



WHITESTONE
solar farm

WHITESTONE SOLAR FARM

Volume 8: Post Submission Documents

8.2 Natural England Statutory Consultation Response

Application Document ref. EN0110020/APP/8.2
Revision 01
August 2026

Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009
Regulation 5(2)(q)

whitestonesolarfarm.co.uk

Date: 27 October 2025
Our ref: 526108
Your ref: Whitestone Solar Farm EN0110020



Environmental Services,
Operations Group 3,
Temple Quay House,
2 The Square Bristol,
BS1 6PN

Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear [REDACTED],

Consultation in accordance with Section 42 of the Planning Act 2008

Thank you for your consultation on the above dated 10/09/2025.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We understand that you are consulting us under Section 42 of the Planning Act 2008. We have reviewed the Preliminary Environmental Information Report (PEIR) and supporting documents and have provided comments on the areas relevant to our remit based on this information.

Further advice on initial information/assessment provided in the PEIR is included below. Natural England considers that the Applicant should seek to address these issues prior to Examination, where possible.

CONSERVATION OF HABITATS & SPECIES REGULATION 2017 (AS AMENDED)

Internationally Designated Sites

Given the location of the proposed development, which is situated over 15km from the nearest Internationally Designated Site, and in the absence of any identified impact pathways that could give rise to likely significant effects, Natural England agrees that there is no requirement to produce a Habitats Regulations Assessment (HRA), and European Sites can be scoped out of further assessment.

WILDLIFE AND COUNTRYSIDE ACT

Nationally Designated Sites

Sites of Special Scientific Interest

Natural England agree that geological SSSIs can be ruled out of further assessment.

As referenced in our EIA scoping response, the SSSI's requiring further assessment are: Crabtree Wood SSSI, Lindrick Golf Course SSSI, Anston Stones Wood SSSI and Sprotbrough Gorge SSSI. We have also provided comments on Roche Abbey Woodlands SSSI.

Scope of Assessment

We note in table 6.10 *Scoping of Important Ecological Features* in Chapter 6 'Biodiversity and Nature Conservation' that Crabtree Wood SSSI, Anston Stones Wood SSSI and Sprotbrough Gorge SSSI will be scoped in for further assessment. However, we note that Lindrick Golf Course SSSI has not been scoped in and it is stated that *"All other national designated sites are separated by distance from the Site, and not within 250m of main roads for the dust pollution effects described above from the Proposed Development to impact them, so are not considered further within the assessment."*

However, this appears inconsistent with the Air Quality Chapter, which states that *"There are a number of designated ecological sites that are within 200m of likely construction or operational traffic routes that feed into the Proposed Development"*. This includes Lindrick Golf Course SSSI, which had previously been identified for consideration.

Given that Lindrick Golf Course SSSI was initially scoped in for assessment in Chapter 12 'Air Quality' based on its proximity to relevant traffic routes, and no clear justification has been provided for its subsequent exclusion, we would welcome clarification on the rationale for scoping this site out of further assessment in Chapter 6.

In addition, we advise that Chapter 6 provides clearer clarification on which SSSIs are being assessed further for potential water quality impacts. It is currently unclear whether only Sprotbrough Gorge SSSI is being taken forward for further assessment in this regard. We recommend that the assessment clearly identifies all SSSIs with a hydrological connectivity to the proposed development and provides justification where any sites will be scoped out. Please refer to the water quality section below for more information.

Air Quality from Traffic Emissions

In our letter dated 16.10.2025 we informed the Planning Inspectorate (PINS) that Natural England is changing how it responds to consultations that might affect air quality. This advice will be based on our best scientific understanding of how to assess development impacts on air quality.

Natural England has previously provided bespoke air quality advice on this application. We have reviewed this case and after careful consideration have concluded that the air quality related aspects arising from this application can be addressed using our new standardised advice. Therefore, we refer you to the standard advice attached, and will no longer be providing any further bespoke air quality advice on this ongoing case.

Standard Advice

Air quality standard advice will be provided for NSIP applications with the potential for air pollution impacts. This standard advice is Natural England's formal statutory advice. It provides decision makers with the information needed to fulfil their statutory duties when making decisions on NSIPs with potential air pollution impacts. Please see the advice attached in annex B.

Water Quality

We note in section 6.8.7 of Chapter 6 that hydrological connectivity has been considered for Sprotbrough Gorge SSSI. However, it is unclear if the other SSSIs, with a hydrological connectivity to the site, will be assessed further in regards to water quality impacts. These include: Anston Stones Wood SSSI and Lindrick Golf Course SSSI.

We note that an outline Construction and Environmental Management Plan (oCEMP) will be produced alongside the ES to address potential water quality impacts during construction. We welcome this and advise that all SSSIs with relevant hydrological links to the site should be considered for further assessment and identified as ecological receptors in the oCEMP where mitigation is required.

In addition, when we provided our EIA scoping advice on the SSSIs likely to be impacted by water pollution due to hydrological connectivity, we based this on the information available on the panel locations. We were not aware of the locations proposed for connecting cable routes. However, we note that one of the cable corridor options crosses a watercourse which is hydrologically connected to Roche Abbey Woodlands SSSI. Methodology of crossing and the potential pollutant risks associated with this should be considered. Where trenchless crossing via Horizontal Directional Drilling (HDD) is proposed to avoid direct damage to habitat, a bentonite break out plan should be produced to prevent other pollutant risk.

With regards to the BESS locations, we note that in section 6.8.86 of Chapter 6 states that *“the design layout of the masterplan in Volume 3, Appendix 5.1: Indicative Operation Masterplan shows that the indicative location options for siting the BESS are not hydrologically linked to designated sites, so there is no pathway for fire control products that would be used in an emergency to control BESS fires to be able to cause an impact on hydrologically linked designated sites during operation”*.

However, it is our understanding that there are multiple designated sites which are, in fact, hydrologically connected to the proposed BESS locations. On this basis, we advise that Anston Stones Wood SSSI, Lindrick Golf Course SSSI and Sprotbrough Gorge SSSI are scoped in for assessment of potential water quality impacts during operation, and identified as ecological receptors in any management plan.

However, in principle we welcome the inclusion of the Outline Battery Safety Management Plan (oBSMP) and consider the proposed firewater and pollution prevention measures to be appropriate. We would advise that this plan is secured through a requirement in the DCO.

Other advice

Ancient woodland

Natural England welcome the approach to ancient woodland and acknowledge that areas of ancient woodland adjacent to the proposed order limits have been scoped in for further assessment. We agree with the conclusion that *“with a proposed buffer distance and the implementation of mitigation measures identified within Section 6.7 and detailed in the oCEMP, potential effects from disturbance or harm to ancient woodland are reduced”*. We have no further comments to make as long as the approach remains in line with the current [guidance](#).

Soils

Please see annex A for detailed comments on the information provided within Volume 3, Appendix 9.6: Agricultural Land Classification Report. A summary of this advice is provided below.

Whitestone 1, 2 and 3 (Panel Locations)

All land which may experience temporary or permanent disturbance should be subject to a detailed ALC survey, to inform suitable handling and restoration criteria. ALC surveys should be undertaken in line with the MAFF 1988 'Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land'.

The results in the submitted in Volume 3, Appendix 9.6: Agricultural Land Classification Report demonstrate that reconnaissance level surveys have been undertaken at this stage for the areas named as Whitestone 1, Whitestone 2 and Whitestone 3, as they have been carried out at a sampling density of 1 per 2 ha. Reconnaissance surveys can help guide decision making, however detailed surveys will still be required to inform appropriate soil handling techniques within a Soil Management Plan (SMP).

General guidance for protecting soils during development is also available in Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, and should the development proceed, we recommend that relevant parts of this guidance are followed, e.g. in relation to handling or trafficking on soils in wet weather.

The British Society of Soil Science has published the Guidance Note Benefitting from Soil Management in Development and Construction which sets out measures for the protection of soils within the planning system and the development of individual sites, which we also recommend is followed.

Cable Corridor

There is currently no proposal to survey the cable corridor. We advise ALC surveys should be undertaken for the full area covered by the redline boundary. The results from a detailed ALC survey provide soils data to inform an SMP for the whole site regardless of whether the use is permanent or temporary in nature.

We note that DEFRA's Post-1988 ADAS surveys have been noted within the assessment (4.13) where these overlap with Whitestone 1 panel area. However we also note that the assessment does not include reference to the ADAS surveys which overlap with the proposed cable routes, and advise there are several sections where we identified the existence of surveys. This includes; the sections of the route to the east of Todwick village, and some of the route east of Wickersley village. We advise this information is also taken into the assessment as this will help inform the approach to avoiding or reducing impacts to BMV soils.

Protected Species

The conservation of species protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 is explained in Part IV and Annex A of Government Circular 06/2005 [Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System](#).

Applicants should check to see if a mitigation licence is required using Natural England guidance on licensing [Natural England wildlife licences](#). Applicants can also make use of Natural England's charged service [Pre Submission Screening Service](#) for a review of a draft

wildlife licence application. Natural England then reviews a full draft licence application to issue a Letter of No Impediment (LONI) which explains that based on the information reviewed to date, that it sees no impediment to a licence being granted in the future should the DCO be issued. This is done to give the Planning Inspectorate confidence to make a recommendation to the relevant Secretary of State in granting a DCO. See [Advice Note Eleven, Annex C – Natural England and the Planning Inspectorate | National Infrastructure Planning](#) for details of the LONI process.

Natural England has adopted [standing advice](#) for protected species, which includes guidance on survey and mitigation measures. A separate protected species licence from Natural England or Defra may also be required.

For Great Crested Newts, use of the [District Level Licencing Scheme](#) may be appropriate for this project.

Biodiversity Net Gain (BNG)

Natural England would like to highlight some areas within the current BNG proposals that could be improved to further enhance the project's overall environmental outcomes.

Although BNG is not yet a mandatory requirement for NSIPs, we strongly recommend that BNG provision is secured through this development. This will reflect the important role NSIPs must play in delivering the government's environmental targets.

We broadly welcome the assumption that at least 10% BNG will be delivered for the project, and proposals will align with the LNRS. We have provided some advice on how BNG could be delivered below (Recommendations).

The biodiversity baseline should include all land contained within the site's red line boundary and proposals can be iteratively refined over time and throughout detailed design.

Biodiversity gains should ideally be secured for a minimum of 30 years and be subject to adaptive management and monitoring. BNG plans should be secured by a suitably worded requirement in the DCO.

Recommendations

Natural England welcomes the inclusion of 10% net gain and would like to offer some ideas for further environmental gains.

There are multiple opportunities within the project area that could be recognised as contributing to BNG, including: grassland enhancement beneath the solar panels and hedgerow connectivity (the South Yorkshire Local Planning Authorities have good datasets on hedgerows in their region). In addition, habitat creation and restoration such as wetland development in and around the Rother catchment and potential improvements to the Chesterfield Canal, where an uplift in watercourse units may be achievable. Aligning BNG delivery with the emergent [REDACTED] could allow for more targeted habitat creation.

Natural England also advises that Green Infrastructure (GI) can contribute to BNG by offering additional benefits through environmental stacking, with the potential to encourage access to nature for nearby urban communities. This could include linking into the Rother Valley Country Park and supporting their community projects. Additionally, work could be done to help alleviate recreational pressure on sensitive sites such as Sprotbrough Gorge SSSI, which has been subject to mountain bike disturbance. This scheme could offer

alternative locations for recreational access through GI, therefore offering wider SSSI benefits. The Green Infrastructure (GI) [Framework](#) can be used for design of GI for infrastructure projects as well as housing.

For any further advice on this consultation please contact the case officer
[REDACTED]k and copy to consultations@naturalengland.org.uk.

Yours sincerely,

[REDACTED]
Yorkshire and Northern Lincolnshire Area Team
Natural England

Annex A – Detailed Advice on Agricultural Land Classification Surveys

The below advice is in response to document Volume 3, Appendix 9.6: Agricultural Land Classification Report, and references the relevant paragraph to which each comment relates.

1.1-1.3 Agricultural Land Classification (ALC) sampling density plays a crucial role in ensuring accurate land assessments for planning and development decisions. The density of sampling refers to the number of observations taken across a given land area, influencing the reliability of classification results. Higher sampling densities provide more detailed insights into soil properties and help improve ALC grade boundary accuracies. Conversely, lower sampling densities may lead to generalised classifications, reduced accuracy of grade boundary locations and potentially overlooking important variations within a site. Optimising sampling density ensures that land classification reflects the true agricultural potential of an area, supporting sustainable land management and policy decisions.

In the absence of existing site-specific ALC data (such as Post 1988 ALC surveys), a detailed ALC survey is expected to inform development proposals. An ALC and soil survey of the agricultural land should be undertaken across the full study area (including cable route corridors), this should normally be at a detailed density of one auger core per hectare to a depth of 1.2 m, supported by soil pits dug in each main soil type to confirm the physical characteristics to a minimum depth of 1 metre. Soil data collected as part of an ALC survey can also be used to inform the Soil Management Plan (SMP) as set out in the Defra [Construction Code of Practice for the Sustainable Use of Soils on Construction Sites](#).

A reduced survey approach of 1 auger per 2 hectares may be agreed on occasion, if considered appropriate. Any reduced survey density approach would only be considered for land subject to temporary development. However, sufficient soil data is still required to inform soil handling, therefore a detailed ALC / soil survey may still be necessary.

2 It is unclear whether this report is to inform further detailed surveys.

3.3 See aforementioned advice (para 1.1-1.3)

Table 2. There is a large proportion (28.5%) of un-surveyed land. Natural England refer to aforementioned advice (para 1.1-1.3)

4.8 According to available published information there is a small area of mapped [Conway association](#) (0811b) near junction 33 of the A630.

4.13/14 Natural England notes the applicant's awareness of previous surveys and we would advise where previous MAFF surveys are available this would constitute a reasonable rationale for reduced density sampling to validate previous findings. The LDC survey does not scope in the cable route corridor however, we would like to draw to your attention the proposed route to the south of the development site near South Anston and towards the norther site near Branley have post 88 data available online.

<http://publications.naturalengland.org.uk/publication/6263126294003712>
<https://publications.naturalengland.org.uk/publication/5241907658620928>

Soil Type 3: Aberford

Compared to other mapped soil types in the report there is a lack of confirmed soil property information for example Munsell colour and confirmed texture. Para 4.30 notes similarity

between SSEW mapping but it's unclear if this is in relation to extent of boundaries or soil type properties.

4.54 Natural England support the use of 'trial pits' or topsoil pits as a way of confirming certain properties within topsoil.

4.58 Natural England do not see the relevance of this statement in this document. However, the statement is broadly plausible but needs refinement and supporting evidence to be robust. Modern four-wheel-drive machinery can and does allow some farming on steeper slopes than older guidance assumed, but slope suitability in the MAFF (1988) ALC guidance remains a relevant baseline and cannot be superseded without assessing soil loss from erosion, compaction, crop performance and operator safety.

4.70 This statement is factually incorrect in the knowledge that much of the site (28.7%) is yet to be surveyed.

5.1 Natural England notes the ALC survey does not include the connection route corridors. The temporary displacement of soil during construction as a result of the underground cable installation and temporary haul roads/construction compounds can result in permanent land quality change and soil damage if undertaken inappropriately, therefore, Natural England advise degradation or permanent loss of BMV agricultural land should be considered in the ES and associated SMP. This is required for consultees and decision makers to understand the extent (ha) and likely long-term impacts on agricultural land quality (ALC grade).

There is a risk of soil damage, ALC degradation and long term or permanent loss of BMV from cable installation (grid route). Soil will need to be handled according to best practice and reinstated to a high standard to reduce the impacts. The results from a detailed ALC survey would provide soils data to inform a soil management plan for the whole site regardless of whether the use is permanent or temporary in nature.

5.4 Restoration of BMV agricultural land: We advise that where land is being returned to an agricultural use that the land is restored to a high standard and to its original capability (Agricultural Land Classification (ALC) grade) as far as is practicable.

This requires the retention and replacement of suitable topsoil and subsoil materials as well as the adoption of best practice techniques in soil handling. Where any BMV agricultural land is restored to a non-agricultural use (e.g. habitat, amenity use), it should be restored to its original physical capability.

5.5 When asserting delivery of long-term positive soil health outcomes, proposals must demonstrate that soil impacts have been fully assessed, avoided where possible, and positively managed in line with EN1 and EN3: provide baseline soil surveys and evidence of pre- and post conditions, quantify effects on soil organic carbon, structure, erosion risk and biodiversity, and set measurable monitoring and maintenance commitments; apply the sequential approach to site selection to avoid best and most versatile soils, explain how permanent and temporary development will not cause long-term degradation or sealing, and detail reversible, low-impact management practices (including grazing, native vegetation establishment and compaction remediation) to secure net environmental gain; include clear mitigation, contingency and long-term stewardship arrangements with binding management periods and reporting so decision makers can verify claimed benefits against robust metrics and thresholds.

5.6 Natural England does not consider impacts that occur during the operational phase (sixty years) to be 'short term'.

5.8 All soils should only be handled in a dry and friable condition, and it is expected that soil handling will be confined to the drier summer period (April through September) to minimise risk of soil damage. This would minimise the need to recondition soils, which requires additional space and time. This is particularly important for land to be restored to agricultural use.

5.18 Natural England partly agree with this statement, however not all development is considered temporary, the Applicant should provide temporary and permanent land take breakdowns for each of the individual components of the project. For example, total agricultural area impacted by scheme (split by scheme component and by ALC grade), total area of BMV agricultural land (split by component) and total BMV agricultural area permanently and temporarily required for the development (split by component).

5.20 Natural England notes and welcomes the applicant's commitments to providing a Soil Management Plan (SMP). The Environmental Statement and associated SMP needs to clearly demonstrate how the ALC Grades and soil types will inform soil handling and restoration, setting out the site specific mitigation measures with reference to the best practice guidance ([Defra Construction Code of Practice](#)), i.e. secondary mitigation measures. The British Society of Soil Science has published the Guidance Note [Benefitting from Soil Management in Development and Construction](#) which also contains useful guidance.

The SMP should include the following:

- i. An assessment of agricultural land and soil resource of the site will be undertaken before work commences (as per Natural England's Guide to assessing development proposals on agricultural land) which is considered to represent UK good practice.
- ii. Mitigation should include reference to the Defra Construction Code
- iii. The methods by which the applicant intends to restore appropriate affected areas to agricultural use after works including excavations and restoration has finished.
- iv. An aftercare programme which would enable a satisfactory standard of agricultural after-use to be reached, with regards to cultivating, reseeding, draining or irrigating, applying fertiliser, or cutting and grazing the site.

Additional Advice

Natural England note there has been no consideration of Cumulative effects. Whilst we are unable to recommend a particular methodology for cumulative impact assessment, there is external guidance available that might be helpful when you are considering the cumulative impact of the loss of best and most versatile agricultural land in the ES:

1. The Institute of Environmental Management and Assessment (IEMA) have guidance on Land and Soils. The guidance is aimed at Environmental Impact Assessment (EIA) of projects
2. The IEMA guidance also refers to The Design Manual for Roads and Bridges (DMRB) (2019) LA109 Geology and Soils EIA Guidance which might also be a useful resource. The guidance sets out the assessment criteria and methodology for highway projects only, though parts of the DMRB guidance are sometimes applied to other project types.

Cable route corridor

The temporary displacement of soil as a result of the underground cable installation and temporary haul roads/construction compounds can result in permanent land quality change and soil damage if undertaken inappropriately.

Any soil disturbance, including trafficking, risks damaging the soil resource and soil profile, and the agricultural land quality including the potential for degrading agricultural land quality. As such an ALC survey is essential to understand the baseline conditions to firstly avoid **BMV agricultural land where possible; then to inform the soil handling practises necessary** to minimise potential damage; and provide a baseline soil profile to which the restoration can be compared to demonstrate the land has been appropriately reinstated.

Whilst this provisional mapping provides an indication of the ALC grade, and thus the potential impact on BMV agricultural land, it does not provide the soil details required to inform soil management which would feed into the Soil Management Plan. There is a risk of soil damage, ALC degradation and long term or permanent loss of BMV from cable installation. Soil will need to be handled according to best practice and reinstated to a high standard to reduce the impacts. The results from a detailed ALC survey would provide soils data to inform a soil management plan for the whole site regardless of whether the use is permanent or temporary in nature.

We require that land quality and soil resources information is gathered for any land that is disturbed by the development, so the cabling route should be surveyed. Ideally a full detailed ALC survey would have been carried out across the whole site. With the provisional mapping provided, it is recommended in this instance, that an ALC survey is undertaken within the cable route, with flexibilities around density depending on land quality identified in the Predictive ALC Mapping report (version 2). A semi detailed survey is acceptable where the site is clearly expected to be non-BMV (1 auger per 2 ha plus representative pits), but where BMV has been identified, a detailed ALC survey would be expected (1 auger per ha plus representative pits).

Worst Case Scenario

Deferring a small area of Agricultural Land Classification (ALC) survey to a planning condition is generally not recommended, particularly where the outcome could influence the planning balance or the identification of Best and Most Versatile (BMV) land. The NPPF underscores the importance of protecting BMV land (Grades 1, 2, and 3a) and encourages the use of land of poorer quality where significant development of agricultural land is necessary. The NPPF also recognises soils as a natural capital asset, reinforcing the need for robust, up-front evidence on soil quality and land capability to inform sustainable development decisions.

Assuming a worst-case scenario such as permanent loss of Grade 2 land may be acceptable in some Environmental Impact Assessment (EIA) contexts as a precautionary approach, particularly where access constraints exist. This approach may also be appropriate in other circumstances, including:

- Seasonal limitations (e.g. prolonged wet or frozen conditions outside the ALC survey window)
- Landowner access restrictions unlikely to be resolved within the EIA programme
- Health and safety concerns that prevent safe fieldwork
- Ecological sensitivities, such as protected species or nesting birds
- Programme-critical deadlines where deferral would delay submission of the Environmental Statement or DCO application

In all cases, the worst-case assumption should be:

- Clearly justified and proportionate to the area in question
- Documented transparently in the planning submission

- Accompanied by a commitment to complete the outstanding survey work at the earliest opportunity, ideally pre-construction

The Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites further reinforces the importance of early soil resource surveys, appropriate soil handling, and minimising degradation principles that rely on accurate baseline data such as that provided by ALC surveys. Deferring surveys risks undermining these principles and may compromise the ability to implement effective soil protection measures during construction. In addition, the Overarching National Policy Statements (NPS) for energy infrastructure EN-1 (Energy), EN-3 (Renewable Energy Infrastructure), and EN-5 (Electricity Networks Infrastructure) highlight the need to consider the permanent loss of agricultural land, particularly BMV land, as part of the planning and consenting process for Nationally Significant Infrastructure Projects (NSIPs). EN-1 specifically states that applicants should minimise impacts on BMV land and provide clear justification where such land is affected. These policy statements reinforce the need for a complete and defensible ALC evidence base to support decision-making and demonstrate compliance with national policy objectives.

Annex B - Standard Advice for Air Quality Impacts in National Significant Infrastructure Projects (NSIPs)

Natural England provides the following standard advice on air pollution. This advice relates to the protection of protected sites under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) and the Wildlife and Countryside Act 1981 and should be taken as Natural England's formal representation. This standard advice is applicable to all stages of the NSIP process and may be used by the applicant for NSIP pre application stages, by the Examining Authority (ExA) during the statutory stages of the NSIP and by the relevant Secretary of State as the competent authority.

Protected sites are 'sites of special scientific interest' (SSSIs) and 'habitats sites' (also called 'European sites'). For the purposes of this advice, Habitats Sites are Special Areas of Conservation (SACs), possible SACs, Special Protection Areas (SPAs), Potential SPAs, Ramsar sites, and sites identified, or required, as compensatory measures for adverse effects on Habitats Sites. Although their regulatory frameworks differ, the general principles and approach for air pollution assessment outlined for Habitats Sites are also relevant for SSSIs. Where the following advice applies to both, we use the term protected sites. Where the advice or approach differs, the individual terms are used.

This includes advice on information that is required to assess this and how to interpret the results of air quality modelling for the decision maker to conclude whether air quality impacts would have an adverse effect on the integrity of a Habitat site or a SSSI. You should also consider any relevant caselaw that could affect how you carry out any air quality assessments.

Air pollutants

This advice covers the following air pollutants from the construction, operation and decommissioning phases of a proposal

- ammonia (NH₃)
- nitrogen oxides (NO, NO₂ or NO_x)
- nitrogen deposition
- acid deposition
- sulphur dioxide (SO₂)

Standing advice on air pollution and development is also available here:

<https://www.gov.uk/guidance/air-pollution-and-development-advice-for-local-authorities>

Whilst the standing advice does not cover NSIPs, it does include additional technical advice which may prove useful. However, in summary, Table 1 provides the steps that we advise should be taken to assess air quality impacts on protected sites. The applicant should provide their own assessment containing the information and detailed modelling you need. You need to review this and make your own conclusion.

Table 1: Sequential approach to air quality assessments

Stage	Step		Supplemental evidence/ basis for judgment
Initial screening for credible risk of an effect	1	Check Distance criteria - could significant emissions reach a protected site? Yes = move to Step 2 No = no further	The [REDACTED] (APIS) includes an introduction to air pollution. APIS provides site specific information on the interest features of individual protected sites and the sensitivity to air quality impacts of those features.

		HRA required	Please see Table 2 for industrial air pollution screening distances. For road traffic impacts, roads on the affected road network that lie within 200m of a designated site should be considered. Use Magic Map to check the location of designated sites. Search for the location then select the 'Designations' option.
	2	Check if the qualifying habitats or supporting habitat of qualifying species are sensitive to air quality impacts. Yes = move to Step 3 No = no further HRA required APIS Site relevant Critical Loads and Levels (based on literature and professional judgement) [REDACTED] Some habitats may not have a critical load because there is not enough data. In these cases, you should find the critical load for a similar habitat type or feature.	The qualifying features of Habitats Sites can be identified in the relevant Site Conservation Objectives and Supplementary advice packages, which include a definitive list of legally qualifying features. These objectives are available here. Alternatively, a list of qualifying features can also be found by searching for the Habitats Site and SSSIs on Designated Sites View, alongside Conservation Objectives and Supplementary Advice for Habitats Sites. The above links will also show whether any of the qualifying features for Habitats Sites have a Restore or Maintain Conservation Objective in relation to air quality thresholds (critical levels or loads). If the site is a SPA or an SAC/SSSI designated for an animal species (as opposed to a habitat), determine whether the predicted pollution effects on the supporting habitat will have a negative effect on the notified species.
Detailed AQ modelling	3	Undertake detailed modelling using a recognised dispersal model – i.e. Atmospheric Dispersion Modelling System (ADMS) Unless robust site-specific evidence is provided, we advise the lower range of the critical load should be used in modelling. If there are site specific reasons why it is	Air Quality modelling should include relevant scenarios that are clearly identified. One such example of scenarios is a baseline plus future forecasts as follows: Baseline, a construction year, and future operational year(s), do nothing (without proposal), do something (with proposal); taking into account background trends for each pollutant). For proposals that will emit pollutants from a point source, it is helpful to provide isopleths of the dispersion modelling results, showing the predicted contours of pollutant concentration and deposition of the development. These may be assessed against the locations of protected sites and sensitive features within those sites. At least 3 years of meteorological data should be

		more appropriate to use the higher end of the range, then this should be clearly evidenced.	included within the AQ modelling for sources other than for road transport modelling The Institute of Air Quality Management (IAQM) has produced the following document to assist its members in the assessment of the air quality impacts of development on designated nature conservation sites [redacted]
Applying screening thresholds	4a	Apply Screening Threshold Alone If below threshold alone, move to step 4b. If above = move straight to step 5	Ascertain the Process Contribution (PC) from the plan or project (emissions and predicted deposition). Apply Screening threshold (1% of critical level or load) alone using the <u>annual averages</u>. If the process contribution is less than 1% of the relevant long-term benchmark (Environmental Assessment Level, Critical Level or Critical Load), the emission is not likely to have a significant effect <u>alone</u> irrespective of the background levels.
	4b	Apply Screening Threshold In-combination. If below threshold in-combination = no LSE/significant risk of damage etc and no further assessment required. If above = move straight to step 5 Applicants might use the Joint Nature Conservation Committee (JNCC) 'decision-making thresholds' as a reason for not completing an in-combination assessment. If so, you should check they have correctly followed the JNCC guidance on decision-making thresholds. If this guidance shows they do not need to complete an in-combination assessment, continue to step 5. If applicants have not used the decision-making thresholds, or have not followed	Use information from competent authorities (Planning Portal, PINS NSIP register or Environmental Permitting register) to determine if there are plans or projects in the pipeline (not included in the current baseline) that should be considered in-combination If the combined process contribution is less than 1% of the relevant long-term benchmark (Environmental Assessment Level, Critical Level or Critical Load), the emission is not likely to have a significant effect <u>in-combination</u> irrespective of background levels.

		them correctly, they will need to provide an in-combination assessment.	
Detailed Assessment of ecological impacts	5	This step is to consider the ecological impacts of AQ on the interest features of the designated site and is not based only on numerical figures. If it is not certain whether sensitive features are located within the areas to be impacted, a site visit may be helpful to determine this. For SSSIs, this step should provide all the information necessary, including any required mitigation, for the decision maker to determine if there would be an adverse effect on a SSSI. If Habitats Sites are impacted by the proposals, move to Step 6.	The following information is likely to be helpful for the decision maker: Is the sensitive feature(s) located within the pollution footprint? Should it be there for the site to meet its Conservation Objectives or is there some other, natural reason (e.g. hydrology), why the sensitive feature(s) would not be expected to occur there? Check APIS Trends Tab for reasonable expectation on whether background pollution may be decreasing or not. Habitats that have already been subject to high background nitrogen deposition can develop tolerance to further deposition. This cannot be used to justify further exceedance as it would undermine conservation objectives to reverse decline. You should consider predicted effects on the species richness of a habitat against the site's conservation objectives.
Appropriate Assessment (AA) for habitats sites	6	The competent authority to undertake their AA to conclude whether or not there will be an adverse effect on integrity (AEOI) of habitats sites. Any mitigation proposed should also be assessed at this point. Should the AA conclude that the proposal would have an AEOI that	Where mitigation is required to enable a conclusion of no adverse effect on integrity to be reached the AA must be able to show that mitigation measures can be relied upon to avoid adverse effects over the full lifetime of the project (ie construction, operation and decommissioning where relevant). To be viable, such measures should be effective, reliable, timely, guaranteed and of sufficient duration. The assessment of such measures should be supported by evidence. When deciding on whether the proposals set out in the NSIP will have an adverse effect on Integrity on a Habitats Site, the Conservation Objectives and any supplementary advice should be taken into account. Including whether the site is already exceeding the environmental thresholds for

		cannot be excluded with mitigation measures, consider the derogation route of the HRA process. Should compensation measures be required under derogation, please contact Natural England for specific advice. Note: If an AA has been undertaken of the proposals <u>alone</u> and concluded that there will not be an adverse effect on integrity, if there are residual impacts that are not fully mitigated, these will need to be considered in combination with other plans or projects	ammonia, nitrogen oxides and nitrogen deposition and has a restore conservation objective.
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Mitigation measures

If you cannot conclude there is no adverse effect, the applicant will need to apply mitigation measures. Measures will only be appropriate if you can quantify their effectiveness in reducing emissions on the protected site. You should check that mitigation measures are in place to avoid adverse effects on site integrity over the lifetime of the project.

Mitigation may include measures that:

- the applicant volunteers
- you impose through formal conditions or restrictions in any permission or authorisation – these may be different or stricter measures than ones proposed by the applicant

Examples could include:

- relocation or redesign of developments to avoid impacts on protected sites
- control of other emissions of the same pollutants with an overlapping effect
- a change in stack height for industrial processes
- Euro 6 standards for construction machinery
- adding wooded shelterbelts, trees, green walls and hedges to limit dispersal of emissions, as long as these measures in themselves would not negatively impact the protected site

Table 2: Industrial air pollution screening distances

Emission source	Distance for SSSIs	Distance for habitats sites
Industrial developments	2km	5km
General combustion processes (under 20MW energy input)	500m	500m
General combustion processes (20MW to 50MW energy input)	2km	2km
General combustion processes (over 50MW energy input)	2km	10km
Mechanical and biological waste treatment	500m	500m
Landfill waste	2km	2km
Compost (under 500 tonnes maximum annual operational throughput)	500m	500m
Compost (500 to 75,000 tonnes maximum annual operational throughput)	1km	1km
Compost (over 75,000 tonnes maximum annual operational throughput)	2km	2km
Airports, helipads and other aviation proposals	5km	5km
Oil and gas exploration and extraction	500m	500m
Quarries	200m	200m
Other industrial developments causing air pollution	500m	500m

Additional advice

Common Standards Monitoring¹ is used to define the ecological condition of a protected site. It is undertaken on a broader level and does not currently consider air quality impacts. The relevant benchmark for assessing impacts is the critical thresholds. Therefore, the existing status of a designated site should not be the sole reason for judgement on potential impact.

For many protected sites, the current background pollution may already be exceeding the relevant critical load/level from a different source type to the project being assessed (e.g. where the main source of background exceedance is due to agriculture, but the proposal is an industrial project). Proposals must consider their own impacts against the relevant environmental thresholds. There are many reasons why background levels are high, but the conservation objective is to 'maintain or restore' air pollutants to within these benchmarks. The objective would be undermined by proposals that add further emissions, including if it compromises any strategic initiatives to reduce air pollution levels.

You must determine if there is evidence that the increased emissions represent a measurable risk and could compromise the strategic initiatives. You would need to consider information on:

- the extent to which any declining national trends in air pollution, or strategic initiatives to tackle emissions affecting the site more locally, might otherwise lead to improvements
- the rate at which such improvements are anticipated

- the extent of the impacts of a plan or project, and whether those impacts can properly be considered temporary and reversible

If the affected area is small, consider the risk to site integrity proportionally. For example, how important is the area in terms of rarity, location, distribution, vulnerability to change and ecological structure. If it is a supporting habitat, consider its importance to the designated species on the site. Consider any site survey information that may provide evidence of existing impacts.

Emissions from road transport (if applicable):

Emissions from road transport may be an operational impact or be limited to the construction phase of proposals. Roads on the affected road network that lie within 200m of a designated site should be considered. If all affected roads are further than 200m from a protected site, then there is no likely significant effect (habitats sites) or no impact (SSSIs) on protected sites from air pollution

Improvements in vehicle technology and a move to further electrification of the vehicle fleet will, over time, result in lower background levels of nitrogen deposition and nitrogen oxide pollution near to roads. As most sites are currently over the relevant thresholds and have a “restore” objective, this should be noted as a “retardation” of the restore objective and expressed in months and years. Retardation of less than one year is acceptable as air quality is considered against an annual average. Please note that ammonia impacts cannot be assessed in this manner as there is no certainty of a declining trend.

Defra Emissions Factor Toolkit

The Defra Emission Factor Toolkit (EFT) allows for gradual introduction of electric vehicles into the fleet (cars and LGVs) up to 2050. These are the emission factors we advise that NSIPs should be using (which we advise should also consider ammonia emissions as well as NO_x – using one of three sets of emission factors available). However, the User Guide to the EFT highlights that calculation tools only support assessment years 2018 up to 2030, reflecting that predictions and assumptions beyond then become less certain. Where EFT calculated emissions are to be used after 2030 to inform air quality assessments, the EFT indicates that appropriate caveats around the limitations of the analysis must be included to accompany the assessment. We therefore advise that emission factors no later than 2030 are used for HRAs – which would mean percentages of EVs are at predicted 2030 levels. A key concern is that, although EVs themselves have no tailpipe emissions, and the percentage of them will increase, the remaining combustion engine vehicles on the road may become more polluting as they age as selective catalytic reduction technology may create ‘ammonia slip’ over time. Ammonia slip is the unreacted ammonia (NH₃) that escapes from a selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) system used to reduce NO_x in exhaust gases.

Motorways within the affected road network

There is potentially an added complexity to the need for in-combination assessments when considering traffic on motorways, as including these roads can mean that the assessment takes account of traffic growth related to strategic factors or long range (external) trips that are independent of the specific plan or project and neighbouring plans or projects. These roads are strategically important and tend to have high volumes of traffic as well as being well represented in traffic models. The air quality assessment should therefore include traffic flows on these roads, but the external trips can be excluded from the initial screening assessment. A

justification and explanation of which journeys are included and excluded in the traffic model should be provided.