

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.3 Environmental Statement Appendices

Appendix 8.15 Assessment of Air Quality Impacts on Ecological Features

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Planning Act 2008

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**The Infrastructure Planning
(Applications: Prescribed
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**A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]**

**ENVIRONMENTAL STATEMENT APPENDICES
Appendix 8.15 Assessment of Air Quality
Impacts on Ecological Features**

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1. Introduction and methodology

1.1. Introduction

- 1.1.1. This document has been produced as an Appendix to the Environmental Statement (ES) (**TR010066/APP/6.1**) for the A46 Coventry Junctions (Walsgrave) Scheme to detail the assessment of air quality impacts relating to nitrogen (N) deposition, ammonia (NH₃) deposition and where relevant nitrogen oxide (NO_x) deposition upon ecological features.

1.2. Assessment methodology

- 1.2.1. This assessment has been undertaken in accordance with the Design Manual for Roads and Bridges (DMRB) LA 105 Air quality (2019). The assessment determines the air quality impacts, including from N and NH₃ deposition, upon ecological features including designated sites, nature improvement areas, ancient woodland and veteran trees within 200m of the triggered links (any road which meets the traffic scoping criteria as outlined in Section 5.7 of ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**)).
- 1.2.2. The assessment has been summarised in ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**) and reported in full herein.
- 1.2.3. Designated sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsars, Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and Local Wildlife Sites (LWSs). In accordance with DMRB LA 105 Air Quality sites designated for riverine (running water) hydrological habitat have been scoped out.
- 1.2.4. This assessment has also been undertaken with reference to the Chartered Institute of Ecology and Environmental Managements (CIEEMs) *Advisory Note: Ecological Assessment of Air Quality Impacts* (2021) and *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations* (2018), which despite being primarily for assessment upon internationally designated sites still has many points of relevance to this assessment.
- 1.2.5. ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**) screens the scoped in ecological features (those within 200m of the triggered links) following modelling of N deposition, NH₃ deposition and NO_x. Air quality modelling includes modelling for a 'do minimum' scenario which shows the future baseline in the absence of the Scheme, and a 'do something' scenario which would show the deposition rates during Scheme operation. In accordance with the Institute of Air Quality Managements *A guide to the assessment of the air quality impacts on*

designated nature conservation sites (2020), features screened in upon which there could be potential effects are those for which:

- the modelled change in N deposition in the 'do something' scenario (in other words modelled levels in the opening year of the Scheme) exceeds 1% of the lower critical load, and/or
- the modelled NH₃ deposition in the 'do something' scenario exceeds the non-statutory critical loads of 1µg/m³ (lichens and bryophytes) or 3µg/m³ (higher plants)

- 1.2.6. Also scoped into the ecological assessment are those ecological features for which modelled background N deposition rates (baseline prior to the Scheme) are already above the lower critical load and the Scheme would result in an adverse impact (an increase in N deposition) thereby worsening any potential effects.
- 1.2.7. A focus on N deposition within an ecological impact assessment has been shown to adequately address changes in depositions of NO_x, and using N deposition has the advantage of being habitat specific (CIEEM, 2021). Therefore, NO_x modelling has not been used to inform the impacts from changes in air quality upon ecological features within this Appendix. However, where levels of N deposition exceed 1% of the lower critical load, consideration has also been given to NO_x in accordance with CIEEMs *Advisory Notes: Ecological Assessment of Air Quality Impacts* (2021). In these instances, consideration has also been given to whether modelling has identified a change in NO_x levels which exceed 1% of the statutory NO_x critical level of 30µg/m³.
- 1.2.8. Critical loads are those identified on the Air Pollution Information System (APIS) website (2016). For statutory designated sites, qualifying features and features mentioned on the citation only have been assessed. Where critical loads are not available for qualifying features of statutory designated sites, these qualifying features have been understood not to be sensitive to N deposition or NH₃, unless specifically identified as sensitive. Where critical loads are not available for specific habitat types for assessment of non-statutory designated sites, or where the citation includes insignificant information to confirm specific habitat type to those identified on APIS, the lowest critical load for a specific habitat of the same broad habitat type available has been used. The exception is for specific habitats which would not be considered present in the area based on professional judgement (for example, alpine and subalpine grasslands and mountain hay meadows).
- 1.2.9. One tree (T11) was identified within the arboricultural survey (ES Appendix 7.4 (Arboricultural Impact Assessment) (**TR010066/APP/6.3**)) as 'beginning to veteranise' however has not yet been classified as veteran. In consideration of

the future baseline with regards to T11, an assessment regarding air quality impacts on this tree has been undertaken based on modelling of a nearby veteran tree also identified within the arboricultural survey (T12) which is located closer to the Order Limits. The modelling for T12 will be used to assess potential air quality impacts upon T11. Further veteran trees within 200m of the triggered links and subject to assessment were identified on the Woodland Trust's Ancient Tree Inventory (The Woodland Trust, 2024).

1.3. Potential impacts

Construction

- 1.3.1. Air quality impacts in relation to N deposition, NH₃ deposition and NO_x during construction have been scoped out within ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**). Scoping out of air quality impacts during construction has been agreed with the Planning Inspectorate as detailed within ES Appendix 4.1 Scoping Opinion Response.

Operation

NH₃ deposition

- 1.3.2. As detailed within ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**), modelling has identified an increase in NH₃ deposition of >1% of the lower critical load at Willenhall Wood LNR, LWS and an ancient woodland site.
- 1.3.3. Modelling has demonstrated that the Scheme would have a beneficial or partial localised beneficial impact (a reduction) in NH₃ deposition at a number of modelled features including Coombe¹ Pool SSSI, Sowe Valley: Wyken Croft to Antsy Road LWS, Sowe Valley Dorchester Way LWS, Gainford Rise LWS, Piles Coppice LWS, Lower Sowe Meadows LWS and Stonebridge Meadows LWS. As NH₃ deposition is considered relating to a lower critical load, and these ecological features are not experiencing baseline levels above the lower critical load, these beneficial effects are not considered further within this assessment.
- 1.3.4. Modelling has also demonstrated that the Scheme would have an adverse or partial localised adverse impact (an increase) on NH₃ deposition at a number of modelled features including Coombe Pool SSSI, Herald Way Marsh SSSI, Gainford Rise LWS, Piles Coppice LWS, Baginton Fields LWS, Lower Sowe Meadows LWS, Stonebridge Meadows LWS and a parcel of ancient woodland at Binley Common Farm Wood. As the increase in NH₃ deposition at these ecological features does not result in an exceedance of the lower critical load, this would not result in an effect upon the features as a result of the Scheme, and as such these impacts will not be considered further in Section 9 of ES

¹ Coombe is also spelt as Combe in some databases. For consistency, hereafter the spelling of Coombe will be used.

Chapter 8 (Biodiversity) (**TR010066/APP/6.1**). This information has been included in consideration of assessment of cumulative impacts in ES Chapter 15 (Combined Cumulative Effects) (**TR010066/APP/6.1**).

N deposition

- 1.3.5. Modelling for N deposition, as detailed within ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**), has identified benefits and disbenefits with regards to N deposition at identified ecological features. Modelling for the following ecological features has identified an increase in N deposition exceeding the lower critical load with the predicted change >1% of the lower critical load:
- Coombe Pool SSSI
 - Herald Way Marsh SSSI
 - Willenhall Wood LNR, LWS
 - Piles Coppice LWS
 - Gainford Rise LWS
 - Stretton Croft LWS
 - One veteran tree (T12) adjacent to the west of the Order Limits in proximity to Hungerley Hall Farm (see ES Figure 8.2 (Ecological Constraints) (**TR010066/APP/6.2**))
- 1.3.6. Modelling for N deposition, as detailed within ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**), has identified a beneficial reduction of >1% change of the lower critical load in N deposition at the following ecological features:
- Coombe Pool SSSI
 - Sowe Valley Dorchester Way LWS
 - Sowe Valley: Wyken Croft to Ansty Road LWS
 - Gainford Rise LWS
 - One veteran tree to the west of the Scheme adjacent to the B4082 Clifford Bridge Road (ES Figure 8.2 (Ecological Constraints) (**TR010066/APP/6.2**))
- 1.3.7. Coombe Pool SSSI and Gainford Rise LWS would experience both adverse and beneficial impacts with regards to N deposition, with modelled transects showing an increase in N deposition in some areas and a decrease in others. The modelled beneficial reductions in N deposition impacting the Sowe Valley Dorchester Way LWS, Sowe Valley: Wyken Croft to Ansty Road LWS and one veteran tree adjacent to the B4082 are not discussed within Section 9 of ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**) as the modelled N deposition levels are still above the identified lower critical load at which impacts are

anticipated to occur. However, these features are listed here to allow for an assessment of cumulative impacts.

- 1.3.8. One veteran tree within Piles Coppice LWS is beneficially impacted by the Scheme with regards to N deposition. N deposition levels at the tree, already 0.9kg N/ha/yr above the lower critical load, would in the 'do something' scenario increase to 12kg N/ha/yr, however this is -0.01kg N/ha/yr less than would occur in the 'do minimum' scenario. As the N deposition would still be above the lower critical threshold this is not discussed in Section 9 of ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**) as a beneficial impact solely due to the Scheme, however, may contribute a cumulative beneficial impact.
- 1.3.9. Effects on these ecological features are considered in ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**) and summarised within this ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**). The modelled ecological features are shown on Figure 1a and Figure 1b of this appendix (in Annex A). Figures 2a to 2c, 3a to 3c and 4a to 4c (Annex A) show modelled levels for NO_x, NH₃ and N deposition respectively.
- 1.3.10. Modelled ecological features which are adversely impacted by N deposition (features which would see an increase), however not by changes >1% of the lower critical load, include Stonebridge Meadows LNR, Lower Sowe Meadows LWS and one veteran tree within Piles Coppice LWS. Table 1-1 below details the modelled N deposition for these ecological features, in which all figures are rounded to two decimal places.
- 1.3.11. These ecological features are considered in this assessment in Section 9 of ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**) as any increase in N deposition due to the Scheme can be considered as worsening the impact from loads already above the minimum critical load.

Table 1-1: Modelled change in N deposition at ecological features which would see an increase of <1% of the lower critical load however are already above this load.

Ecological feature	Lower critical load	Maximum change as a % of lower critical load**	Do minimum N deposition*	Maximum change in N deposition from the Scheme** only
Stonebridge Meadows LNR	10 kg Na/ha/yr	0.4%	17.2 kg N/ha/yr	0.04 kg N/ha/yr
Lower Sowe Meadows LWS	10 kg Na/ha/yr	0.79%	18.7 kg Na/ha/yr	0.08 kg Na/ha/yr
Veteran tree within Piles Coppice	10 kg Na/ha/yr	0.02%	12.07 kg Na/ha/yr	<0.01 kg Na/ha/yr

*at the location of the maximum change

** the change from the Scheme only is taken as the difference between the 'do minimum' scenario and the 'do something' scenario

NO_x

- 1.3.12. Modelling of NO_x has identified levels above the 30µg/m³ at Willenhall Wood LNR, LWS and ancient woodland and Baginton Fields LWS.

1.4. Assessment of likely significant effects (during operation) Coombe Pool SSSI

- 1.4.1. The Scheme would result in changes in N deposition affecting the SSSI during the operational phase. With regards to N deposition the Scheme has a beneficial impact (a reduction in N deposition) in some areas and an adverse impact (an increase in N deposition) in others.
- 1.4.2. Modelling demonstrates that reductions in N deposition >1% of the lower critical load would be experienced in the north-westernmost corner of the SSSI where the realigned A46 mainline begins to move away from the SSSI.
- 1.4.3. The increases in N deposition >1% of the lower critical load would be experienced further south, and south of the current junction location where the SSSI is located alongside the A46. Table 1-2 below details the results from the two modelled transects located within the SSSI which resulted in an increase >1% of the lower critical load. Only the figures with the said increase are presented, other points on the transect are excluded from the table. Two transect points have been included as the boundary of the SSSI is located between the two transect points, and as such the SSSI would experience N deposition above the levels of the first transect point located within the SSSI itself.

Table 1-2: Modelled N deposition results for two transects showing only points within the SSSI for which an increase of >1% of lower critical load was modelled

Approximate distance (m) into the SSSI	Change in N deposition (kg N/ha/yr)	% Change in N deposition	Habitats impacted
2.5m outside*	11.11	11.11%	Woodland
8m	0.6	5.97%	
18m	0.36	3.6%	
28m	0.24	2.38%	
38m	0.17	1.66%	
48m	0.13	1.27%	
58m	0.1	1.03%	
8m outside**	0.61	6.10%	Woodland

Approximate distance (m) into the SSSI	Change in N deposition (kg N/ha/yr)	% Change in N deposition	Habitats impacted
2m	0.46	4.61%	
12m	0.37	3.71%	
22m	0.31	3.08%	
32m	0.26	2.63%	
42m	0.23	2.3%	
52m	0.2	2.02%	
62m	0.18	1.78%	
72m	0.16	1.64%	
82m	0.15	1.47%	Pool
92m	0.14	1.39%	
102m	0.13	1.27%	
112m	0.12	1.19%	
122m	0.11	1.12%	
132m	0.1	1.03%	

*This transect point is included as approximately 7.5m of the SSSI is between this point and the next.

**This transect point is included as approximately 2m of the SSSI is between this point and the next.

- 1.4.4. Baseline N deposition levels for all modelled areas of the SSSI are 11kg N/ha/yr. No critical load data is available on the APIS website for the species identified as qualifying features of the SSSI (grey heron *Ardea cinerea*, shoveler *Anas clypeata* and breeding bird assemblages associated with lowland open waters and their margins).
- 1.4.5. APIS quotes a critical threshold of 3kg N ha/yr – 10kg N/ha/yr for priority habitat permanent oligotrophic and dystrophic ponds and pools. The Coombe Pool has not been confirmed to be oligotrophic or dystrophic and consultation with Coventry City Council regarding eutrophication at the SSSI has identified that Coombe Pool prior to the Scheme is subject to large algal blooms and extensive weed growth, impacts which often make Coombe Pool unfishable. The Council reported that there is no targeted management for eutrophication. As oligotrophic and dystrophic lakes are characterised by low nutrient levels they can be considered more sensitive to N deposition than other water bodies. As such it is considered appropriate, and a worst-case scenario, to take a lower critical load for Coombe Pool of 10kg N/ha/yr to assess potential impacts on Coombe Pool itself and the three aforementioned qualifying features associated

with Coombe Pool. This lower critical load has been applied to the modelled outputs in Table 1-2.

- 1.4.6. The lower critical load for broadleaved deciduous woodland, a terrestrial habitat present extensively within the SSSI and which is identified within the SSSI citation as supporting a diverse breeding bird community, as identified on APIS is also 10kg N/ha/yr.
- 1.4.7. The modelled 'do minimum' scenario provides the future baseline data for N deposition in the absence of the Scheme. Modelled N deposition rates in the 'do minimum' scenario impacting the SSSI range from 13.05kg N/ha/yr to 18.14kg N/ha/yr and as such are significantly (>1%) above the lower critical load of 10kg N/ha/yr. This will be taken into consideration in the below assessment of impacts due to N deposition in the 'do something' scenario of the Scheme.
- 1.4.8. With baseline deposition levels of 11kg N/ha/yr, the SSSI and ecological features within it including shoveler, grey heron, breeding birds associated with lowland open waters and their margins and breeding birds within the woodland habitat, are already experiencing levels of N deposition 1kg N/hg/yr above the identified lower critical load for Coombe Pool and the woodland habitat. This has been taken into account in the assessments upon individual qualifying features below.
- 1.4.9. N deposition can be impacted by topography. The Scheme includes the removal of the existing bund between the A46 and the SSSI. This bund would be reinstated at a lower height than the bund within the baseline, however the bund would still provide an embankment along the road verge which would deflect some N deposition upwards.
- 1.4.10. The woodland habitat between the A46 and the Coombe Pool is considered a rough surface habitat (APIS, 2016) (and as such better at intercepting N deposition than for example grassland habitat) and would intercept N deposition from the A46. As such, the modelled statistics within Table 1-2 likely present a worse-case scenario than would occur with regards to N deposition, as the modelling was undertaken without regard to habitats present on the transect. The interception of N deposition by the woodland between the A46 and Coombe Pool, and therefore the likely lower actual kg N/ha/yr depositions will be taken into consideration in the below assessment.
- 1.4.11. The sources of N deposition at Coombe Pool SSSI, as identified by APIS, include 6.11% attributable to fertiliser application. The creation of woodland habitat within the Order Limits to the north of Coombe Pool SSSI, which within the baseline is intensively managed arable land, would result in a reduction in N deposition from this source at this location. As such this can be considered a

beneficial effect of the Scheme upon the Coombe Pool SSSI with regards to N deposition and will be considered within the below assessments.

- 1.4.12. The heronry at Coombe Pool SSSI is located on the far east side of Coombe Pool, beyond the impacts of increased N deposition during the operation of the Scheme. As such no direct impacts are anticipated upon the heronry itself. Heron was observed on Coombe Pool during breeding bird surveys and were confirmed breeding. As herons roosting in woodland would roost in tree canopies and impacts of N deposition upon woodlands impact the ground flora, no impacts upon heron are anticipated as a result of N deposition during the operational phase. Nitrogen enrichment of waterbodies can impact upon fish populations through eutrophication and toxicity thereby increasing fish mortality. The increase in N deposition from the operation of the Scheme would impact only a small area of Coombe Pool (approximately 1.22ha), with a much larger area of Coombe Pool (approximately 34.78ha) not impacted. Additionally, potential foraging habitat exists in the wider un-impacted area including Smite Brook upstream of the Scheme to the east and further potential foraging areas to the south in Brandon Marsh and the River Avon basin. Impacts upon grey heron within the SSSI due to a worst-case scenario depletion in fish supply due to increases in N deposition within the impacted area of Coombe Pool would be a permanent minor adverse impact. This would result in a slight or moderate adverse effect in accordance with the significance matrix in the DMRB LA 108. However, given the small footprint of the area of Coombe Pool impacted relative to the size of Coombe Pool the effect on the SSSI qualifying feature of national importance is assessed as **slight adverse (not significant)**.
- 1.4.13. No shovelers were recorded using Coombe Pool during the wintering bird surveys. Consultation with the Ecologist for Coombe Pool SSSI reported that Shoveler use of Coombe Pool for breeding has much declined with “about two to three pairs” present. It is considered that the creation of new reserves and biodiversity improvements within the wider area has resulted in a reduction of the importance of the Coombe Pool SSSI to the shoveler populations. This can therefore be considered to hold true for other wildfowl. The APIS website identifies a sensitivity to N deposition with regards to shoveler. Potential adverse impacts of increased N deposition within Coombe Pool upon shoveler, and other wintering wildfowl, include a reduction of available prey due to smaller numbers of and/or changes in assemblages of aquatic invertebrates and crustaceans within Coombe Pool. Given that no shoveler were recorded during the breeding and wintering bird surveys, the likely reduction in importance of Coombe Pool for the species within the context of the wider area, and the small area of Coombe Pool negatively impacted by increases in N deposition, the level of impact is assessed as minor adverse resulting in a **slight adverse effect (not significant)**. This should be taken as a worst-case scenario with regards to

shoveler, as in the event shovelers were not present within Coombe Pool, as was the conclusion based upon surveys alone, there would be no impact. This assessment is also applicable to other wintering wildfowl in the SSSI.

- 1.4.14. Waterbirds recorded on Coombe Pool during the breeding bird surveys and considered possibly or probably breeding include great-crested grebe *Podiceps cristatus*, little egret *Egretta garzetta*, and tufted duck *Aythya fuligula*. In addition to heron, waterbird species recorded on Coombe Pool and confirmed breeding during the surveys include Birds of Conservation Concern (BoCC) green-listed coot and amber-listed mallard *Anas platyrhynchos*, moorhens *Gallinula chloropus* and mute swans *Cygnus olor*. Potential impacts of N deposition on these species include impacts on food availability due to a reduction in, or a change in the composition/assemblage of aquatic macrophytes, aquatic invertebrate, fish, and of relevance to great-crested grebe and little egret, amphibians. Given the small area of Coombe Pool affected by increase in N deposition, the availability of suitable prey within the wider unaffected area of Coombe Pool and the presence of populations of these bird species within the baseline which is already experiencing N deposition above the lower critical load, the level of impact is assessed as minor adverse. There would therefore be a **slight adverse effect (not significant)** upon the breeding bird assemblages associated with lowland open waters and their margins.
- 1.4.15. Potential impacts of increased nitrogen on the diverse breeding and wintering bird assemblages present within the SSSI woodland as identified on the citation would occur through impact on the woodland habitat. Impacts upon woodland can indirectly impact the birds present through changes in food source type, quantity and quality, timing of food source availability, changes in vegetation cover required for protection and changes in the environment for predators. Given the small area of SSSI woodland affected by increases in N deposition, the availability of food sources in woodland and other habitats within the wider area, including areas of SSSI woodland unaffected, and the presence of populations of these species within the baseline which is already experiencing N deposition above the lower critical load, the level of impact is assessed as minor adverse. There would therefore be **slight adverse effect (not significant)** upon the breeding and wintering bird assemblages within the SSSI woodland.

Herald Way Marsh SSSI, LNR and LWS

- 1.4.16. Herald Way Marsh SSSI, LNR and LWS consists of a mosaic of wetland communities, grassland, scrub and woodland habitats and the SSSI is designated primarily for its assemblage of invertebrates.
- 1.4.17. The APIS website identified the invertebrate assemblage as being a feature sensitive to N deposition, however confirmed no comparable habitat with

established critical load estimates were available. As such a lower critical threshold of 10kg N/ha/yr has been applied to the N deposition modelling for the SSSI, LNR and LWS. This lower critical load is identified on APIS for wetland habitats valley mires, poor fens and transition mires and also for broadleaved woodland. As invertebrate assemblages are most likely to be impacted from increase in N deposition through alterations to their habitat this is considered the most appropriate lower critical load.

- 1.4.18. The changes in N deposition resulting from the Scheme would impact the SSSI approximately 5m to 40m from the A46, the LNR approximately 15m to 40m from the A46 and the LWS from approximately 20m to 40m from the A46, due to the slight differences in the designated site boundaries. Changes in N deposition to the SSSI only are discussed as the statutorily protected SSSI incorporates the LNR and LWS. Additionally, the impacts on the SSSI would be considered a worst-case scenario for the LNR and LWS however it should be noted impacts to the LNR and LWS would be slightly less. The change in N deposition in the impacted areas of the SSSI is between 1.05% and 2% of the lower critical load and would result in N deposition of between 15.49kg N/ha/yr and 20.53kg N/ha/yr in the modelled 'do something' scenario.
- 1.4.19. Potential impacts of N deposition above the lower critical load on the habitats present in the designated sites could include changes in species-richness and composition. Potential indirect impacts of these changes upon invertebrate assemblages could include a change in suitability of habitat as breeding habitat and changes to the food source quantity and quality.
- 1.4.20. Whilst the Scheme would result in N deposition above the lower critical load for the SSSI, LNR and LWS, the modelled background N deposition levels are 11kg N/ha/yr and as such the designated sites and communities present therein are already experiencing levels 1kg N/ha/yr above the lower critical load. From a review of aerial imagery, broadleaved woodland/scrub is present between the A46 and the designated sites which may absorb some N deposition and lessen the levels reaching the designated sites from those modelled figures. Given this and as the areas of the SSSI, LNR and LWSs impacted are small relative to the entire size of the sites, the impact is considered minor adverse which would result in a **slight adverse effect (not significant)** upon the nationally important SSSI and LNR and the county important LWS.

Willenhall Wood LNR, LWS and ancient woodland

- 1.4.21. The boundaries of the LNR, LWS and ancient woodland parcel largely overlap and as such they are considered together within this section, and it is assumed that the site features described in the LWS citation are also present within the LNR and ancient woodland. The LNR is designated for mixed deciduous ancient

and semi-natural woodland. Ancient woodland habitats present include ancient and semi-natural woodland and ancient replanted woodland.

NH₃ deposition and NO_x

- 1.4.22. The LWS citation states that the wood is thought to hold a diverse community of fungi and mosses, and due to the latter, the lower critical load for modelling was set at 1µg/m³ in accordance with the APIS website.
- 1.4.23. The operation of the Scheme would result in an increase in NH₃ at Willenhall Wood. The increase in NH₃ deposition in the modelled 'do something' scenario within the LWS would be between 1.1% and 2.51% and 0.01µg/m³ and 0.03µg/m³. This change would impact the area of the LWS between 10m and 40m from the A46. The increase in NH₃ deposition in the modelled 'do something' scenario within the LNR would be between 1.1% and 1.56% and 0.01µg/m³ and 0.02µg/m³. The impacted area of the LNR would be significantly less with impacts in one area between approximately 15m and 30m from the A46.
- 1.4.24. Willenhall Wood LWS would also experience NO_x deposition levels above the critical level 30µg/m³ on one of the two modelled transects impacting approximately the closest 1m of the LWS to the A46. NO_x levels at this location would be 32.22µg/m³ in the modelled 'do something' scenario. In the absence of the Scheme, in the 'do minimum' scenario, NO_x levels experienced within the LWS would be 31.91µg/m³ and as such would still be higher than the critical level with the impact from the Scheme therefore amounting to 0.32µg/m³ NO_x depositions at the LWS.
- 1.4.25. As the modelled background (baseline) NH₃ deposition is 2µg/m³, and therefore already double the identified lower critical load of 1µg/m³, it is considered that the mosses within the LWS woodland would already have been subject to adverse impacts associated with NH₃ deposition for some time. No adverse impacts are anticipated upon the ancient woodland, with the exception of the mosses, as the critical threshold for higher plants, 3µg/m³ as quoted on the APIS website, would not be exceeded. Furthermore, from a review of aerial imagery and mapping provided from Warwickshire Biological Records Centre (WBRC) with the LWS citation, much of the impacted habitat between 10m and 40m from the roadside consists of highway boundary woodland and in the south-eastern and south-western corners of the LWS grassland, bracken and scrub habitats, as opposed to the more valuable ancient woodland habitat and mosses within it. Additionally, the A46 verge embankment at this location would be considered to potentially reduce NH₃ and dispersal from the road from the modelled figures.

- 1.4.26. The impacted areas of the designated sites from increase in NH_3 and NO_x are small in footprint, particularly with regards to the LNR. The data regarding moss diversity at the LWS is dated 1983. In the absence of more recent survey data to confirm a high diversity of mosses at the site or otherwise, a precautionary approach has been taken. As such, an increase in NH_3 above the lower critical load could result in a decrease in moss diversity and permanent loss of species sensitive to NH_3 . As a worst-case a minor adverse level of impact would result in a **slight adverse effect (not significant)** on the county important LWS.
- 1.4.27. Minor adverse impacts upon ecological features of national importance such as LNRs result in a slight or moderate effect. However, considering the age of the data regarding mosses, the lack of impact upon the ancient woodland cited in the LNR citation (due to the NH_3 increase not exceeding the NH_3 lower critical load) and the very small footprint of the impacted areas in the LNR (approximately 0.02ha of the 9.89ha LNR) the effect is assessed as **slight adverse effect (not significant)**.

N deposition

- 1.4.28. The applicable lower critical threshold for N deposition as identified on APIS and applied to the modelling is 10kg N/ha/r for deciduous/broadleaved woodland.
- 1.4.29. The operation of the Scheme would result in an increase in N deposition at Willenhall Wood. The increase in N deposition in the modelled 'do something' scenario within the LWS would be between 1.01% and 2.39% of the lower critical load and would result in between 16.43kg N/ha/yr and 22.55kg N/ha/yr. This change would impact the area of the LWS between 10m and 40m from the A46. The increase in N deposition in the modelled 'do something' scenario within the LNR would be between approximately 1.47% and 1.03% and would result in N deposition of between 19.16kg N/ha/yr and 17.60kg N/ha/yr. The impacted area of the LNR would be significantly less with impacts in one area between approximately 15m and 30m from the A46.
- 1.4.30. Potential impacts of N deposition above the lower critical load on the ancient woodland habitat include changes in species richness and composition.
- 1.4.31. As the modelled background (baseline) N deposition is 11.2kg N/ha/yr, and therefore already 1.2kg N/ha/yr above the lower critical load, it is considered that the woodland would already have been subject to adverse impacts associated with N deposition for some time. Furthermore, from a review of aerial imagery and mapping provided from WBRC with the LWS citation, much of the impacted habitat between 10m and 40m from the roadside consists of highway boundary woodland and in the south-eastern and south-western corners of the LWS grassland, bracken and scrub habitats, as opposed to the more valuable ancient

woodland habitat. Additionally, the A46 verge embankment at this location would be considered to potentially reduce N dispersal from the road from the modelled figures.

- 1.4.32. The impacted areas of the designated sites are small in footprint, particularly with regards to the LNR. As such the impacts from an increase in N deposition resulting from the Scheme are considered unlikely to impact the designated sites integrity and key characteristics. The minor adverse impact would result in a **slight adverse effect (not significant)** upon the nationally important ancient woodland and LNR, and a **slight adverse effect (not significant)** on the county important LWS.

Gainford Rise LWS

- 1.4.33. The Scheme would result in changes to N deposition levels at Gainford Rise LWS. The northernmost part of the LWS would experience a decrease in N deposition levels, whilst modelled transects from the southern section would experience an increase in N deposition.
- 1.4.34. The LWS is designated for its mosaic of habitats including wet and dry semi-improved grassland, tall herb, scrub and crack willow woodland. Also mentioned within the citation are a “good bird population”, water vole on Smite Brook and “good numbers of typical butterflies”. As wet/marshy grassland has been identified, the lower critical load for N deposition modelling has been set at 10kg N/ha/yr in accordance with the value provided by APIS for wetland habitats valley mires, poor fens and transition mires and on a precautionary basis in the absence of a detailed botanical survey.
- 1.4.35. The citation cites the former Sharman’s Tip area of the site as the most valuable. This area of the LWS is situated in the south to the west of the footpath running through the site and as such will not be impacted by N deposition as a result of the Scheme.
- 1.4.36. Adverse impacts from N deposition are limited to the easternmost area of the LWS 30m and 50m back from the A46. The modelled background N deposition levels which the LWS is already subject to are 11kg N/ha/yr, 1kg N/ha/yr above the lower critical load. The modelled ‘do minimum’ scenario provides the future baseline data for N deposition in the absence of the Scheme. Modelled N deposition rates in the ‘do minimum’ scenario impacting this area of LWS range from 13.67kg N/ha/yr to 14.58kg N/ha/yr and as such are significantly (>1%) above the lower critical load of 10kg N/ha/yr.
- 1.4.37. With regards to the area of the LWS which would experience an increase in N deposition, the Scheme (the ‘do something’ scenario) would result in between

13.8kg N/ha/yr and 14.85kg N/ha/yr and an increase of between 1.33% and 2.67% of the lower critical load.

- 1.4.38. From a review of aerial imagery, the habitats adjacent to the A46 mainline and within the impacted area are scrub and/or young woodland habitats. As such impacts from an increase in N deposition could include changes in the species richness and/or composition of the ground flora and lower plants within the woodland and indirect impacts upon species inhabiting the woodland including changes to cover available and changes in the quantity and quality of food sources.
- 1.4.39. Modelling has shown that the Scheme during the operational phase would have a positive impact upon the northernmost area of the LWS with regards to N deposition. A review of aerial imagery suggests woodland, scrub and grassland habitats would be beneficially impacted. N deposition levels in this area of the LWS would, with the construction of the Scheme (in the 'do something' scenario) see a reduction of between -9.14kg N/ha/yr and -1.47kg N/ha/yr, which is between -0.91kg N/ha/yr and -0.15kg N/ha/yr better than the 'do minimum' scenario. Whilst N deposition levels in these areas would still be above the lower critical load of 11kgN/ha/yr, between 14.04kg N/ha/yr and 12.07kg N/ha/yr, they would be better (i.e. lower deposition levels) than those experienced in the absence of the Scheme. These beneficial impacts could be considered to offset negative impacts in other areas of the LWS and may contribute to a cumulative impact and result in a future reduction of N deposition below the lower critical load.
- 1.4.40. Overall, as the area of the LWS negatively impacted is small relative to the whole site and is not within the area identified as most valuable in the LWS citation, the overall impact is assessed as minor adverse resulting in a **slight adverse effect (not significant)**. As the offsetting provided by the beneficial affects elsewhere in the LWS do not result in a reduction in N deposition below the lower critical load in the absence of any cumulative effects this has not been considered to reduce the effect to neutral.

Stretton Croft LWS

- 1.4.41. Air quality modelling has identified that Stretton Croft LWS would experience increases in N deposition during the operational phase of the Scheme >1% of the lower critical load. Stretton Croft LWS is designated for a mosaic of habitats and the butterfly and bird species supported by those habitats. The lower critical load applied is the lowest of the present habitats as identified on APIS and is 10kg N/ha/yr for wetland habitats valley mires, poor fens and transition mires, deciduous woodland habitats and neutral grassland habitats.

- 1.4.42. The increase in N deposition >1% of the lower critical load would impact the LWS up to approximately 45m from the designated site boundary back from the triggered links in the M69. The increase in N deposition would be between 1.01% and 1.79% of the lower critical load and would result in between 19.13kg N/ha/yr and 23.52kg N/ha/yr in the modelled 'do something' scenario.
- 1.4.43. Potential impacts of N deposition levels above the lower critical load on habitats include changes in individual plant growth, and changes in species richness and composition. These habitat impacts can indirectly impact species present within the habitats through changes in food source quantity and quality and suitability of habitat for breeding and taking cover.
- 1.4.44. Whilst the N deposition levels in the 'do something' scenario are between 8.33kg N/ha/yr and 12.72kg N/ha/yr above the lower critical load, and these levels will impact a significant area of the LWS, the site is already experiencing levels 0.8kg N/ha/yr above this load in this impacted area. Furthermore, and of a higher importance in the assessment, levels in the 'do something' scenario (levels in the event the Scheme is built) do not differ significantly from levels in the 'do minimum' scenario (the future N deposition baseline should the Scheme not be built). Within the impacted area of the site (the area subject to increases >1% of the lower impact load) the difference between the 'do minimum' and 'do something' scenarios is between 0.1kg N/ha/yr and 0.18kg N/ha/yr. As such changes in N deposition due to the Scheme alone are considered minor adverse resulting in a **slight adverse effect (not significant)**.

Piles Coppice LWS and ancient woodland

- 1.4.45. Piles Coppice LWS is designated for sessile oak *Quercus petraea* and small-leaved lime *Tilia cordata* (broadleaved) ancient woodland with a diverse ground flora and population of breeding birds. As ancient woodland is of national importance, the assessment of effect upon the ancient woodland LWS is undertaken on this basis.
- 1.4.46. The Scheme in the operational phase would result in an increase in N deposition >1% of the lower critical load, which has been identified on APIS as 10kg N/ha/yr for broadleaved woodland. The change in N deposition resulting from the Scheme would be between 1.5% and 1.07% of the lower critical load and total N deposition of 5.7kg N/ha/yr and 4.43kg N/ha/yr respectively.
- 1.4.47. Potential impacts of the increase in N deposition include changes in vegetation composition and species richness of the woodland which can have an indirect impact on the breeding birds and other species inhabiting the woodland due to changes in cover and food source quantity and quality.

- 1.4.48. The increase in N deposition will impact approximately the 10m of the LWS closest to the A46 and as such the footprint of the impacted area is very small relative to the whole area of the LWS. From a review of aerial imagery broadleaved woodland is present between the A46 and the LWS and is likely to absorb some of the N deposition before it reaches the LWS, and as such the modelled figures are likely a worst-case scenario. The LWS is in the modelled baseline already experiencing levels of N deposition 0.9kg N/ha/yr above the lower critical load (10kg N/ha/yr). As such, any adverse impacts upon the LWS resulting from N deposition during the operational phase of the Scheme would not be considered to impact the integrity or characteristics of the LWS. As such the level of impact on the feature of national importance is minor adverse which would result in a slight or moderate adverse effect upon the ancient woodland LWS. In accordance with DMRB LA 108 and the assessment of importance in Table 8-7 of ES Chapter 8 (Biodiversity) (TR010066/APP/6.1) an effect of slight or moderate adverse would be reported. Given the minor extent of the impact in relation to the size of the ancient woodland LWS site and the other mitigating factors mentioned above the effect is assessed as **slight adverse (not significant)**.

Baginton Fields LWS

- 1.4.49. Air quality modelling has identified NO_x levels above the critical level at Baginton Fields LWS. The LWS is designated for a mosaic of grassland habitats including coarse semi-improved grassland, rank species-poor grassland and less rank grassland with a medium to tall sward height and a greater abundance and variety of forbs.
- 1.4.50. The LWS would experience NO_x levels above the critical level 30µg/m³ within approximately the 3m closes to the A46 where modelled levels are 31.57µg/m³.
- 1.4.51. NO_x can be toxic to vegetation and can result in direct impacts including leaf yellowing and dieback and can also contribute to acidifying compounds (CIEEM, 2021). Direct impacts upon vegetation could impact species differently and as such result in changes to grassland species composition and richness.
- 1.4.52. The impacted area of the LWS which would experience NO_x levels above the critical level is small in footprint in comparison to the size of the LWS as a whole. A review of aerial imagery suggests the impacted area of the LWS is highway boundary woodland and as such not the grassland habitats described within the LWS citation, which was based on a survey dated 2005. Furthermore, the modelled NO_x levels in the 'do minimum' scenario in the absence of the Scheme also exceed the critical level at 31.39µg/m³. The difference in NO_x levels between this future baseline scenario and the Scheme equals 0.17µg/m³ and as such this can be taken as the sum of the NO_x levels solely due to the Scheme.

- 1.4.53. Given the minor extent of the LWS which would experience impacts from NO_x above the critical level this would be assessed as a minor adverse impact resulting in a neutral or slight adverse effect (not significant) on the LWS. However, in the absence of grassland habitat detailed on the LWS citation within the impacted area of the LWS, there is considered to be no change on the LWS features within the citation and therefore a **neutral effect (not significant)**.

Ancient woodland and veteran trees

- 1.4.54. Where ancient woodland forms part of a designated site impacts have been assessed in the above sections pertaining to designated sites.
- 1.4.55. Air quality modelling has identified one veteran tree (T12) present within 200m of the triggered links which would be impacted by increases in N deposition during Scheme operation. As a deciduous oak *Quercus* tree, as identified within the arboricultural impact assessment (ES Appendix 7.4 (Arboricultural Impact Assessment) (**TR010066/APP/6.3**)), the lower critical load was identified on APIS as 10kg N/ha/yr. The Scheme would result in an increase in N deposition of 2.98% of the lower critical load resulting in 13.52kg N/ha/yr. The arboricultural impact assessment identified one further deciduous broadleaved tree which was 'beginning to veteranise' (T11). As not yet confirmed as a veteran tree, no targeted modelling was undertaken for T11, however an assessment will be undertaken on a precautionary basis in the event the tree should qualify as a veteran at the onset of Scheme operation. T11 is located approximately 120m from the modelled veteran T12. The modelled T12 veteran is approximately 75m from the triggered links and T11 is approximately 170m from the triggered links. As such the assessment for the modelled veteran T12 can apply as a worst-case scenario for assessment upon T11.
- 1.4.56. Potential impacts of N deposition on trees above the lower critical load include alterations to tree growth, increased litter production, changes in mycorrhizal flora, increased sensitivity to stress and pests (APIS, 2016).
- 1.4.57. Given the veteran tree is already experiencing N deposition levels of 11kg N/ha/yr, 1kg N/ha/yr above the lower critical load, it is considered likely the tree would already be experiencing impacts of N deposition prior to the Scheme. As the modelled N deposition in the 'do minimum' scenario shows a deposition rate of 13.22kg N/ha/yr in the absence of the Scheme, the increase in N deposition resulting from the Scheme would not be considered significant in comparison to the future baseline. As a worst-case scenario permanent minor adverse impact would be experienced. The resulting effect is assessed as **slight adverse (not significant)** as the tree is experiencing levels above the lower critical load pre-Scheme and N deposition levels in the 'do something' scenario are only slightly larger than in the 'do minimum' scenario.

- 1.4.58. Binley Common Farm Wood ancient woodland site would experience an increase in N deposition due to the Scheme in the operational phase. As a deciduous broadleaved woodland the lower critical load is 10kg N/ha/yr as identified on APIS. The Scheme would result in changes in N deposition >1% of the lower critical load up to 60m into the woodland from the A46. The increase in N deposition ranges from 1.02% to 1.51% of the lower critical load resulting in deposition levels between 12.56kg N/ha/yr and 13.82kg N/ha/yr.
- 1.4.59. Impacts of N deposition on woodland habitat includes impacts to individual trees such as alterations to tree growth, increased litter production, changes in mycorrhizal flora, increased sensitivity to stress and pests, changes in species richness and composition of the understorey and ground flora and changes in soil chemistry and fauna (APIS, 2016).
- 1.4.60. Whilst the N deposition levels in the 'do something' scenario are between 2.56kg N/ha/yr and 3.82kg N/ha/yr above the lower critical load, and these levels will impact a significant area of the ancient woodland site, the site is already experiencing levels 0.9kg N/ha/yr above this threshold. Furthermore, and of a higher importance in the assessment, levels in the 'do something' scenario (levels in the event the Scheme is built) do not differ significantly from levels in the 'do minimum' scenario (the future N deposition baseline should the Scheme not be built). Within the impacted area of the site the difference between the 'do minimum' and 'do something' scenarios are between 0.11kg N/ha/yr and 0.15kg N/ha/yr. As such changes in N deposition due to the Scheme alone are considered minor adverse resulting in a **slight adverse effect (not significant)**.

2. References

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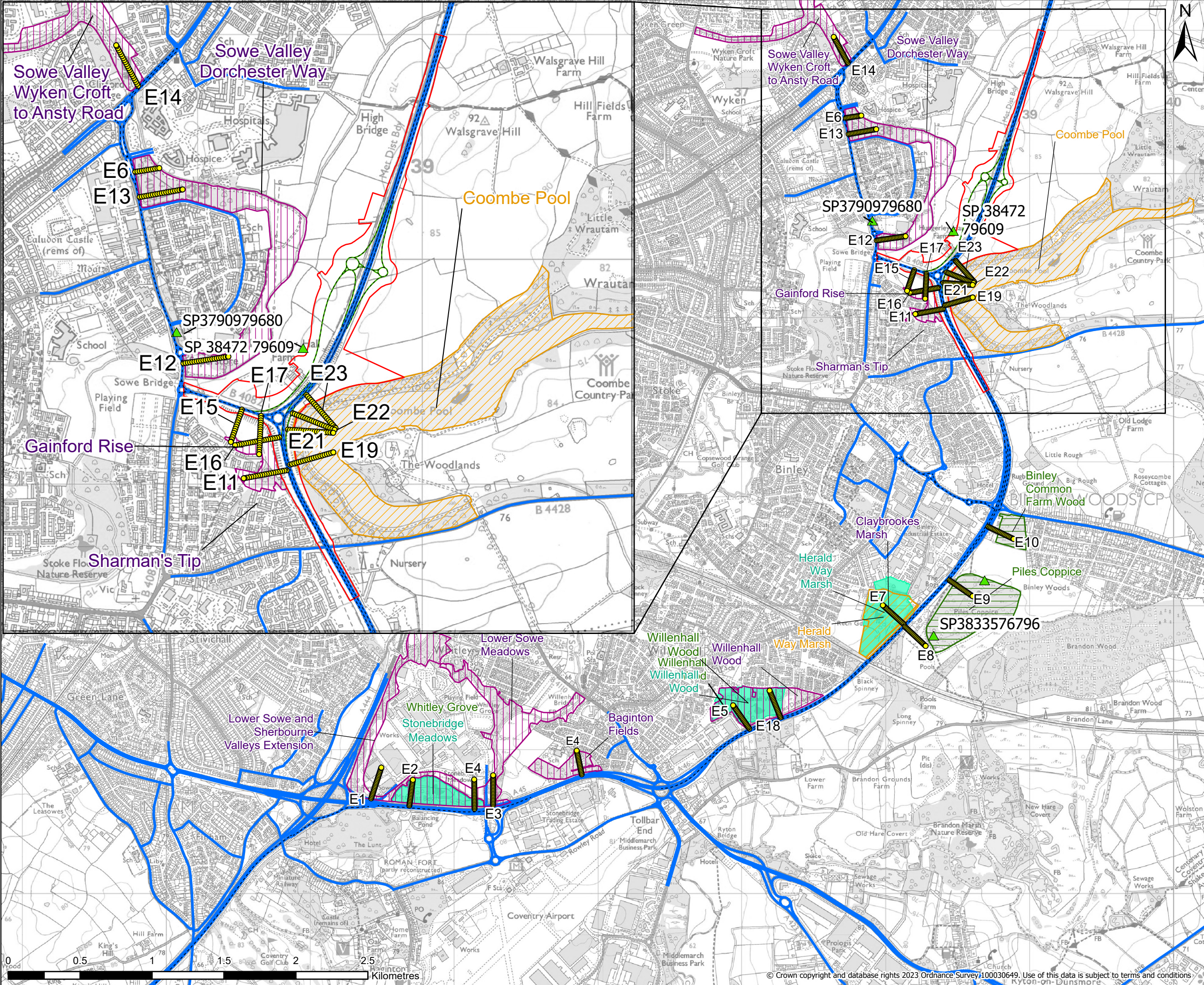
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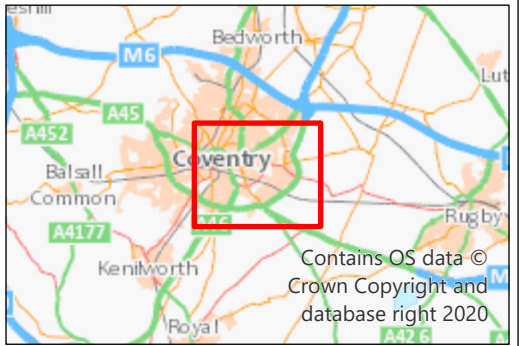
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Annex A: Figures

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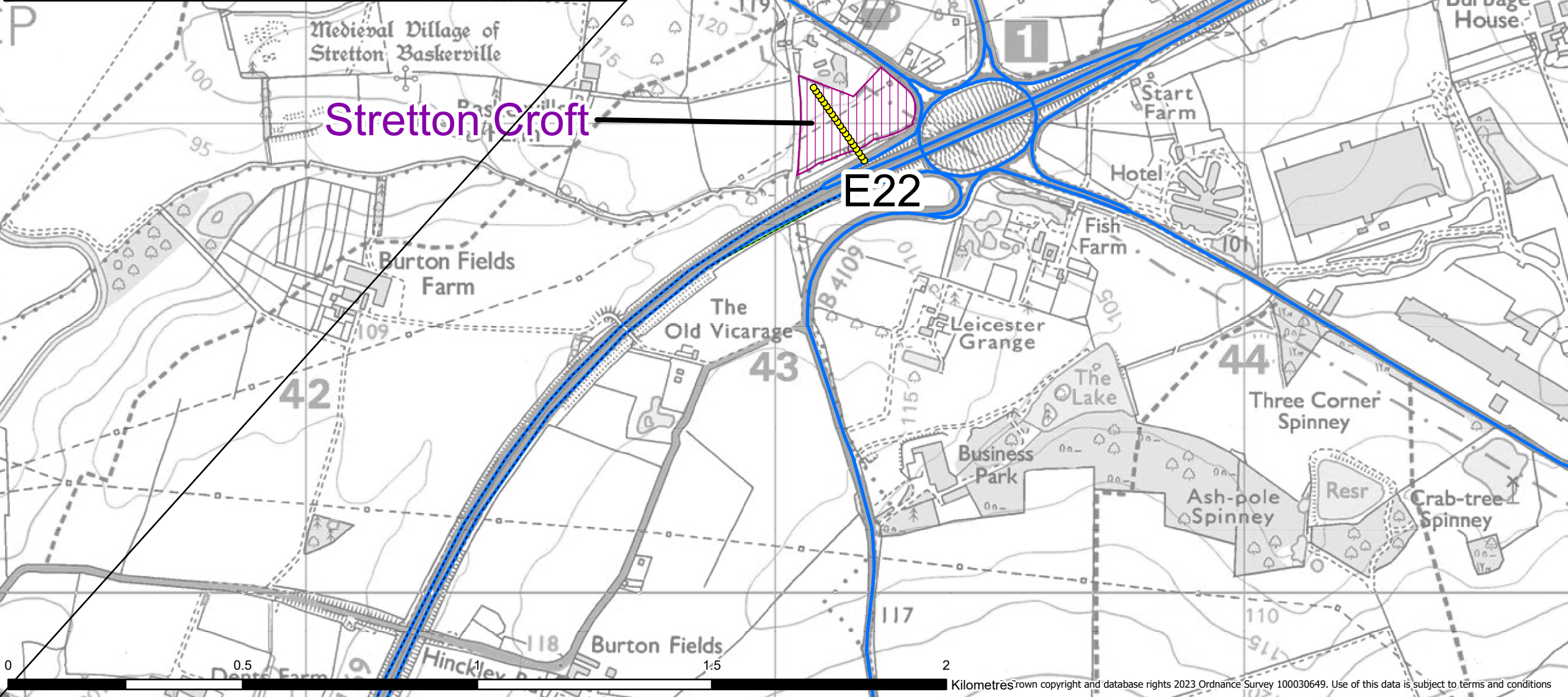
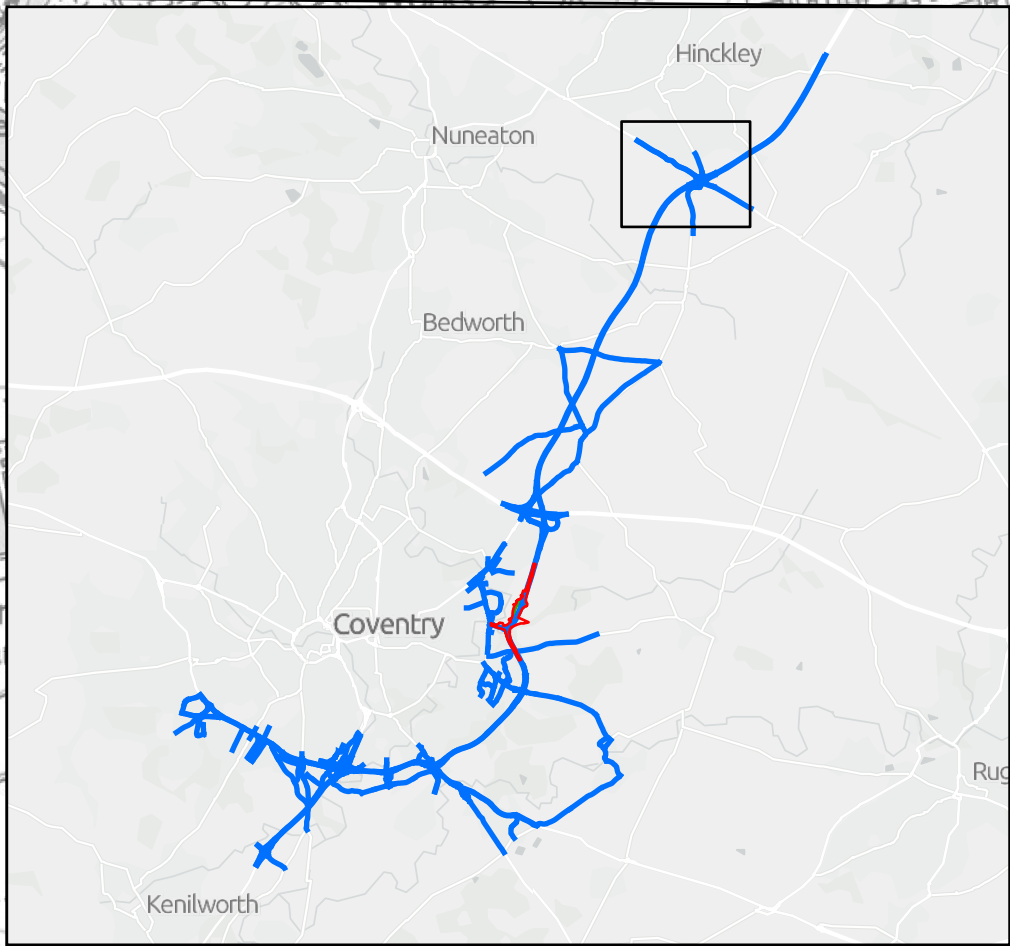


- Legend**
- Order limits
 - Transect receptor
 - Veteran tree
 - LA 105 Screening Criteria (Triggered Link Network (TLN))
 - Proposed Scheme
 - Affected Road Network (ARN)
 - Ancient Woodland Inventory
 - Local Nature Reserve
 - Local Wildlife Site
 - Sites of Special Scientific Interest

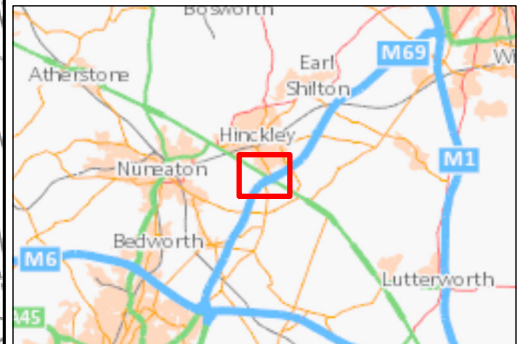


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<div>national highways</div>					
Project Title					
A46 COVENTRY JUNCTIONS (WALSGRAVE)					
Project Stage					
DCO APPLICATION					
Drawing Title					
FIGURE 1A - ECOLOGICAL TRANSECT RECEPTOR LOCATIONS FOR DESIGNATED SITES INCLUDED IN OPERATIONAL PHASE AIR QUALITY ASSESSMENT					
Suitability					
FOR INFORMATION					
Sheet Size		Scale	Status	Revision	
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Drawing Number					
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- Legend**
- Transect receptor
 - Local Wildlife Site
 - LA 105 Screening Criteria (Triggered Link Network (TLN))
 - Proposed Scheme
 - Affected Road Network (ARN)



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Project Title
A46 COVENTRY JUNCTIONS (WALSGRAVE)

Project Stage
DCO APPLICATION

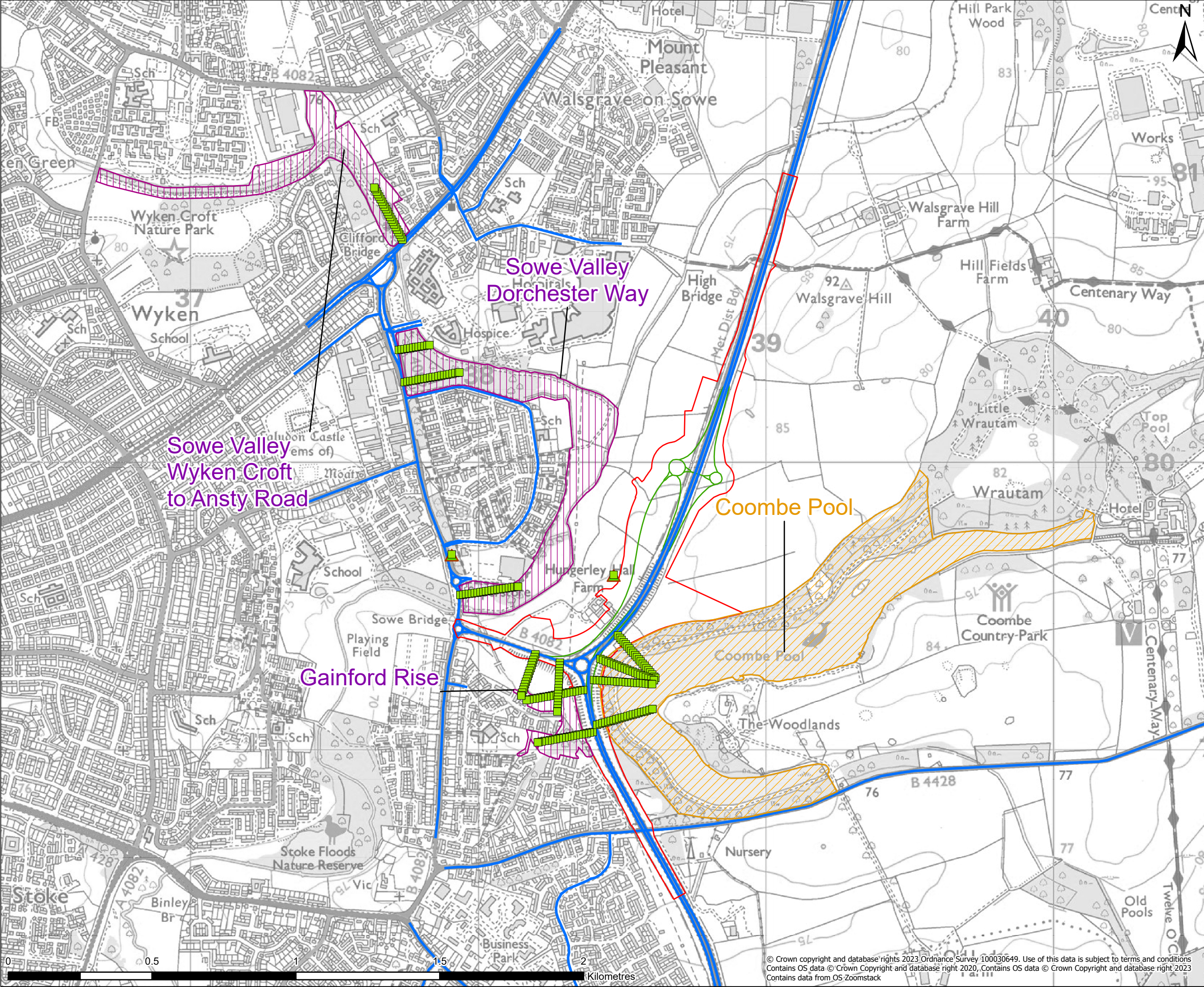
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FIGURE 1B - ECOLOGICAL TRANSECT RECEPTOR LOCATIONS FOR DESIGNATED SITES INCLUDED IN OPERATIONAL PHASE AIR QUALITY ASSESSMENT

Suitability
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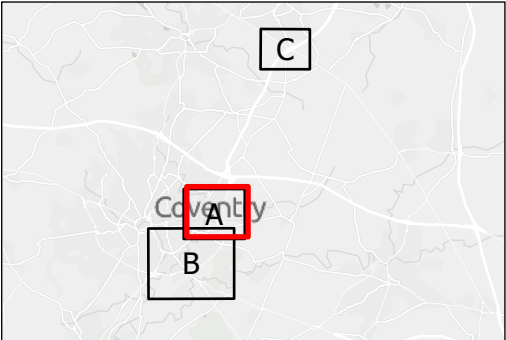
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Legend

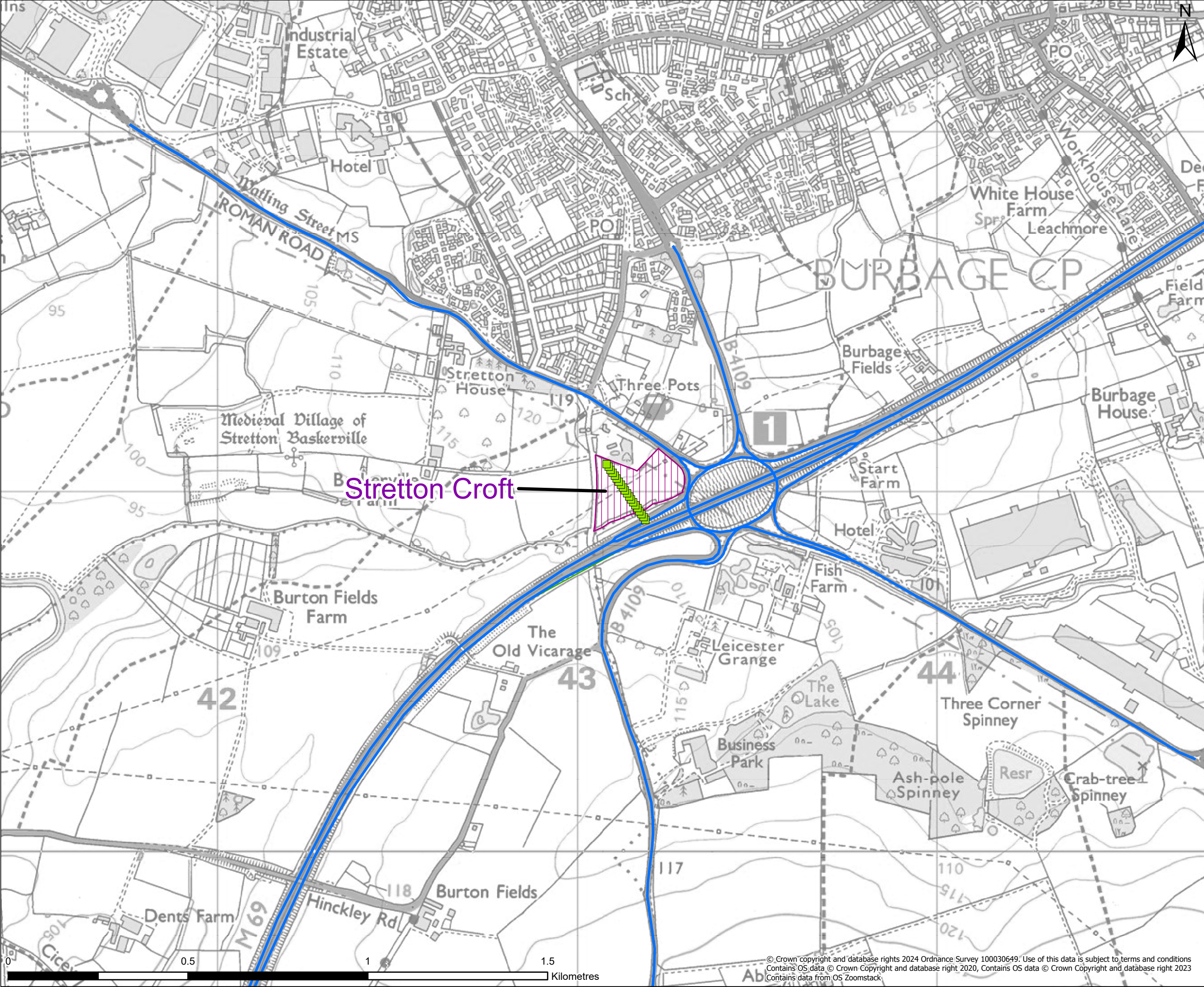
- Order limits
- Local Wildlife Site
- Sites of Special Scientific Interest
- Veteran tree
- NO_x impacts at ecological transects receptors
 - Below critical level (30µg/m³) and less than 1% impact
 - Affected Road Network (ARN)
 - Proposed Scheme



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Client					
<div>national highways</div>					
Project Title					
A46 COVENTRY JUNCTIONS (WALSGRAVE)					
Project Stage					
DCO APPLICATION					
Drawing Title					
FIGURE 2A – OPERATIONAL PHASE ANNUAL MEAN NO _x CONCENTRATION IMPACTS AT ECOLOGICAL TRANSECTS					
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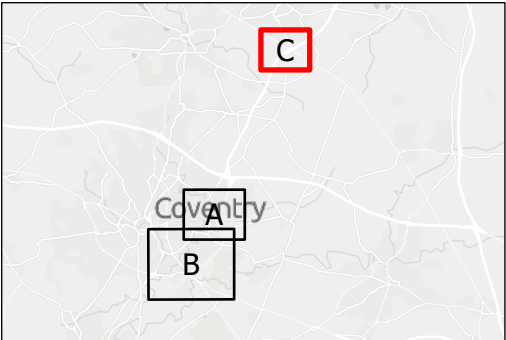
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Legend

- Local Wildlife Site
- NO_x impacts at ecological transects receptors
 - Below critical level (30µg/m³) and less than 1% impact
- Affected Road Network (ARN)
- Proposed Scheme



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Client					



Project Title
A46 COVENTRY JUNCTIONS (WALSGRAVE)

Project Stage
DCO APPLICATION

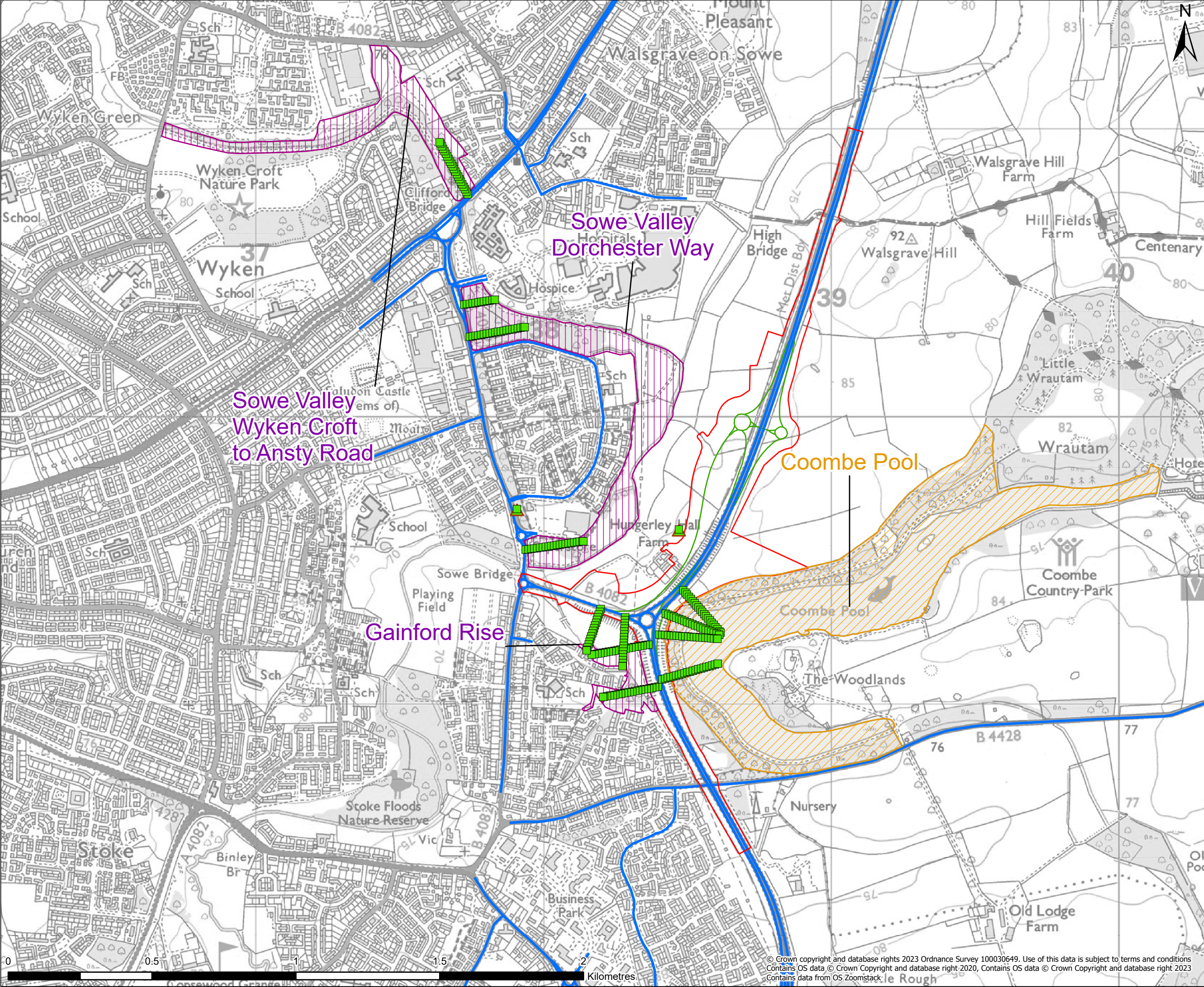
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FIGURE 2C – OPERATIONAL PHASE ANNUAL MEAN NO_x CONCENTRATION IMPACTS AT ECOLOGICAL TRANSECTS

Suitability
FOR INFORMATION

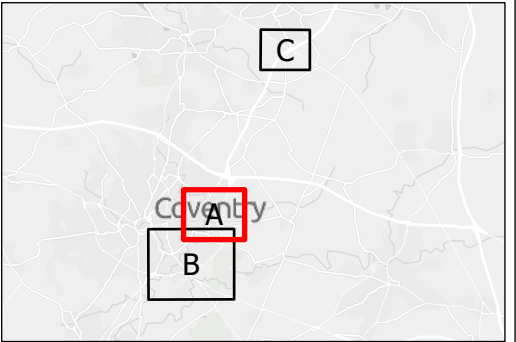
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- Legend**
- Order limits
 - Local Wildlife Site
 - Sites of Special Scientific Interest
 - Veteran tree
 - NH₃ impacts at ecological transects receptors
 - Below critical level (1 or 3µg/m³) and less than 1% impact
 - Affected Road Network (ARN)
 - Proposed Scheme



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Project Title
A46 COVENTRY JUNCTIONS (WALSgrave)

Project Stage
DCO APPLICATION

Drawing Title
FIGURE 3A- OPERATIONAL PHASE ANNUAL MEAN NH₃ CONCENTRATION IMPACTS AT ECOLOGICAL TRANSECTS

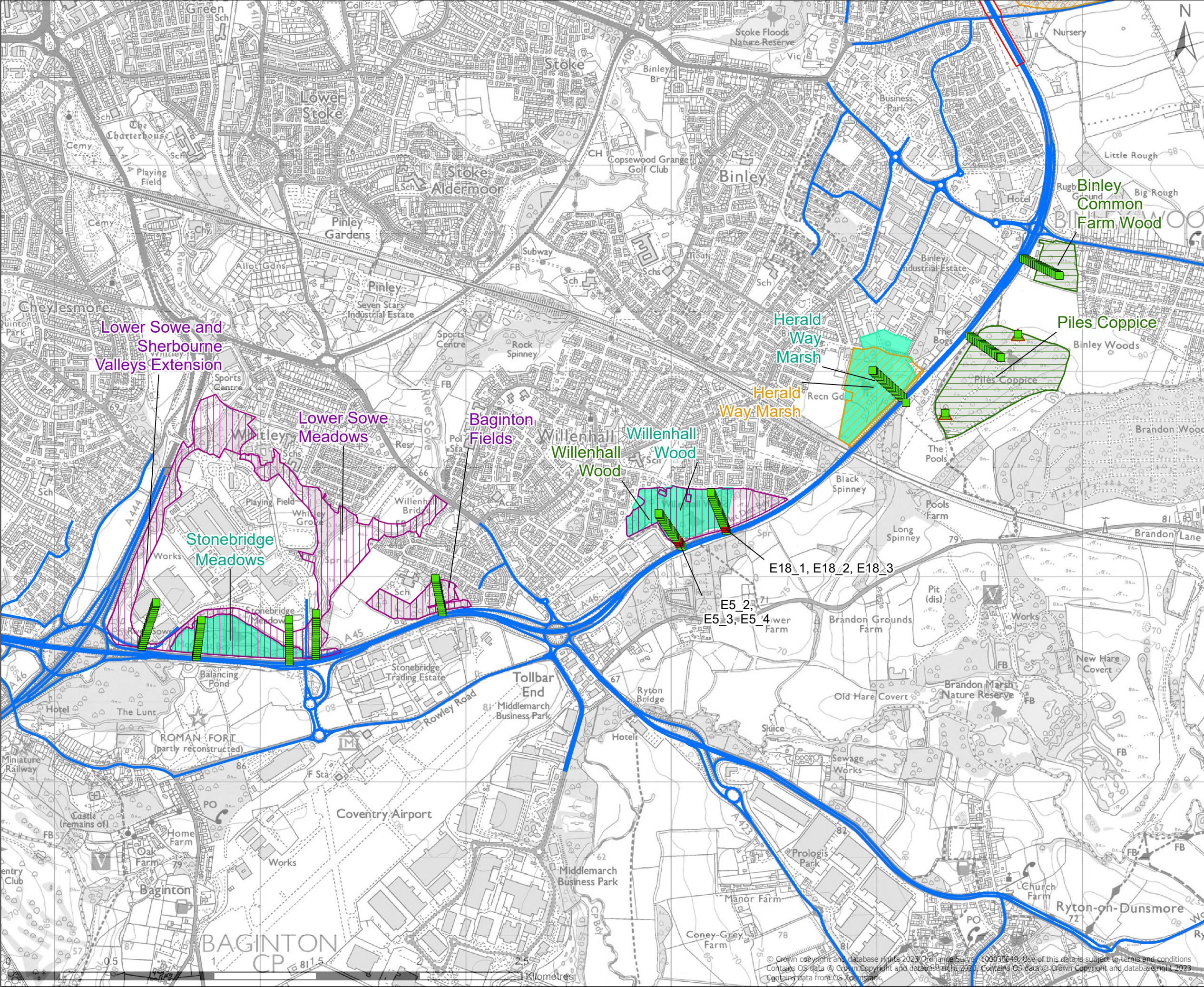
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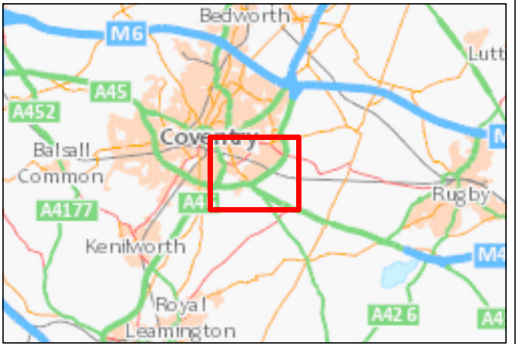
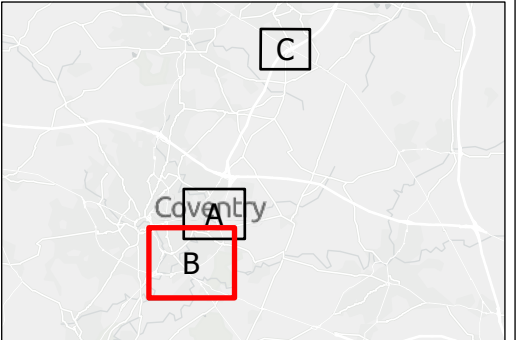
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Legend

- Order limits
- Ancient Woodland Inventory
- Local Nature Reserve
- Local Wildlife Site
- Sites of Special Scientific Interest
- Veteran tree
- NH₃ impacts at ecological transects receptors
 - Exceedance of critical level (1 or 3 µg/m³) and greater than 1% impact
 - Below critical level (1 or 3µg/m³) and less than 1% impact
- Affected Road Network (ARN)
- Proposed Scheme



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Client					



Project Title
A46 COVENTRY JUNCTIONS (WALSGRAVE)

Project Stage
DCO APPLICATION

Drawing Title
**FIGURE 3B – OPERATIONAL PHASE
ANNUAL MEAN NH₃ CONCENTRATION
IMPACTS AT ECOLOGICAL TRANSECTS**

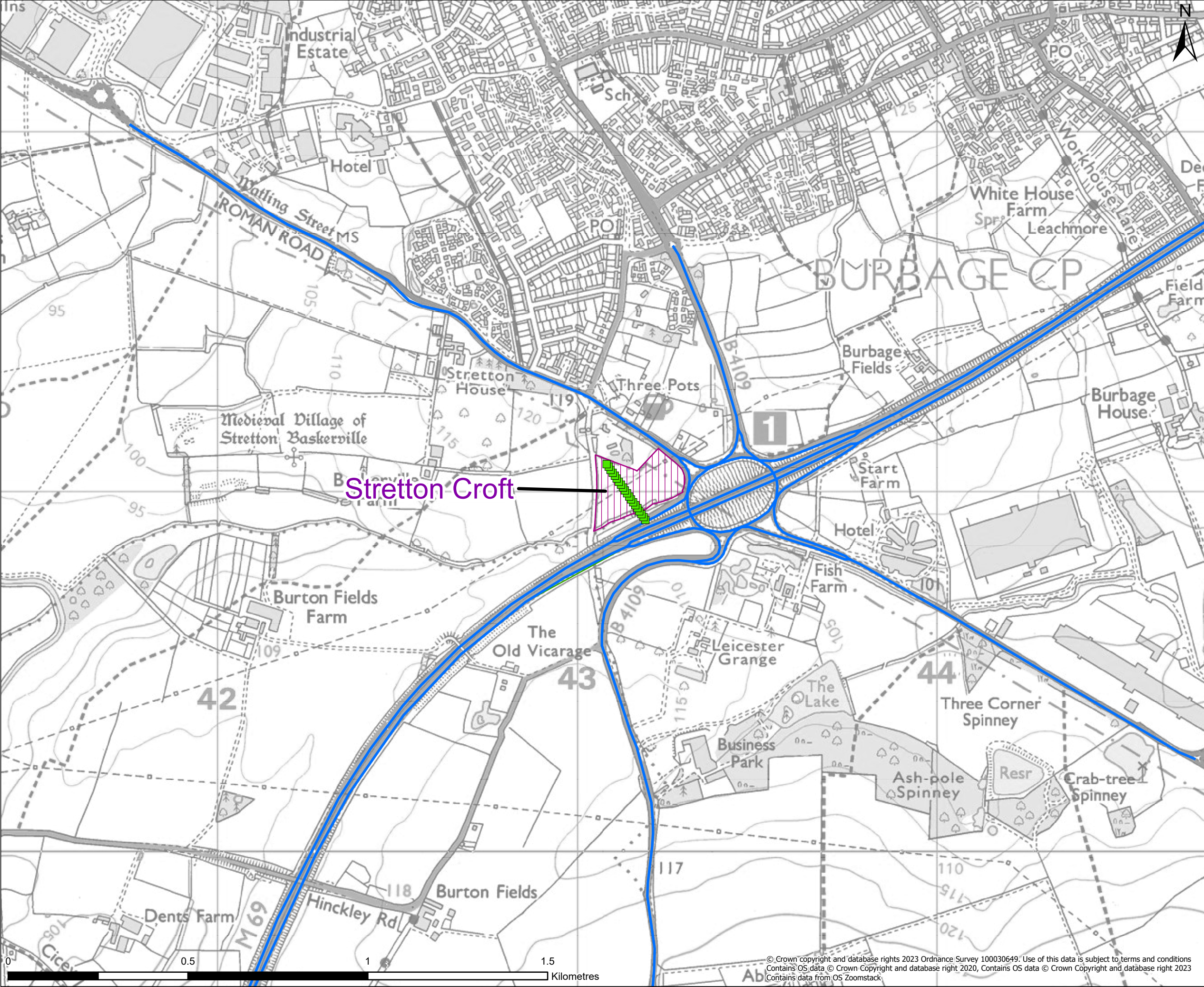
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FOR INFORMATION

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Drawing Number
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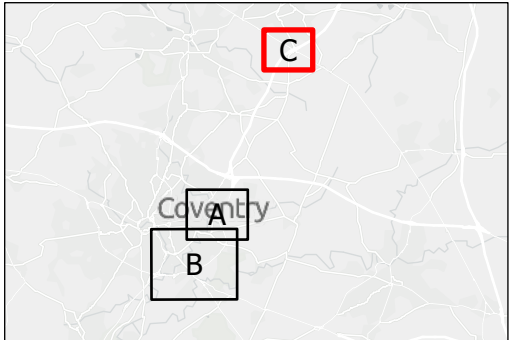
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Legend

- Local Wildlife Site
- NH₃ impacts at ecological transects receptors
 - Below critical level (1 or 3µg/m³) and less than 1% impact
 - Proposed Scheme
 - Affected Road Network (ARN)



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Project Title
A46 COVENTRY JUNCTIONS (WALSGRAVE)

Project Stage
DCO APPLICATION

Drawing Title
FIGURE 3C – OPERATIONAL PHASE
ANNUAL MEAN NH₃ CONCENTRATION
IMPACTS AT ECOLOGICAL TRANSECTS

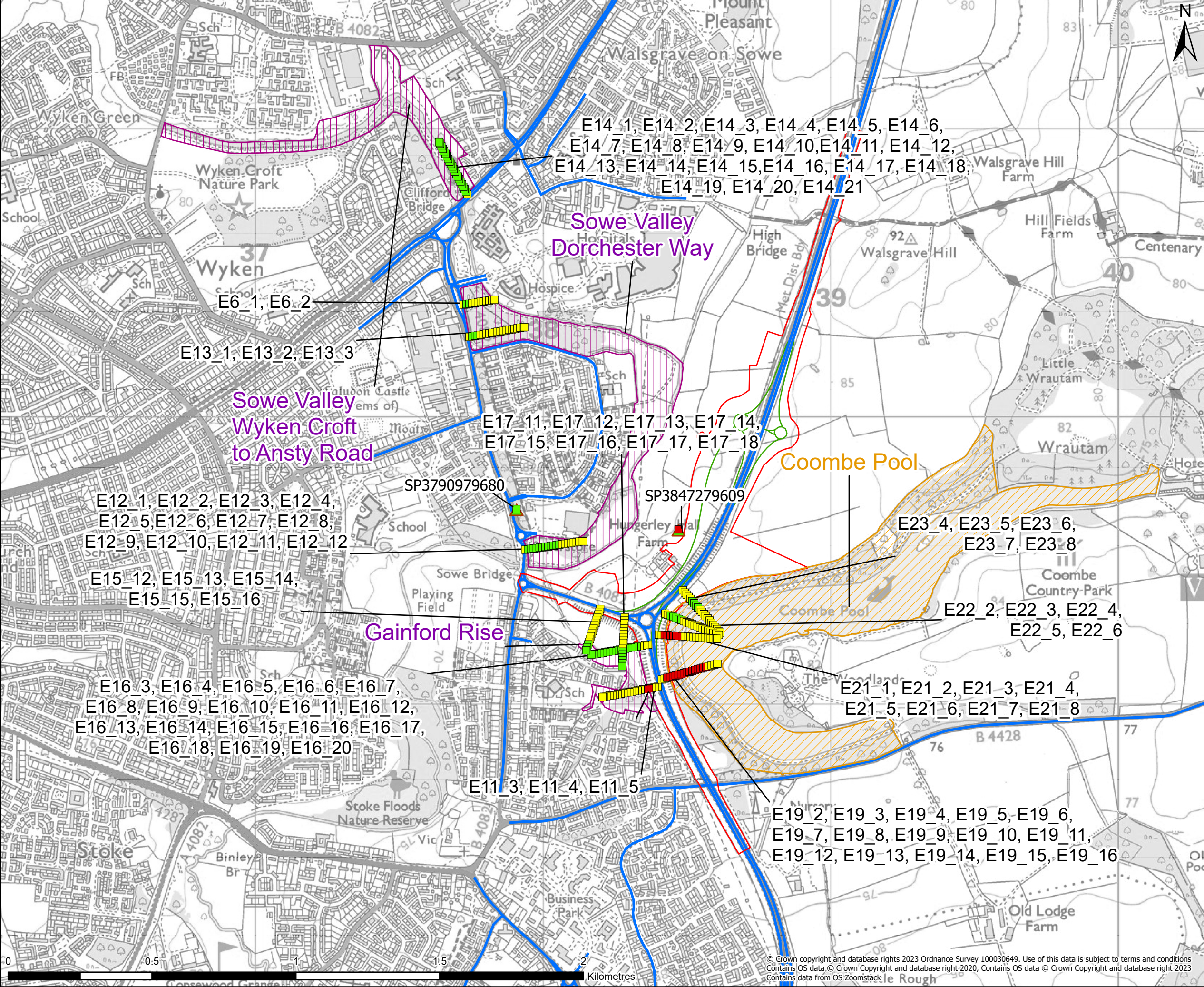
Suitability
FOR INFORMATION

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Drawing Number
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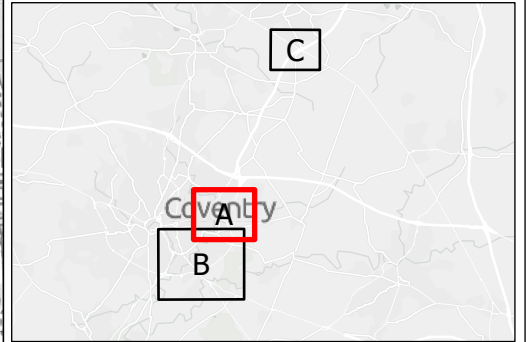



Legend

- Order limits
- Local Wildlife Site
- Sites of Special Scientific Interest
- Veteran tree

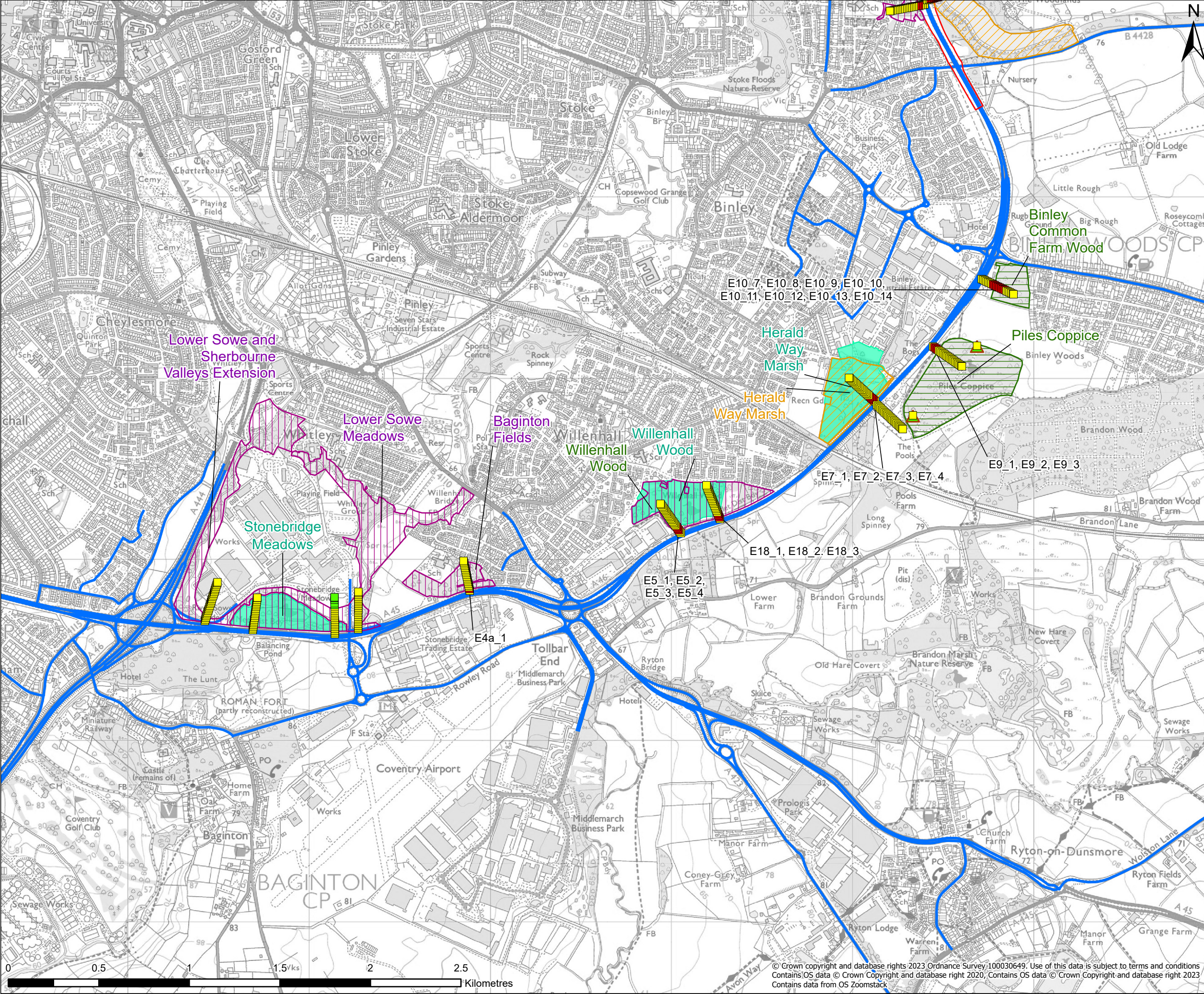
Nitrogen Deposition impacts at ecological transects receptors

- Less than 1% of the critical level
- Greater than +1% of the critical load
- Between -1% and +1% of the critical load
- Proposed Scheme
- Affected Road Network (ARN)



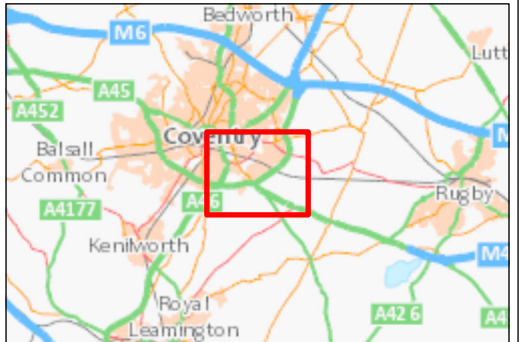
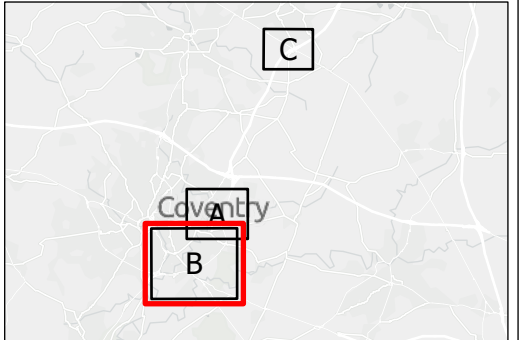
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Project Title					
A46 COVENTRY JUNCTIONS (WALSGRAVE)					
Project Stage					
DCO APPLICATION					
Drawing Title					
FIGURE 4A – OPERATIONAL PHASE ANNUAL MEAN N-DEPOSITION IMPACTS AT ECOLOGICAL TRANSECTS					
Suitability					
FOR INFORMATION					
Sheet Size		Scale	Status	Revision	
A3		1:12,500	S2	P01	
Drawing Number					
HE604820-OIL-EBD-00-DR-LB-30085					


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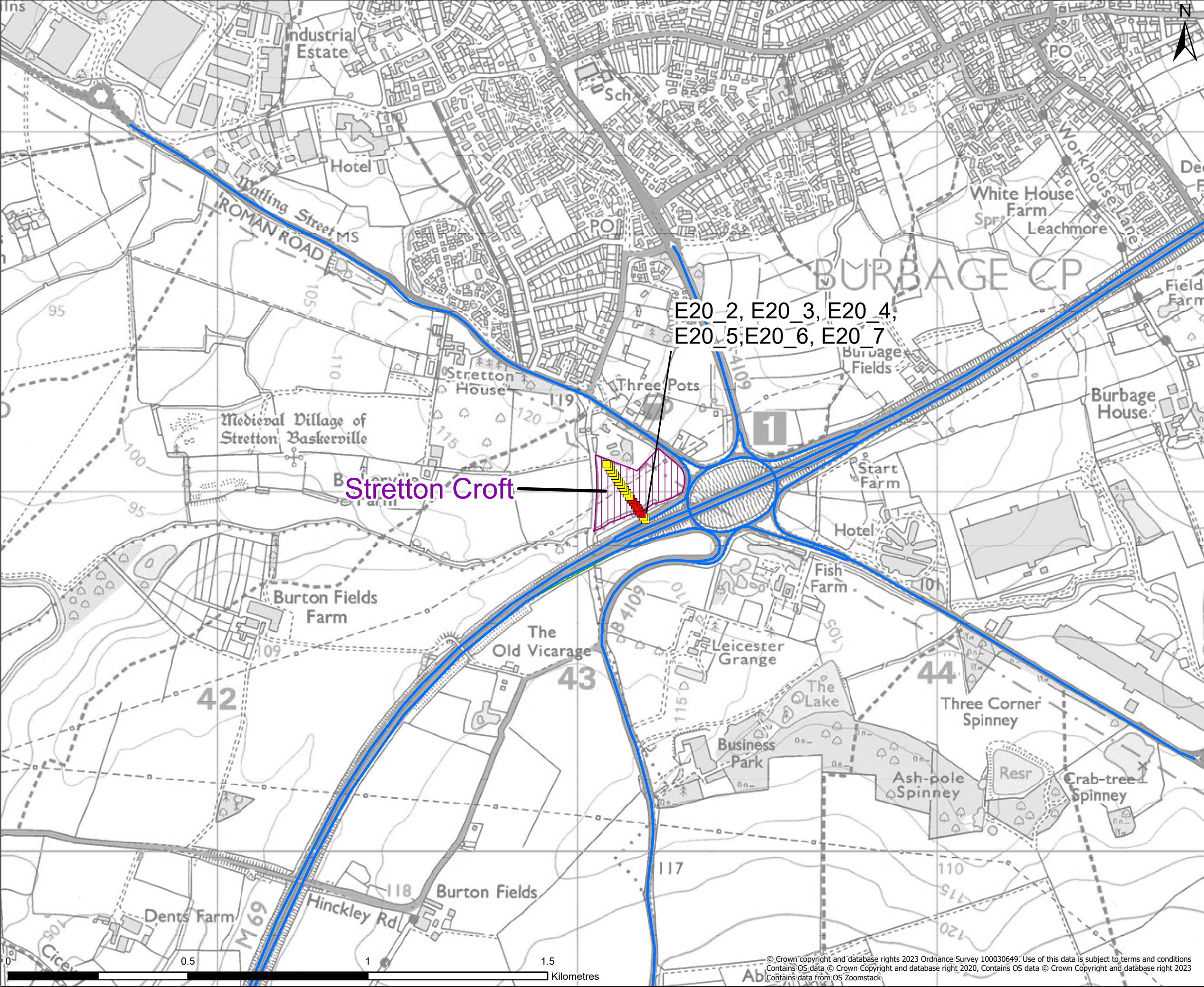
Legend

- Order limits
- Ancient Woodland Inventory
- Local Nature Reserve
- Local Wildlife Site
- Sites of Special Scientific Interest
- Veteran tree
- Nitrogen Deposition impacts at ecological transects receptors
 - Less than 1% of the critical level
 - Greater than +1% of the critical load
 - Between -1% and +1% of the critical load
- Proposed Scheme
- Affected Road Network (ARN)



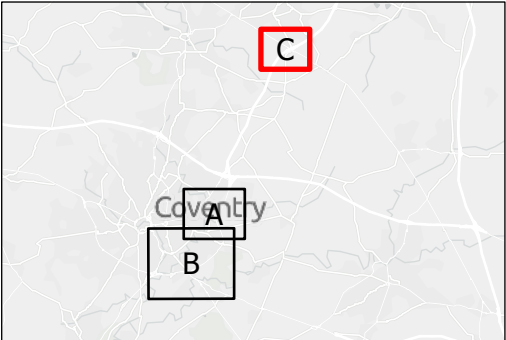
P01	31.10.2024	FIRST ISSUE	AC	BM	JS
REV	DATE	REVISION NOTE	ORG	CHKD	APP
Client					
<div>national highways</div>					
Project Title					
A46 COVENTRY JUNCTIONS (WALSGRAVE)					
Project Stage					
DCO APPLICATION					
Drawing Title					
FIGURE 4B – OPERATIONAL PHASE ANNUAL MEAN N-DEPOSITION IMPACTS AT ECOLOGICAL TRANSECTS					
Suitability					
FOR INFORMATION					
Sheet Size	Scale	Status	Revision		
A3	1:20,000	S2	P01		
Drawing Number					
HE604820-OIL-EBD-00-DR-LB-30086					

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Legend

- Local Wildlife Site
- Nitrogen Deposition impacts at ecological transects receptors
 - Greater than +1% of the critical load
 - Between -1% and +1% of the critical load
- Proposed Scheme
- Affected Road Network (ARN)



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Client					



Project Title
A46 COVENTRY JUNCTIONS (WALSGRAVE)

Project Stage
DCO APPLICATION

Drawing Title
FIGURE 4C – OPERATIONAL PHASE
ANNUAL MEAN N-DEPOSITION
IMPACTS AT ECOLOGICAL TRANSECTS

Suitability
FOR INFORMATION

Sheet Size	Scale	Status	Revision
A3	1:10,000	S2	P01

Drawing Number
HE604820-OIL-EBD-00-DR-LB-30087