

3. Overview of Assessment Process

3.1 Introduction

- 3.1.1 This chapter outlines the general approach followed for the Environmental Impact Assessment (EIA) of the proposed scheme in accordance with legislation, the Design Manual for Roads and Bridges (DMRB) and relevant guidance. More detailed methodologies are provided in the respective topic chapters (Chapters 8 to 21).
- 3.1.2 The overarching aims of the EIA are to:
- gather baseline information about the environment of a given study area for each environmental discipline and identify environmental constraints and opportunities associated with these areas which may influence, or be affected by the proposed scheme;
 - identify and assess the likely significant environmental impacts and effects resulting from the construction and/or operation of the proposed scheme; and
 - where appropriate, identify measures to avoid, reduce or offset significant adverse effects, or in some cases enhance positive effects.
- 3.1.3 This chapter is supported by the following appendices which are referenced where appropriate:
- Appendix A1.1 (Record of Determination (RoD) and Notice of Determination); and
 - Appendix A3.1 (Assessment of Policy Compliance).

3.2 Environmental Assessment

Strategic Environmental Assessment

- 3.2.1 As explained in Chapter 2 (Need for the Scheme), a [Strategic Environmental Assessment \(SEA\)](#) was undertaken of the A9 Dualling programme from Perth to Inverness (Transport Scotland, 2013a). The findings of the SEA have informed the EIA process for the proposed scheme, and this is discussed further in Chapter 2 (Need for the Scheme).

Trunk Road EIA

- 3.2.2 The term ‘trunk road’ in Scotland refers to the strategic system of major roads and associated structures (including bridges) for which the Scottish Ministers have responsibility. The proposed scheme would form part of the trunk road network.
- 3.2.3 The requirement for EIA stems from the European Commission Directive [85/337/EEC](#) (European Parliament, 1985), as amended by Directive [97/11/EC](#) (European Parliament,

1997), regarding the assessment of the environmental effects of certain public and private projects (hereafter referred to as the EIA Directive) and Directive [2003/35/EC](#) (European Parliament, 2003) regarding public participation. The EIA Directive has been updated and [EU Directive \(2014/52/EU\)](#) was adopted on 15 May 2014 (European Parliament, 2014), which was transposed into UK legislation on 16 May 2017.

- 3.2.4 In Scotland there are several EIA regulations that implement the requirements of the EIA Directive (2014/52/EU). Those relevant in relation to the construction of trunk roads are [The Roads \(Scotland\) Act 1984](#) (Scottish Government, 1984) as amended by the [Roads \(Scotland\) Act 1984 \(Environmental Impact Assessment\) Regulations 2017](#) (Scottish Government, 2017; hereafter referred to as the Roads EIA Regulations).

Design Manual for Roads and Bridges

- 3.2.5 [The Design Manual for Roads and Bridges \(DMRB\)](#) sets out governmental guidance on the development of trunk road schemes, including motorways, and is applicable to the proposed scheme (National Highways et al., 2025). The DMRB was introduced in 1992 and has undergone several updates since its introduction, including significant updates in 2019-2021. The DMRB provides guidance on EIA, including the level of assessment at key stages of development and reporting of environmental impacts and effects.
- 3.2.6 The published DMRB guidance documents informing the EIA and supporting the preparation of this Environmental Impact Assessment Report (EIAR) are listed in Table 3.1.

Table 3.1: DMRB Environmental Guidance Standards (National Highways et al., 2025)

DMRB Document Reference	Title
GG 101	Introduction to the Design Manual for Roads and Bridges
GG 103	Introduction and general requirements for sustainable development and design
GG 142	Walking, cycling and horse-riding assessment and review
LA 101	Introduction to environmental assessment
LA 102	Screening projects for Environmental Impact Assessment
LA 103	Scoping projects for environmental assessment
LA104	Environmental assessment and monitoring
LA 105	Air quality
LA 106	Cultural heritage assessment
LA 107	Landscape and visual effects
LA 108	Biodiversity
LA 109	Geology and Soils
LA 110	Material assets and waste

DMRB Document Reference	Title
LA 111	Noise and vibration
LA 112	Population and human health
LA 113	Road drainage and the water environment
LA 114	Climate
LA 115	Habitats Regulations assessment
LA 116	Cultural heritage asset management plans
LA 120	Environmental management plans
LD 117	Landscape design
LD 118	Biodiversity design
LD 119	Roadside environmental mitigation and enhancement

- 3.2.7 Further guidance is provided in [Transport Scotland's Environmental Impact Assessment Guidance Note](#) (Transport Scotland, 2022), which provides advice on the key statutory requirements for the EIA of road projects.
- 3.2.8 The assessments in this EIAR have also taken into account relevant guidance in respect of particular environmental topics/factors, published by a range of other public and professional organisations. Any modifications to the standard approach to the assessment are highlighted within the topic chapters of this EIAR and have been subject to discussion and agreement with Transport Scotland, the relevant Overseeing Organisation.
- 3.2.9 The development of a road scheme is as set out in [DMRB TD37/93 'Scheme Assessment Reporting'](#) (Highways Agency *et al*, 1993a), which considers three levels of assessment, comprising Stage 1, Stage 2 and Stage 3. The objectives of each stage are identified in Table 3.2.

Table 3.2: DMRB Stages of EIA

Stage	Objectives
Stage 1	Identify the environmental, engineering, economic and traffic advantages, disadvantages and constraints associated with broadly defined improvement strategies.
Stage 2	Identify the factors to be taken into account in choosing alternative routes or improvement schemes and to identify the environmental, economic and traffic advantages, disadvantages and constraints associated with those routes or schemes.
Stage 3	Identify clearly the advantages and disadvantages, in environmental, engineering, economic and traffic terms, of the Overseeing Department's preferred route or scheme option. A particular requirement at this stage is an assessment of the significant

Stage	Objectives
	environmental effects of the project, in accordance with the requirements of Section 20C and 55A of the Roads (Scotland) Act 1984 (Scottish Government, 1984), implementing EC Directive 85/337 (European Parliament, 1985).

- 3.2.10 It should be noted that DMRB TD37 has been withdrawn from the suite of DMRB standards, however, it remains applicable to trunk road projects in Scotland. DMRB guidance updates no longer refer specifically to the assessment stages as listed above in Table 3.2. However, while following DMRB guidance, for the purposes of consistency and clarity, this EIAR refers to DMRB Stage 3 assessment and DMRB Stage 2 where appropriate.

Overview of Screening and Scoping Process

- 3.2.11 Screening and scoping assessments were undertaken as part of the DMRB assessment as reported in this EIAR, following relevant DMRB guidance and taking into account requirements of the Roads EIA Regulations.
- 3.2.12 The screening exercise was undertaken taking account of the provisions of the Roads EIA Regulations and confirmed and recorded the requirement for an EIA for the proposed scheme. The Record of Determination (RoD), which formally records the screening process, is provided in Appendix A1.1 (Record of Determination). The RoD was also published in accordance with the requirements in the Roads EIA Regulations.
- 3.2.13 The scoping assessment approach is set out in the DMRB Stage 3 EIA Scoping Report (Jacobs, 2024) and reflects best practice guidance for environmental assessment for new trunk road projects, provided in DMRB '[Sustainability and Environment](#)', which has been subject to significant updates from August 2019. The DMRB guidance that relates to the scoping of EIAs, DMRB LA 103 'Scoping projects for environmental assessment' (hereafter referred to as DMRB LA 103), refers specifically to the scoping of projects for environmental assessment. The Scottish National Application Annex to DMRB LA 103 references that Scoping of Transport Scotland projects shall be carried out in line with the requirements of the [Transport Scotland Guidance on Environmental Assessment Requirements for Trunk Roads EIA](#) (Transport Scotland, 2022).
- 3.2.14 The DMRB Stage 3 EIA Scoping Report (Jacobs, 2024) was issued to statutory consultees in April 2024, with the main objectives to:
- identify and confirm the proposed scope of the EIA (based on consideration of the likely significance of effects);
 - review existing information and reports;
 - identify environmental constraints relevant to both the construction and operation of the proposed scheme;
 - identify where additional environmental surveys and data gathering were required; and
 - determine the approach and method for the environmental assessment in relation to identifying significant effects.

- 3.2.15 The DMRB Stage 3 EIA Scoping Report (Jacobs, 2024) was also used to request feedback from statutory consultees on the proposed scheme and the approach to the EIA assessment. Their comments were taken into consideration and incorporated into the design and assessment process where appropriate. While this chapter gives an overview of the scoping process undertaken, Chapter 7 (Consultation and Scoping) provides further detail on how the scoping process for the A9 Dualling and the proposed scheme developed; how the scope of assessment was informed by the consultation process for the proposed scheme; and how comments on the EIA Scoping Report (Jacobs, 2024) have been taken into account in the EIA. Specific reference is made to Appendix A7.1 (Summary of Scoping and Consultation Responses) which includes a summary of the scoping responses received and how they have been addressed in this EIAR.

Scope of Environmental Assessment

- 3.2.16 In accordance with the DMRB, the environmental assessment has been undertaken in terms of the environmental parameters presented in Table 3.3 and reported in Chapters 8 to 21.
- 3.2.17 Regarding the structure of the assessment, as noted in Table 3.3, DMRB LA 104 'Environmental assessment and monitoring' (National Highways et al, 2025) was first issued in July 2019 and provides guidance on the approach to environmental assessment in line with the requirements of the updated EIA Directive. DMRB LA 104 sets out the requirements for environmental assessment for projects, including reporting and monitoring of significant adverse effects. It is therefore relevant to all environmental parameters presented in Table 3.3 and reported in Chapters 8 to 21.
- 3.2.18 Details of the scope of assessment are provided within each EIAR chapter (Chapter 8 to Chapter 20).
- 3.2.19 Consistent with DMRB LA 104, a review of the proposed scheme's compliance with national and local planning policy has been undertaken and is provided in Appendix A3.1 (Assessment of Policy Compliance). A summary of the proposed scheme's compliance with national and local planning policy in relation to each environmental discipline is also included in the respective topic chapters (Chapter 8 to Chapter 20). The compliance assessment provides legislative context which informs the scope of the EIA and the required mitigation for the proposed scheme design.

Study Area

- 3.2.20 The study area required or recommended by DMRB and best practice guidance varies depending on the environmental parameter, and it is set out in each topic chapter (Chapter 8 to Chapter 20) according to topic guidance, the geographic scope of potential impacts or the geographic scope of the information required to assess those impacts and the associated likely significant effects.

Consultation

- 3.2.21 Statutory, non-statutory and public consultation is a requirement of the Roads EIA Regulations. Consultation for the proposed scheme has been undertaken in line with

Transport Scotland's [Environmental Impact Assessment Guidance](#) (Transport Scotland, 2022), Transport Scotland's guide: '[A9 Dualling Programme Engaging with Communities](#)' (Transport Scotland 2016), and guidance provided in Revision 1 of [Planning Advice Note \(PAN\) 1/2013: Environmental Impact Assessment](#) (Scottish Government, 2017a). Chapter 7 (Consultation and Scoping) describes the consultation process.

Table 3.3: Environmental parameters assessed in Chapters 8 to 21

EIAR Chapter	Environmental Parameter/Title	Main Relevant DMRB and Best Practice Guidance
8	Air Quality	Inclusion of this topic takes cognisance of DMRB LA 105. In addition to the DMRB the assessment takes cognisance of the Institute of Air Quality Management (IAQM) Guidance ' Addressing Human Health in Environmental Impact Assessment (Consultation Draft) ' (IAIA, 2019).
9	Cultural Heritage	Inclusion of this topic takes cognisance of DMRB LA 106.
10	Landscape	Inclusion of this topic takes cognisance of DMRB LA 107, LD 117 and LD 119. In addition to the DMRB the assessment takes cognisance of the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3) (Landscape Institute, 2013) and the Arboricultural Assessment takes cognisance of BS5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012).
11	Visual	Inclusion of this topic takes cognisance of DMRB LA 107, LD 117 and LD 119. In addition to the DMRB the assessment takes cognisance of the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3) (Landscape Institute, 2013) and the View from the Road assessment is cognisant of DMRB Volume 11, Section 3, Part 9: Vehicle Travellers (Highways Agency et. al., 1993b).
12	Biodiversity	Inclusion of this topic takes cognisance of DMRB LA 108 and LD 118. In addition to DMRB the assessment takes cognisance of CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018).
13	Geology and Soils	Inclusion of this topic takes cognisance of DMRB LA 109 and LA 113. In addition to the DMRB the assessment is cognisant of the Water Framework Directive, aligns with the UKTAG guidance and Land contamination: risk management (LRCM) (Environment Agency 2023).
14	Material Assets and Waste	Inclusion of this topic takes cognisance of DMRB LA 110. In addition to the DMRB the assessment is cognisant of relevant SEPA guidance (SEPA 2024) and Pollution Prevention Guidelines (PPGs) (Netregs 2012).

EIAR Chapter	Environmental Parameter/Title	Main Relevant DMRB and Best Practice Guidance
15	Noise and Vibration	Inclusion of this topic takes cognisance of DMRB LA 111. In addition to the DMRB the assessment is cognisant of Planning Advice Note (PAN) 1/2011 – Planning and Noise (The Scottish Government, 2011a); and Technical Advice Note (TAN) – Assessment of Noise (The Scottish Government, 2011b).
16	Population – Land Use	Inclusion of this topic takes cognisance of DMRB LA 112. In addition to the DMRB the assessment takes account of development plan policies as provided in the fourth National Planning Framework (NPF4) (The Scottish Government, 2023) and Perth & Kinross Local Development Plan 2 (PKC LDP2) (Perth & Kinross Council 2019a).
17	Population – Accessibility	Inclusion of this topic takes cognisance of DMRB LA 112. In addition to the DMRB assessment the assessment takes cognisance of the requirements set out in the Equality Act 2010 (UK Government, 2010) and Transport Scotland’s ‘Roads for All: Good Practice Guide for Roads’ (Transport Scotland, 2013b).
18	Human Health	Inclusion of this topic takes cognisance of DMRB LA 112. In addition to the DMRB assessment the assessment uses the Institute of Environmental Management and Assessment (IEMA) Guide to Determining Significance for Human Health in Environmental Impact Assessment (Pyper et al., 2022a) in the assessment of likely significant effects and considers the health determinants outlined in the IEMA Guide to Effective Scoping of Human Health in EIA (Pyper et al., 2022b).
19	Road Drainage and the Water Environment	Inclusion of this topic takes cognisance of DMRB LA 113, DMRB CD 529 ‘Design of outfall and culvert details’ (National Highways et al., 2021) and DMRB CG 501 ‘Design of highway drainage systems’ (National Highways et al., 2022). In addition to the DMRB the assessment is cognisant of The SuDS Manual (C753) (CIRIA, 2015); Supplementary Guidance: Flood Risk and Flood Risk Assessment (Perth and Kinross Council, 2019b); Climate change allowances for flood risk assessment in land use planning (LUPS-CC1) (SEPA, 2019a); and Technical Flood Risk Guidance for Stakeholders: SEPA requirements for undertaking a Flood Risk Assessment (SS-NFR-P-002) (SEPA, 2019b).
20	Climate	Inclusion of this topic takes cognisance of DMRB LA 114. In addition to the DMRB assessment the assessment is cognisant of A Scottish National Adaptation Plan (2024 – 2029) (Scottish Government, 2024) and Transport Scotland’s Approach to Climate Change Adaptation & Resilience (Transport Scotland, 2023).
21	Cumulative Effects	Inclusion of this topic takes cognisance of paragraphs 3.19 to 3.22 of DMRB LA 104.

3.3 Environmental Reporting

Chapter Structure

- 3.3.1 Chapters 1 to 7 are the introductory chapters of this EIAR and provide general context, including describing the need for the proposed scheme, the alternative options considered as part of the assessment, details of the proposed scheme, the design development to date and the consultation and scoping that have shaped the contents of the assessments reported in this EIAR. The introductory chapters and their titles are listed as follows:
- Chapter 1: Introduction
 - Chapter 2: Need for the Scheme
 - Chapter 3: Overview of Assessment Process
 - Chapter 4: Alternatives Considered
 - Chapter 5: Iterative Design Development
 - Chapter 6: The Proposed Scheme
 - Chapter 7: Consultation and Scoping
- 3.3.2 Chapters 8 to 21, as listed in Table 3.3, provide the following:
- an introduction to the environmental parameter;
 - approach and methods used in the assessment, including uncertainties, assumptions and limitations to the assessment;
 - baseline conditions (i.e. the 'existing' situation and the anticipated future situation in the absence of the proposed scheme);
 - potential beneficial and adverse impacts and effects of the proposed scheme and an assessment of their significance;
 - identification of mitigation measures for the proposed scheme;
 - residual effects of the proposed scheme (taking account of proposed mitigation), including any measures required to monitor any residual significant effects;
 - compliance against plans and policies;
 - statement of significance; and
 - references.
- 3.3.3 Chapter 21 (Assessment of Cumulative Effects) assesses the cumulative effects of the proposed scheme. Chapter 22 (Schedule of Environmental Commitments) presents the environmental commitments that have been agreed as part of the assessment and Chapter 23 (Summary of Significant Residual Effects) summarises the significant residual environmental effects of the proposed scheme, both of which are presented in tabular format.

General Approach

Baseline Conditions

- 3.3.4 This EIAR considers the likely impacts and effects of the proposed scheme on each environmental parameter in comparison to baseline conditions, which were determined through field survey, desk-based review and consultation with relevant stakeholders.
- 3.3.5 Baseline conditions describe the environmental conditions at the site (and in the wider area as pertinent to the particular environmental parameter) in the absence of the proposed scheme (i.e. the 'Do-Minimum' scenario).
- 3.3.6 Where appropriate, each topic chapter considers the "future baseline", which refers to the environmental baseline that may be anticipated, accounting for current pressures or trends, without the proposed scheme.
- 3.3.7 For assessments of potential impacts and effects based on traffic data (such as drainage, water quality, air quality, noise and vibration), the assessment takes into account predicted changes in traffic flows in future years for the proposed scheme, and also considers the likely additional traffic generation as a result of the full A9 from Perth to Inverness being upgraded to dual carriageway as part of the wider A9 Dualling programme. Traffic volumes for the Do-Minimum scenario and the proposed scheme were derived from the traffic model as explained in Section 6.3 of Chapter 6 (The Proposed Scheme).

Potential Impacts and Effects

- 3.3.8 The general approach to assessment is based on the determination of the significance of an effect from a combination of the sensitivity or importance of the baseline conditions (i.e. the current site and its environs, including the sensitivity of receptors) and the magnitude of potential temporary and permanent impacts. This process is described in the respective environmental chapters and, where alternative approaches were considered more appropriate, these are described and justified, such as consideration of ecological impacts taking account of '[Guidelines for Ecological Impact Assessment](#)' (EcIA; CIEEM, 2018) guidance in Chapter 12 (Biodiversity).
- 3.3.9 The nature of the impacts and effects can vary and can arise during construction and/or operation of the proposed scheme, be directly or indirectly related to the proposed scheme, be temporary or permanent, and be adverse or beneficial. The potential for cumulative effects has also been considered, both in terms of the combined impacts and effects of different environmental factors on an environmental receptor/resource and in terms of the combined impacts and effects of different projects/developments on an environmental receptor/resource.
- 3.3.10 Typical sensitivity criteria from DMRB LA 104 are:
- Very high: Very high importance and rarity, international scale and very limited potential for substitution.
 - High: High importance and rarity, national scale, and limited potential for substitution.

- Medium: Medium or high importance and rarity, regional scale, limited potential for substitution.
- Low: Low or medium importance and rarity, local scale.
- Negligible: Very low importance and rarity, local scale.

3.3.11 Typical adverse magnitude criteria from DMRB LA 104 are:

- Major: Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
- Moderate: Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
- Minor: Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
- Negligible: Very minor loss or detrimental alteration to one or more characteristics, features or elements.

3.3.12 Within this EIAR magnitude of impact is considered adverse unless otherwise stated.

3.3.13 Typical beneficial magnitude criteria from DMRB LA 104 are:

- Major (beneficial): Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
- Moderate: Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
- Minor: Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
- Negligible: Very minor benefit to or positive addition of one or more characteristics, features or elements.

3.3.14 Where there is no change in impact, this is also reported, this being defined in DMRB LA 104 as no loss or alteration of characteristics, features or elements, and no observable impact in either direction.

3.3.15 Chapters 8 to 21 describe and assess the envisaged effects of the proposed scheme during both its construction and operation (i.e. following proposed scheme opening).

Mitigation

3.3.16 During the iterative design process undertaken through DMRB Stage 3 (Table 3.2), a number of alterations to the design were made where possible and reasonably practicable following internal design workshops with environmental specialists and consultation through the Environmental Steering Group (ESG), EIA Scoping and correspondence with environmental stakeholders and local resident groups (Chapter 7 (Consultation and Scoping)). Any such changes to the proposed scheme design throughout this period are referred to as 'embedded

mitigation’ and were adopted within the design since the DMRB Stage 2 assessment (see Section 5.3 (Iterative Design Development) of Chapter 5 (Iterative Design Development)).

- 3.3.17 As such, the assessment of potential impacts reported in the topic chapters (Chapters 8-20) assume all embedded mitigation is adopted prior to assessment. Following assessment, any mitigation identified to reduce or remove adverse environmental effects is defined as ‘essential mitigation’. Residual effects reported in the topic chapters assume all embedded mitigation and all essential mitigation is adopted.
- 3.3.18 DMRB LA 104 presents mitigation as a hierarchy of measures ranging from prevention of environmental effects by avoidance, to measures to offset any effects that cannot be remedied. Mitigation takes into account best practice, legislation, guidance and professional experience. The mitigation hierarchy is summarised in DMRB LA 104 as:
- Avoidance and Prevention: Design and mitigation measures to prevent the effect (e.g. alternative design options or avoidance of environmentally sensitive sites).
 - Reduction: Where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects (e.g. minimisation of cause of impact at source, abatement on-site and abatement at receptor).
 - Remediation: Where it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect (e.g. provision of environmental improvements, opportunities for access and informal recreation, and creation of alternative habitats).
- 3.3.19 Mitigation takes into account best practice, legislation, guidance and professional experience. The principles and considerations identified in the [A9 Dualling SEA](#) (Transport Scotland, 2013) and related strategic work has also been considered.
- 3.3.20 A set of standard mitigation commitments has been developed across the A9 Dualling programme which is being implemented on all the A9 Dualling projects, alongside project specific mitigation measures. Each topic chapter specifies mitigation measures, and these are collated in Chapter 22 (Schedule of Environmental Commitments). Each measure is numbered with a “Mitigation Item number”, which also indicates the environmental discipline proposing the measure e.g. SMC-AQ1 is the first standard mitigation item in Air Quality. Those measures that are project specific are denoted with the project number e.g. P02-AQ1. The standard mitigation commitments and the topic/project specific mitigation measures referred to in this paragraph comprise the essential mitigation measures defined in paragraph 3.3.17. Additionally, where standard mitigation measures and project specific measures are referred to in the topic chapters (Chapters 8-20) these comprise essential mitigation measures.
- 3.3.21 Where complete prevention of potential impacts was not feasible, measures have been proposed to minimise or reduce potentially significant effects through abatement measures either at source, at the site (e.g. visual screen planting and landscaping), or at the receptor (e.g. design of culverts for a watercourse crossing). The level at which potential impacts are considered ‘significant’ depends on the environmental parameter assessed, but generally potential impacts of ‘Moderate’ or greater significance would be identified as priorities for essential mitigation.

- 3.3.22 Where potential adverse impacts cannot be prevented or reduced, consideration has been given to the specification of essential mitigation measures that offset or, in certain circumstances, compensate for any damage. These measures, as stipulated in this EIAR, will be included in the Contract Documents that will form contractual requirements on the Contractor (or Transport Scotland where applicable).
- 3.3.23 The Strategic Environmental Design Principles (listed in Appendix A2.1) developed as part of the SEA process and as shown in the [SEA Post Adoption Statement](#) (Transport Scotland, 2014) have been applied within the context of the environmental impact mitigation hierarchy, with the primary approach being to use the flexibility available within early design stages to avoid an adverse impact before considering mechanisms available to reduce, offset or, as a last resort, provide compensation for adverse impacts and effects.

Significance of Potential Impacts and Residual Effects

- 3.3.24 Typical significance criteria from DMRB LA 104 are:
- Very Large: Effects at this level are material in the decision-making process.
 - Large: Effects at this level are likely to be material in the decision-making process.
 - Moderate: Effects at this level can be considered to be material decision-making factors.
 - Slight: Effects at this level are not material in the decision-making process.
 - Neutral: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
- 3.3.25 Magnitude and significance reported within the 'Potential Impacts' section of each topic chapter (Chapters 8 to 20) are assessed on the basis of embedded mitigation only.
- 3.3.26 Magnitude and significance reported within the 'Residual Effects' section of each topic chapter are reported assuming embedded and essential mitigation measures are adopted.

Cumulative Effects

- 3.3.27 Chapter 21 (Assessment of Cumulative Effects) considers the potential for cumulative effects, which are the combined impacts and effects of different environmental factors on an environmental receptor/resource (type 1 cumulative effects) and in terms of the combined impacts and effects of different projects (reasonably foreseeable developments) on an environmental receptor/resource (type 2 cumulative effects). These have been assessed during construction and operation.
- 3.3.28 Reasonably foreseeable developments for inclusion in the cumulative assessment have been identified based on information provided by PKC and Transport Scotland.

Schedule of Environmental Commitments

- 3.3.29 Chapter 22 (Schedule of Environmental Commitments) provides a summary of proposed mitigation as identified as being required in the topic Chapters 8 to 20.

- 3.3.30 The mitigation measures reported within Chapter 22 also specify proportionate monitoring requirements (where required). DMRB LA 104 states that the purpose of monitoring is to:
- ensure measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment are delivered;
 - build data on the effectiveness of design and mitigation measures thereby driving improvement in environmental performance for future projects;
 - satisfy licence / permit requirements (where applicable); and
 - identify remedial action as a consequence of underperformance or failure of mitigation.

Summary of Significant Residual Effects

- 3.3.31 Chapter 23 (Summary of Significant Residual Effects) collates and reports the significant residual effects identified in the environmental topic chapters where significant residual effects are assessed.

Uncertainty

- 3.3.32 As outlined in DMRB LA 104, EIA undertaken in accordance with the EIA Directive must include:

‘1) a description of the main difficulties encountered in compiling the required information and

2) the main uncertainties involved in the forecasting methods or evidence.’

- 3.3.33 Where relevant, each topic chapter reports on difficulties encountered and any uncertainties associated with the respective assessments under ‘Limitations to the Assessment’. This addresses the availability and validity of baseline data, as well as the effect of the passage of time on the validity of data.

Changes to Scheme Design

- 3.3.34 The assessment of potential impacts, the identification of essential mitigation measures and the reporting of residual effects in the EIAR are based on the proposed scheme DMRB Stage 3 design as described in Chapter 6 (The Proposed Scheme). As noted in Chapter 1 (Introduction), the design of the proposed scheme may be refined, but will still be deemed to comply with this EIAR provided that such refinements to this design would be subject to environmental review to ensure that design refinements subject to environmental review are no worse than those reported in this EIAR. This being that the design refinements do not introduce new adverse residual significant effects not reported in this EIAR or change the residual significance of effect reported in this EIAR from non-significant to significant adverse. The findings of any such review should be subject to Transport Scotland’s consideration and, where necessary, opinions should be sought from the statutory bodies.

3.4 References

National Legislation and EU Directives

European Parliament (1985). Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment. Available at: <https://eur-lex.europa.eu/eli/dir/1985/337/oj/eng> (Accessed February 2025).

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