

AM2

**The Oxfordshire County Council (A40 Access to Witney)
Compulsory Purchase Order 2023**

**The Oxfordshire County Council (Highways Infrastructure – A40
Access to Witney) Side Roads Order 2023**

PLANNING INSPECTORATE REFERENCE:

DPI/U3100/23/25

**Proof of evidence of
Alison Louise Morrissy
(Environmental Effects)**

INTRODUCTION AND QUALIFICATIONS

- 1.1 I am Alison Morrissy and I am Technical Director - EIA and have been employed at AECOM Infrastructure and Environment UK Ltd for five years. I was promoted to my current position in 2022.
- 1.2 My qualifications include a upper second class Batchelor of Science (BSc) degree with honours in Environmental Science and a Master of Science degree (MSc) in Environmental Impact Assessment (EIA). In terms of professional certifications, I am a full member of the Institution of Environmental Sciences (MIEnvSc) and hold Chartered Environmentalist (CEnv) status.
- 1.3 With more than 17 years of experience within the environmental field, I specialise in environmental assessment and management. My role includes the scoping of approaches to, the coordination of, review of environmental assessment work, primarily within the roads sector. My role is to oversee and review the reporting from the EIA process for major infrastructure projects. I lead multi-disciplinary environmental teams to deliver EIA and produce Environmental Statements. My work experience has been split between approximately 15 years working in environmental consultancy at AECOM and formerly Arcadis Consulting Ltd and Hyder Consulting (UK) Ltd; and three years working as an Environment and Sustainability Manager within construction for ISG Construction Ltd.
- 1.4 My role for the A40 Access to Witney (the **Scheme**) was EIA Project Director. I acted in capacity as reviewer of the Environmental Statement documentation, ensuring this was in line with the agreed scope, and had been produced and technically checked by appropriate specialists.

Scope of Evidence

- 1.5 This proof of evidence has been prepared regarding environmental matters, air quality impacts, visual effects and acoustic impacts matters relating to:
 - 1.5.1 The Oxfordshire County Council (A40 Access to Witney) Compulsory Purchase Order 2023 (the **CPO**) [CDs A1 and A2]; and
 - 1.5.2 The Oxfordshire County Council (Highways Infrastructure – A40 Access to Witney) Side Roads Order 2023) (the **SRO**) [CDs A3 and A4],

together the **Orders**.
- 1.6 The Orders were made to enable the delivery of improvements to the existing A40 Principal Road, the B4022 and the C16886 South Leigh Road at its junction with the B4022, at Shores Green, Witney at the location of the junction of the A40 with the B4022. The scheme is known as the A40 Access to Witney Scheme (the **Scheme**).
- 1.7 The Scheme will construct two new west-facing slip roads at the Shores Green junction of the A40; a new eastbound exit slip road from the A40 to a new junction with the B4022; and a new westbound entry slip road onto the A40 from a new junction with the B4022. The Scheme will provide new walking and cycling facilities on the B4022 and alongside the A40, which will improve provision for active travel.
- 1.8 The SRO will enable Oxfordshire County Council (the **Council**) in relation to the Classified Road works comprising the improvement, by widening and other works, of the A40, to stop up existing highways affected by the Classified Road works and to improve other highways as a consequence of the Classified Road works.
- 1.9 The Orders were made by the Council on 27 June 2023 and submitted electronically to the Secretary of State for Transport on 21 July 2023 and in hard copy on 1 August 2023. The Orders are now due to be considered by an Inspector at a Public Inquiry scheduled to open on 12 March 2024. This proof of evidence has been prepared in connection with that Inquiry.

- 1.10 I confirm that the evidence that I have prepared in respect of this Inquiry is given in accordance with the guidance of my professional institution and I can confirm that the opinions expressed are my true and professional opinions.
- 1.11 The purpose of my evidence is to explain the environmental assessments of the Scheme that have been undertaken, in particular to explain the EIA process; to explain the noise assessments of the Scheme that have been undertaken and to respond to concerns raised about the noise impacts of the Scheme; to explain the construction dust assessments of the Scheme that have been undertaken and to respond to concerns raised about the construction air quality impacts of the Scheme; visual intrusion and to explain landscaping mitigation works. Concerns related to drainage are covered within the evidence prepared by Philippe Nirmalendran (Highways and Traffic) [CD G.17].
- 1.12 My proof of evidence should be read in conjunction with other separate but interrelated proofs of evidence submitted on behalf of the Council, including:
- 1.12.1 Strategic Case and Need, prepared by Nicholas Blades of Oxfordshire County Council [CDs G.1, G.2 and G.3];
 - 1.12.2 Technical Highways Engineering and Modelling, prepared by Philippe Nirmalendran of AECOM [CDs G.16, G.17 and G.18];
 - 1.12.3 Planning Policy, prepared by Baljinder Tiwana of Stantec [CDs G.10, G.11 and G.12];
 - 1.12.4 Traffic Modelling, prepared by Theodore Genis of Stantec [CDs G.13, G.14 and G.15];
 - 1.12.5 Delivery and Funding, prepared by Gareth Slocombe of Oxfordshire County Council [CDs G.4, G.5 and G.6]; and
 - 1.12.6 Negotiations and Acquisition, prepared by Jessica Bere of Gately Hamer [CDs G.7, G.8 and G.9].

2 ENVIRONMENTAL ASSESSMENT OVERVIEW

EIA Scoping

- 2.1 An EIA Scoping Report was prepared by AECOM and submitted to the Council as the County Planning Authority (**CPA**) to accompany a request for a formal EIA Scoping Opinion in June 2021. The CPA issued an EIA Scoping Opinion on 1st July 2021. The following individuals/organisations were consulted by the CPA, and their feedback was included as part of the EIA Scoping Opinion:
- (a) The Council, including the following departments:
 - (i) Planning;
 - (ii) Archaeology;
 - (iii) Biodiversity;
 - (iv) Landscape;
 - (v) Lead Local Flood Authority;
 - (vi) Rights of Way;
 - (vii) Transport Development Control;
 - (b) West Oxfordshire District Council (**WODC**), including the following department:
 - (i) Environmental Protection, covering noise, contaminated land, air quality;
 - (c) Councillor Enright (Witney North & East);
 - (d) Environment Agency;
 - (e) Historic England;
 - (f) Natural England;
 - (g) Public Health England;
 - (h) South Leigh Parish Council; and
 - (i) Witney Town Council.
- 2.2 The EIA Scoping Opinion from the CPA confirmed that the issues identified in the EIA Scoping Report should be addressed in the Environmental Statement (**ES**) in the manner proposed, however, some additions and amendments were requested. These were incorporated into the EIA as is noted within ES Volume I Chapter 2: EIA Methodology, Table 2-1.
- 2.3 As a result of the EIA scoping process, the following technical topics were agreed to be required as part of the EIA:
- (a) air quality;
 - (b) biodiversity;
 - (c) climate change;
 - (d) cultural heritage;
 - (e) geology and soils;
 - (f) landscape and visual;
 - (g) material assets and waste;
 - (h) noise and vibration;
 - (i) population and human health;
 - (j) road drainage and the water environment;
 - (k) traffic and transport; and

- (l) cumulative effects.
- 2.4 The EIA scoping process identified a number of technical topics that were agreed to be scoped out of the EIA as the Scheme would not result in significant environmental effects in relation to these technical topics. No further assessment was deemed to be required within the EIA. These topics include:
- (a) heat and radiation; and
- (b) major accidents and disasters.

The Environmental Statement

- 2.5 An EIA was subsequently undertaken by AECOM, with support from:
- (a) The Council, as the Applicant and providing strategic traffic modelling;
- (b) AECOM as highways designer, including drainage, structures and geotechnical design;
- (c) Stantec, as the Planning consultants;
- (d) Reading Agricultural Services, who prepared a Farm Impact Assessment to inform the EIA;
- (e) Gately Hamer as land agents; and
- (f) Milestone, who provided constructability advice through Early Contractor Involvement.
- 2.6 AECOM are a large multidisciplinary consultancy company and undertook the EIA co-ordination and ES preparation including assessments in relation to air quality; biodiversity; climate change; cultural heritage; geology; landscape and visual; material assets and waste; noise and vibration; population and human health; road drainage and the water environment, traffic and transport and cumulative effects assessment.
- 2.7 The EIA has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the 'EIA Regulations').
- 2.8 The EIA has predominantly followed relevant industry guidance for the assessment of environmental effects resulting from roads projects found within the Design Manual for Roads and Bridges (DMRB) which is prepared and managed by National Highways. Where this is supplemented by other methodologies, this was agreed with the CPA through the Scoping process and is noted within each ES technical chapter.
- 2.9 The EIA considered the likely significant environmental effects of the Scheme, based upon current knowledge of the application site and surrounding area. This current knowledge was acquired via site survey, monitoring or desk-based research. A Preliminary Ecological Appraisal including a Phase 1 Habitat Survey was undertaken in August 2020, early on in the Scheme development to influence design development. ES Volume I Chapter 4 Alternatives includes a description of design evolution, and describes how environmental receptors and public consultation feedback was taken into account. Other surveys that have been undertaken during the development of the design and preparation of the ES include:
- Air quality monitoring;
 - Great crested newt surveys;
 - Bat surveys;
 - Hazel dormouse surveys;
 - Wintering and breeding bird surveys;
 - Barn owl surveys;

- Badger surveys;
 - Aquatic ecological surveys;
 - Invasive non-native species surveys;
 - Cultural heritage walkover survey and geophysical survey;
 - Arboricultural survey;
 - Landscape and visual survey;
 - Baseline noise survey;
 - Water environment field survey and water quality monitoring survey; and
 - Traffic surveys.
- 2.10 The technical chapters define the baseline conditions against which the likely significant environmental effects of the Scheme were determined and identify receptors and environmental resources that may be impacted. The sensitivity, importance or value of the resource or receptor is normally derived from:
- (a) Designated status within the land use planning system;
 - (b) Reference to standards in environmental assessment guidance;
 - (c) The number of individual receptors, such as residents;
 - (d) An empirical assessment on the basis of characteristics such as rarity or condition; and
 - (e) Its ability to absorb change.
- 2.11 The technical chapters identify the potential impacts of the Scheme from the demolition and construction phase, and on completion and operation. The magnitude of the impact, or scale of change, in comparison to baseline conditions has been determined in line with the topic specific methodology, while taking into account any mitigation, including embedded avoidance and mitigation measures that are inherent to the design (e.g. the retention of a hedgerow), the use of best practice construction methods (e.g. implementation of methods to suppress dust generation or avoid pollution of water courses) and additional (essential) mitigation, compensation and enhancement measures.
- 2.12 Where it has not been possible to quantify impacts, qualitative assessments have been carried out, based on expert opinion and professional judgement. Where uncertainty exists, this is noted in the relevant chapter.
- 2.13 In each technical chapter, the assessment considers the magnitude of impacts and the sensitivity of the resources / receptors that could be affected in order to classify the effect. This is typically undertaken using a standard matrix as outlined in DMRB LA 104 (Environmental assessment and monitoring); however some technical disciplines have a specific method of determining the significance of effects, which is based on topic-specific standards and guidance. These topics include air quality, climate change, geology and soils, landscape and visual, materials and waste, noise and vibration, population and human health and traffic and transport.
- 2.14 Residual environmental effects found to be 'moderate', 'large' and 'very large' are deemed to be 'significant'. Effects found to be 'neutral' or 'slight' are considered to be 'not significant', although they may be a matter of local concern. Residual environmental effects are reported within each technical chapter, with residual significant environmental effects summarised in ES Volume I Chapter 17: Residual Effects and Mitigation (Appendix AM3.1).
- 2.15 The full ES was submitted to the CPA as part of planning application R3.0039/22 in March 2022.

Further Information

- 2.16 A written request was received by the Applicant from the CPA on 25th August 2022 as a request for further information required to support the planning application and under Regulation 25(1) of the EIA Regulations.
- 2.17 The written request largely collated comments submitted to the CPA from a range of consultees to the application. Further information was expressly noted to be required in relation to biodiversity, landscape and visual impacts (including arboriculture) and climate.
- 2.18 A full response to this written request was prepared by AECOM with the Applicant in the form of a Regulation 25 Response report and was submitted to the CPA in October 2022. No further formal requests for further information were received.

Section 73 Application

- 2.19 An ES Addendum Report was prepared by AECOM on behalf of the Council to support a Section 73 planning application in September 2023. This related to minor changes proposed to the design including:
- A change to the type and extent of the path/facility for non-motorised users running parallel to the proposed A40 eastbound off-slip to the B4022;
 - A highway boundary extension to the east of the proposed on-slip to the A40 westbound;
 - Changes to the terms used within of the General Arrangement Plans (60611611-ACM-XX-XX-DR-HW-000109; 60611611-ACM-XX-XX-DR-HW-000110; and 60611611-ACM-XX-XX-DR-HW-000111);
 - Additional landscaping to the east of the proposed on-slip; and
 - Two balancing ponds adjacent to the on-slip would be merged to form one balancing pond.
- 2.20 The purpose of the ES Addendum Report was to identify where, if at all, the previously established likely significant environmental effects within the 2022 ES materially differ or worsen as a result of the proposed Section 73 application.
- 2.21 In conclusion, the 2023 Application is not considered likely to result in new or different significant effects compared to those identified within the 2022 ES. The changes are non-material in nature, and where they amend the designed layout are of a small scale such that they do not amend any of the previously stated residual environmental effects. Therefore, the conclusions of the 2022 ES remain valid and the mitigation measures presented within it are deemed to be appropriate.

Key Environmental Features

- 2.22 The site is predominantly rural and most residential properties in close proximity to the site are clustered around the south-east edge of the village of Cogges in Witney. Witney has a population of around 30,000 and covers an area of approximately 7km.
- 2.23 The site is dominated by plantation woodland (the existing vegetated roadside bank of the A40), a small area of dense scrub and part of a copse in a corner of the adjacent arable field to the north. The wider site is dominated by arable farmland, with hedgerows and several small copses of plantation woodland. A small drainage ditch, which flows into the Limb Brook and on to the Chil Brook river, flows through the site from the north to south-east corner.
- 2.24 The main environmental features in the area include:
- The Witney Air Quality Management Area (AQMA) is approximately 1.6km north-west of the Scheme. This was declared by WODC in 2005 for exceedances of the National Air Quality Strategy objective for annual mean NO₂ concentrations.

- The Ducklington Mead Site of Special Scientific Interest (SSSI) is located approximately 1.6km to the south-west of the site. Ducklington Mead SSSI is an agriculturally unimproved meadow situated between two arms of the River Windrush in an area otherwise dominated by improved pasture and arable land.
- Two Scheduled Monuments are located within the town of Witney west of the Scheme. The monuments include the remains of a medieval moated manor, priory, settlement, and associated features, Cogges (National Heritage List for England (NHLE) ref. 1016269), located approximately 900m west of the Scheme and Bishop of Winchester's Palace, (NHLE ref. 1018654), located approximately 1.5km west.
- A registered park and garden, Eynsham Hall, is located approximately 1.4km north-east of the site.
- Grade II listed buildings are located within 500m of the Proposed Development:
 - Ladymead Cottage approximately 140m south-east; and
 - A cottage (9 & 10, High Cogges), a farmhouse (High Cogges Farmhouse), and a granary, which are all associated with High Cogges Farm approximately 260m south-east.
- The boundary of the Cotswolds Area of Outstanding Natural Beauty (AONB) (now referred to as National Landscapes) is located around 4km to the north-west of the site.
- The Scheme sits in Flood Zone 1. The nearest Flood Zone 2 and 3 areas are located approximately 1km to the west and south of the site, along the Windrush River and its tributaries, and 2.3km to the east of the site along the Chil Brook River.

2.25 The East Witney Strategic Development Area (SDA) is an allocated site located on land to the east of Witney, and is expected to deliver 450 new homes. This land is located immediately west of the Scheme and at the time of preparing the ES, an outline planning application had been submitted for the site which has since been refused.

Mitigation

2.26 The primary (embedded) mitigation measures for the Scheme are:

- New hedgerow and tree planting adjacent to the new road network to provide increased softening and screening of views in comparison to the existing hedgerows;
- Retention of vegetation along the elevated embankment to the east of the B4022 underpass; which provides screening to moving traffic visible in views from the south-east;
- Enhancement of woodland along the lines of the existing pruned hybrid poplar trees along the south side of the A40, to increase screening from High Cogges;
- New woodland screening alongside hedgerow trees, to provide further screening to the view from residential properties including The Paddock (at High Cogges), Meadow View and Ladymead Cottage;
- New areas of species rich grassland, including marsh and wet grassland around attenuation ponds and ditches, to enhance biodiversity and amenity value, particularly where the baseline comprises species-poor arable or pastoral farmland;
- Creation of a new section of integral (unbound) footway on the south east side of the A40 on-slip, within the A40 improvement, connecting the remaining length of PRow Footpath 353/31/10 (South Leigh) on the south-east side of the A40 north eastwards to the B4022, thus providing increasing amenity value by way of a continuous recreational route that avoids the current crossing of the dual carriageway between this footpath and footpaths on the north-west side of the A40;

- Provision of an integral footway on the north-west side of the A40 off-slip, within the A40 improvement, along the line of existing ProW Footpaths 410/41/30 (Witney), 410/41/40 (Witney) and a length of Footpath 410/41/20 (Witney), thus increasing accessibility and amenity value for residents wishing to access the countryside from the eastern edge of Witney;
 - Use of the lowest possible output LED luminaires on road lighting columns, which will also be dimmed to 75% output between the hours of 00:00 and 06:00 to mitigate potential light intrusion; and
 - A drainage strategy, which has been agreed in a series of meetings with the Council as the lead local flood authority, designed so that surface water draining onto the B4022 from the slip roads will be attenuated via attenuation basins prior to discharge to the existing watercourse, Limb Brook. Runoff from the slip road onto the A40 in addition to the existing A40 runoff will also be attenuated through the use of an attenuation basin prior to discharge into the existing A40 drainage network.
- 2.27 A Construction Environmental Management Plan (CEMP) will be in place to implement the specific mitigation measures identified by each technical assessment for the construction period, and the protection of retained vegetation by tree protection fencing in accordance with BS 5837: 2012 through an Arboricultural Method Statement.

Summary of Environmental Effects

- 2.28 In terms of residual (i.e. after the application of mitigation) significant environmental effects, ES Volume I Chapter 17: Residual Effects and Mitigation (Appendix AM3.1) notes the following significant residual effects:
- The loss of Grade 3b agricultural land during construction (permanent loss);
 - Moderate adverse effects on the local landscape (the Site) during construction.
 - Moderate adverse visual effects for Visual Receptor (VR) 5 (recreational receptors using PRoW Footpath 410/42/10 (Witney) at Cogges Hill) and VR 9 (recreational receptors using PRoW Footpath 353/31/10 (South Leigh) behind The Paddock, High Cogges) during construction.
 - Moderate adverse visual effects for VR 9 (recreational receptors using PRoW Footpath 353/31/10 (South Leigh) behind The Paddock, High Cogges) at year one after opening.
 - Significant adverse effects on Windrush Cemetery and seven properties adjacent to the B4022, between the A40 and Jubilee Way as a result of road traffic noise level changes.
 - Permanent moderate beneficial effects as a result of improved accessibility for pedestrians and cyclists and a reduction of driver delay.
 - Significant beneficial and adverse effects as a result of driver stress and driver delay on local roads.
- 2.29 The DMRB LA 104 notes that whilst impacts that are not significant are not material to planning, these may be important local considerations. Therefore, these have been drawn out here to further aid the understanding of the benefits and disbenefits of the Scheme from an environmental perspective.
- 2.30 The temporary adverse non-significant environmental effects of the Scheme include:
- Temporary construction dust was noted to be a risk, but expected to be manageable through good practice and not result in a significant effect.
 - Temporary slight adverse effects were reported within Chapter 6 Biodiversity in relation to the loss of hedgerows, broadleaved woodland and foraging habitat for bats. These would improve with the establishment of new planting, with the exception of the loss of

bat foraging habitat, which whilst new planting would be of benefit there may be some residual effect that remains in operation.

- Disruption and excavation for remaining heritage features, including a known earthwork of possible medieval date in respect of which the Scheme was noted to result in slight adverse effects after mitigation (evaluation trial trenching). During construction the setting of three Grade II listed properties (Ladymead Cottage and The Farmhouse and Granary at High Cogges Farm) would be affected, resulting in slight adverse effects.
- Multiple landscape and visual receptors would experience non-significant adverse effects which would be worse during construction, improving with the establishment of planting up to 15 years after opening. The extract of residual effects for landscape and visual receptors is included as Appendix AM3.2 (Extracted from ES Volume I Chapter 10 Landscape and Visual Effects).
- Temporary slight adverse effects are predicted in terms of the recovery of non-hazardous construction material, alternative aggregates and landfill capacity.
- Increase in flood and pollution (spillage) risk during construction, which would result in a slight adverse effect.

2.31 Permanent adverse non-significant environmental effects of the Scheme include:

- The loss of bat foraging habitat would be partly mitigated by new planting, however there may be some residual effect that remains in operation.
- In operation, nitrogenous traffic emissions would result in a slight adverse effect on the Witney Lake and Meadows Other Oxfordshire Site.
- The slight adverse effect on the setting impact of the Grade II listed Ladymead Cottage would remain during operation.
- Multiple landscape and visual receptors would experience non-significant adverse effects whilst landscape planting establishes up to 15 years after opening. The extract of residual effects for landscape and visual receptors is included as Appendix AM3.2. At 15 years after opening, no significant effects would remain.
- The effect of changes in operational road traffic noise on receptors along Jubilee Way was noted to range from a minor to moderate adverse impact, however the overall effects are not considered significant.
- Changes to groundwater and surface water quality as a result of the increase routine road run-off (slight adverse), and groundwater level and flows (slight adverse). There would also remain a slight adverse effect in terms of the flood risk upon essential road infrastructure (the A40 and the B4022).

2.32 The permanent beneficial non-significant environmental effects of the Scheme include:

- Changes in operational air quality are predicted, such that reductions in emissions would be secured within the Witney Air Quality Management Area (AQMA) in the opening year. Of the 63 receptors within the AQMA that were modelled, 23 would experience annual mean NO₂ concentrations in breach of the objective value without the Scheme, compared to 12 with the Scheme. It should be noted that the Scheme would not give rise to new exceedances of National Air Quality Strategy objective values, and whilst there would be some increases in exposure in locations, no significant effects are predicted.
- Benefits in terms of a reduction in nitrogen deposition would be experienced by Eynsham Wood Woodland Trust Reserve. This is noted in the ES chapter to be a slight beneficial effect on this receptor.
- Similarly, a minor beneficial effect is predicted in relation to operational carbon emissions, due to a reduction in congestion and journey times. Road user emissions are forecast to be 739tCO_{2e} lower in opening year with the Scheme than without.

- The effect of changes in operational road traffic noise on receptors in High Cogges was noted to range from a negligible to minor beneficial impact, however the overall effects are not considered significant.
- 2.33 The Scheme is expected to result in the loss of six Category A trees, six Category B trees, six Category B tree groups, part of four Category B tree groups, three Category C trees, five Category C tree groups, part of seven Category C tree groups, one Category C hedgerow group and part of one Category C hedgerow group.
- 2.34 The design for the Scheme provides a biodiversity net gain in excess of 10% for all three metrics. This includes some offsite provision through local providers, mainly to assist with meeting trading rules. The consented Scheme would provide the following gains:

Plate 1 Extract from Revised Biodiversity Net Gain Report P02 October 2022 – as provided with the Regulation 25 Response

Table 19. Summary of results

Area/Linear Units	On-site baseline	On-site post-development	Off-site baseline	Off-site post-development	Total net unit change	Total net % change
Habitat units	45.33	26.77	36.79	63.81	8.46	+18.67%
Hedgerow units	20.20	23.16	7.35	14.64	10.26	+50.78%
River units	1.09	4.57	6.88	6.88	3.47	+317.79%

- 2.35 The pending Section 73 application required minor amendments to the landscape design, for which a revised calculation was prepared:

Plate 2 Extract from Biodiversity Net Gain Assessment September 2023 – as submitted with the Section 73 application

Table 19. Summary of On-site and Off-site Results

Habitat Type	On-site Baseline	On-site Post-Development	Off-site Baseline	Off-site Post-development	Total Net Unit Change	Total Net % Change
Habitat units	45.34	25.66	36.79	63.81	+7.34	+16.19%
Hedgerow units	20.20	28.23	7.35	8.81	+9.49	+47.00%
River units	0.71	4.19	7.26	6.38	+2.59	+ 363.75%

3 NOISE ASSESSMENT OVERVIEW

- 3.1 The technical lead for the Noise and Vibration Assessment was a Principal Acoustic Consultant in AECOM's Acoustics team. They now hold a position of Associate Director. They have completed numerous assessments to inform Environmental Statements as well as led work to revise and update associated standards and calculation methodologies for road traffic noise. They have 18 years of relevant work experience and are a Member of the Institute of Acoustics, full member of the Institute of Mathematics and its Applications, and a Chartered Mathematician.

Assessment Scope and Approach

- 3.2 An assessment was undertaken to understand the likely environmental effects of the Scheme in relation to construction noise, construction vibration, construction road traffic noise and operational road traffic noise. This is presented in ES Volume I Chapter 12: Noise and Vibration. No amendment was made to this assessment as part of the Regulation 25 Response.
- 3.3 The assessment assumed that the majority of the construction traffic would use the A40 and the section of the B4022 at the junction, as the major access points to the works would be directly from these routes. Given the existing high volume of traffic on the A40, significant increases in traffic noise levels were not anticipated. Construction road traffic noise is not discussed any further in this report.
- 3.4 A qualitative assessment was adopted for both construction noise and vibration; focussing on the guidance in BS 5228:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites' (British Standards Institution, 2014). This approach considered the proximity of receptors to the works, the potential works involved, potential working hours/duration, existing noise levels from the baseline measurement survey and best practice mitigation measures.
- 3.5 The assessment of operational road traffic noise was undertaken quantitatively in accordance with DMRB LA 111 and the CRTN covering the opening year (2024) and a future year (2031). The traffic data used for the assessments was developed from the Scheme specific traffic model (the A40 Corridor Highway Assignment Model). The operational traffic noise assessment reported changes based on the façade at each building which undergoes the greatest magnitude of change in traffic noise level as a result of the Scheme. The results were provided for the ground floor of each residential and non-residential noise-sensitive receptor during the daytime and for the top floor at night. The assessment considered the short term change (the 2024 Do-Minimum – without the Scheme, compared to the 2024 Do-Something – with the Scheme scenario) and the long term change (the 2024 Do-Minimum – without the Scheme, compared to the 2031 Do-Something – with the Scheme scenario).

Study Areas

- 3.6 As reported within ES Volume I Chapter 12: Noise and Vibration, the study area relating to construction noise was 300m from the closest construction activity (taken to be the Site Boundary as defined by the ES). The study area for construction vibration was 100m from the nearest construction activities (the edge of the Site Boundary). Both of these study areas are as defined by the DMRB LA 111 Noise and Vibration (Highways England, 2020) as the areas that are potentially affected by construction noise and vibration, and where there is a reasonable stakeholder expectation that an assessment will be undertaken.
- 3.7 For the operational traffic noise assessment reported in ES Vol I Chapter 12: Noise and Vibration, the study area comprised a 600m 'calculation area' from the Scheme and the existing roads which are physically altered by it in line with DMRB LA 111 Noise and Vibration. This is considered to include noise sensitive receptors that are potentially affected by operational noise changes either on the route, or other roads not physically changed by the project and where there is a reasonable stakeholder expectation that noise assessment is undertaken.

Sensitive Receptors and the Baseline Noise Environment

- 3.8 The assessments all considered the impact upon sensitive noise receptors within an appropriate study area as defined by DMRB LA 111. Sensitive receptors were determined from a range of data sources including OS mapping and OS AddressBase data. DMRB LA 111 Noise and vibration defines residential properties, educational buildings, medical buildings, community facilities (such as places of worship), quiet areas or potential quiet areas, designated ecological sites (such as Special Areas of Conservation, Special Protection Areas and Sites of Special Scientific Interest), cultural heritage assets (such as scheduled monuments) and Public Rights of Way (PRoW) as potentially sensitive to noise. Commercial uses such as offices and industrial premises are not normally considered to be noise sensitive.
- 3.9 The existing noise environment was assessed by a site visit and baseline sound survey in September 2021 at three locations in the vicinity of the Scheme as shown on Figure 12-1 of the ES (B4022 – opposite Windrush Cemetery, A40 eastbound slip road and Residences at High Cogges) (Appendix AM3.3). This data was used to validate the operational noise model (prepared using noise modelling software) and establish baseline conditions across the wider area.

Construction Noise Effects

- 3.10 The assessment concluded that there is the potential for an increase in ambient noise levels resulting in adverse noise impacts at the closest receptors to the works, in particular if evening/weekend and night-time works are required. The impact of these construction activities on receptors would vary. Earthworks, drainage installation and road pavement construction would be transitory, with high noise levels only experienced at nearby receptors for a limited amount of time.
- 3.11 The potentially worst affected receptors were noted to be residential properties situated close to the existing A40. These properties (and their approximate distance from the Site Boundary) include:
- The Paddock, situated between the A40 mainline and the existing B4022 on-slip (40m).
 - Properties immediately north of the existing B4022 on-slip (80m).
 - Properties on High Cogges to the south of the Scheme (150m).
 - Properties on the existing B4022 into Witney (200m).
- 3.12 The ES notes that there is the potential for these properties to experience moderate or major impacts as a result of these activities, especially if night-time works are required. Impacts of such magnitude have the potential to result in significant adverse effects at residential properties.
- 3.13 The assessment also noted that this is a likely worst case assessment, and that the exact significance of any adverse noise impact resulting from construction works would be highly dependent upon the methods, timing and duration of the works required. A commitment is made to further consider the potential effects and identify appropriate measures to minimise effects as far as practicable as detailed information relating to construction plant, timings and programme become available.

Construction Vibration Effects

- 3.14 There is the potential for some vibration impacts upon residential properties within 100m identified, including The Paddock, situated between the A40 mainline and the existing B4022 on-slip (40m) and properties immediately north of the existing B4022 on-slip (80m).
- 3.15 However, the assessment concluded that it is unlikely that most of the construction activities would generate levels of vibration above which annoyance to occupants, or therefore building

damage, would be expected to be sustained. Residual effects were concluded to be not significant.

Operational Road Traffic Noise Effects

- 3.16 DMRB LA 111 Noise and vibration requires that the overall operational significance of effects on receptors in the minor, moderate and major magnitude of change categories are determined taking into consideration the magnitude of the noise level change, together with an appropriate and proportionate review of local circumstances. The ES is detailed in regards to the local circumstances and how the significance of effects has been determined.
- 3.17 The impacts on a total of 1182 residential receptors and one non-residential receptor (Windrush Cemetery) were modelled. The calculation area (the study area for the operational assessment) is defined within the ES as a 600m area from the Scheme and the existing roads that are physically altered by it that are predicted to be subject to a change in road traffic noise level as a result of the Scheme of:
- 1 decibel (dB) or more in the short term (the opening year 2024); or
 - 3dB in the long term (2031 – which is considered to include the major developments planned for the area)
- 3.18 The calculation area and receptors are shown on Figure 12-1 (Appendix AM3.3) as extracted from the ES.
- 3.19 Significant residual effects were predicted for seven residential properties adjacent to the B4022 Oxford Hill between the A40 and Cogges Hill Road / Jubilee Way and Windrush Cemetery. All of these residual effects are to the west of the A40, heading towards Witney and are as a result of minor increases in traffic noise anticipated along this route due to the Scheme. The locations of the seven residential properties and Windrush Cemetery have been annotated on Figure 12-1 in Appendix AM3.3. It is noted that absolute levels at several of these properties are above the Significant Observed Adverse Effect Level (SOAEL) in both the day and night. These properties, and Windrush Cemetery, are also close to the Scheme and this section of the B4022 is expected to be subject to several thousand more vehicles a day in the opening year (2024). Taking these factors into consideration, significant adverse effects are predicted at these locations.

4 RESPONSE TO OBJECTOR CONCERNS ABOUT NOISE

4.1 In relation to noise, the objections from Jeremy Michael Walker, Paula June Walker and Roger Jeremy Michael Walker, John William Kearns and Anne Kearns, and Susan Caroline Morrish (CDs D.2, D.3 and D.4) have raised concerns regarding:

- noise as a result of construction (Construction Noise Effects)
- noise resulting from the subsequent use of the Scheme (Operational Noise Effects); and
- no noise attenuation works having been agreed by the Applicant (Operational Noise Attenuation).

Construction Noise Effects

4.2 The ES Volume I Chapter 12: Noise and Vibration recognises that properties on High Cogges (within 150m of the works – which would include High Cogges Farm, The Paddock (High Cogges), Meadow View and Ladymead Cottage) will be amongst the worst affected receptors in relation to construction noise. Moderate to major impacts are anticipated, especially if night time working is required. The impacts are noted to have the potential to result in significant temporary adverse effects at residential properties.

4.3 The exact significance of any adverse noise impact resulting from the construction works will be highly dependent upon the methods, timing and duration of the works required. Although exact durations and timings of the construction activities were not available for the assessment, their transitory and short-term nature were noted to be unlikely to exceed the thresholds with respect to evening/weekend or night-time works. Significant adverse effects were concluded to be possible during the daytime.

4.4 The Scheme would be subject to measures and procedures as defined within a Construction Environmental Management Plan (**CEMP**). These would include a range of Best Practicable Means (**BPM**) associated with mitigating potential environmental impacts for both construction dust and noise. The measures detailed within the CEMP would be implemented for the duration of the construction phase.

4.5 The CEMP will include a Noise and Vibration Management Plan, including relevant noise criteria, proposed surveys and a range of best practice measures associated with mitigating potential noise and vibration impacts.

4.6 The CEMP will be submitted to the CPA for their agreement and sign off prior to commencement of construction. This is required by the CPA as part of planning condition 3 of planning application R3.0039/22 which states:

“Prior to the commencement of any development, a Construction Environmental Management Plan (CEMP) shall be submitted to and approved in writing by the County Planning Authority, The CEMP shall include the following:

- *A risk assessment of all activities that may be damaging to biodiversity both on and off site;*
- *Identification of “biodiversity protection zones” including a buffer along the full length of the watercourse in the construction zone, and protection zones around trees 2, 3, 4 and 5;*
- *Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts on species and habitats which may be provided as a set of method statements, to include sensitive vegetation clearance methods with regard to dormice (to be undertaken under licence) and a precautionary felling method for trees with moderate bat roost potential;*
- *Timing and scope of additional protected species surveys;*
- *Lighting scheme and safeguards for light-sensitive wildlife;*

- *Pollution prevention measures;*
- *Noise and vibration minimisation measures;*
- *Details of the management and disposal of construction waste;*
- *The location and timing of sensitive works to avoid harm to biodiversity features (such as badger, bats, dormouse and nesting birds);*
- *Details of the times when specialist ecologists will be present on site to oversee works;*
- *Details of protection of measures to footpath users;*
- *Arboricultural Method Statement;*
- *Risk assessment of all activities that may be damaging to trees both on and offsite including survey of Root Protection Areas of trees to be surveyed and plan of action (tree risk management strategy) to ensure their protection during construction;*
- *Location of soil storage mounds showing that they do not extend into the root protection zones of hedges or trees;*
- *Details of responsible persons, roles and lines of communication;*
- *The role and responsibilities on site of an Arboricultural Clerk of Works (ACoW) or similarly competent person and confirmation that they will supervise and oversee construction around trees;*
- *A severe weather emergency planning annex to prevent or reduce the risk of extreme weather related impacts during construction. This shall include details about the implementation of emergency systems and response plans; and*
- *Use of protective fences, exclusion barriers and warning signs.*

The CEMP must clearly set out the mitigation measures for each construction related climate vulnerability impact referenced in the application.

The approved CEMP shall be implemented in full for the duration of construction works and no construction shall take place other than in accordance with the approved CEMP. Should there be a requirement for any changes to the approved CEMP during the construction period, an updated CEMP shall be submitted to and approved in writing by the County Planning Authority and implemented thereafter.

Reason: To prevent unacceptable amenity effects to local residents, and environmental impacts on biodiversity during the construction of the scheme (WOLP Policies EH3 and EH8)."

Operational Noise Effects

- 4.7 Residential properties at High Cogges Farm would experience a negligible (between -0.9dB and 0 dB) decrease in operational road traffic noise in the short term with the Scheme. In the long term, properties would experience a negligible (between -0.9dB and 0 dB) decrease up to a negligible (between +0.1dB and +2.9dB) increase.
- 4.8 The Paddock (High Cogges), Meadow View and Ladymead Cottage would experience a negligible (between -0.9dB and 0 dB) decrease in operational road traffic noise in the short term with the Scheme. In the long term, a negligible (between -2.9dB and 0dB) decrease would be experienced.
- 4.9 Short term and long term change noise contours can be seen on Figures 12-6 and 12-7 within Appendix AM3.3.

- 4.10 The negligible increases in traffic noise are as a result of the introduction of the new sliproads, and the negligible decreases are due to reduced traffic speeds on the B4022 west bound off-slip, and a reduction in traffic flow on South Leigh Road.

Operational Noise Attenuation

- 4.11 Discussions have been held with South Leigh and High Cogges Parish Council and the landowners regarding the installation of a quiet noise surface and sound barriers for properties at High Cogges. The noise modelling undertaken shows there to be minimal changes to the sound exposure for High Cogges residents nearer the Scheme. The Council has investigated the use of sound boards (noise fencing) and found that they would not provide a noticeable benefit to the residents due to the distances of the receptors from the source of the noise. The use of a quiet road surface would not provide a noticeable benefit to residents due to the existing background noise generated by the A40 mainline.
- 4.12 Planting designs to screen traffic from view are included in the Scheme design. However, vegetation is not assumed to have any sound-deadening properties in the modelling undertaken, representing the worst case.

5 AIR QUALITY ASSESSMENT OVERVIEW

5.1 The technical lead for the Air Quality Assessment was an Associate Director in AECOM's Air Quality team. They now hold a position of Technical Director. They have experience as technical lead and air quality lead for many large road transport schemes for UK government and local authority clients. They have 20 years of relevant work experience and are a Member of the Institute of Air Quality Management, full member of the Institution of Environmental Sciences and Chartered Scientist.

Assessment Scope and Approach

5.2 An assessment was undertaken to understand the likely environmental effects of the Scheme in relation to air quality during construction and operation on sensitive receptors. This is presented in ES Volume I Chapter 5: Air Quality. No amendment was made to this assessment as part of the Regulation 25 Response.

5.3 DMRB LA 105 provides guidance for the consideration of the impact of construction activities on vehicle movements. The guidance focuses on considering construction traffic impacts for programmes of more than two years. The construction programme for the Scheme is due to last 41 weeks, therefore these emissions have been scoped out as significant effects are not expected. Construction road traffic emissions are not discussed any further in this report.

5.4 The assessment scope reported in ES covers the impact of particulate matter (PM_{2.5} and PM₁₀) and dust during the construction phase qualitatively.

5.5 A quantitative air quality assessment of public exposure and ecological sensitive receptors was undertaken for the operational phase, with a focus on nitrogen dioxide (NO₂), nitrogen oxides (NO_x) and particulates (PM_{2.5} and PM₁₀). These are the pollutants that are most likely to give rise to pollutant levels near or above air quality objectives due to vehicle emissions.

Study Areas

5.6 As reported within ES Volume I Chapter 5: Air Quality, the study area relating to construction dust risk potential is up to 200m from construction activities. This study area is defined by the DMRB LA 105 Air Quality. DMRB LA 105 also divides the 200m study area further into sensitivity levels which decrease the further away the receptor (both human and designated sites receptors) is from construction activities. As a small junction improvement project, the Scheme was considered to have a 'small' construction dust risk potential as a small junction improvement in line with DMRB LA 105 Table 2.58a (See Appendix AM3.4), therefore the following sensitivity levels were identified using DMRB LA 105 Table 2.58b (See Appendix AM3.4).

5.7 The environmental sensitivity to construction dust decreases with distance from the construction activity. The sensitivity for receptors in relation to the Scheme is noted within the ES as:

- Receptors between 0m - 50m from construction activities were considered to have a High sensitivity to construction dust.
- Receptors between 50m - 200m from the construction activities were considered to have a Low sensitivity to construction dust.

5.8 The location of sensitive receptors, including residential receptors, considered in the assessment are shown on Figure 5-3 in the ES.

5.9 The operational phase local air quality impact assessment considers the impact of pollutant concentrations on sensitive receptors within 200m of the Affected Road Network (**ARN**) once the Scheme is complete and operational. This is because the effect of pollutants from road traffic reduces with distance from the point of release, and beyond 200m these pollutants are likely to have reduced to a concentration equivalent to background concentrations.

- 5.10 The ARN is defined by applying the traffic scoping criteria to all roads within the traffic reliability area (**TRA**) (i.e. the area within which traffic data is considered to be suitable for use in environmental assessments by the traffic team). The traffic scoping criteria are change based (determined under two-way road traffic conditions), where the change is based on the difference in opening year traffic data between the Do-Minimum (without the Scheme) and Do-Something (with the Scheme). If one or more of the following criteria are met, then the road is considered to be part of the ARN:
- Road alignment changed by 5m or more; or
 - Daily traffic flows will change by 1,000 annual average daily traffic (AADT) or more; or
 - Heavy duty vehicle (HDV) flows will change by 200 AADT or more; or
 - A change in speed band.
- 5.11 The final local air quality ARN has taken account of the extent of reliable coverage of the traffic model but has excluded road sections where there are no receptors within 200m of the road. Representative sensitive receptors were selected within 200m of the ARN and then all roads in the TRA within 200m of the receptors were included in the modelled road network.

Sensitive Receptors and the Baseline Conditions

- 5.12 There are two types of receptors that are considered in assessments for air quality changes:
- Public Exposure Receptors - these are sensitive locations where relevant exposure for the air quality criteria being assessed could occur, e.g. residential properties, hospitals or schools. These locations are defined by Defra's LAQM Technical Guidance LAQM.TG (16) (Defra, 2016); and
 - Designated ecological habitats such as Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas and sites listed under the Convention on Wetlands and Wildfowl (Ramsar), Local Nature Reserves, Local Wildlife Sites, Nature Improvement Areas, ancient woodland and veteran trees.
- 5.13 Existing NO₂ monitoring data from West Oxfordshire District Council monitoring sites as well as scheme specific monitoring were used in the model verification for the baseline year of 2018. Additional monitoring was also undertaken in 2021 for the Scheme to provide supplementary information to inform the assessment and provide an indication of the current baseline conditions. This data was not collected specifically for verification given the difference in years between the traffic baseline year of 2018 and the monitoring year of 2021.

Construction Dust Effects

- 5.14 As the Scheme comprises an improvement to a junction, the construction dust risk potential is considered to be Small (in accordance with DMRB LA 105).
- 5.15 There is potential for adverse effects during the construction of the Scheme in relation to construction dust and plant equipment (e.g. Non-Road Mobile Machinery). However, any impacts on public exposure and ecological receptors related to air quality would be temporary (i.e. during the period of the construction works only).
- 5.16 There are a number of sensitive receptors located within 200m of the Site Boundary. For a small scheme, sensitivity to potential dust effects is considered to be high for receptors within 0-100m of the construction activity and low for receptors located between 100m and 200m. There are four residential properties within 50m, a further four within 100m and a further 29 residential properties located within 200m of the Site Boundary. The sensitivity for the Scheme is High for properties up to 50m and Low for properties between 50-200m.
- 5.17 The potential dust effects could be suitably minimised by the application of industry standard mitigation measures contained within the CEMP and a specific Dust Management Plan that

would be appended to the CEMP. With these measures in place, it is anticipated that construction dust would result in a not significant effect.

Operational Air Quality Effects

- 5.18 Within the Witney AQMA, annual mean NO₂ concentrations are predicted to exceed the annual mean objective at many receptors, both with and without the Scheme. Under the 2024 Do-Minimum scenario, 23 receptors modelled within the Witney AQMA are anticipated to experience annual mean NO₂ concentrations in breach of the objective. Comparatively, under the 2024 Do-Something scenario, the number of receptors predicted to exceed the objective decreases to 12. No receptors are expected to experience a new exceedance of the objective as a result of the Scheme.
- 5.19 The significance of effect has been determined against the guideline bands reported and in Table 5-5 of ES Volume 1 Chapter 5: Air Quality. There are predicted small improvements in annual mean NO₂ concentrations at two receptors and medium improvements at 21 receptors exceeding the annual mean objective and of these, concentrations at 11 receptors are predicted to no longer exceed the objective with the Scheme. This is a beneficial improvement in air quality, but as the total number of receptors are not greater than the upper guideline band in the medium or small magnitude categories, this does not constitute a significant effect.
- 5.20 Outside of the AQMA, there are no predicted exceedances of the annual mean NO₂ objective at any of the selected receptors. Increases in annual mean NO₂ concentrations as a result of the Scheme have been predicted at 31 receptors. These increases range from 0.1 µg/m³ to 6.3 µg/m³ (at receptor R26 which is located close to the junction with A40) with concentrations ranging from 7.9 µg/m³ to 26.8 µg/m³ under the 2024 Do-Something scenario.
- 5.21 The outcome of the local air quality assessment is that no significant effects at public exposure receptors due to the Scheme are expected but there are medium beneficial air quality impacts within the Witney AQMA.

6 RESPONSE TO OBJECTOR CONCERNS ABOUT AIR QUALITY

- 6.1 In relation to air quality, the objections from Jeremy Michael Walker, Paula June Walker and Roger Jeremy Michael Walker, John William Kearns and Anne Kearns, and Susan Caroline Morrish (CDs D.2, D.3 and D.4) have raised concerns regarding construction dust.
- 6.2 High Cogges Farm is located to the south-east of the Site Boundary, beyond the 200m construction dust study area. No specific impacts were recorded within the ES in relation to this property, and no significant effects would be expected to arise on this property during construction as a result of construction dust.
- 6.3 The Paddock (High Cogges), Meadow View and Ladymead Cottage are located to the south-east of the Site Boundary, within the 200m study area, within the 100-200m zone as shown on Figure 5-3 of the ES. This area is considered to have a Low sensitivity to construction dust.
- 6.4 Regarding construction dust, no significant effects are anticipated on the properties to the south of the A40 at High Cogges. As a small junction improvement project, the Scheme was considered to have a Small construction dust risk potential in accordance with the DMRB LA 105.
- 6.5 The ES Volume I Chapter 5: Air Quality notes that potential dust effects could be suitably minimised through the application of industry standard mitigation measures and a specific dust management plan. With this in place, the Scheme would not result in a significant effect in relation to construction dust at these receptors.
- 6.6 The ES notes that the Scheme would be subject to measures and procedures as defined within a CEMP. These would include a range of BPM associated with mitigating potential environmental impacts. The measures detailed within the CEMP would be implemented for the duration of the construction phase.
- 6.7 The CEMP would include a range of industry standard good practice construction phase dust mitigation measures required during all works undertaken based on the level of construction dust risk at sensitive receptors. This includes measures focused on preparing and maintaining the site such as screens, vegetating stockpiles, specifying the type of machinery used, surfacing of haul routes, wheel washing, as well as specific or additional measures within a Dust Management Plan, potentially including dust monitoring.
- 6.8 The CEMP will be submitted to the CPA for their agreement and sign off prior to commencement of construction. This is required by the CPA as part of planning condition 3 of planning application R3.0039/22 which states:

“Prior to the commencement of any development, a Construction Environmental Management Plan (CEMP) shall be submitted to and approved in writing by the County Planning Authority, The CEMP shall include the following:

- *A risk assessment of all activities that may be damaging to biodiversity both on and off site;*
- *Identification of “biodiversity protection zones” including a buffer along the full length of the watercourse in the construction zone, and protection zones around trees 2, 3, 4 and 5;*
- *Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts on species and habitats which may be provided as a set of method statements, to include sensitive vegetation clearance methods with regard to dormice (to be undertaken under licence) and a precautionary felling method for trees with moderate bat roost potential;*
- *Timing and scope of additional protected species surveys;*
- *Lighting scheme and safeguards for light-sensitive wildlife;*
- *Pollution prevention measures;*
- *Noise and vibration minimisation measures;*

- *Details of the management and disposal of construction waste;*
- *The location and timing of sensitive works to avoid harm to biodiversity features (such as badger, bats, dormouse and nesting birds);*
- *Details of the times when specialist ecologists will be present on site to oversee works;*
- *Details of protection of measures to footpath users;*
- *Arboricultural Method Statement;*
- *Risk assessment of all activities that may be damaging to trees both on and offsite including survey of Root Protection Areas of trees to be surveyed and plan of action (tree risk management strategy) to ensure their protection during construction;*
- *Location of soil storage mounds showing that they do not extend into the root protection zones of hedges or trees;*
- *Details of responsible persons, roles and lines of communication;*
- *The role and responsibilities on site of an Arboricultural Clerk of Works (ACoW) or similarly competent person and confirmation that they will supervise and oversee construction around trees;*
- *A severe weather emergency planning annex to prevent or reduce the risk of extreme weather related impacts during construction. This shall include details about the implementation of emergency systems and response plans; and*
- *Use of protective fences, exclusion barriers and warning signs.*

The CEMP must clearly set out the mitigation measures for each construction related climate vulnerability impact referenced in the application.

The approved CEMP shall be implemented in full for the duration of construction works and no construction shall take place other than in accordance with the approved CEMP. Should there be a requirement for any changes to the approved CEMP during the construction period, an updated CEMP shall be submitted to and approved in writing by the County Planning Authority and implemented thereafter.

Reason: To prevent unacceptable amenity effects to local residents, and environmental impacts on biodiversity during the construction of the scheme (WOLP Policies EH3 and EH8)."

7 VISUAL ASSESSMENT OVERVIEW

- 7.1 The technical lead for the Landscape and Visual Impact Assessment is an associate landscape architect with extensive experience in the assessment of road and infrastructure schemes. They have 22 years of relevant work experience and are a Chartered member of the Landscape Institute.

Assessment Scope and Approach

- 7.2 An assessment was undertaken to understand the likely environmental effects of the Scheme visual receptors during construction and operation (at both year 1 after opening to traffic, and year 15). This is presented in ES Volume I Chapter 10: Landscape and Visual. No amendment was made to this assessment as part of the Regulation 25 Response.
- 7.3 The approach to the assessment was discussed with the Oxfordshire County Council Landscape Specialist prior to the Scoping stage. The methodology used was based on DMRB LA 107 Landscape and visual effects, in combination with the Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA 3) as published by the Landscape Institute in 2013. It was agreed that the assessment method, in particular the criteria for defining the sensitivity of receptor, be based on GLVIA 3, rather than the set criteria included in DMRB LA 107. The terminology for the level of sensitivity of receptor, magnitude of impact and significance of effect as used in DMRB LA 107 has been retained to allow for comparison between assessments.

Study Area

- 7.4 In line with GLVIA 3, the study area was identified in order to determine a proportionate geographic area for the likely significant adverse effects to the baseline conditions, i.e. the landscape and visual conditions at the time of writing the assessment in August 2021.
- 7.5 The study area was initially defined by a 2.5km buffer from the site. The 2.5km study area was determined by desk-based reviews of landform and vegetation patterns, the generation a Zone of Theoretical Visibility (**ZTV**) and fieldwork.
- 7.6 The ZTV modelled vehicles at 4.5m height (equivalent to a Heavy Goods Vehicle (HGV)) along the alignment of the A40 road corridor and extrapolated their theoretical visibility in relation to a person at 1.7m in height within the study area. As a 'bare-earth' ZTV, the modelling is based on the existing landform and does not include existing vegetation nor buildings.
- 7.7 With reference to Figure 10-4 of the ES (Appendix AM3.6), the 'bare-earth' ZTV demonstrates a theoretically extensive visibility of vehicles on the A40 within parts the study area, particularly to the south of the A40. Theoretical visibility is constrained by topography to areas mainly to the east of the site, including High Cogges and South Leigh; but more reduced around Cogges Hill, south of Springhill Farm and along the lower part of the Windrush valley.
- 7.8 Fieldwork was undertaken from publicly accessible locations between March and July 2021, in both winter and summer conditions. From the fieldwork, it was assessed that the extent of vegetation cover within the site and in the surrounding study area limited long-distance views of the site, particularly from the east. Visibility of the site is generally limited to areas within, alongside (e.g. from adjacent PRow) and immediately to the south-east, where the elevated section east of the underpass may be more apparent. From the fieldwork, the extent of actual visibility was determined to be smaller than suggested by the ZTV.
- 7.9 It was therefore considered appropriate to reduce the study area from 2.5km to 1.5km from the site, as shown on Figure 10-4 of the ES (Appendix AM3.6). The extent of the ZTV, combined with the effects of screening by landform and vegetation; the scale of the scheme; and the presence of the B4022 and the A40, were considered to negate the potential for significant landscape and visual effects beyond 1.5km.

Sensitive Receptors and Baseline Conditions

- 7.10 Sensitive visual receptors were identified from a review of mapping, ZTVs, fieldwork from publicly accessible locations and consultation with the Oxfordshire County Council Landscape Specialist to establish a representative range of people's views.
- 7.11 A range of visual receptors (VR) were identified and agreed with the Council. These receptors include residents, recreational users (including cyclists and pedestrians) and motorists.
- 7.12 The final selection of representative viewpoints (VP) and the ZTV are provided in Figure 10-4 of the ES (Appendix AM3.6).
- 7.13 The baseline scenario for the assessment is the landscape character and features across the site and study area, alongside the existing visibility, as recorded by the fieldwork during August 2021. This is documented in full within the ES Chapter 10: Landscape and Visual.

Summary of Significant Effects

- 7.14 Based on the initial classification of effects that take account of embedded mitigation, significant adverse effects are predicted for the following visual receptors:
- Recreational receptors using PRoW (Footpath 410/42/10 (Witney) at Cogges Hill (VR5, Figure 10-5.5 Appendix AM3.6) and on recreational receptors using PRoW Footpath 353/31/10 (South Leigh) behind The Paddock, High Cogges (VR9, Figure 10-5.9), during the construction stage.
 - Recreational receptors using PRoW Footpath 353/31/10 (South Leigh) behind The Paddock, High Cogges (VR9, Figure 10-5.9 Appendix AM3.6), at Year 1.
- 7.15 Based on the initial classification of effects that take account of embedded mitigation, effects on all other visual receptors are non-significant adverse slight to neutral.
- 7.16 At VR10 (recreational receptors using the PRoW Footpath 353/31/10 (South Leigh) east of Edgeways, High Cogges), a slight beneficial effect is anticipated, from increased levels of screening to the underpass by woodland planting when mature.

8 RESPONSE TO OBJECTOR CONCERNS ABOUT VISUAL EFFECTS

8.1 In relation to visual effects, the objections from Jeremy Michael Walker, Paula June Walker and Roger Jeremy Michael Walker, John William Kearns and Anne Kearns, and Susan Caroline Morrish (CDs D.2, D.3 and D.4) have raised concerns regarding:

- Visual intrusion as a result of construction (Construction Visual Effects)
- Visual intrusion resulting from the subsequent use of the Scheme (Operational Visual Effects); and
- no mitigation landscaping works having been agreed by the Applicant (Landscape Mitigation).

Representative Viewpoints

8.2 The nearest representative viewpoints for the properties under consideration are considered to be:

- **Viewpoint 8 (VP8) – recreational receptors using the PRoW Footpath 353/30/10 (South Leigh) which runs between Springhill Farm and High Cogges.** This viewpoint is the closest from a publicly accessible location to residential receptors at High Cogges Farm. It was requested by the Council Landscape Specialist (email response dated 8th April 2021) to reflect a ‘short-lived open view’ from the footpath.
- **Viewpoint 9 (VP9) – recreational receptors using PRoW Footpath 353/31/10 (South Leigh) behind The Paddock, High Cogges; also residential receptors at The Paddock.** This viewpoint is the closest from a publicly accessible location to residential receptors at The Paddock. The Council Landscape Specialist requested that this viewpoint be taken ‘at the back of the houses, where the PRoW enters the open field’. Based on on-site observations from publicly accessible locations, the effects reported for viewpoint 9 are considered to be broadly comparable to those expected for The Paddock (High Cogges), Meadow View and Ladymead Cottage.

8.3 Viewpoints referred to are shown in Figure 10-4 of the ES (Appendix AM3.6). The full assessment of visual impacts for these two viewpoints is documented in Appendix AM3.5 which is an extract from Appendix 10-E: Likely Visual Effects.

Construction Visual Effects

High Cogges Farmhouse

8.4 Viewpoint 8 is located within a short gap between a hedgerow and a modern farm building around 120m east of the main High Cogges Farm farmhouse. It represents a ‘worst case’ view from Footpath 353/30/10 (South Leigh), from where views of the Site (the area within the Site Boundary) are otherwise screened by both the residential properties and outbuildings. Glimpsed views into the adjacent field are available, with the A40 set below the horizon in a shallow cutting.

8.5 Due to the intervening buildings and vegetation immediately behind the buildings, the works would not be visible. No change would be expected. This effect reflects recreational receptors on the footpath, rather than residential receptors; a publicly accessible representative view for the latter was not available. However, aerial mapping and observations would indicate that views to the Scheme from the main farmhouse and two adjacent buildings to the east would be screened by mature trees and other outbuildings. On this basis, no significant visual effects for residential receptors associated with these properties would be expected during construction.

8.6 Viewpoint 9 is located around 200m north of the residential properties and represents a more open view from the far side of the field to the north. It represents a ‘worst case’ view from a single converted property that lies to the north of those noted above, for which the residential

status is not known. Observations on site indicated that a slight topographical rise between this property and the Site would reduce views, with further screening by mature trees that will be retained along much of the intervening field boundary. Although a moderate adverse (significant) effect was recorded in the ES for the construction phase for this viewpoint, these factors, along with the additional distance (around 200m) between the property and viewpoint, would mean that effects are not likely to be significant for receptors in this instance.

The Paddock (High Cogges), Meadow View and Ladymead Cottage

- 8.7 The Paddock (High Cogges) and Meadow View are located approximately 140m and 155m east of viewpoint 9 respectively. Aerial mapping indicates that an open aspect towards the Site is available from the rear gardens. Ladymead Cottage is located approximately 174m east of viewpoint 9.
- 8.8 Viewpoint 9 is located at the most open location on the adjacent Footpath 353/31/10 (South Leigh). This is considered to be broadly representative of views from the rear of nearby properties, although each will be subject to localised levels of screening by vegetation within gardens and along curtilage boundaries. For example, Ladymead Cottage does not have intervening vegetation between the Site Boundary and the property, but does appear (from aerial photography) to have more enclosed rear boundary than The Paddock (High Cogges) and Meadow View.
- 8.9 The ES notes that the clearance of vegetation along the line of the A40, including the line of *leylandii* conifers, will open views of construction and the existing concrete underpass. During construction, machinery to facilitate earthworks will be visible, potentially to both sides of the road, includes possible glimpses of the compound to the north. The mature hedgerow oak trees will be retained, although the two oak and pear set closer to the highway boundary will be removed. The construction phase will be of a relatively short duration and some elements will be reversible. This is noted to be a moderate impact, resulting in a moderate adverse (significant) effect during construction.

Operational Visual Effects

High Cogges Farmhouse

- 8.10 As there would be no visibility of the Scheme resulting from intervening built form and vegetation immediately behind the buildings, the Scheme would not be visible in operation. No changes, resulting in neutral (not significant) effects were noted in the ES.

The Paddock (High Cogges), Meadow View and Ladymead Cottage

- 8.11 For viewpoint 9, one year after opening, the removal of the roadside vegetation and the low height of the proposed planting would increase views of the A40 and the underpass, potentially as far as the open field beyond. New signage, lighting columns and traffic signals may also be visible, increasing the influence of highways elements in the view. This results in a moderate adverse impact and a moderate adverse (significant) effect.
- 8.12 By 15 years after opening, the proposed native planting along the boundary will have matured and is likely to be better integrated into the wider landscape than the existing *leylandii* hedge. Additional hedgerow trees to the south of the new westbound on-slip and around the attenuation basins may result in improved levels of screening to the underpass. The impact for viewpoint 9 15 years after opening will be negligible, resulting in a neutral (not significant) effect.

Mitigation Landscaping Works

- 8.13 ES Volume I Chapter 7: Landscape and visual effects notes that significant visual effects would be likely immediately after construction of the Scheme at The Paddock (High Cogges) (which would be representative of the effects at Meadow View and Ladymead Cottage). The visual effects at High Cogges Farm would not be significant.

- 8.14 One year after opening, the removal of the roadside vegetation and the low height of the proposed planting would increase views of the A40 and the underpass, potentially as far as the open field beyond. New signage, lighting columns and traffic signals may also be visible, increasing the influence of highways elements in the view. This results in a moderate adverse impact and a moderate adverse (significant) effect.
- 8.15 The landscape design proposed specifically provides the following to mitigate the Scheme's visual impacts:
- new hedgerow and tree planting adjacent to the new slip roads;
 - enhancement of woodland along the lines of the existing pruned hybrid poplar trees along the south side of the A40 to increase screening from High Cogges;
 - new woodland screening alongside hedgerow trees, to provide screening to the view from residential properties including The Paddock (High Cogges), Meadow View and Ladymead Cottage; and
 - the use of the lowest possible output LED luminaires on road lighting columns (dimmed to 75% output between the hours of 00:00 and 06:00 to mitigate light intrusion).
- 8.16 By 15 years after opening, the proposed native planting along the boundary will have matured and is likely to be better integrated into the wider landscape than the existing leylandii hedge. Additional hedgerow trees to the south of the new westbound on-slip and around the attenuation basins may result in improved levels of screening to the underpass. The impact for viewpoint 9, 15 years after opening, will be negligible resulting in a neutral (not significant) effect.
- 8.17 Some additional tree planting was also agreed through discussion with South Leigh and High Cogges Parish Council in summer 2023. This additional tree planting alongside the on-slip and around the balancing pond is reflected within the amended Scheme landscaping design in the Section 73 application. The latest landscaping plans have been provided to the landowners and we await further comments from the landowners.
- 8.18 A detailed hard and soft landscaping design will be submitted to the CPA for their agreement and sign off. This is required by the CPA as part of planning condition 10 of planning application R3.0039/22 which states:

No development shall take place until full details of both hard and soft landscape works have been submitted to and approved in writing by the County Planning Authority. These details shall include:

- (a) landscape masterplan (including existing and proposed vegetation, Sustainable Urban Drainage (SUDS) where this forms part of the overall landscape scheme);*
- (b) proposed finished levels or contours;*
- (c) vehicle and pedestrian access and circulation areas;*
- (d) hard surfacing materials;*
- (e) structures and minor artefacts (e.g. storage units, signs, lighting etc.);*
- (f) ecological features; and*
- (g) soft landscape proposals which shall include*
 - i. planting plans and plant specifications noting species, plant sizes and proposed numbers/densities where appropriate as well as seed mixes and their provenance,*
 - ii. information on implementation and ground conditions and*
 - iii. information on ongoing maintenance.*

The approved scheme shall be implemented in full in accordance with the timescales set out in the approved scheme.

Reason: In the interest of the visual amenity of the area and to ensure the creation of a high-quality environment. (WOLP Policies EH2 and EH4).

- 8.19 The soft landscape proposals will include planting plans and plant specifications, plant sizes and proposed numbers/densities where appropriate as well as seed mixes and their provenance, information on implementation and ground conditions and information on ongoing maintenance.
- 8.20 Within discussions on landscaping the landowners have been informed that the Council will require the contractor to maintain the landscaping works for a 5-year period following construction of the Scheme to ensure the planting becomes established in line with the landscaping design including replacing any planting that fails. After this period, the Council will maintain the landscaping in accordance with a Landscape and Ecological Maintenance Plan and Habitat Management and Monitoring Plan to ensure that the landscaping achieves its target condition in line with the Biodiversity Net Gain Assessment.

9 CONCLUSION

- 9.1 The EIA has been undertaken by appropriate specialists in accordance with recognised industry guidance and a scope agreed with the CPA and relevant Council specialists.
- 9.2 Extensive survey has informed the design development prior to the presentation of the Scheme design for planning. This has informed embedded mitigation, such as the lighting design to reduce light spill, the drainage design to avoid flooding and water quality issues, the retention of key trees and woodland areas where possible, and new landscape planting which has been targeted to the likely adverse visual effects of the Scheme. Construction impacts will be managed through the implementation of a CEMP and good communication with local residents to reduce disturbance to a minimum.
- 9.3 Overall, this has reduced the extent over which significant effects would result from the Scheme to the areas in close proximity. The Scheme will result in some disbenefits temporarily and permanently; alongside some key benefits for air quality and accessibility that form part of the main objectives for the delivery of the Scheme.
- 9.4 In terms of the objections, construction has the potential to result in significant adverse effects in relation to construction noise for properties to the south of the A40 at High Cogges, including The Paddock (High Cogges), Meadow View, Ladymead Cottage and High Cogges Farm. Planning conditions require further consideration of these impacts as the programme and construction methodology develops further, such that this could be managed to a minimum.
- 9.5 Construction has the potential to result in significant adverse visual effects for The Paddock (High Cogges), Meadow View and Ladymead Cottage. These would reduce by year 1 through landscape mitigation planting which is included in the Scheme design. At year 15 no significant residual effects would remain.
- 9.6 No significant adverse effects would arise in relation to construction dust or operational noise for The Paddock (High Cogges), Meadow View, Ladymead Cottage and High Cogges Farm. No significant adverse visual effects are predicted for High Cogges Farmhouse.
- 9.7 The ES has concluded that further noise mitigation to mitigate the residual significant effects of operational traffic noise on properties along the B4022 is not viable.

10 STATEMENT OF TRUTH AND DECLARATION

- 10.1 I confirm that, insofar as the facts stated in my proof evidence are within my own knowledge, I have made clear what they are and I believe them to be true and that the opinions I have expressed represent my true and complete professional opinion.
- 10.2 I confirm that my proof of evidence includes all facts that I regard as being relevant to the opinions that I have expressed and that I have drawn attention to any matter which would affect the validity of those opinions.
- 10.3 I confirm that my duty to the Inquiry as an expert witness overrides any duty to those instructing or paying me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 10.4 I confirm that, in preparing this proof of evidence, I have assumed that same duty that would apply to me when giving my expert opinion in a court of law under oath or affirmation. I confirm that this duty overrides any duty to those instructing or paying me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 10.5 I confirm that I have no conflicts of interest of any kind other than those already disclosed in this proof of evidence.



ALISON LOUISE MORRISSY

20 February 2024