native invasive species during construction
- 1.6.9 The construction and operational impacts of the Scheme, with the exception of changes in air quality as a result of vehicle emissions, are limited to the Order Limits and the immediately adjacent and hydrologically connected areas.
- 1.6.10 Changes in air quality are limited to the areas within 200m of the relevant ARN as shown on Figure 5.1: Air Quality Construction Study Area and Figure 5.2: Air Quality Operational Study Area of the Environmental Statement Figures (TR010064/APP/6.2). The ARN is defined by the traffic screening process described in DMRB LA 105 which identifies the ARN based on predicted changes in traffic between the Do-Minimum (DM) (without the Scheme / construction) and Do-Something (DS) (with the Scheme / construction) scenarios. See Chapter 5: Air Quality of the Environmental Statement (TR010064/APP/6.1) for a more detailed description.
- 1.6.11 Decommissioning is not considered within the assessment for the Scheme. It is considered highly unlikely that the Scheme would be decommissioned before the end of its design life of 60 years as the road would have become an integral part of the SRN (see Section 2.7 of Chapter 2: The Scheme of the Environmental Statement (TR010064/APP/6.1) for further discussion). Decommissioning is therefore not an integral planned element of the Scheme and therefore not subject to HRA.

## Climate change

- 1.6.12 The purpose of including climate change in the assessment is to ascertain whether the effects of the Scheme would be likely to exacerbate expected future consequences of climate change on European sites.
- 1.6.13 The relationship between the Scheme, European sites and climate change is considered to relate to the contribution to greenhouse gases and is assessed as part of the environmental impact assessment for the Scheme within Chapter 14: Climate of the Environmental Statement (TR010064/APP/6.1) and air quality effect pathways assessed in the HRA.

## Determining significance

- 1.6.14 Following the gathering of information on the Scheme and the European sites, an assessment has been undertaken to predict the LSEs of the Scheme on the European sites 'alone'. To inform this process, all parts of the Scheme were assessed to see if they could result in LSEs on the European sites.
- 1.6.15 An effect is likely to be significant if:
- It is likely to affect the ability of the European site to achieve its conservation objectives.
  - It is likely to affect the integrity of the European site.
  - On the basis of available objective information, either a) and b) above cannot be discounted.
- 1.6.16 Where a theoretical pathway exists but there is no conceivable way that this could result in any tangible effect on a qualifying feature of a European site: the assessment has concluded this to be an 'inconsequential effect'. Inconsequential effects include those which are trivial in terms of scale, extent, duration and magnitude. An effect pathway that is considered to be inconsequential should be considered immaterial due to its inconsequential or 'trivial' scale and would not result in a conceivable effect (paragraph 3.16 (1) of Advice Note 10 (Planning Inspectorate, 2022) or real risk to the European site's conservation objectives.
- 1.6.17 An in-combination assessment has been completed for all effect pathways identified. Where an effect is concluded to be inconsequential alone, the Applicant has concluded that there would not be an in-combination effect, as the nature of the inconsequential effect means that it would not act with other plans and projects to cause a conceivable effect (paragraph 3.16 (1) of Advice Note 10 (Planning Inspectorate, 2022)) or real risk to the European site's conservation objectives. As stated in the 'Habitats regulations assessments: protecting a European site' guidance (Defra, 2023), *'a competent authority when assessing a LSE should check if there's a risk or possibility of a significant effect based on the evidence and only consider real not hypothetical risk.'*

## **1.7 Other consents**

- 1.7.1 The DCO will be the principal consenting mechanism for the Scheme. At the point of submission, most of the consents and all the powers required will have been included, or addressed, within the DCO as permitted by various provisions of the Planning Act 2008. Secondary consents and permits have been listed within the Consents and Licences Position Statement (TR010064/APP/3.3).

## **1.8 Statement of qualification**

- 1.8.1 The lead author is a Chartered Environmentalist and Member of the Chartered Institute of Ecology and Environmental Management, with over 20 years' experience in consultancy and has authored numerous HRA reports for a variety of development types. The lead author has authored and peer reviewed HRA reports including the Wylfa Newydd Nuclear New Build, A5025 On-line Highway Improvements Scheme, North Devon Link Road, and has acted as the competent authority for various planning applications on behalf of Torbay Council.



## 2 Description of the Scheme

- 2.1.1 The Scheme comprises improvements to the M60 Junction (J)18 interchange (also known as Simister Island) and widening to five lanes of the M60 between J17 and J18. It involves creating a free flow link, known as the Northern Loop between the M60 eastbound and the M60 southbound. This element is offline. Other elements of the Scheme involve online changes and widening. Additional construction of ponds for attenuation and/or water quality treatment purposes is required in land adjacent to the existing motorways and works to existing outfalls into streams is required. Gantry works are also required.
- 2.1.2 The detailed description of the Scheme is provided in Chapter 2: The Scheme of the Environmental Statement (TR010064/APP/6.1) and the following paragraphs provide a summary of the elements of the Scheme that are pertinent to this assessment.
- 2.1.3 Construction is currently scheduled to commence with mobilisation to site in Quarter 4 (Q4) 2025 and start of works in Q1 2026. The Scheme could take approximately three years to construct with an assumed Opening year of 2029.
- 2.1.4 The Scheme would be a significant construction project requiring a main construction compound and additional satellite compounds.
- 2.1.5 Land would be required both temporarily and permanently to construct, operate and maintain the Scheme. Temporary land would be land required in order to construct of the Scheme. Permanent land take requirements include the footprint of the highway infrastructure and associated earthworks, drainage works and access roads, together with environmental mitigation areas such as landscape planting and biodiversity habitat creation.
- 2.1.6 Areas of land take are shown on the Land Plans (TR010064/APP/2.3). The total permanent land take within the Order Limits is estimated to be 23.08 hectares (ha) and the total temporary land take 11.09ha.
- 2.1.7 Changes in traffic as a result of the construction and operation of the Scheme will occur on the wider road network. The impact that the Scheme is predicted to have on traffic flows is discussed in detail in the Transport Assessment (TR010064/APP/7.4). The resulting changes in air quality on the ARN is shown for operation on Figure 5.4: Modelled Human Health Receptors, Figure 5.5: Modelled Ecological Receptors, and Figure 5.6: Modelled Compliance Risk Assessment Receptors of the Environmental Statement Figures (TR010064/APP/6.2), and for construction on Figure 5.1: Air Quality Construction Study Area of the Environmental Statement Figures (TR010064/APP/6.2).

## **3 Assessment methodology and assumptions**

### **3.1 Stage 1 - Assessing likely significant effects**

3.1.1 Potential interactions (effect pathways) between European sites and the Scheme were identified where there was an overlap between a European site and the Zol of the Scheme, where the Zol was categorised by the potential impacts set out in paragraphs 1.6.8 to 1.6.11 of this report. Chapter 5 of this report reviews all of the effect pathways identified and sets out where there is a potential for LSEs on European sites to occur as a result of the Scheme.

3.1.2 A review of all the potential pathways has only identified air quality as being relevant therefore the methodology described is restricted to air quality.

#### **Air quality assessment**

3.1.3 Natural England has made a number of representations on the assessment of air quality impacts on European sites in relation to nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) on other National Highways schemes. This assessment has had due regard to those representations and has completed the assessment of air quality impacts on European sites accordingly.

3.1.4 The change in air quality as a result of vehicle emissions (for both construction and operation of the Scheme), in particular concentrations of NO<sub>x</sub>, NH<sub>3</sub> and the resultant nitrogen and acid deposition, has been assessed at all European sites within 200m of the relevant ARN. The air quality model predicts the nitrogen and acid deposition as a result of both nitrogen oxides and ammonia emissions from road traffic.

3.1.5 The construction air quality modelling uses the worst-case construction year, 2028 and the operational modelling is for Opening year, 2029 (see Chapter 5: Air Quality of the Environmental Statement (TR010064/APP/6.1) for further details).

#### **Use of air quality thresholds**

3.1.6 The air quality model predicts the change in annual mean NO<sub>x</sub> concentrations which are then factored to determine the NH<sub>3</sub> concentrations for the DM and DS scenarios. These are assessed against the appropriate critical levels (CL) for the habitats within 200m of the ARN. The CLs are set out for each European site on the Site Relevant Critical Loads tab of the Air Pollution Information System (APIS) (APIS, 2023).

3.1.7 The air quality nitrogen and acid deposition assessment is carried out with respect to the appropriate lower critical load (LCL) for the habitats within 200m of the ARN. The LCLs are set out for each European site on the Site Relevant Critical Loads tab of APIS (APIS, 2023).

3.1.8 Table 3.1 sets out the CLs and LCLs that are presented on APIS for the European sites identified as potentially affected by the Scheme, in this case, Rochdale Canal SAC.



**Table 3.1 Critical Levels and Lower Critical Loads for the Rochdale Canal SAC**

European site	Habitat within 200m of the ARN	APIS N critical load class	NO <sub>x</sub> CL ug <sup>m</sup> - <sup>3</sup>	NH <sub>3</sub> CL ug <sup>m</sup> - <sup>3</sup>	Nitrogen deposition LCL kg N ha <sup>-1</sup> yr <sup>-1</sup>	Acid deposition LCL MinCLMaxN, Keq ha <sup>-1</sup> yr <sup>-1</sup>
Rochdale Canal (SAC)	Watercourse with <i>Luronium natans</i>	Permanent oligotrophic lakes, ponds and pools (including softwater lakes)	30	3	2	No data given on APIS (APIS, 2023)

3.1.9 The methodology used to determine the potential for the Scheme to have an LSE as a result of vehicle emissions uses a 1% threshold. Where the 1% CL or LCL is exceeded, an LSE on the European site as a result of the Scheme alone or in-combination with other plans and projects cannot be discounted. Where the 1% CL or LCL is not exceeded for the Scheme alone then a conclusion of no LSE is reached for the Scheme alone and further assessment of the Scheme in-combination with other plans and projects is then made as described in paragraphs 3.2.3 to 2.2.11 of this report.

## 3.2 Stage 2 - Assessment of effect on integrity of the European site due to changes in air quality

### Assessing effects alone

3.2.1 Using professional judgement the assessment considers if there would be a reduction in habitat area that significantly impedes achievement of the conservation objectives of the European site. As there are no published or accepted thresholds for any of the factors considered alone, or combinations of thresholds of different factors, as to whether the effects could be considered to be significant, it is necessary for the competent expert (see Section 1.8 of this report) to make a judgement. That judgement is based on considering all of the factors, what is known about them and assessing the likely outcomes for the habitats from those factors.

3.2.2 The attributes and targets contained within Natural England’s supplementary advice (listed in Table 4.3) were used as a basis for the assessment of the Scheme’s impacts on the integrity of the European sites by identifying whether the magnitude of the effect would be likely to undermine achievement of the target for each attribute.

### Assessing effects in-combination

3.2.3 An assessment of the Scheme in-combination with other plans or projects is completed at either Stage 1, screening or Stage 2, statement to inform an appropriate assessment.

- 3.2.4 At Stage 1 screening the in-combination assessment is limited to the European sites and effect pathways where no LSE are found as a result of the Scheme alone.
- 3.2.5 Where a conclusion of potential LSE from the Scheme alone has been reached at Stage 1 then the in-combination effects with other plans and projects are assessed at Stage 2, statement to inform an appropriate assessment.

#### **Identifying other plans and projects**

- 3.2.6 The list of reasonably foreseeable plans and projects is based on Advice Note 17 (Planning Inspectorate, 2019), with the following types of development considered:
- Projects that are under construction
  - Permitted application(s) not yet implemented
  - Submitted application(s) not yet determined
  - All refusals subject to appeal procedures not yet determined
  - Projects on the National Infrastructure Commission's programme of projects
  - Projects identified in the relevant local development plans and emerging development plans prepared by the respective LPAs
- 3.2.7 Past projects and projects for which potential effects are fully determined were included in the environmental baseline and do not feature in the in-combination assessment. Rejected and withdrawn planning applications were also not included in the in-combination assessment as they are not considered to be reasonably foreseeable developments.
- 3.2.8 Effects were considered to be potentially acting in combination where there are spatial and temporal overlaps of Scheme effects with similar effects from other projects on relevant receptors.
- 3.2.9 The spatial extent used to identify other plans and projects for the effect pathways other than changes in air quality as a result of vehicle emissions are as described for biodiversity in Table 15.4 of Chapter 15: Assessment of Cumulative Effects of the Environmental Statement (TR010064/APP/6.1).

- 3.2.10 The contribution of changes in traffic from other plans or projects has been considered by comparing the predicted changes in air quality between the Do Nothing (DN) and DS scenarios. The plans and projects included within the DS scenario are shown on Figure 2-10: Large housing sites included in the traffic model and Figure 2-11: Large employment sites included in the traffic model, within the Transport Assessment (TR010064/APP/7.4). The other plans and projects that potentially contribute to concentration of NO<sub>x</sub>, NH<sub>3</sub> and N deposition (and could be identified via the planning system) would be broadly limited to industrial processes and intensive agricultural units. The ZOI for the in-combination assessment has been determined based on the advice given by the Environment Agency in 'Risk assessments for your environmental permit' (Environment Agency, 2020) and includes project types within the following distances from where each European site is affected by changes in air quality:
- 15km – coal or oil-fired power stations or >50 megawatt emitters
  - 10km – industrial emissions, e.g. energy generation plants
  - 5km – intensive livestock units
  - 500m – agricultural biomass boilers
- 3.2.11 The predicted contributions of NO<sub>x</sub>, NH<sub>3</sub> and nitrogen deposition were identified, where available, for the other plans and projects located within the search area. The combined contribution was calculated by summing together the predicted changes between the DS and DN scenarios for the Scheme, to the changes predicted for each of the plans or projects identified within the search area. The resulting values were then assessed against the relevant APIS critical levels and loads. The likelihood of an effect of all the projects in-combination was determined based on the combined figure with consideration given to the likely sensitivity of the habitats present and in view of the conservation objectives of the European sites.

### 3.3 Interpretation of case law

- 3.3.1 Prior to April 2018, and the ruling in *People Over Wind and Sweetman* (Court of Justice of the European Union (CJEU), 2018a) it was widely accepted that the screening stage could incorporate mitigation measures that formed part of the project. Such mitigation measures included those measures commonly used in environmental management plans. If such measures could exclude the risk of harm, then there was no need to proceed to Stage 2 appropriate assessment. The CJEU ruled that measures intended to avoid or reduce the harmful effects of a project on a European site could not be taken into consideration at the screening stage. However, good practice measures required to avoid nuisance or to ensure wider legislative compliance which are part of the project description but are not specifically intended to avoid or reduce harm to a European site, are considered as part of screening.

- 3.3.2 In accordance with the *Holohan v An Bord Pleanála* (Court of Justice of the European Union (CJEU), 2018b) ruling, 'the *Holohan* ruling', consideration of likely significant effects is extended beyond the boundary of European sites to include wider surrounding habitats and species that may also be impacted by development, where this would have implications for a site's conservation objectives.

## 4 European sites potentially affected by the Scheme

### 4.1 Site identification

4.1.1 The European sites that have been identified as a result of applying the DMRB LA 115 criteria (paragraph 1.6.3 of this report) are set out in Table 4.1, with full details of each site identified set out in Table 4.2.

**Table 4.1 European sites identified that meet the screening criteria**

Criteria (as identified in DMRB LA 115)	Scheme
1. is <2km from any Special Area of Conservation (SAC), candidate SAC (cSAC), potential SAC (pSAC), Special Protection Area (SPA), potential SPA (pSPA) or Ramsar Site.	<b>No</b> – There are no European sites within 2km of the Scheme.
2. is <30km from any SAC, cSAC or pSAC where bats are one of the qualifying interests.	<b>No</b> – There are no European sites within 30km of Scheme with bats as one of the qualifying features.
3. crosses or lies adjacent to, upstream of, or downstream of a watercourse which is designated part or wholly as a European site.	<b>No</b> – The Scheme does not cross or lie adjacent to, upstream or downstream of a watercourse that is designated as a European site.
4. has a potential hydrological or hydrogeological linkage to a European site containing a groundwater dependent terrestrial ecosystem (GWDTE) which triggers assessment in DMRB LA 113.	<b>No</b> – There are no European sites with a potential hydrological or hydrogeological linkage to the Scheme.
5. has an affected road network (ARN) which triggers the criteria for assessment of European sites within DMRB LA 105.	<b>Yes</b> – Rochdale Canal SAC is within 200m of the construction ARN (M62) and within 200m of the operational ARN (M62 and M60). See Figure 8.13.1: Location of European Sites in Relation to the Scheme (Annex D of this report) for location of the construction and operational ARN and European sites.
6. the existence of ecological connectivity between projects and European sites is identified beyond the screening criteria.	<b>No</b> – There is no ecological connectivity between European sites and the Scheme.
7. is within an Impact Risk Zone (IRZ)	<b>No</b> – The Scheme is not within a relevant IRZ associated with a European site as shown on MAGIC v3.0.

**Table 4.2 European sites identified**

European site name and code	Location and distance	Size (ha)	Key features including the primary reasons for designation and any other qualifying interests	Vulnerability <sup>1</sup>	Conservation objectives
Rochdale Canal SAC	Approximately 5km east of the Scheme and within 200m of the ARN at the M62 and M60	26.11	<p>Annex II species that are a primary reason for selection of this site</p> <p>1831 Floating water-plantain <i>Luronium natans</i></p> <p>Rochdale Canal supports a significant population of floating water-plantain <i>Luronium natans</i> in a botanically diverse waterplant community which also holds a wide range of pondweeds <i>Potamogeton spp.</i> The canal has predominantly mesotrophic water. This population of <i>Luronium</i> is representative of the formerly more widespread canal populations of north-west England.</p>	<p>H04 Air pollution, air-borne pollutants</p> <p>J02 Human induced changes in hydraulic conditions</p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of qualifying species</li> <li>• The structure and function of the habitats of qualifying species</li> <li>• The supporting processes on which the habitats of qualifying species rely</li> <li>• The populations of the qualifying species, and,</li> <li>• The distribution of the qualifying species within the site.</li> </ul> <p>Natural England also provides supplementary advice on conservation objectives for this site (Natural England, 2019)</p>

<sup>1</sup> As listed on the JNCC Standard Data Form

## 4.2 Conservation objectives and site integrity

- 4.2.1 The conservation objectives for Rochdale Canal SAC are set out within Table 4.2. Natural England has also produced supplementary advice (Natural England, 2019) on conserving and restoring the site features of the Rochdale Canal SAC and the attributes that are of relevance to this assessment are set out within Table 4.3.
- 4.2.2 The potential LSEs identified in Section 5.2 relate to effects of changes in concentrations of NO<sub>x</sub> and NH<sub>3</sub> and nitrogen deposition resulting in loss or degradation of the qualifying species. Therefore, the attributes summarised are those that relate to air quality only and the targets associated with these attributes are used as part of the assessment of effects on the integrity of the European sites.

**Table 4.3 The attributes and targets that apply to this assessment (extracted from Natural England’s supplementary advice for Rochdale Canal SAC (Natural England, 2019))**

Qualifying feature	Attribute and target	Reason for target
S1831. <i>Luronium natans</i> ; Floating water-plantain	Supporting processes (on which the feature and/or its supporting habitat relies) - Air quality  Restore as necessary the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on APIS (APIS, 2023).	The supporting habitat of this feature is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition (including food-plants) and reducing supporting habitat quality and population viability of this feature.  Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH <sub>3</sub> ), oxides of nitrogen (NO <sub>x</sub> ) and sulphur dioxide (SO <sub>2</sub> ), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, persistent organic pollutants (POPs), volatile organic compounds (VOCs) or Dusts. These should be considered as appropriate on a case-by-case basis.  Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of seminatural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales



## 4.3 Vulnerabilities / sensitivities

- 4.3.1 The vulnerabilities listed in Table 4.2 were taken from the JNCC Standard Data Form (JNCC, 2015). The main threats and sensitivities for Rochdale Canal SAC are set out below and have been taken from the Site Improvement Plan (Natural England, 2014), the JNCC species information (JNCC, nd) and the Habitat Action Plan for Canals (Greater Manchester Biodiversity Action Plan, 2003). The qualifying feature, floating water plantain is recorded by Natural England<sup>2</sup> as in unfavourable recovering condition.
- 4.3.2 Floating water-plantain requires very specific management of its habitats in order to survive in canals, with a moderate level of disturbance optimal. With too little disturbance, the floating water-plantain becomes outcompeted by highly competitive species, whilst too much disturbance (particularly from canal traffic) and the plant cannot survive.
- 4.3.3 The main threats to the site and its qualifying feature, floating water plantain, include over-shading and leaf drop from developing bank-side trees denies opportunity for the floating water plantain to establish on large and growing sections of the canal, and the impacts of atmospheric nitrogen deposition.
- 4.3.4 The Site Improvement Plan (Natural England, 2014) lists the prioritised actions to address the main threats and to control, reduce and ameliorate atmospheric nitrogen impacts included a Site Nitrogen Action Plan which has yet to be completed. The nitrogen deposition exceeds site-relevant critical loads across the whole Rochdale Canal SAC with APIS (APIS, 2023) reported three-year annual averages between 19.9 and 20.5 kgNha<sup>-1</sup>yr<sup>-1</sup>.

## 4.4 Baseline conditions

- 4.4.1 The Rochdale Canal SAC Site Improvement Plan (Natural England, 2014) describes the site as extending approximately 20 km from Littleborough to Failsworth, passing through urban parts of Rochdale and Oldham and the intervening areas of agricultural land (mostly pasture). The aquatic flora of the canal is indicative of a mesotrophic water quality (i.e. is moderately nutrient-rich). As well as floating water-plantain the canal supports a diverse range of other aquatic flora, including a very wide range of pondweeds (*Potamogeton spp*) and in places there are good stands of emergent vegetation including plants such as water violet (*Hottonia palustris*). Marginal vegetation is rich in places and includes large stands of yellow flag (*Iris pseudacorus*) and occasionally the locally uncommon royal fern (*Osmunda regalis*).
- 4.4.2 The desk study records of floating water plantain (see Annex C of this report) provided by the Greater Manchester Ecology Unit (GMEU) showed that the species had been recorded in the Rochdale Canal SAC where it is within 200m of the ARN. The records were taken in 2015 or earlier and this assessment has assumed that the species is still present in these locations.

---

<sup>2</sup> Natural England latest condition assessment is dated 25/11/2010 for the population of *Luronium natans* on the Rochdale Canal SSSI as set out on the Designated Sites Viewer



## 4.5 Future changes in baseline conditions

### Air quality trends

- 4.5.1 Defra indicates that the trend in emissions of nitrogen oxides (NO<sub>x</sub>) has been decreasing since the 1990s with the introduction of catalytic converters in vehicles and increasingly stringent emission standards. Emission estimates for 2020 indicated a 51% reduction on the 2005 UK emissions total (Dore, et al., 2009). The future predicted concentrations of NH<sub>3</sub> from vehicle emissions, unlike NO<sub>x</sub>, are uncertain. However, the ban of full petrol and diesel vehicles from 2035 and the accelerated uptake of electric vehicles will result in a reduction of NH<sub>3</sub> from road transport. To some extent the reduction in emissions is being matched by a similar trend in nutrient N deposition. Rowe *et al.* (2020) showed that, for SACs in England, the percentage of sites with nutrient N exceedance decreased from 98.5% in 1996 to 94.4% in 2017.
- 4.5.2 The Rochdale Canal SAC has been exposed to atmospheric N deposition in excess of the critical loads, for the features within 200m of the operational ARN, for many decades as shown in the deposition trends published on APIS (Centre for Ecology and Hydrology (CEH), 2023). The SAC citation highlights air quality as one of the key attributes underpinning the conservation objectives and the Site Improvement Plan (Natural England, 2014) lists air quality and the impact of nitrogen deposition as one of the prioritised issues that are threatening the condition of the features. The Supplementary Advice (Natural England, 2019) lists a restore target for air quality and current trends indicate that progress is being made, however, Rowe *et al.* (2020) stated that *'Reducing deposition to below the critical load does not mean that ecosystems immediately recover. There are time lags before chemical recovery takes place, and further delays before biological recovery. The timescales for both chemical and biological recovery, could be very long, particularly for the most sensitive ecosystems'*.
- 4.5.3 Therefore, the qualifying features at this SAC are unlikely to change significantly in condition based on predicted improvements in air quality alone and this is recognised within the pressures and issues listed and measures identified in the Site Improvement Plan (Natural England, 2014).

## 5 Stage 1 screening

### 5.1 Introduction

5.1.1 This section considers whether the Scheme would or would not have a likely significant effect on the features of interest of the European site identified in Chapter 4 of this report, either alone or in combination with other plans or projects, taking into account the Scheme description provided in Chapter 2 of this report.

### 5.2 Potential impacts of the Scheme

5.2.1 The European site identified (Rochdale Canal SAC) is approximately 5km east of the Order Limits and is not hydrologically connected to the Scheme. Therefore, considering the Zol (paragraphs 1.6.8 to 1.6.9 of this report) of the Scheme, impacts are deemed to be limited to changes in air quality as a result of vehicle emissions on the ARN during construction and operation.

#### **Changes in air quality – vehicle emissions**

5.2.2 Changes in air quality as a result of vehicle emissions would occur during construction and operation of the Scheme. The changes in air quality relevant to this assessment are in NO<sub>x</sub> and NH<sub>3</sub> as individual pollutants and their contribution to nitrogen and acid deposition.

5.2.3 The European site identified as potentially affected by vehicle emissions during construction and operation is the Rochdale Canal SAC. The Rochdale Canal SAC is within 200m of the construction ARN at the M62 and the operational ARN at the M62 and M60. Air quality modelling was undertaken along transects extending up to 200m from the ARN along the Rochdale Canal as shown on Figure 5.5: Modelled Ecological Receptors of the Environmental Statement Figures (TR010064/APP/6.2).

5.2.4 APIS does not provide any data for acid deposition in relation to the Rochdale Canal SAC, therefore it is not considered any further within this assessment.

#### **Construction**

##### ***Effect alone***

5.2.5 Changes in air quality as a result of vehicle emissions could occur during construction of the Scheme. The changes in traffic were predicted on the construction ARN in the area that the Rochdale Canal SAC is within 200m of the M62. Table 5.1 provides a summary of the air quality model results for the predicted concentrations of NO<sub>x</sub>, NH<sub>3</sub> and nitrogen deposition as a result of vehicle emissions in the worst-case construction year (2028).

5.2.6 Table 5.1 shows that the predicted changes in air quality during construction are beneficial and therefore no likely significant effect on the Rochdale Canal SAC is predicted to occur as a result of the changes in vehicle emissions during the construction phase.

**Table 5.1 Summary of the changes air quality in the part of the Rochdale Canal SAC affected by construction ARN (M62)**

Pollutant	APIS CL/LCL	DM Max	DS Max	DS-DM Max	Max change % of CL/LCL
NO <sub>x</sub> µgm <sup>-3</sup>	30	29.55	29.50	-0.05	-0.17
NH <sub>3</sub> µgm <sup>-3</sup>	3	2.01	2.00	-0.01	-0.27
Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	33.06	33.01	-0.02	-2.45

***Effect in combination with other plans or projects***

5.2.7 The effect of the Scheme is beneficial, for predicted changes in air quality as a result of vehicle emissions during construction, therefore could not contribute to a likely significant effect on the Rochdale Canal in combination with other plans or projects.

**Operation**

***Effect alone***

5.2.8 Changes in air quality as a result of vehicle emissions could occur during operation of the Scheme. The changes in traffic were predicted on the operation ARN in the area that the Rochdale Canal SAC is within 200m of the M62 and M60 junction 21. Table 5.2 and Table 5.3 provide a summary of the air quality model results for the predicted concentrations of NO<sub>x</sub>, NH<sub>3</sub> and nitrogen deposition as a result of vehicle emissions in the Opening year (2029) and provide a comparison with the CL and LCL provided by APIS for the SAC.

5.2.9 Tables 5.2 and 5.3 show that when the predicted changes are compared with the CL and LCL provided by APIS they exceed the 1% threshold and therefore, likely significant effects on the Rochdale Canal SAC cannot be discounted as a result of the Scheme alone.

**Table 5.2 Summary of the changes in air quality in the part of the SAC affected by operation ARN (M62)**

Pollutant	APIS CL/LCL	DM Max	DS Max	DS-DM Max	Max change % of CL/LCL
NO <sub>x</sub> µgm <sup>-3</sup>	30	64.31	64.84	0.53	1.8
NH <sub>3</sub> µgm <sup>-3</sup>	3	3.81	3.84	0.03	1.0
Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	32.97	33.15	0.18	9.1

**Table 5.3 Summary of the changes in air quality in the part of the SAC affected by operation ARN (M60)**

Pollutant	APIS CL/LCL	DM Max	DS Max	DS-DM Max	Max change % of CL/LCL
NO <sub>x</sub> µgm <sup>-3</sup>	30	108.33	108.80	0.471	1.67
NH <sub>3</sub> µgm <sup>-3</sup>	3	5.83	5.85	0.026	0.9
Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	44.25	44.41	0.154	7.7

### Effect in combination with other plans or projects

5.2.10 Where there is uncertainty of LSE for the Scheme alone (operational effects adjacent to the M62 and M60), it follows that the possibility of LSE is also uncertain in-combination with other plans and projects for Rochdale Canal SAC. The in-combination assessment is therefore completed as part of the assessment of effect on integrity of European sites in Section 6.1 of this report.

## 5.3 Summary of screening consultation

5.3.1 Natural England’s advice in their response to the Preliminary Environmental Information Report (PEIR) (Annex L of the Consultation Report Annexes (TR010064/APP/5.2)) that was prepared for the statutory consultation in 2023 was as follows:

*‘Further information is required to determine potential likely significant effects (LSEs) to Rochdale Canal Special Area of Conservation (SAC). Table 9.6 and Table 9.7 scope out LSE to Rochdale Canal SAC. However, this assumption has not been justified through the use of APIS or detailed modelling at the designated site as a potential ecological receptor site, taking into account its critical load. It has only stated the critical load. When an impact is identified during the screening stage of the HRA, this should progress to appropriate assessment, in which Natural England requires consultation.’*

## 5.4 Stage 1 screening conclusion

5.4.1 The European site identified (Rochdale Canal SAC) is approximately 5km east of the Order Limits. Therefore, considering the Zol (paragraphs 1.6.8 to 1.6.9) of the Scheme, impacts are deemed to be limited to changes in air quality as a result of vehicle emissions during construction and operation.

5.4.2 The screening assessment found:

- No likely significant effects, as a result of the changes in air quality from construction vehicle emissions on the M62, for the Rochdale Canal alone and in-combination with other plans and projects because there was a predicted improvement in air quality during construction.

- Likely significant effects could not be discounted, as a result of the changes in air quality from operational vehicle emissions on the M62 and M60, for the Rochdale Canal, when considered alone and in-combination with other plans and projects because the changes in NO<sub>x</sub>, NH<sub>3</sub> and nitrogen deposition were predicted to be greater than 1% of the APIS thresholds.

5.4.3 On the basis that the changes were greater than 1% of the APIS thresholds, an LSE could not be discounted and the HRA was progressed to Stage 2 appropriate assessment. This accords with the advice given by Natural England in their PEIR consultation response.

## 6 Stage 2 statement to inform an appropriate assessment

### 6.1 Assessment of effect on the integrity of the European site

6.1.1 The conservation objectives for the Rochdale Canal SAC are set out Table 4.2 and the attributes and targets in Table 4.3. The Site Improvement Plan (Natural England, 2014) lists atmospheric nitrogen as one of the two prioritised issues for the SAC and includes an action to develop and implement a Site Nitrogen Action Plan to control, reduce and ameliorate atmospheric nitrogen impacts. However, although the Site Improvement Plan states that the '*Nitrogen deposition exceeds site-relevant critical loads for the supporting habitat which is in unfavourable condition*', APIS (Centre for Ecology & Hydrology (CEH), 2019) does not appear to support a site relevant critical load for the qualifying species at this SAC. With regard to the nitrogen critical load APIS states that:

*'This critical load only applies if the interest feature is associated with softwater oligotrophic or dystrophic lakes at the site. If the feature is not depending on these lake types, there is no comparable critical load available. The critical load for EUNIS Habitat Code C1.1 (Permanent oligotrophic lakes, ponds and pools) and C1.4 (Permanent dystrophic lakes, ponds and pools) is 2-10 kg N ha<sup>-1</sup> yr<sup>-1</sup>. The lower end of the range is intended for boreal and alpine lakes, and the higher end of the range for Atlantic softwaters. Site specific advice should be sought from the conservation agencies as to which part of the range is relevant. Note that the critical load should only be applied to oligotrophic waters with low alkalinity with no significant agricultural or other human inputs.'*

6.1.2 With regard to the airborne pollutants NO<sub>x</sub> and NH<sub>3</sub> the habitat/pollutant impact page on APIS states that '*there are no studies that have looked at the effects of gaseous nitrogen oxides on freshwaters*', and there is no record within the database relating to ammonia effects on freshwater habitats.

6.1.3 Therefore, even though site relevant critical levels and loads have been assigned on the APIS website to the Rochdale Canal SAC they are considered to only be relevant to an oligotrophic water body. The citation for the underlying Rochdale Canal SSSI (Natural England, 2000) clearly describes the Rochdale Canal as having mesotrophic water quality and moderately nutrient rich and therefore the critical levels and loads applied are not considered to be relevant for this location.

6.1.4 Furthermore, the detailed literature review presented in the HRA of the Places for Everyone Joint Development Plan (Greater Manchester Combined Authority, 2022) found that *Lurionium natans* appears to have a wide tolerance of nutrient levels, which further supports the lack of relevance of the critical level and load given within APIS for this SAC.



- 6.1.5 The Applicant has also received specific feedback from Natural England supporting the stance that the APIS critical load is not appropriate for the Rochdale Canal given that it is a mesotrophic waterbody. Natural England identified that the specific caveat provided on the APIS website relating to the use of the critical load for nitrogen on the Rochdale Canal SAC applies i.e. the APIS webpage for standing open water and canals explains that a critical load cannot be given for nitrogen.
- 6.1.6 Therefore, considering the evidence to indicate that the qualifying species is tolerant of a wide range of nutrient conditions, and that the canal, as a mesotrophic water body, is not sensitive to changes in air quality, it is appropriate to conclude that the Scheme would have no effect on the site's Conservation Objectives and there would be no adverse effect on the integrity of the site as a result of the Scheme alone or in combination with other plans or projects.

## **6.2 Consultation on Stage 2 statement to inform an appropriate assessment conclusions**

- 6.2.1 Engagement with Natural England, including with regard to the HRA, has taken place throughout 2023 and early 2024 via statutory consultation and under a Discretionary Advice Service contract. The Applicant has had due regard to Natural England's feedback in preparation of this HRA. A final draft was shared with Natural England and on 14 March 2024 Natural England confirmed that they agree with the conclusions of the HRA and have no further comments.
- 6.2.2 Preparation of a Statement of Common Ground (SoCG) with Natural England, which will provide details of the consultations, engagement, feedback and agreements reached with Natural England regarding the Scheme, is ongoing. The SoCG will be submitted at the earliest opportunity.

## **6.3 Stage 2 statement to inform an appropriate assessment conclusion**

- 6.3.1 This HRA report has used the standard described within DMRB LA 115, which sets out the requirements for assessment and reporting of the implications from construction, operation and maintenance of highways and/or road projects on European sites. These assessments are compatible with and incorporate relevant guidance from Natural England and the Planning Inspectorate's Advice Notes.
- 6.3.2 The HRA Stage 2 Statement to Inform an Appropriate Assessment assesses the likely significant effects of the Scheme, in combination with other plans or projects, on the integrity of the Rochdale Canal SAC.
- The Applicant's Appropriate Assessment concludes, beyond reasonable scientific doubt, that the Scheme, either alone or in combination with other plans or projects, will not adversely affect the integrity of the Rochdale Canal SAC during operation because the SAC qualifying species has a wide tolerance of nutrient levels and the canal, as a mesotrophic waterbody, is not sensitive to changes in air quality.

## **7 Stage 3 Derogation**

- 7.1.1 The Applicant has concluded there would be no adverse effects on the integrity of any European site, and accordingly there is no requirement for consideration of derogation at Stage 3.



## Acronyms and initialisms

Acronym or initialism	Term
APIS	Air Pollution Information System
ARN	Affected Road Network
CJEU	Court of Justice of the European Union
CL	Critical Level
cSAC	Candidate Special Area of Conservation
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DM	Do-Minimum scenario
DMRB	Design Manual for Roads and Bridges
DN	Do Nothing scenario
DS	Do-Something scenario
EOMS	European Offshore Marine Sites
GMBAP	Greater Manchester Biodiversity Action Plan
GMEU	Greater Manchester Ecology Unit
GWDTE	Groundwater Dependent Terrestrial Ecosystem
ha	Hectare
HRA	Habitats Regulations Assessment
IRZ	Impact Risk Zone
JNCC	Joint Nature Conservation Committee
LCL	Lower Critical Load
MAGIC	Multi-Agency Government Information for the Countryside
MW	Megawatt
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
POP	Persistent organic pollutant
pSAC	Potential Special Area of Conservation
pSPA	Potential Special Protection Area
SAC	Special Area of Conservation

Acronym or initialism	Term
SEB	Statutory Environmental Body
SPA	Special Protection Area
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
VOC	Volatile organic compound
Zol	Zone of Influence

## References

- AMP Energy Service Ltd, 2021. *20/01585/FUL Whitbrook Power Air Quality Assessment*. [Online]  
Available at: [http://documents.rochdale.gov.uk/pav/planapp.aspx?MyQueryID=108&OBKey\\_705\\_1=20/01585/FUL](http://documents.rochdale.gov.uk/pav/planapp.aspx?MyQueryID=108&OBKey_705_1=20/01585/FUL)  
[Accessed Aug 2023].
- AMP Energy Services Ltd, 2019. *Urban Reserve Isabella Power Air Quality Assessment*. [Online]  
Available at: [https://planning.stockport.gov.uk/PlanningData-live/files/4AF8539B50F89C8DB4AFECC11269CC3F/pdf/DC\\_075143-AIR\\_QUALITY\\_ASSESSMENT-1106314.pdf](https://planning.stockport.gov.uk/PlanningData-live/files/4AF8539B50F89C8DB4AFECC11269CC3F/pdf/DC_075143-AIR_QUALITY_ASSESSMENT-1106314.pdf)  
[Accessed Dec 2023].
- AMP PLC, 2019. *Air Quality Assessment, Atmospheric Dispersion Modelling - Pilsworth Power (18/01320)*. [Online]  
Available at: <http://documents.rochdale.gov.uk/pav/PublicAccessProvider.ashx?action=ViewDocument&overlay=Print&overrideFormat=Native>  
[Accessed Aug 2023].
- APIS, 2016. *Acid deposition :: Standing Open Water and Canals*. [Online]  
Available at: <https://www.apis.ac.uk/acid-deposition-standing-open-water-and-canal>  
[Accessed 04 Aug 2023].
- APIS, 2023. *APIS map*. [Online]  
Available at: <https://www.apis.ac.uk/app>  
[Accessed December 2023].
- Centre for Ecology & Hydrology (CEH), 2019. *Air Pollution Information System Site Relevant Critical Loads and Source Attribution*. [Online]  
Available at: <http://www.apis.ac.uk/>  
[Accessed 19 Dec 2019].
- Convention on Wetlands Secretariat, n.d.. *The Ramsar Sites Information Service 2.0*. [Online]  
Available at: <https://rsis.ramsar.org/>  
[Accessed August 2023 ].

Court of Justice of the European Union (CJEU), 2018a. *C-323/17 - People Over Wind and Sweetman*. [Online]

Available at:

<https://curia.europa.eu/juris/document/document.jsf?text=&docid=200970&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=3944951>

[Accessed Aug 2023].

Court of Justice of the European Union (CJEU), 2018b. *C-461/17- Holohan and Others*.

[Online]

Available at:

<https://curia.europa.eu/juris/document/document.jsf?text=&docid=207428&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=3944951>

[Accessed Aug 2023].

Defra, e. a., 2023. *Habitats regulations assessments: protecting a European site*. [Online]

Available at: <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

[Accessed January 2024].

Dore, A. et al., 2009. *Modelling the Deposition and Concentration of Long Range Air Pollutants: Final Report*. [Online]

Available at: [https://uk-](https://uk-air.defra.gov.uk/assets/documents/reports/cat05/1003151141_FRAME_Final_report_2009_10_09b.pdf)

[air.defra.gov.uk/assets/documents/reports/cat05/1003151141\\_FRAME\\_Final\\_report\\_2009\\_10\\_09b.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat05/1003151141_FRAME_Final_report_2009_10_09b.pdf)

[Accessed 21 Jul 2020].

Environment Agency, 2020. *Guidance Risk assessments for your environmental permit*.

[Online]

Available at: <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

[Accessed 15 May 2020].

Greater Manchester Biodiversity Action Plan, 2003. *Habitat Action Plan for Canals*.

[Online]

Available at: [https://gmlrc.org/resources/downloads/gm\\_bap/canals\\_2003.pdf](https://gmlrc.org/resources/downloads/gm_bap/canals_2003.pdf)

[Accessed Aug 2023].

Greater Manchester Combined Authority, 2022. *Habitats Regulations Assessment of the Places for Everyone Joint Development Plan (Examination)*. [Online]

Available at: <https://www.hwa.uk.com/site/wp-content/uploads/2022/10/PfE-Revised-HRA-Nov-2022.pdf>

[Accessed 2 August 2023].

Highways England, 2019. *DMRB Vol. 11 Section 3 Part 1 LA105 Air Quality*. [Online]

Available at:

<http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/LA%20105%20Air%20quality-web.pdf>

[Accessed 05 Jan 2020].

Highways England, Transport Scotland, Welsh Government & Department for Infrastructure, 2020a. *Design Manual for Roads and Bridges LA 115 Habitats Regulations assessment*. [Online]

Available at:

<http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section4/LA%20115%20>

Habitats%20Regulations%20assessment%20-web.pdf  
[Accessed Mar 2020].

Highways England, Transport Scotland, Welsh Government & Department for Infrastructure, 2020b. *Design Manual for Roads and Bridges LA 113 Road drainage and the water environment*. [Online]

Available at:

<http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/LA%20113%20Road%20drainage%20and%20the%20water%20environment-web.pdf>

[Accessed 21 Apr 2020].

JNCC, 2015. *NATURA 2000 - STANDARD DATA FORM Rochdale Canal SAC*. [Online]

Available at: <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030266.pdf>

[Accessed 03 Aug 2023].

JNCC, 2019. *UK Protected Area Datasets for Download*. [Online]

Available at: <https://jncc.gov.uk/our-work/uk-protected-area-datasets-for-download/>

[Accessed 23 Oct 2019].

JNCC, n.d.. *Natura 2000 citations*. [Online]

Available at: <https://jncc.gov.uk/our-work/our-work-a-z/>

[Accessed Aug 2023].

JNCC, nd. *Species: 1831 Floating Water-plantain Luronium natans*. [Online]

Available at: <https://sac.jncc.gov.uk/species/S1831/>

[Accessed Aug 2023].

National Highways, 2023. *M60/M62/M66 Simister Island Interchange Preliminary Environmental Information Report. HE548642-JAC-EGN-SII\_MLT-RP-LE-0001. Revision number P05.*, s.l.: s.n.

Natural England, 2000. *Rochdale Canal SSSI citation*. [Online]

Available at:

<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000430.pdf>

[Accessed 27 Feb 2024].

Natural England, 2014. *Site Improvement Plan Rochdale Canal*. [Online]

Available at: <https://publications.naturalengland.org.uk/publication/6227629417955328>

[Accessed 03 Aug 2023].

Natural England, 2018. *European Site Conservation Objectives for Rochdale Canal Special Area of Conservation Site code: UK0030266*. [Online]

Available at: <https://publications.naturalengland.org.uk/publication/6015060228964352>

[Accessed 03 Aug 2023].

Natural England, 2018. *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001)*, s.l.: Natural England.

Natural England, 2019. *European Site Conservation Objectives: Supplementary advice on conserving and restoring site features Rochdale Canal Special Area of Conservation (SAC)*. [Online]

Available at: <https://publications.naturalengland.org.uk/publication/6015060228964352>

[Accessed 03 Aug 2023].

Natural England, n.d. *Natural England Designated Sites Viewer*. [Online]  
Available at: <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>  
[Accessed Aug 2021].

NPower Ltd, 2019. *Air Quality, Dispersion Modelling Assessment - Diodes Zetex, Chadderton*. [Online]  
Available at: [https://planningpa.oldham.gov.uk/online-applications/files/D06CFD048D70D8C27521E8CF0940BC2B/pdf/PA\\_344529\\_20-Air\\_Quality\\_Assessment84983680000.pdf-1696810.pdf](https://planningpa.oldham.gov.uk/online-applications/files/D06CFD048D70D8C27521E8CF0940BC2B/pdf/PA_344529_20-Air_Quality_Assessment84983680000.pdf-1696810.pdf)  
[Accessed Aug 2023].

Planning Inspectorate, 2019. *Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects Version 2*. [Online]  
Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>  
[Accessed Nov 2019].

Planning Inspectorate, 2019. *Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects Version 2*. [Online]  
Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/>  
[Accessed Nov 2019].

Planning Inspectorate, 2022. *Habitats Regulations Assessment: Advice Note Ten - Habitats Regulations Assessment for nationally significant infrastructure projects, version 9*. [Online]  
Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/>  
[Accessed August 2022].

Rochdale Power Ltd, 2022. *22/01360/FUL Gas-Powered Reserve Energy Facility, Land off Dig Gate Lane, Rochdale Air Quality Assessment*. [Online]  
Available at:  
[http://documents.rochdale.gov.uk/pav/planapp.aspx?MyQueryID=108&OBKey\\_705\\_1=22/01360/FUL](http://documents.rochdale.gov.uk/pav/planapp.aspx?MyQueryID=108&OBKey_705_1=22/01360/FUL)  
[Accessed Aug 2023].

Rowe, E. et al., 2020. *Trends Report 2020: Trends in critical load and critical level exceedances in the UK. Report to Defra under Contract AQ0843, CEH Project NEC05708*. [Online]  
Available at: [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2006181057\\_Trends\\_Report\\_2020.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2006181057_Trends_Report_2020.pdf)  
[Accessed 21 Jul 2020].

Viridor, 2020. *65850 PILSWORTH NORTH LANDFILL SITE – NATURAL GAS ENGINES Air Quality Assessment*. [Online]  
Available at: <http://pad-planning.bury.gov.uk/AniteIM.WebSearch/Document/ViewDocument?id=B4F71314E16311EA81139457A56A2E4D>  
[Accessed Aug 2023].

## Annex A DMRB screening matrix

**Table A.1 DMRB screening matrix**

<b>Project Name:</b>	M60/M62/M66 Simister Island Interchange	
<b>European sites under consideration:</b>	Rochdale Canal SAC	
<b>Date:</b>	<b>Author (Name/Organisation):</b>	<b>Verified (Name/Organisation):</b>
August 2023	Iona Pearson / Jacobs	Liz Allchin / Jacobs
<b>Description of Project:</b> <i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in-combination with other plans or projects) on the European site by virtue of:</i>		
Size and scale	Improvements to the Junction (J)18 interchange (also known as Simister Island) and also widening to five lanes of the M60 between J17 and J18.  The size and scale of the Scheme will lead to changes in traffic flows and emissions on the ARN, including the M62 and M60 which are within 200m of the SAC.	
Land-take	None within the SAC.	
Distance from the European site or key features of the site	The Rochdale Canal SAC is located approximately 5km east of the Scheme but within 200m of the ARN associated with construction and operation.	
Resource requirements	None required from the SAC.	
Emissions	The Scheme will impact levels of emissions from cars using the ARN which crosses the SAC.	
Excavation requirements	None required in the SAC.	
Transportation requirements	The Scheme will lead to changes in transportation (traffic flows) on the ARN and the SAC is within 200m of the ARN.	

Duration of construction, operation, etc.	Construction is currently scheduled to commence between Q4 2025 and Q1 2026. The Scheme could take approximately three years to construct with an assumed Opening year of 2029. There is no decommissioning proposed.
Other	n/a

**Description of Avoidance and/or Mitigation Measures:**

*Describe any assumed (plainly established and uncontroversial) mitigation measures.*

No specific mitigation measures intended to address potential effects on this European site are taken into account in this assessment, in line with case law.

**Characteristics of European Site(s):**

*A brief description of the European site should be produced, including information on:*

Name of European site and EU Code	Rochdale Canal SAC UK0030266
Location and distance of the European site from the works	6.4 km east of the Scheme. The ARN crosses the SAC on the M62 and M60.
European site size	26.11ha.



<p>Key features of the European site including the primary reasons for selection and any other qualifying interests</p>	<p>Annex II species that are a primary reason for selection of this site:          1831 Floating water-plantain <i>Luronium natans</i></p> <p>Rochdale Canal supports a significant population of floating water-plantain <i>Luronium natans</i> in a botanically diverse waterplant community which also holds a wide range of pondweeds <i>Potamogeton spp.</i> The canal has predominantly mesotrophic water. This population of <i>Luronium</i> is representative of the formerly more widespread canal populations of north-west England.</p>
<p>Vulnerability of the European site</p>	<p>The following vulnerabilities are listed on the JNCC standard data form:</p> <ul style="list-style-type: none"> <li>• H04 Air pollution, air-borne pollutants</li> <li>• J02 Human induced changes in hydraulic conditions</li> </ul>
<p>SAC conservation objectives</p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of qualifying species</li> <li>• The structure and function of the habitats of qualifying species</li> <li>• The supporting processes on which the habitats of qualifying species rely</li> <li>• The populations of the qualifying species, and,</li> <li>• The distribution of the qualifying species within the site.</li> </ul> <p>Natural England also provides supplementary advice on conservation objectives for this site (Natural England, 2019)</p>
<p><b>Assessment criteria</b></p> <p><b>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Site</b></p>	
<p>The Scheme could negatively affect the European site through changes in air quality during construction and operation. The European site is within 200m of the Scheme construction and operation ARN. An assessment of the effect of changes in air quality has been completed.</p>	
<p><b>Initial Assessment</b></p>	



*Describe any likely changes to the site arising as a result of:*

Reduction of habitat area

The changes in air quality relevant to this assessment are in nitrogen oxide (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) within 200m of the construction and operation ARN. Increases in the deposition of nitrogen (NO<sub>x</sub> and NH<sub>3</sub>) has the potential to change habitat composition depending on the sensitivity of the habitat type. These changes could affect the features for which the European site is designated.

**Table 1: Summary of the changes air quality in the part of the Rochdale Canal SAC affected by construction ARN (M62)**

Pollutant	APIS CL/LCL	DM Max	DS Max	DS-DM Max	Max change % of CL/LCL
NO <sub>x</sub> µgm <sup>-3</sup>	30	29.55	29.50	-0.05	-0.17%
NH <sub>3</sub> µgm <sup>-3</sup>	3	2.01	2.00	-0.01	-0.27%
Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	33.06	33.01	-0.05	-2.45%

The predicted changes during construction are beneficial so no effect on the SAC is predicted to occur.

**Table 2: Summary of the changes in air quality in the part of the SAC affected by operation ARN (M62)**

Pollutant	APIS CL/LCL	DM Max	DS Max	DS-DM Max	Max change % of CL/LCL
NO <sub>x</sub> µgm <sup>-3</sup>	30	64.31	64.84	0.53	1.8%
NH <sub>3</sub> µgm <sup>-3</sup>	3	3.81	3.84	0.03	1.0%
Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	32.97	33.15	0.18	9.1%

**Table 3: Summary of the changes in air quality in the part of the SAC affected by operation ARN (M60)**

	<b>Pollutant</b>	<b>APIS CL/LCL</b>	<b>DM Max</b>	<b>DS Max</b>	<b>DS-DM Max</b>	<b>Max change % of CL/LCL</b>
	NO <sub>x</sub> µgm <sup>-3</sup>	30	108.33	108.80	0.471	1.6%
	NH <sub>3</sub> µgm <sup>-3</sup>	3	5.83	5.85	0.026	0.9%
	Nitrogen deposition kg N ha <sup>-1</sup> yr <sup>-1</sup>	2	44.25	44.41	0.154	7.7%
	The predicted changes shown in Table 2 and 3 include exceedances of the 1% threshold, of the CL/LCL given by APIS, therefore likely significant effects for this part of the SAC cannot be discounted as a result of the Scheme alone.					
Disturbance to key species	No effects have been identified for this European site.					
Habitat or species fragmentation	No effects have been identified for this European site.					
Reduction in species density	No effects have been identified for this European site.					
Changes in key indicators of conservation value	No effects have been identified for this European site.					
Climate change	No effects relating to climate change have been identified for this European site.					
<b>Describe any likely impacts on the European site as a whole in terms of:</b>						
Interference with the key relationships that define the	No effects on the structure of the European site.					

structure of the site	
Interference with the key relationships that define the function of the site	There would be no direct effects on the function of the European site. The effects identified that could affect the function of the European site are indirect as a result of the Scheme changes in traffic on the operational ARN which in turn changes the air quality (specifically airborne NO <sub>x</sub> and NH <sub>3</sub> , and nitrogen deposition) within 200m of the operational ARN. The key potential LSE is as a result of loss of qualifying species.
<b>Indicate the significance as a result of the identification of impacts set out above in terms of:</b>	
Reduction of habitat area	The changes in nitrogen deposition predicted within the European site exceeded 1% of the LCL for part of the area within 200m of the operational ARN therefore LSE cannot be discounted.
Disturbance to key species	No effects have been identified for this European site.
Habitat or species fragmentation	No effects have been identified for this European site.
Loss	No effects have been identified for this European site.
Fragmentation	No effects have been identified for this European site.
Disruption	No effects have been identified for this European site.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	No effects have been identified for this European site.
<b>Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</b>	

<p>The Scheme would result in changes in air quality from vehicle emission during operation which exceed the 1% LCL threshold. The area affected includes qualifying species for this European site and LSE cannot be discounted.</p>	
<p>Outcome of screening stage (delete as appropriate).</p>	<p><del>Significant Effects are Likely/</del>          Sufficient Uncertainty Remains/  <del>Not Likely to be Significant Effects.</del></p>
<p>Are the appropriate statutory environmental bodies in agreement with this conclusion.</p>	<p>Natural England's advice in their response to the PEIR (Annex L of the Consultation Report Annexes (TR010064/APP/5.2)) that was prepared for the statutory consultation in 2023 was as follows:</p> <p><i>'Further information is required to determine potential likely significant effects (LSEs) to Rochdale Canal Special Area of Conservation (SAC). Table 9.6 and Table 9.7 scope out LSE to Rochdale Canal SAC. However, this assumption has not been justified through the use of APIS or detailed modelling at the designated site as a potential ecological receptor site, taking into account its critical load. It has only stated the critical load. When an impact is identified during the screening stage of the HRA, this should progress to appropriate assessment, in which Natural England requires consultation.'</i></p>

## Annex B Planning Inspectorate Advice Note 10 Summary Table

B.1.1 The European site included within the assessment is the Rochdale Canal SAC.

B.1.2 Potential effects upon European sites, which are considered within the submitted HRA report are provided in Table B.1.

**Table B.1 Effects considered within the assessment**

Designation	Effects described in submission information and summary table
Rochdale Canal SAC	Reduction /degradation of the qualifying species: <ul style="list-style-type: none"> <li>• Changes in air quality – airborne pollutants (NO<sub>x</sub> and NH<sub>3</sub>) - vehicle emissions – construction and operation</li> <li>• Change in air quality - nutrient nitrogen (NO<sub>x</sub> and NH<sub>3</sub>) - vehicle emissions – construction and operation</li> <li>• Change in air quality - acid nitrogen (NO<sub>x</sub> and NH<sub>3</sub>) - vehicle emissions – construction and operation</li> </ul>

B.1.3 Table B.2 is a summary table for the effect of the Scheme alone, illustrating all of the European sites and effect pathways considered in the assessment. Evidence supporting the conclusions of effects on the European site and its qualifying feature is referenced within the table.

B.1.4 Table B.3 is a summary table for the effect of the Scheme in-combination with other plans and projects, illustrating all of the European sites and effect pathways considered in the assessment. Evidence supporting the conclusions of effects on the European site and its qualifying feature is referenced within the table.

B.1.5 The following key supports the text in Table B.2 and Table B.3:

- N/A - Where effects are not relevant to a particular feature or no feasible pathways to an effect were found
- N/R - HRA stage not required
- LSE - Likely significant effect cannot be excluded
- No LSE - Likely significant effect can be excluded

- AEOI - Adverse effect on integrity cannot be excluded
- No AEOI - Adverse effect on integrity can be excluded
- Chapter XX, paragraph XX, Table X - Reference to the relevant chapter, paragraph, table in the HRA report where the supporting evidence is provided
- C - Construction
- O - Operation
- D - Demolition

**Table B.2 Planning Inspectorate Advice Note 10 Summary Table for the effects of the Scheme alone**

European site	Rochdale Canal SAC								
Qualifying features	1831 Floating water-plantain <i>Luronium natans</i>								
Effect Pathway	Change in air quality – airborne pollutants (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation			Change in air quality – nutrient nitrogen (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation			Change in air quality – acid nitrogen (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation		
Development Phase → HRA stage ↓	C	O	D	C	O	D	C	O	D
Stage 1 Screening	No LSE Section 5.2	LSE Section 5.2	N/A	No LSE Section 5.2	LSE Section 5.2	N/A	No LSE Section 5.2	No LSE Section 5.2	N/A

<b>European site</b>	<b>Rochdale Canal SAC</b>								
<b>Qualifying features</b>	<b>1831 Floating water-plantain <i>Luronium natans</i></b>								
<b>Effect Pathway</b>	<b>Change in air quality – airborne pollutants (NO<sub>x</sub> and NH<sub>3</sub>) vehicle emissions construction and operation</b>			<b>Change in air quality – nutrient nitrogen (NO<sub>x</sub> and NH<sub>3</sub>) vehicle emissions construction and operation</b>			<b>Change in air quality – acid nitrogen (NO<sub>x</sub> and NH<sub>3</sub>) vehicle emissions construction and operation</b>		
<b>Development Phase → HRA stage ↓</b>	<b>C</b>	<b>O</b>	<b>D</b>	<b>C</b>	<b>O</b>	<b>D</b>	<b>C</b>	<b>O</b>	<b>D</b>
Stage 2 Appropriate Assessment	N/R	No AEOI Section 6.1	N/A	N/R	No AEOI Section 6.1	N/A	N/R	N/R	N/R
Stage 3 Derogations	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R



**Table B.3 Planning Inspectorate Advice Note 10 Summary Table for the effects of the Scheme in-combination with other plans and projects**

European site	Rochdale Canal SAC								
Qualifying features	1831 Floating water-plantain <i>Luronium natans</i>								
Effect Pathway	Change in air quality – airborne pollutants (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation			Change in air quality – nutrient nitrogen (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation			Change in air quality – acid nitrogen (NO <sub>x</sub> and NH <sub>3</sub> ) vehicle emissions construction and operation		
Development Phase → HRA stage ↓	C	O	D	C	O	D	C	O	D
Stage 1 Screening	No LSE Section 5.2	LSE Section 5.2	N/A	No LSE Section 5.2	LSE Section 5.2	N/A	No LSE Section 5.2	No LSE Section 5.2	N/A
Stage 2 Appropriate Assessment	N/R	No AEOI Section 6.1	N/A	N/R	No AEOI Section 6.1	N/A	N/R	N/R	N/R
Stage 3 Derogations	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

## Annex C Greater Manchester Ecology Unit Desk Study Records

**Table C.1 Extract of relevant desk study records from the Greater Manchester Ecology Unit for the Rochdale Canal**

ARN Location	Grid Reference	Site	Date	Abundance	Comment
M62	SD88270991	Rochdale Canal SBI - Scowcroft Farm to Warland	01/06/2011	Present	
M62	SD883099	Rochdale Canal Scowcroft Farm - Warland SBI	13/08/2015	Present	SD883099 Castleton. RFNS / Canal & River Trust survey
M60	SD892033	Rochdale Canal	01/09/2013	Present	Between SD89630189 & SD88910483

## Annex D Figures

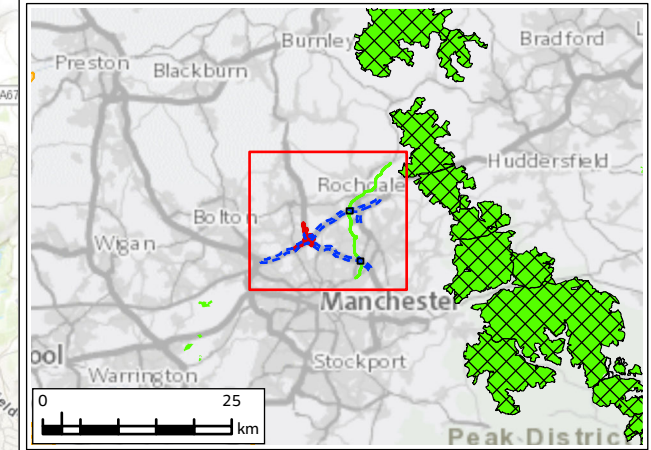
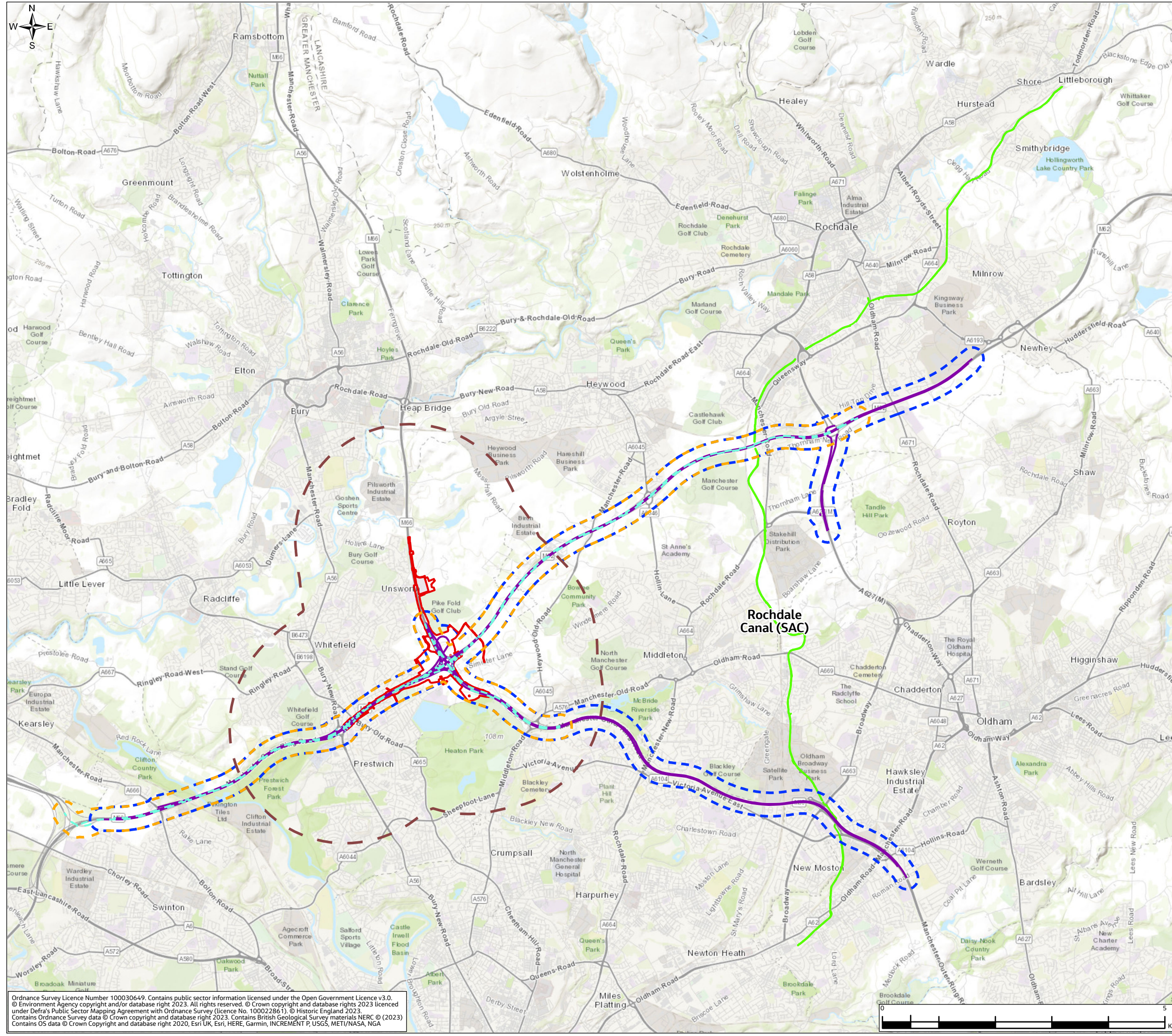
Figure 8.13.1: Location of European Sites in Relation to the Scheme



# ENVIRONMENTAL STATEMENT APPENDIX 8.13 FIGURE 8.13.1

## Legend

- Order Limits
- Order Limits Buffer - 2km
- Operational Affected Road Network (ARN)
- Construction 2028 Affected Road Network (ARN)
- Air Quality Operational Study Area (200m)
- Air Quality Construction Study Area (200m)
- Special Areas of Conservation (SAC)
- Special Protection Area (SPA)
- Ramsar



P01	JAN 24	For DCO application	LT	MS	JR	BB
Rev.	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
Development Consent Order Number: TR010064			Development Consent Order Drawing Number: 6.3			

Client

Project  
**REGIONAL DELIVERY PARTNERSHIP  
M60/M62/M66 SIMISTER ISLAND INTERCHANGE**

Drawing Title  
**LOCATION OF EUROPEAN SITES IN RELATION TO  
THE SCHEME**

Drawing Status	S4 – SUITABLE FOR STAGED APPROVAL		
Scale @ A3	1:65,000	DO NOT SCALE	
Jacobs No.	B36601F0	Rev	P01
Client No.	HE548642		
Drawing Number	HE548642-JAC-LDC-SII_MLT-SK-LE-0071		

Ordnance Survey Licence Number 100030649. Contains public sector information licensed under the Open Government Licence v3.0. © Environment Agency copyright and/or database right 2023. All rights reserved. © Crown copyright and database rights 2023 licensed under Defra's Public Sector Mapping Agreement with Ordnance Survey (licence No. 100022861). © Historic England 2023. Contains Ordnance Survey data © Crown copyright and database right 2023. Contains British Geological Survey materials NERC © (2023) Contains OS data © Crown Copyright and database right 2020, Esri UK, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA

© Copyright 2023 Jacobs UK Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright. This drawing has been prepared on behalf of, and for the exclusive use of Jacobs' Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, in respect of, any use of, or reliance upon, this drawing by any third party.