South Norfolk District Council

Local Impact Report

Dated 26th February 2026

1. Introduction

1.1 In line with the Planning Inspectorate's guidance on the use of AI, Microsoft Copilot was used solely to support improvements to the document's structure. The content of the Local Impact Report remains wholly officer authored and has been reviewed to ensure its accuracy.

1.2 Purpose of this Local Impact Report

1.2.1 This Local Impact Report (LIR) has been prepared by South Norfolk District Council in accordance with the Planning Act 2008, which requires local authorities to submit a written report detailing the likely impacts of a proposed Nationally Significant Infrastructure Project (NSIP) on their administrative area. The purpose of the LIR is to assist the Examining Authority by presenting an evidence-based assessment of the localised environmental, social and economic effects of the Norwich to Tilbury Overhead Lines Project as it relates specifically to South Norfolk.

1.2.2 The report provides an impartial evaluation of the development's anticipated benefits and harms, with particular reference to the adequacy of proposed mitigation measures and the extent to which the project aligns with relevant planning policy. While the Council recognises the national importance of modernising and reinforcing the electricity transmission network, it has a responsibility to ensure that the local implications of the scheme are fully and transparently understood.

1.3 Legislative and Policy Context

1.3.1 In preparing this LIR, the Council has had regard to the requirements of the Planning Act 2008 and followed the approach set out in the Department for Communities and Local Government's Guidance for the Examination of Applications for Development Consent (2015). In addition, the report has been informed by the Planning Inspectorate's Advice Note One: Local Impact Reports (2012).

1.3.2 The assessment reflects relevant national policy, including the National Planning Policy Framework (NPPF) and associated guidance and is grounded in the statutory development plan for South Norfolk, comprising the Greater Norwich Local Plan (2024) and the South Norfolk Local Plan Development Management Policies (2015). Where appropriate, reference is also made to emerging supplementary planning documents and strategies.

1.4 Scope of the Report

1.4.1 This LIR considers only those impacts expected to arise within the administrative area of South Norfolk District. The route of the proposed 400kV overhead line passes through a significant area of the district, with 88 pylons located within its boundaries. As such, the report focuses on environmental, heritage, landscape, ecological, amenity, socio-economic and cumulative effects as they relate to local communities, land uses, designated assets and the rural landscape.

1.4.2 The LIR does not assess the national need for the project or examine alternative strategic options, as these matters fall outside the remit of the local authority within the DCO process. Instead, the focus is on the extent and significance of local impacts and the adequacy of mitigation measures proposed by the applicant.

1.4.3 The remainder of this LIR is structured as follows:

- **Section 2** provides an Executive Summary highlighting key issues for the Examination.
- **Section 3** summarises the proposed development and its specific components within South Norfolk.
- **Section 4** identifies other relevant NSIPs and major planning proposals in the district.
- **Section 5** outlines the applicable planning policy framework.
- **Section 6** describes the local environmental, social and economic context.
- **Section 7** presents the topic-based assessment of impacts, covering heritage, landscape, ecology, noise and other relevant disciplines.
- **Section 8** sets out the Council's comments on the Draft Development Consent Order.
- **Section 9** summarises the principal issues for the Examination.
- **Section 10** provides the Council's overall conclusions.
- **Section 11** lists supporting appendices.

2. Executive Summary

2.1 Overview

2.1.1 South Norfolk District Council has prepared this Local Impact Report (LIR) to assist the Examining Authority in understanding the localised effects of the Norwich to Tilbury Overhead Lines Project within the district. The project forms part of the wider Great Grid Upgrade and proposes a new 400kV overhead electricity transmission line, including 88 pylons located within South Norfolk.

2.1.2 While the Council recognises the national need to expand and reinforce the electricity transmission network to support renewable energy growth and secure energy supply, the proposal gives rise to significant environmental, landscape, heritage and amenity impacts at the local level. These impacts and the adequacy of proposed mitigation, form the core of this LIR.

3. Key Local Impacts

Heritage

3.1.1 The route passes through a rural landscape containing numerous designated heritage assets, including listed buildings, scheduled monuments and conservation areas. The Environmental Statement identifies several cases of moderate adverse harm, which is significant in planning terms. Although the harm is assessed as “less than substantial”, national policy requires that such harm be given great weight.

3.1.2 The Council considers that the cumulative effect of the pylons, wires and associated infrastructure will erode the rural character and settings of dispersed heritage assets, resulting in a meaningful reduction in their contribution to local sense of place.

Landscape and Visual Effects

3.1.3 South Norfolk’s generally open and gently rolling landscape gives rise to expansive views across the district. The introduction of tall pylons and overhead lines will create prominent visual features within several landscape character areas. Veteran tree loss, hedgerow removal and long-term vegetation management within the operational corridor are of particular concern. Any tree loss and hedgerow removal must be kept to a minimum and the applicant should be required to justify any such loss. This information is not currently available. The Council therefore cannot assess whether any loss will be inevitable or unavoidable.

3.1.4 The district already hosts major energy and infrastructure schemes. The combined visual and landscape effects of the proposed route, together with existing and consented NSIPs, are expected to intensify the landscape harm as a result of industrial-scale infrastructure incompatible with rural character of South Norfolk district.

3.1.5 The Council is satisfied that the work within the Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with the accepted industry guidance. The Council generally concurs with the

overall findings. Landscape and visual impacts, although closely related, are treated as separate considerations within the assessment.

3.1.6 To support clarity, an area where additional examination or discussion may assist the Examining Authority are the landscape and visual impacts (as set out in 'section 7 (Landscape and Visual)' of South Norfolk's Relevant Representation).

3.1.7 Attention is drawn to the location of the Hornsea Project Three converter station, the Energy Balancing Infrastructure, other infrastructure for the provision and storage of energy, the East Pye Solar Farm and associated BESS, as well as the various Town and Country Planning Act (TCPA) applications for solar farms and Battery Energy Storage Systems (BESS) situated along the route, as outlined above.

3.1.8 The Council remains concerned that the cumulative impacts of these proposed and consented developments, located around Norwich Main and throughout the district close to the draft Order limits, when considered alongside the proposed overhead pylons, will result in significant harm to the district's rural landscape.

3.1.9 The Council considers that the Examining Authority should:

3.1.9.1 Give substantial weight to the Landscape and Visual Impact conclusions in the Landscape and Visual Impact Assessment

3.1.9.2 Consider the potential cumulative harm arising from the concentration of large scale energy infrastructure within and around the district;

3.1.9.3 Ensure that the harms are transparently balanced against the scheme's benefits within the overall planning judgement;

3.1.9.4 Require the applicant to demonstrate, through further assessment or mitigation proposals, how the landscape impacts can be reduced, avoided or better managed;

3.1.9.5 Consider whether additional requirements, design changes, or protective provisions are necessary to safeguard the character and quality of the local rural landscape.

Noise, Vibration and Pollution

3.1.10 The Council has significant concerns regarding the adequacy of the noise and vibration assessment. In particular, the absence of baseline noise

monitoring limits confidence in the predicted effects, especially in quiet rural locations. The reliance on percussive piling, without site-specific geotechnical justification, creates risk of notable construction nuisance.

3.1.11 The project appears to rely entirely on percussive piling, which is a major source of noise and vibration nuisance. A justification for this approach should be provided and a geo-environmental or geotechnical investigations undertaken to confirm whether percussive piles are appropriate for site conditions. Without this information, the suitability of pile types cannot be established.

3.1.12 Once pile types are confirmed, the noise and vibration assessment should be revised to reflect actual construction methods. The vibration assessment should also include impacts from construction traffic.

3.1.13 The Environmental Statement indicates that the principal contractor will undertake a repeat noise assessment following monitoring. This commitment should be secured within the DCO requirements.

3.1.14 The inclusion of a provision granting immunity from prosecution requires careful consideration. If such a provision were to be included, it should be strictly limited to circumstances where the undertaker has demonstrably taken all reasonable measures to prevent noise and vibration nuisance.

3.1.15 The Council's position remains that immunity from prosecution should not be incorporated within the DCO. The existing legislative framework under COPA already affords a statutory defence where National Grid can demonstrate the use of Best Practicable Means (BPM). Where works are undertaken pursuant to a Section 61 consent, noise levels and durations can be conditioned and any breach of those conditions remain enforceable. In such cases, BPM again constitutes a valid defence against prosecution.

3.1.16 Section 61 consents offer an appropriate and established mechanism for managing noise impacts without undermining enforcement provisions.

Ecology and Biodiversity

3.1.17 The Council acknowledges the applicant's commitment to Biodiversity Net Gain (BNG) but remains concerned about potential impacts on designated sites, particularly the Norfolk Valley Fens Special Area of Conservation and County Wildlife Sites such as Roydon Fen.

3.1.18 Further work is required to demonstrate that avoidance and minimisation measures have been fully explored. Compensation should only be considered where no reasonable alternatives exist. The Council also considers that additional attention is needed for species impacts, including Pink-footed Geese, which may be affected during construction.

Cumulative Impacts

3.1.19 South Norfolk faces an unprecedented concentration of energy-related NSIPs, major grid reinforcements and associated infrastructure. The Council is concerned about cumulative impacts across environmental, visual, heritage, ecological and socio-economic domains. Key Issues for the Examination

3.1.20 The Council identifies the following matters as most significant for the Examining Authority:

- The scale and significance of adverse landscape and visual effects;
- The level of less-than-substantial harm to heritage assets and whether public benefits justify this harm;
- The adequacy of the noise and vibration assessment, including the need for baseline monitoring and justification for piling methods;
- The sufficiency and enforceability of ecological mitigation and the justification for compensation measures;
- The scope and mitigation of cumulative effects, particularly in combination with other NSIPs;
- The suitability, clarity and enforceability of Draft DCO Requirements, including removal of any immunity from prosecution.

3.2 Overall Position of the Local Authority

3.2.1 South Norfolk District Council acknowledges the national importance of modernising the electricity transmission network. However, based on the information presented within the application, the Council considers that the project will result in substantial localised harm, particularly in relation to heritage, landscape character, ecology and residential amenity.

3.2.2 The Council's position is that these local harms must be given significant weight in the planning balance and that further work is required to refine mitigation, address evidence gaps and strengthen the Draft DCO Requirements to ensure effective protection of local communities and environmental assets.

4. Description of the Proposed Development

Overview of the Scheme

4.1.1 The Norwich to Tilbury Overhead Lines Project forms part of National Grid's Great Grid Upgrade and seeks development consent for a new 400kV electricity transmission line connecting Norwich Main Substation in Norfolk to Tilbury in Essex. The proposed route extends approximately 184km across Norfolk, Suffolk and Essex, replacing and upgrading sections of the existing 132kV network.

4.1.2 Within South Norfolk District, the proposal would introduce 88 new lattice steel pylons, each up to approximately 50 metres in height, together with associated overhead conductors, access tracks, works areas, temporary construction compounds and ancillary infrastructure.

4.2 Components of the Development within South Norfolk

4.2.1 Key elements of the project affecting South Norfolk include:

- Construction and operation of new 400kV pylons and overhead lines;
- Removal or modification of existing 132kV infrastructure where required;
- Creation of temporary access routes, construction compounds and laydown areas;
- Earthworks, foundation construction and associated enabling works.
- Vegetation clearance, including removal of some hedgerows and veteran trees;
- Long-term vegetation management within the operational corridor to maintain safety clearances.

4.2.2 The alignment traverses predominantly rural agricultural land, interspersed with dispersed settlements, farmsteads, heritage assets, ecological features and areas of recognised landscape sensitivity.

4.3 Construction Phase Characteristics

4.3.1 Construction activities are expected to include:

- Establishment of temporary compounds and access tracks;
- Foundation installation for pylons, including the potential use of percussive piling;
- Erection of pylon towers and stringing of conductors;
- Underground cabling works in certain locations;
- Removal of existing infrastructure where applicable.

4.3.2 Construction would occur over several years, with works progressing sequentially along the route. The Council ask the Examining Authority to note that the district is also host to several other NSIPs and large-scale developments, raising the potential for overlapping construction periods and associated cumulative disruption.

4.4 Operational Phase Characteristics

4.4.1 Once constructed, the transmission line will operate at 400kV and will form a permanent feature of the local landscape. Operational activities include routine inspection, maintenance and vegetation management. No significant operational traffic is anticipated, though periodic access will be required for inspection or repair.

4.4.2 The height and prominence of the pylons mean that the visual and landscape effects will be long-lasting. Some operational constraints, particularly relating to vegetation clearance and tree management within the corridor, will continue throughout the lifetime of the infrastructure.

4.5 Associated Infrastructure and Land Requirements

4.5.1 Temporary land take is required for construction compounds, access routes and materials handling areas. Permanent land requirements are generally restricted to the pylon footprints, easements below overhead lines and access to the operational corridor for maintenance.

4.5.2 Construction may require the alteration or temporary closure of public rights of way and minor roads. Further detail on access management and traffic impacts is expected to be secured through DCO Requirements and supporting management plans.

4.6 Relationship to Existing Infrastructure

4.6.1 In multiple locations within South Norfolk, the proposed 400kV line would run broadly parallel to the existing 132kV network. The proximity of new and existing infrastructure is a key consideration in assessing cumulative landscape, visual and heritage effects.

4.6.2 The district also hosts several major energy projects, including substations, onshore wind farm connections, solar farm connections and battery energy storage systems. The interaction between the proposed scheme and this existing and emerging infrastructure base is addressed further in Section 7 of this LIR.

5. Relevant Development Proposals

5.1 Overview

5.1.1 South Norfolk District hosts a substantial number of Nationally Significant Infrastructure Projects (NSIPs) and major planning applications that are either consented, operational, under construction, or at pre-application stage. These developments provide essential context for understanding the cumulative environmental, landscape, heritage and socio-economic impacts associated with the Norwich to Tilbury Overhead Lines Project.

5.1.2 The projects listed below vary in scale and function, including major road infrastructure, solar farms, battery energy storage systems (BESS), wind farm grid connections and significant residential or employment developments. Their spatial and temporal overlap with the proposed overhead line scheme is a key factor in the Council's assessment of cumulative effects.

5.2 Nationally Significant Infrastructure Projects (NSIPs)

5.2.1 Several NSIPs within or near the district interact with the proposed overhead line corridor. These include:

- **A47 – A11 Thickthorn Junction (TRO10037):** Consent granted October 2022 and now under construction;
- **East Pye Solar Farm (500MW) and BESS (EN0110014):** Pre-application; submission anticipated February 2026;
- **Hornsea Three Offshore Wind Farm (EN010080):** Consented December 2020; construction underway including the converter station;
- **Sheringham and Dudgeon Offshore Wind Farm Extensions (EN010109):** Consented April 2024 and pre-commencement surveys underway;
- **Tasway Energy Park (700MW Solar + BESS):** Paused pending future grid connection after non-statutory consultation.

5.2.2 These NSIPs collectively form a major part of the region's transition toward renewable energy generation and transmission. Their proximity to the draft Order Limits increases the potential for cumulative impacts on landscape character, ecological resources, local amenity and construction-phase disruption.

5.3 Major Town and Country Planning Act (TCPA) Applications

5.3.1 Alongside NSIPs, the district has a high volume of significant planning applications, many of which are located near the corridor or associated substations. These include large residential schemes, commercial and employment hubs, solar farms, BESS installations and supporting energy infrastructure. The applications range from outline permissions to reserved matters and variations to existing consents, with many approved and others pending consideration.

5.3.2 A full list is included at Appendix C and examples include:

- Major housing and employment development west of the A140 in Long Stratton (2018/0112);
- Multiple employment, logistics and industrial phases at Ipswich Road, Keswick (2021/1034–1039);
- Numerous solar farm and BESS applications across the district (e.g., 2021/2495, 2021/2645, 2023/0617, 2023/1055).
- Grid connection infrastructure for consented NSIPs (e.g., Hornsea Three, Bloy's Grove Solar Farm);
- Country park and mixed-use development in Caistor St Edmunds (2022/2148);
- Battery storage and grid reinforcement infrastructure adjacent to Norwich Main Substation, including the 2024 substation extension;
- A broad range of residential developments across villages including Diss, Roydon, Newton Flotman, Bracon Ash, Aslacton and others.

5.3.3 Many of these developments introduce additional landscape change, construction activity, traffic generation and ecological pressures. When considered alongside the overhead line project, they illustrate cumulative capacity issues, particularly around the Norwich Main Substation area where multiple energy-related schemes converge.

5.4 Interaction Between the Proposed Overhead Line and Other Development

5.4.1 The concentration of NSIPs and large-scale TCPA developments within South Norfolk is unusually high. Several projects are spatially clustered along strategic corridors or around key substations. This increases the probability of cumulative environmental effects, including:

- Intensification of energy infrastructure in sensitive landscapes;
- Combined visual impacts from multiple tall structures and extensive land use;
- Overlapping construction timeframes extending the duration of disruption for residents, businesses and transport networks;
- Increased pressure on ecological receptors, particularly where grid-related schemes interface with designated habitats.

5.4.2 These interactions are addressed in more detail in the topic-based assessments within Section 7 of this LIR. The breadth and scale of associated development underline the importance of a robust cumulative impact assessment for the DCO application.

5.5 Summary on Relevant Development Proposals

5.5.1 The volume and scale of relevant NSIPs and major TCPA applications within South Norfolk mean that the proposed Norwich to Tilbury project does not exist in isolation. Rather, it forms part of a wider and growing body of energy and infrastructure development. Understanding this wider context is essential to assessing the significance of impacts on landscape, heritage, ecology and community amenity.

6. Relevant Planning Policies

6.1 This section summarises the national and local planning policies that inform the assessment of the Norwich to Tilbury Overhead Lines Project as it affects South Norfolk District. The policies listed here provide the basis for evaluating the acceptability of impacts on heritage, landscape, ecology, amenity, design and environmental quality.

6.2 Statutory Development Plan

6.2.1 The statutory development plan for South Norfolk consists of:

- **The Greater Norwich Local Plan (GNLP), adopted March 2024**, covering Broadland, South Norfolk and Norwich;
- **The South Norfolk Local Plan** – Development Management Policies (2015)**.**

6.2.2 These documents remain the primary basis for planning decision-making within the district and therefore carry full weight in the assessment of local impacts arising from the proposed 400kV overhead line.

6.3 Greater Norwich Local Plan (GNLP) – Key Policies (Appendix A)

6.3.1 The GNLP establishes strategic spatial planning and environmental objectives for the district. The following policies are particularly relevant to the proposed development:

- **GNLP Policy 2 – Sustainable Communities:** Requires development to support strong, healthy communities and contribute positively to environmental quality;

- **GNLP Policy 3 – Environmental Protection and Enhancement:** Seeks to safeguard and enhance landscape character, biodiversity, natural assets and environmental quality.

6.3.2 These policies provide the basis for assessing the project's effects on environmental quality, landscape character and biodiversity and its compatibility with sustainable development objectives.

6.4 South Norfolk Local Plan (SNLP) – Development Management Policies

6.4.1 The South Norfolk Development Management Policies (2015) set out detailed criteria for assessing environmental, heritage, landscape and amenity impacts. Relevant policies include:

- DM1.4 – Environmental Quality and Local Distinctiveness;
- DM3.8 – Design Principles;
- DM3.13 – Amenity, Noise and Quality of Life;
- DM3.14 – Pollution, Health and Safety;
- DM4.4 – Natural Environmental Assets;
- DM4.5 – Landscape Character Areas and River Valleys;
- DM4.8 – Protection of Trees and Hedgerows;
- DM4.9 – Incorporating Landscape into Design;
- DM4.10 – Heritage Assets;

6.4.2 South Norfolk Landscape Susceptibility in Relation to Energy Generation, Storage and Transmission SPD 2026.

6.4.3 These policies are central to evaluating the effects of the proposed overhead line on:

- The setting of heritage assets;
- Local landscape character and long views;
- Environmental quality, including noise, vibration, air and water;
- Trees, hedgerows and irreplaceable habitats;
- Residential amenity and local distinctiveness.

6.5 Supplementary Guidance (Appendix B)

6.5.1 The following supplementary guidance is relevant to understanding local sensitivities to major energy infrastructure:

- **South Norfolk Landscape Susceptibility in Relation to Energy Generation, Storage and Transmission SPD**, adopted February 2026.

6.5.2 This SPD identifies areas within the district particularly sensitive to large-scale energy infrastructure and therefore provides an important context for assessing the scheme's potential landscape and visual impacts and is appended as Appedix B.

6.6 Summary of Policy Alignment Considerations

6.6.1 Across the development plan and supplementary guidance, a consistent theme emerges of the need to protect South Norfolk's landscape character, heritage assets, biodiversity and residential amenity, while ensuring that development contributes positively to environmental quality and local distinctiveness.

6.6.2 These policies, taken together, form the basis for the topic-based assessments set out in Section 7, in which the Council evaluates how the proposed overhead line aligns or conflicts with specific policy requirements.

7. Local Area Context

7.1 Overview of South Norfolk District

7.1.1 South Norfolk is a predominantly rural district characterised by gently undulating farmland, tributary valleys, woodland, dispersed villages, traditional market towns and an extensive network of public rights of way. The landscape is generally perceived as open and expansive, with long views across plateau farmland and river valleys. These characteristics are central to the district's sense of place and underpin its landscape sensitivity.

7.1.2 The district contains numerous designated heritage assets, including listed buildings, scheduled monuments and conservation areas. Many of these assets are associated with historic agricultural landscapes, traditional farmsteads and small settlements. Their settings are often defined by open rural surroundings and long-distance views, which contribute significantly to their significance and local distinctiveness.

7.2 Settlement Pattern and Local Communities

7.2.1 The district is structured around several historic market towns i.e. Diss, Harleston, Loddon and Wymondham which serve as centres for employment, cultural activity, education and services. Beyond these towns, the district comprises numerous villages and hamlets, many of which feature heritage assets, rural amenities and strong community identities.

7.2.2 South Norfolk's rural communities are sensitive to change arising from large-scale infrastructure due to their reliance on high-quality landscape, local tranquillity and access to recreational assets such as walking and cycling routes. Tourism and small local businesses also form part of the local economy, benefitting from the area's environmental and cultural qualities.

7.3 Existing Infrastructure and Land Use

7.3.1 Land use across the district is dominated by agriculture, interspersed with woodland, hedgerows, isolated dwellings and small clusters of historic buildings. The existing 132kV overhead electricity network passes through parts of the district and the area around Norwich Main Substation hosts a growing concentration of energy and grid-related infrastructure. These include wind farm grid connections, solar farm cabling routes and battery energy storage systems.

7.3.2 Significant new infrastructure has been consented or is proposed in close proximity to the draft Order Limits, including extensions to Norwich Main Substation and projects associated with Hornsea Three, Bloy's Grove Solar Farm and other NSIPs. This contributes to a cumulative intensification of energy infrastructure in the local area.

7.4 Landscape Character

7.4.1 The proposed route intersects several South Norfolk landscape character areas, including:

- A1 Tas Rural River Valley;
- B1 Tas Tributary Farmland;
- E2 Great Moulton Plateau Farmland;
- A5 Waveney Rural River Valley.

7.4.2 These areas feature open agricultural landscapes, valley landforms and broad skyscapes that are particularly susceptible to visual intrusion from tall vertical structures.

7.4.3 Veteran trees, hedgerows and woodland blocks contribute significantly to local character. Their loss or modification, including the removal of veteran oaks, represents a long-term change that cannot be fully mitigated within the operational corridor, particularly where operational constraints restrict replacement planting.

7.5 Ecological and Environmental Features

7.5.1 The district hosts a range of sensitive ecological assets, including:

- Norfolk Valley Fens SAC;
- Flordon Common SSSI;
- Roydon Fen County Wildlife Site;

7.5.2 Numerous hedgerows, watercourses, woodland edges and grassland habitats. These features create a mosaic of valuable ecological habitats that are vulnerable to hydrological disturbance, vegetation loss and construction-related impacts.

7.5.3 The applicant's Habitat Regulations Assessment acknowledges that Likely Significant Effects on the Norfolk Valley Fens SAC cannot be ruled out, particularly due to the proximity of the haul road and trenching works to watercourses connected to the SAC. The sensitivity of these designated sites forms a central part of the ecological baseline for the district.

7.6 Socio-Economic Context

7.6.1 Tourism, leisure and heritage contribute to the district's economy, with attractions such as the Waveney Valley, Boudicca Way, museums, churches and extensive public footpaths drawing visitors each year. Construction-phase disruption and long-term changes in landscape character may influence visitor behaviour and local business performance.

7.6.2 The district is also shaped by ongoing housing and employment growth, reflected in numerous major planning applications. These developments contribute to economic vitality but also increase sensitivity to additional cumulative construction impacts associated with the proposed overhead line.

7.7 Summary of Local Area Context

7.7.1 South Norfolk is a distinctive rural district with high-value landscapes, sensitive ecological assets, historic settlements and communities that rely on environmental quality for wellbeing, recreation and economic activity. The district already accommodates significant energy-related infrastructure and the addition of the proposed overhead line introduces further environmental and cumulative considerations.

7.7.2 This local context forms the baseline for the detailed topic-based assessments presented in Section 7.

8. Topic-Based Assessment of Impacts

8.1 Heritage Assets

Policy Context

8.1.1 Relevant policies include SNLP DM4.10, which requires development to conserve heritage assets and their settings and the NPPF, which requires great weight to be given to conservation irrespective of the level of harm. The statutory duties under Sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 apply.

Baseline

8.1.2 Within the study area, the Environmental Statement identifies:

- 6 Scheduled Monuments;
- 391 listed buildings;
- 2 Registered Parks and Gardens;
- 9 conservation areas;
- Open, rural settings and long views strongly contribute to the significance of many of these assets.

Construction Phase Impacts

8.1.3 Construction activity, including temporary access routes, vegetation removal and compound installation, will introduce noise, movement and visual disruption. This is likely to erode the rural setting of heritage assets close to the Order Limits.

Operational Impacts

8.1.4 The introduction of tall pylons and overhead conductors across an open landscape will permanently alter the visual context of several heritage assets. The ES identifies moderate adverse impacts on multiple designated assets which is significant in planning terms. No major adverse effects are reported, although the Council considers that harm may be greater than identified in some cases.

Cumulative Impacts

8.1.5 Cumulative impacts arise from the interaction between the proposed pylons and other major energy and grid-related developments, including solar farms, BESS schemes and substations. Combined, these effects intensify the industrialisation of the rural landscape and alter heritage settings more significantly than each project in isolation.

Mitigation and Residual Effects

8.1.6 Mitigation through micro-siting and landscape planting is limited in effectiveness due to the height and scale of the infrastructure. Residual harm remains less than substantial, but it must attract great weight under the NPPF and the Planning (Listed Buildings and Conservation Areas) Act 1990.

8.2 Landscape and Visual Impact

Policy Context

8.2.1 Relevant policies include GNLP Policy 3 and SNLP DM4.5, DM4.8 and DM4.9, which collectively require protection of landscape character, trees and hedgerows and the integration of development into the landscape.

Baseline

8.2.2 The route crosses several sensitive landscape character areas, including:

- Tas Rural River Valley (A1);
- Tas Tributary Farmland (B1);
- Great Moulton Plateau Farmland (E2);
- Waveney Rural River Valley (A5).

These areas are characterised by open views, skyline prominence and rural tranquillity.

Construction Impacts

8.2.3 Construction compounds, access tracks, vegetation removal and the movement of large machinery will introduce temporary but notable landscape disruption along the route.

Operational Impacts

8.2.4 Given the district's generally flat topography, pylons will be visible over long distances, forming prominent vertical structures within expansive skyscapes. In many locations, the proposed pylons will be experienced in combination with existing infrastructure, increasing perceived industrialisation.

8.2.5 Removal of veteran trees, which are irreplaceable under the NPPF, represents a particularly significant adverse effect. The operational corridor limits the feasibility of meaningful replanting.

Cumulative Landscape Effects

8.2.6 The proposed scheme forms part of a wider cluster of energy infrastructure around Norwich Main Substation and throughout the district. When combined, these developments result in substantial cumulative landscape change.

Residual Effects

8.2.7 Residual adverse effects on landscape character and visual amenity are expected to remain significant, even after mitigation.

8.3 Noise, Vibration and Pollution

Policy Context

8.3.1 Key policies include SNLP DM3.13 (amenity, noise and quality of life) and DM3.14 (pollution, health and safety).

Baseline Conditions

8.3.2 The district includes many quiet rural areas with low ambient noise levels. The absence of background noise monitoring in the ES makes it difficult to quantify impacts accurately.

Construction Impacts

8.3.3 The ES relies on percussive piling without geotechnical justification. This method generates substantial noise and vibration. Traffic-related vibration impacts have not been fully assessed.

8.3.4 The Council opposes the inclusion of a DCO provision granting immunity from prosecution for statutory nuisance. Existing legislation (COPA 1974, EPA 1990) already provides appropriate controls where Best Practicable Means are demonstrated.

Operational Impacts

8.3.5 Operational noise impacts are expected to be limited, though some conductor noise may occur under particular weather conditions.

Residual Effects

8.3.6 Given incomplete assessments and uncertainties around piling methods, the Council cannot conclude that the development complies with SNLP noise and pollution policies. Residual adverse impacts remain possible.

8.4 Ecology and Biodiversity

8.4.1 Relevant policies include GNLP Policy 3 and SNLP DM4.4, which require developers to safeguard ecological interests and deliver biodiversity enhancements. The applicant has committed to meeting Biodiversity Net Gain (BNG) obligations.

8.4.2 The district contains several highly sensitive ecological features including:

- Norfolk Valley Fens SAC;
- Flordon Common SSSI;
- Roydon Fen CWS;
- Veteran trees, hedgerows and watercourses.

8.4.3 Construction within close proximity to watercourses hydrologically linked to designated sites presents significant risk. Pylon RG24 and haul routes lie within 30–50 metres of watercourses draining into the SAC.

8.4.4 The Council notes that reliance on compensation at Roydon Fen is not justified: alternatives and avoidance measures have not been sufficiently explored.

Impact on Specific Species

8.4.5 Pink-footed Geese may be affected by vegetation removal and construction during winter grazing periods. A species management plan will be required.

8.5 Cumulative Impacts

8.5.1 The cumulative impact of this project with other NSIPs, solar farms, BESS schemes and grid reinforcements is a major concern. South Norfolk is hosting a substantial concentration of large-scale infrastructure. A strategic approach to the implementation of projects delivered by way of Energy Infrastructure in the area should be required by way of an area wide Energy Infrastructure Plan which inter alia could deliver:

8.5.1.1 A shared understanding of the connection capacity;

8.5.1.2 Coordination of construction periods;

8.5.1.3 Coordinated access tracks and construction compounds;

8.5.1.4 Locally shared ecological mitigation sites

8.5.1.5 Local cumulative compensation and community mitigation fund.

8.5.2 A strategic approach would align with strategic planning can be justified and avoids piecemeal harm. Without such measures, the cumulative burden on South Norfolk is inconsistent with sustainable development.

Landscape and Heritage Cumulative Effects

8.5.3 Two parallel lines of pylons, plus multiple substations and energy schemes will create a heavily industrialised rural environment and intensify harm to heritage settings.

Ecological Cumulative Effects

8.5.4 Multiple projects increase pressure on habitats, hydrological systems and species, with overlapping works create a risk of incremental degradation.

Community and Socio-Economic Cumulative Effects

8.5.5 Extended construction periods and overlapping project timelines will exacerbate disruption to residents, road networks and local businesses.

8.6 Socio-Economic and Community Effects

Overview

8.6.1 The Council recognises the essential national role of the electricity transmission network. However, localised harms are substantive.

Tourism and Recreation

8.6.2 The district's tourism offer i.e. market towns, historic churches, Waveney Valley, Boudicca Way, museums and walking routes may experience reduced visitor appeal due to landscape and construction impacts.

Local Business and Community Impacts

8.6.3 Disruption during construction and changes to landscape character could affect hospitality, retail and cultural sectors. The Council also notes that despite hosting extensive infrastructure, there is no direct local electricity benefit.

9. Consideration of the Draft Development Consent Order (DCO)

9.1 Overview

9.1.1 South Norfolk District Council has reviewed the Draft Development Consent Order (DCO) accompanying the Norwich to Tilbury Overhead

Lines Project and has identified several areas of concern relating to the clarity, enforceability and completeness of the proposed Requirements. These matters have been raised previously in the Council's Relevant Representation and Statement of Common Ground discussions are ongoing.

9.1.2 The Council recognises that a clear and comprehensive set of Requirements is essential to ensuring that the construction and operation of this nationally significant infrastructure project can be appropriately controlled and that residual impacts on local communities and the environment are minimised.

9.2 Governance and Local Government Reform

9.2.1 Norfolk, Suffolk and Essex are currently subject to an accelerated Local Government Review, which is expected to replace the existing two-tier system with new unitary authorities before the discharge of many DCO Requirements will take place.

9.2.2 To ensure continuity, resilience and future-proofing, the Council advises that the DCO Requirements should clearly specify the Local Planning Authority (LPA) as the discharging authority for all conditions. This approach would ensure that, regardless of structural changes to local governance, the appropriate statutory body retains control over post-consent compliance mechanisms.

9.2.3 In addition, certain Requirements, particularly those relating to heritage, archaeology or environmental matters, should explicitly identify relevant statutory consultees (such as Historic England or the Historic Environment Service) to ensure that specialist advice is properly integrated into the discharge process.

9.3 Consistency of Terminology

9.3.1 The Draft DCO contains an inconsistent use of the terms "days" and "business days", creating ambiguity around timescales for the submission, determination and approval of details.

9.3.2 The Council recommends that terminology is standardised throughout the DCO to avoid misinterpretation. A consistent definition is important for managing the expectations of our residents and businesses and ensuring efficient and transparent discharge of Requirements.

9.4 Requirement Variation and Very Minor Amendments

9.4.1 The Draft DCO does not provide a definition of what constitutes a “very minor amendment”, nor does it set out the circumstances in which such changes may be approved without triggering a full resubmission under the Requirement discharge process.

9.4.2 Under the current drafting by National Grid, even small changes trigger a formal discharge process, which could place unnecessary administrative burdens on both the developer and the Local Planning Authorities. Clarity on this matter is essential to guarantee an efficient and proportionate post-consent process.

9.5 Missing or Incomplete Requirements

9.5.1 The Council considers that several essential matters have not been adequately addressed within the present suite of Requirements in the Draft DCO. The following topics require additional or expanded Requirements to ensure appropriate control during construction and operation:

- Implementation and maintenance of landscaping;
- Drainage strategy, including surface and foul water management;
- Skills and employment plan;
- Fencing and means of enclosure (including temporary construction compounds);
- Traffic management and highway access arrangements;
- Contaminated land and groundwater management;
- Noise control measures;
- Control of critical light emissions.

9.5.2 The Council’s position is that these measures must be secured through enforceable DCO Requirements, supported by clear submission details, approval mechanisms and monitoring arrangements.

9.6 Noise and Vibration Requirements

9.6.1 The Council has raised significant concerns regarding the applicant’s proposal for a provision granting immunity from prosecution for noise or vibration-related statutory nuisance. The Council considers that an immunity clause is neither justified nor necessary.

9.6.2 Existing regulatory mechanisms under the Control of Pollution Act 1974 (COPA) already provide a statutory defence for works undertaken using Best Practicable Means (BPM). Where works are governed by a Section

61 consent, conditions can be imposed and enforcement action remains available in cases of breach. This framework provides effective and established protection without undermining environmental safeguards.

9.6.3 The Council therefore maintains that the DCO should not include a general immunity from prosecution for statutory nuisance.

9.7 Adequacy of Secured Mitigation

9.7.1 Although the Environmental Statement refers to a repeat noise assessment to be undertaken by the principal contractor following onsite monitoring, this commitment is not secured within the DCO Requirements. The Council considers this omission unacceptable, as monitoring and responsive mitigation form a critical component of managing construction impacts.

9.7.2 The Council requests that the DCO is amended to include explicit Requirements securing:

- Baseline environmental monitoring;
- Ongoing assessment during construction;
- Mandatory implementation of remedial measures where thresholds are exceeded.

9.8 Summary of comments on the Draft DCO

9.8.1 In summary, the Council considers that the Draft DCO, in its current form, does not yet provide a sufficiently clear, enforceable or comprehensive framework for managing the environmental and community impacts of the project. Clarification of terminology, strengthening of Requirements, removal of unnecessary immunity provisions and recognition of governance changes are all necessary to ensure that impacts are appropriately controlled throughout the lifecycle of the development.

10. Summary of Principal Issues for the Examination

10.1 Overview

10.1.1 South Norfolk District Council has identified several key issues that require particular attention during the Examination of the Norwich to Tilbury Overhead Lines Project. These issues represent the matters of greatest local significance, where impacts are potentially substantial and where further clarification, mitigation or amendments to the Requirements

in the Draft DCO may be necessary to ensure appropriate protection of the district's environment, heritage, communities and infrastructure.

10.2 Landscape and Visual Harm

10.2.1 The proposed introduction of 88 new pylons within South Norfolk will lead to major changes in the district's rural character. The open and gently undulating landscape allows for long-distance views in which pylons and overhead lines will be highly prominent. The cumulative presence of other infrastructure e.g. existing pylons, substations, solar farms and BESS sites intensifies perceived industrialisation.

10.2.2 Particular concern arises from:

- The removal of veteran trees (irreplaceable habitats under the NPPF);
- Reduced ability to provide meaningful planting within the operational corridor;
- Uncertain survey information for hedgerows and vegetation.

10.2.3 The current limitations of the survey and assessment information, for example, gaps or uncertainties relating to hedgerow condition and extent, which in turn create uncertainty regarding the full impact of the scheme. The Council experience from other NSIPs indicates that additional implications can emerge after a Development Consent Order is granted, including the need for further tree or vegetation removal to facilitate temporary access, drainage requirements, or other construction related activities. These can sometimes fall outside the defined Order limits, leading to unforeseen environmental effects.

10.3 Heritage Impacts

10.3.1 The project will result in less-than-substantial harm to multiple designated heritage assets, including listed buildings, conservation areas and scheduled monuments. Several impacts are assessed as moderate adverse, which is significant in planning terms.

10.3.2 The Examining Authority's attention is drawn to :

- The erosion of rural settings and long-distance views that contribute strongly to asset significance;
- Underestimation of harm in some locations identified by the Council;
- Cumulative impacts from multiple grid-related schemes altering the wider historic landscape.

10.4 Ecological Risks and Designated Sites

10.4.1 Several ecologically sensitive areas lie within or adjacent to the working corridor, including the Norfolk Valley Fens SAC, Flordon Common SSSI and Roydon Fen CWS.

10.4.2 Principal issues include:

- The proximity of haul routes and pylon foundations (e.g., RG24) to watercourses hydrologically linked to designated sites;
- Potential impacts to habitats before mitigation is fully implemented;
- Inadequate justification for reliance on compensation at Roydon Fen;
- The need for a clearly defined management plan for Pink-footed Geese.

10.5 Noise, Vibration and Pollution Concerns

10.5.1 There is insufficient baseline monitoring to determine the extent of construction noise and vibration impacts, especially in quiet rural areas. The proposed reliance on percussive piling is unsupported by geotechnical data and may result in significant nuisance.

10.5.2 The Council strongly opposes the inclusion of an immunity clause shielding the undertaker from prosecution for statutory nuisance. Existing legislation provides appropriate defences where Best Practicable Means are employed.

10.6 Cumulative Impact of Energy and Infrastructure Projects

10.6.1 South Norfolk hosts an unusually high concentration of NSIPs, grid reinforcements, solar farms, BESS facilities and associated development. The combined impacts of these schemes, including overlapping construction periods, raise significant concerns regarding landscape change, ecological pressures, heritage degradation, traffic disruption and effects on community amenity.

10.6.2 The cumulative effect of two parallel overhead line systems (existing 132kV and proposed 400kV) is of particular concern due to their combined visual dominance.

10.7 Draft DCO Requirements and Governance Issues

10.7.1 The Draft DCO contains several deficiencies that require rectification, including:

- Inconsistent use of “days” vs “business days”;
- Absence of a definition for “very minor amendments”;
- Insufficient Requirements relating to drainage, landscaping, traffic, noise, fencing, contaminated land and lighting;
- Lack of safeguards ensuring specialist consultees are engaged in key approvals;
- Governance uncertainty due to the forthcoming Local Government Review.

10.7.2 Strengthening and clarifying the Requirements will be essential to securing acceptable environmental and community outcomes.

10.8 Socio-Economic and Community Effects

10.8.1 Town centres, heritage locations, walking routes and visitor-dependent businesses may face reduced attractiveness during construction and from long-term landscape change.

10.8.2 There is limited local benefit in terms of direct electricity supply, despite the substantial infrastructure being hosted within the district.

10.9 Conclusion

10.9.1 The Council identifies the following overarching issues to be key matters for the Examination:

- Significant visual and landscape harm, including loss of irreplaceable veteran trees;
- Less-than-substantial but important heritage harm requiring great weight;
- Ecological risks to internationally and nationally designated sites.
- Insufficient noise, vibration and pollution assessment;
- Substantial cumulative impacts from multiple NSIPs and energy schemes;
- Gaps and ambiguities in the Draft DCO Requirements;
- Adverse socio-economic and community effects.

10.9.2 These matters are central to determining whether the proposed project, as submitted, sufficiently mitigates its local impacts and whether further measures are needed to secure an acceptable outcome for South Norfolk.

11. Local Authority Conclusions

11.1 Overall Assessment of Impacts

11.1.1 South Norfolk District Council acknowledges the national importance of expanding and reinforcing the electricity transmission network to support renewable energy generation, energy security and the transition to net zero. The Council recognises that the Norwich to Tilbury Overhead Lines Project contributes to these national objectives.

11.1.2 However, the local impacts of the proposed scheme are significant. Across multiple environmental and community receptors, heritage, landscape character, ecology, noise, amenity and socio-economics, the project introduces adverse effects that will be felt prominently within South Norfolk. Many of these impacts are long-term and not capable of full mitigation.

11.2 Summary of Key Residual Harms

11.2.1 The Council wishes to highlight the following residual harms as key matters requiring the Examining Authority's attention:

- **Landscape and visual harm:** The scale and prominence of the 400kV pylons, combined with the district's open topography, result in significant and long-lasting adverse effects, including the removal of veteran trees and loss of rural tranquillity;
- **Heritage impacts:** Several heritage assets will experience less-than-substantial but important harm, including changes to their rural settings and long-distance views that contribute to their significance;
- **Ecological risks:** Potential impacts on the Norfolk Valley Fens SAC, Flordon Common SSSI and Roydon Fen CWS remain insufficiently resolved, particularly in relation to hydrological pathways and justification for compensation;
- **Noise and vibration:** The lack of baseline noise monitoring and uncertainty surrounding piling methods undermine confidence in the assessment of construction impacts;
- **Cumulative effects:** The district faces a uniquely high concentration of NSIPs and energy-related developments, resulting in substantial combined landscape, heritage, ecological and community impacts.

11.2.2 Taken together, these issues constitute a level of local harm that must be given significant weight in the planning balance.

11.3 Adequacy of Mitigation and the Draft DCO

11.3.1 The Council's review of the Draft Development Consent Order identifies several gaps and ambiguities in the proposed Requirements, including missing provisions for landscaping, highway access, drainage, contaminated land, lighting, noise management and construction fencing. The absence of a clear definition of "very minor amendments" and inconsistent terminology (e.g., "days" vs "business days") also creates procedural uncertainty.

11.3.2 In addition, the Council strongly opposes inclusion of a statutory nuisance immunity clause relating to noise and vibration. Existing legislative frameworks under the Environmental Protection Act 1990 and Control of Pollution Act 1974 offer sufficient mechanisms for managing construction-related noise through Best Practicable Means and Section 61 consents.

11.3.3 Given future changes to local government arrangements, the Draft DCO must also be amended to ensure that the Local Planning Authority remains clearly identified as the responsible authority for discharging Requirements, with specialist consultees explicitly embedded where relevant.

11.4 Planning Balance and Overall Position

11.4.1 The Council acknowledges that the project delivers national benefits by reinforcing the electricity transmission network. However, these national benefits are achieved at the cost of very substantial localised harm, particularly in relation to the erection of 88 new pylons within the district and the cumulative impact of multiple major energy schemes clustered around key substations and rural landscapes.

11.4.2 In line with national planning policy, harm to heritage assets, although less than substantial, must be given great weight. The same applies to the loss of veteran trees, which are treated as irreplaceable habitats.

11.4.3 The Council's overall conclusion is that:

- The project, in its current form, results in significant adverse effects on landscape character, heritage settings, ecological assets and community amenity;

- These harms require strengthened mitigation, clearer and more comprehensive DCO Requirements and further clarification of construction impacts and ecological risks;
- Without these changes, the Council considers that the proposal does not sufficiently mitigate its local impacts.

11.5 Final Position

11.5.1 South Norfolk District Council remains committed to constructive engagement with the applicant and the Examining Authority. The Council will continue to work towards securing improved mitigation, enhanced environmental safeguards and a more robust framework of Requirements within the DCO to ensure that local communities, heritage assets and the district's rural landscape are appropriately protected;

11.5.2 Subject to the resolution of the issues outlined in this LIR and the securing of comprehensive, enforceable mitigation, the Council will confirm its final position during the Examination process.

12. Appendices

12.1 This section identifies the appendices that support the assessments and conclusions presented within the Local Impact Report (LIR). These materials provide the detailed evidence base underpinning the Council's evaluation of the Norwich to Tilbury Overhead Lines Project as it relates to South Norfolk District;

12.2 Appendix A – Relevant Development Plan Policies

12.2.1 This appendix includes the policy extracts referenced in Section 5 of this LIR, including:

- Greater Norwich Local Plan (2024): Policies 2 and 3;
- South Norfolk Local Plan (2015): DM1.4, DM3.8, DM3.13, DM3.14, DM4.4, DM4.5, DM4.8, DM4.9, DM4.10;
  These extracts provide the statutory policy basis for assessing landscape, heritage, environmental quality, design and amenity impacts.

12.3 Appendix B – Maps and Plans

12.3.1 This appendix contains relevant constraints maps, indicative routing plans, and landscape character area plans in the following Examination Library Documents . These include:

- Order Limits & Pylon Locations: ES Document Ref 6.4.F1, Figure 4.1, ExA Library Ref APP-133, pgs. 1-11

- Designated Heritage Assets: ES Document Ref 6.11.F2, Figure 11.2, ExA Library Ref APP-217, pgs. 1-8
- Non-Designated Heritage Assets: ES Document Ref 6.11.F3, Figure 11.3, ExA Library Ref APP-218, pgs. 1-5
- Environmental Constrains: ES Document Ref 7.2A, ExA Library Ref APP-301, pgs. 1-5
- Landscape Character Areas (Tas Valley, Tributary Farmland, Plateau Farmland, Waveney Rural River Valley) – Landscape Susceptibility in Relation to Energy Generation, Storage and Transmission SPD 2026;

12.4 Appendix C – Cumulative Schemes List

12.4.1 This appendix sets out the full list of NSIPs and major TCPA applications referenced in Section 4 and Section 7 of this LIR, including:

- A47–A11 Thickthorn Junction;
- East Pye Solar Farm;
- Hornsea Three Onshore Works;
- Sheringham and Dudgeon Extensions;
- Multiple solar farms, BESS projects and grid-related schemes across the district.

12.4.2 The list provides a comprehensive basis for assessing cumulative landscape, heritage, ecological and socio-economic impacts.

12.5 Appendix D – Council Commentary on the Draft DCO Requirements

12.5.1 This appendix contains the detailed issues raised by the Council in relation to the Draft Development Consent Order, including:

- Governance and discharge authority considerations;
- Missing or unclear Requirements;
- Concerns relating to “very minor amendments”;
- Noise and statutory nuisance provisions.

12.6 The appendices listed above form an integral part of this Local Impact Report. Together, they provide the Examining Authority with the detailed evidence necessary to understand the full extent of the local impacts of the proposed development and the basis for the Council’s conclusions.

12.7 Appendix E – Additional Supporting Material

12.7.1 This Appendix provides the council’s consultation responses submitted at earlier stages and the Council’s Relevant Representation.

Greater Norwich Local Plan

Document 1 – The Strategy

(Adoption Version for Councils, March 2024)

POLICY 2 - SUSTAINABLE COMMUNITIES

Introduction

176. The Sustainable Communities policy is wide ranging. It aims to ensure that the design of development is high quality, contributes to the establishment and maintenance of resilient and inclusive communities, promotes low carbon development and helps to address climate change. It is a key strategic policy, covering many aspects of the vision and objectives of the plan. Together with policy 3, which focuses on design taking account of historic and natural assets, the policy promotes well-designed places as required by section 12 of the NPPF.

177. The policy covers ten key social, economic and environmental issues which all developments must address through their design. These are set out in table 8 below. The table also references other relevant plan policies.

Table 8 - Key issues addressed by policy 2

Issue number in policy 2	Requirement and justification
1. Access to services and facilities	The design of development and the local availability of services play an important role in determining how much and how people travel. This is particularly the case on larger sites where good design can significantly influence travel habits. Developments are therefore required to provide convenient, safe, and sustainable access to new on-site services and facilities or to existing facilities as appropriate. This reduces the need to travel and provides local access to services and facilities, supporting their viability. Layouts that encourage walking and cycling also help to support healthy lifestyles. Sport England's Active Design document should be referred to. In addition, the policy requires sites to be designed to promote public transport use and accommodate parking without over dominating the site or providing a hazard. Strategic infrastructure is provided for through policy 4.
2. New technologies	This section of the policy requires development to make provision for the delivery of technology-based services and electric vehicle charging. Such a strategic approach is important for economic growth and will have environmental and social benefits, such as assisting in home working. The policy encourages developers to work with service providers on the delivery of a broad range of existing, developing and future technologies, with broadband, fibre optic and telecommunication networks a current focus. Developers must therefore ensure broadband infrastructure is provided for new developments. To do this, they should register new sites with broadband infrastructure providers. The preference is that all residential developments over 10 dwellings and all employment developments will provide Fibre to the Premises (FTTP) for high connection speeds. For smaller schemes, the expectation is that FTTP will be provided where practical. Where this is not possible, then non-Next Generation Access (NGA) technologies that can provide speeds more than 24Mbps should be delivered. The policy also supports the use of electric vehicles by requiring the provision of charging points.
3. Green infrastructure	Developments are required to provide on-site or off-site green infrastructure appropriate to their scale and location. The three main benefits of green

	infrastructure: biodiversity gain; the promotion of active travel and the reduction of flood risk, are key NPPF priorities. On-site provision will provide landscaping, street trees and other planting and will link and contribute to the further development of an area-wide green infrastructure network. This network, also promoted through policies 3 and 4, has now been in development in Greater Norwich for over a decade. Development of the green infrastructure network will be in accordance with existing and amended versions of the Greater Norwich Green Infrastructure Strategy and delivery plans, and other documents such as the River Wensum Strategy.
4. Densities	In line with the NPPF, developments are required through this policy to make effective use of land. To do this, the policy establishes minimum net densities for different parts of the area. It requires higher densities in the most sustainable locations. These are mainly in Norwich and, in particular, in the city centre where, dependent on design issues, high densities have and can be delivered. It also establishes a minimum density elsewhere to ensure the effective use of land. In determining the appropriate density for a development, regard will need to be had to design codes and the type and size of housing; for example, a greater number of 1- bedroom properties can be accommodated compared to 5-bedroom properties. The policy will be used with issue 5 below and with policy 3 which focuses on design taking account of historic and natural assets.
5. Design	Good design is key to sustainable development, place-making and helping to make development acceptable to communities. As a result, the NPPF requires local plans to support the creation of beautiful, well-designed places and buildings which respect and enhance local character. To achieve this, the policy requires development to take account of both existing and new design guidance. This allows for the development of area specific design guides, codes and masterplans which can reflect the wide range of development sites and opportunities in Greater Norwich.
6. Inclusive and safe communities	In line with the NPPF, this element of the policy covers social aspects of the design of development. It focuses on the promotion of resilient, safe and inclusive communities with good access to facilities, services and jobs which are designed to deter crime.
7. Environmental protection	This part of the policy covers a range of the environmental protection issues that new development must focus on. These are soil, air, water or noise pollution and land stability. To help achieve this, development should promote recycling, address ground conditions, protect surface and groundwater and separate un-neighbourly uses. The policy provides the strategic basis for more detailed policies and guidance.
8. Flood risk	Along with the overall strategy for growth, this element of the policy will ensure that flood risk is properly taken account of in the location of new development and that sustainable drainage is used. As evidenced by the Strategic Flood Risk Assessment, the great majority of development promoted through this plan avoids areas at risk of flood. Any mitigation required, mainly in parts of Norwich City Centre and East Norwich, will come forward as part of specific developments and will be guided by the level 2 Strategic Flood Risk Assessment.
9. Water Efficiency	Government policy expects local planning authorities to adopt proactive strategies to adapt to climate change, taking account of water supply and demand considerations. It allows local plans to set a higher standard of water efficiency than the Building Regulations where evidence justifies it. For housing development, only the higher Building Regulations standard for water prescribed by Government (110 litres per person per day) can be applied

	through local plans and more demanding standards cannot be set. For non-housing development, broadly equivalent standards can be required using BREEAM assessments. In Greater Norwich, evidence and justification on the need for water efficiency measures includes: • The Environment Agency (EA) has identified Greater Norwich as water stressed both in its 'Water Stress Area Final Classification (2013) and in the 2021 classification update. These are the primary source of evidence which support a tighter water efficiency standard. • The need for water efficiency is particularly significant in Greater Norwich given its proximity to internationally protected water environments, including the River Wensum and the Broads. • Anglian Water's strategic approach to providing water supplies to meet growth needs includes a major focus on water efficiency measures. • The Norfolk Strategic Planning Framework and the key relevant organisations, the Environment Agency and Natural England, all support retaining this approach which has been in place in Greater Norwich since 2011. • The cost of such a policy is usually negligible. It can be easily achieved through a flexible variety of measures to suit different types of homes and buildings. The cheapest approach is the use of water efficient fixtures and fittings. Solutions can also include the use of greywater recycling and rainwater capture. It will have no effect on development viability and will lead to financial savings for householders and users of other developments, along with carbon emissions reductions. Implementation of the standards for water efficiency will be supported by an updated advice note.
10. Energy	Point 10 of the policy requires development to be designed and orientated to minimise energy use and reduce the risk of overheating, an easily achievable and cost-effective means of promoting low carbon development. It also supports decarbonised energy supplies by promoting measures such as decentralised, renewable and low carbon energy generation, co-locating potential heat customer and suppliers, and battery storage. The Greater Norwich Energy Infrastructure Study (March 2019) shows that a positive approach to promoting energy efficiency and locally generated sustainable sources of energy, as well as promotion of the use of battery storage, is required to address local energy network capacity constraints and to ensure the timely delivery of growth. The study sets out that there are likely to be constraints on the electricity grid and recommends ways to avoid or reduce the costs of improved network connection which are relevant to all larger sites, and to those sites affected by grid constraints named in appendix 1. Measures to implement the policy, to be evidenced on a site-by-site basis through the Sustainability Statement, could include: • Semi-islanded approaches including high levels of on-site, renewable or low carbon generation and batteries.

	• Demand side responses, where on-site generation could be turned up or load reduced in response to network signals. • Investment in infrastructure delivered through an Energy Services Company, which can then provide a steady revenue stream for those involved. The NPPF requires a positive approach to large-scale renewable energy generation and the LEP strategy identifies energy as one of five high impact sectors with the potential for growth. Consequently, the policy positively supports such development, subject to the acceptability of wider impacts. In line with national policy, the exception is onshore wind energy development. No suitable sites for onshore wind energy have been submitted to the GNLP. The best way to display local support, as required by the NPPF, for onshore wind energy is through either a neighbourhood plan which requires a local referendum or through any other future local plan documents which may consider suitable sites.

Implementation

178. The policy will be implemented through:

- **Major developments being required to submit a Sustainability Statement.** This will be supported by supplementary planning guidance. The purpose of the statement is to show, on a site-by-site basis, how the varied aspects of the policy are addressed. The policy references use of national and local design guides and codes to ensure good urban design and encourages, but does not require, the use of the Building for a Healthy Life design tool, or any equivalents or future successors. This provides flexibility in how applicants produce their sustainability statements for housing developments. The policy also encourages master-planning using a community engagement process on larger sites 200 dwellings plus or 20,000 square metres for non-residential development. The purpose of this is to promote effective community engagement in the design of larger schemes. It also includes a requirement for Health Impact Assessments which will be provided for allocated sites of 500 dwellings plus, for non-allocated housing sites of 100 dwellings plus and for any housing proposal with a significant amount of housing for the elderly. These assessments will show how the health care needs of the new development will be provided for.
- **Housing developments of 100 dwellings or more being required to submit a Delivery Statement.** This statement is aimed at supporting timely delivery of development, a priority for this plan. It requires developers to set out the expected timing of the delivery of developments in their statements accompanying planning applications. Where delivery does not happen, it enables the local authorities to consider the use of legal powers to promote delivery, including compulsory purchase.
- **All minor developments also being subject to the policy's requirements**. This will be assessed on a case-by-case basis, taking account of site characteristics and proposed uses. Minor developments are not required to submit a Sustainability Statement. This is in line with the threshold for national requirements for Design and Access statements for major developments only and ensures that planning application submission requirements are proportionate.
- **Existing development management policies**, which detail some policy aspects such as environmental protection issues.

- **Supplementary Planning Documents and guidance**.

179. Potential applicants for planning permission for major developments are advised to contact Anglian Water Services in the early stages of producing a development scheme in order to ensure that there is adequate capacity, or capacity can be made available, in the wastewater network. The provision of capacity could affect the timing of development. In locations where there are known to be capacity issues the local authority will expect this engagement to have taken place and for it to be demonstrated that adequate capacity will be available to serve the development (see Appendix 1 Infrastructure Requirements for currently known locations with capacity issues). Applicants should also consider contacting Norfolk Constabulary for advice on crime and safety issues.

180. Overall, to foster sustainable, mixed and resilient communities, development should be high quality, contributing to delivering growth that is inclusive and meets identified needs, to enhancing the environment, to mitigating and adapting to climate change and to assisting in meeting national greenhouse gas emissions targets.

POLICY 2 – SUSTAINABLE COMMUNITIES

To contribute to the achievement of sustainable communities, development proposals should, where relevant, address the following matters:

1. **Ensure safe and convenient access for all, including by non-car modes, to on-site and local services and facilities such as schools, health care, shops, recreation/ leisure/community/faith facilities and libraries; encourage walking, cycling and public transport through the layout of development; and integrate parking to avoid it dominating the streetscape or being a hazard.**

2. **Make provision for accommodating technology-based services such as broadband, fibre optic networks, telecommunications and electric vehicle charging.**

3. **Create and contribute to multi-functional green infrastructure links, whether provided on-site or off-site, including through landscaping, street trees and other tree planting, taking account of local green infrastructure strategies and delivery plans.**

4. **Make efficient use of land with development densities taking account of accessibility and local character consideration. For residential development, it is expected that there will be minimum net densities of 40 dwellings per hectare in Norwich and 25 dwellings per hectare elsewhere in the Plan area. Higher densities are encouraged in and close to defined district and town centres, and in particular in the city centre. In the most accessible locations in Norwich, regard should be given to providing low or car-free housing in accordance with Policy DM32 of the Norwich Development Management Policies Local Plan.**

5. **Create beautiful, well-designed places and buildings which respect the character of the local area and seek to enhance it through appropriate design, having regard to any local design guidance (including design codes).**

6. **Promote an inclusive, resilient, and safe community through the provision of facilities and services commensurate with the scale and type of the development; and the design and layout of development reflecting best practice to deter crime.**

7. **Avoid risks of unacceptable levels of soil, air, water and noise pollution and/or land instability.**

8. **Avoid locating inappropriate development in areas at risk of flooding by applying the sequential and exceptions tests and ensuring that flood risk is not increased elsewhere. Sustainable drainage systems should be incorporated unless there is clear evidence that this would be inappropriate.**

9. **Ensure a high level of water efficiency. To achieve this:**
   i. **Housing development will meet the Building Regulations part G (amended 2016) water efficiency higher optional standard, or any equivalent successor;**
   ii. **Non-housing development will meet the BREEAM "Very Good" water efficiency standard, or any equivalent successor.**

10. **Protect water quality and ensure a low level of energy consumption. To achieve this development proposals should:**

i. **Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption and the risk of overheating.**
ii. **Provide for the use of sustainable energy, local energy networks and battery storage where appropriate.**

Proposals for free standing decentralised, renewable and/or low carbon energy networks, except for wind energy schemes, will be supported subject to the acceptability of wider impacts.

Wind energy schemes will be supported where the proposal is in an area identified as suitable for wind energy development in the Development Plan i.e., within a Neighbourhood Plan or Development Plan Document; or in a Supplementary Planning Document, and consultation has been undertaken to identify planning impacts, these have been addressed, and the scheme has been demonstrated to have the support of the local community.

To assist this broad-based approach:

i. **Planning applications for major developments will be required to be accompanied by a Sustainability Statement (including Health Impact Assessments as appropriate) showing how development will address the above matters that are relevant to the proposal. Housing development should take account of the National Design Guide (and any subsequent related publications) and optionally making use of tools such as Building for a Healthy Life (or any successor). Flood risk assessments will be provided separately in accordance with the NPPF.**
ii. **Master-planning using a community engagement process, as agreed with the local planning authority, will be encouraged on larger sites and particularly for proposed developments of 200 dwellings or 20,000 square metres plus.**
iii. **Delivery plans are required with planning applications for 100 dwellings plus to set out the expected timing of the delivery of developments. Where delivery cannot be demonstrated to be in accordance with agreed delivery plans for individual sites, the authorities may make use, where necessary, of their legal powers to bring about strategically significant development, including compulsory purchase. In considering the use of such powers regard will be had to any change of circumstances that might affect delivery, particularly economic factors, and the Delivery Plan will need to be updated accordingly.**

POLICY 3 – ENVIRONMENTAL PROTECTION AND ENHANCEMENT

The Built and Historic Environment

181. The National Planning Policy Framework states that plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats.

182. The Greater Norwich area has numerous heritage assets. Consequently, the historic environment is central to the character and quality of life of the Greater Norwich area and is a significant factor in its economic success through encouraging tourism and inward investment. Conserving and enhancing the historic environment will continue to reinforce what makes Greater Norwich an attractive place to live in, work and visit.

183. As well as the heritage assets that are easily visible, there are also those that are hidden below ground. As a long settled and productive area, Greater Norwich has a significant archaeological heritage which development can help to reveal.

184. As such, it is important to recognise that the historic character of the area is made up of a multitude of heritage assets. Individually, some may be more important than others, but even the lesser ones are important in contributing to overall character and quality. All the different elements of the historic environment need to be taken into consideration and conserved and enhanced where possible as part of the development of the area. Guidance for this can be obtained through a wide range of existing resources, such as historic landscape character assessments, conservation area appraisals, listed building and scheduled monuments information and archaeological records; but it is usually necessary to undertake a heritage impact assessment in accordance with guidelines produced by Historic England and local validation requirements to understand the impact of a proposal on the significance of a heritage asset. This would include the impact of development on the setting of a heritage asset, which can contribute to its significance, and can be undermined by proposals that have substantial mass or height that contrasts with neighbouring historic buildings and the wider area.

185. The strategic approach to heritage is first to consider the potential location of development, for example does the location itself “fit” well in relation to adjoining settlements, and does it avoid intruding in important views of heritage assets? This is addressed through the growth strategy set out in policy 1.

186. Following from this, the design of the development needs to respect the historic environment, be appropriate to its setting, seek to enhance the locality and provide measures to further the understanding of local heritage issues. Development should therefore draw upon existing historic character to lead to more positive change in the built and historic environment.

187. The aim should be to avoid harm to the historic environment. In certain cases, an element of harm to the historic environment resulting from development may be unavoidable. This will only be justified if the benefits of the development outweigh the harm, and the harm is kept to a minimum, taking into account the relative importance of the heritage assets in accordance with national policy.

188. The policy also includes a flexible approach to the use of heritage assets to achieve their retention whilst retaining their historic significance, and in this respect particular encouragement will be given to proposals for restoring those assets that are at risk of being lost. Historic significance potentially covers a broad range of issues such as artistic, aesthetic, architectural, cultural and social considerations.

189. The Greater Norwich Green Infrastructure Study provides information on designated Historic Environment assets in relation to green infrastructure provision.

The Natural Environment

190. Reflecting the Government's 25 Year Environment Plan, the NPPF places great weight on protecting and enhancing Greater Norwich's rich natural environment. It seeks to ensure that development not only avoids harm to natural environmental assets, but also encourages a local plan policy approach which actively protects, promotes and enhances biodiversity, so that development results in biodiversity net gain. Relevant legislation also has to be applied including the Water Framework Directive, which sets requirements to protect and improve the water environment, and the Habitats Regulations which set requirements to protect habitats and species.

191. The NPPF requires local plans to recognise the intrinsic character and beauty of the countryside and local landscape character. Accordingly, the policy requires development to respect local landscape character based on existing and any future landscape character assessments, avoiding harm to locally valued landscapes from inappropriate development. It continues the well-established approach in Greater Norwich of having strong landscape protection policies. To do this, it provides the continued strategic policy basis for more detailed, location specific development management policies covering the strategic gaps and landscape settings including river valleys, undeveloped approaches to Norwich and the setting of the Broads. This is the most suitable approach to landscape protection locally given that Greater Norwich does not have the exceptional circumstances required by Government to establish a Green Belt.

192. A key means of achieving biodiversity net gain is through the NPPF requirement that local plans *take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure.* The development of a multi-functional green infrastructure network was formalised locally through the Joint Core Strategy in 2011. It is essential that the network continues to be protected and developed further into the long term as green infrastructure aims to link fragmented habitats, allowing the movement of species and supporting biodiversity gain. It also has other benefits such as reducing flood risk and promoting active travel.

193. Tools such as the Defra biodiversity metric should be used to demonstrate the expected biodiversity net gain that will be achieved through development. A holistic approach to biodiversity gain should provide a range of biodiversity improvements.

194. Securing measurable gains for biodiversity is a national policy requirement and this is reflected in this policy. Any such gain needs to be significant in order to be credible which is why the policy requires a gain of at least 10% greater than the existing situation.

195. A Habitats Regulations Assessment (HRA) has been produced for the plan. It identifies in detail how internationally designated ecological habitats and wildlife sites in the wider area, including areas in the Broads and on the Norfolk coast, would potentially be impacted by recreational pressures likely to be generated by growth in Greater Norwich. The policy therefore sets a requirement that development mitigates impact on sites protected under the Habitats Regulations Directive.

196. The HRA identifies a range of mitigation measures to alleviate additional recreational pressure from additional growth planned in the Greater Norwich Local Plan. These include interventions at the sites themselves, providing suitable alternative natural green space (known as SANGS) and the implementation of a wider programme of green infrastructure improvements.

197. The HRA provides further information on SANGS, stating that this could take the form of a new country park containing woodland and waterbodies. This would be in addition to the new country park facilities which are already planned for the Growth Triangle.

198. The Joint Core Strategy identified the potential to create a new country park at Bawburgh Lakes to the west of Norwich. It would complement the existing country park to the east of the city at Whitlingham, with the parks linked by the Yare Valley green corridor. Its establishment remains desirable. However, the policy is not site-specific as other opportunities may be identified either through local green infrastructure strategies or through other means. For example, there are proposals being brought forward to develop the Broadland Country Park to the north-west of Horsford and new small-scale country parks, such as at Ladybelt Country Park in East Carleton, can provide valuable additional green infrastructure.

199. A Norfolk-wide study, the Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy, has been undertaken and has informed this Plan, including the approach to avoiding and mitigating the potential impacts on the most important protected wildlife sites (identified under the HRA Directive) that might arise from visitor pressure related to new residential developments. For the purposes of this policy, “residential development” excludes replacement dwellings, extensions to single dwellings and nursing homes. Based on the strategy, policy 3 sets out a two-pronged approach to avoidance and mitigation of impacts.

200. Firstly, a contribution of around £205 (plus allowance for inflation) from each new home is to be made towards direct mitigation measures on the protected sites.

201. Secondly, it seeks to avoid impacts on the protected sites through the provision of sufficient and suitable informal recreational greenspace elsewhere to reduce the number of visits to the protected sites. The Greater Norwich authorities currently have different informal recreational requirements on development set out in their Development Management policies local plans. These will continue to apply. The suitability of such greenspace will depend on a number of factors, including the size of the area, its accessibility and its quality, which together provide its attractiveness to users. However, as a guide and to ensure that adequate provision is made to reduce the impacts on the protected sites, this policy requires a minimum of 2 hectares per 1,000 population of suitable informal recreational greenspace to be provided by a residential development.

This figure has regard to the existing local standards, Natural England's Accessible Natural Greenspace standard and the Fields in Trust informal recreational space standard. In addition, the provision of the greenspace should reflect the standards set out in Natural England's Accessible Natural Greenspace standard.

202. The Norfolk Strategic Planning Framework includes county-wide policy objectives on environmental protection, landscape protection and biodiversity. Work supporting the NSPF includes a county-wide green infrastructure network map which provides the basis for more detailed mapping to support and inform local plans, including the GNLP. The updated green corridors map for Greater Norwich, including links to neighbouring areas, is in maps 8 A and B below.

203. The Greater Norwich Green Infrastructure Study outlines the existing green infrastructure, biodiversity and designated heritage assets for housing allocations within the area. It gives general comments about opportunities for potential enhancements of green infrastructure related to the allocations. Whilst this not intended to replace detailed site survey and design work, it is intended to assist the Development Management process. As well as being of importance for the natural environment, Green Infrastructure can have a role to play in enhancing and conserving the historic environment. It can be used to improve the setting of heritage assets and to improve access to it, likewise heritage assets can help contribute to the quality of green spaces by helping to create a sense of place and a tangible link with local history.

204. An updated Green Infrastructure Strategy is currently being produced. This should also be used to assist in identifying the most suitable green infrastructure provision to serve specific developments and contribute to the development of the network.

205. The policy therefore builds on the success of the JCS to ensure both continued long-term development of the green infrastructure network and that visitor pressure issues are addressed.

206. As the competent authority under the Habitats Regulations, the Greater Norwich local planning authorities must also ensure that development will have no negative impact on water quality through nutrient enrichment to internally protected habitat sites. As a result, policy 3 ensures that relevant developments will only be granted planning permission when there is certainty about the levels of nutrients which will be generated and mitigation so that the development will be nutrient neutral.

207. The relevant internationally protected habitat sites are designated under the Habitats Regulations Directive and are defined by Natural England and identified in the plan's HRA as being in an unfavourable condition in 2022.

208. The habitat sites are named in the policy. They are firstly the Wensum Special Area of Conservation (SAC), which is an internationally significant lowland chalk river that is currently affected by phosphorous enrichment. Secondly, the Broads SAC and the Broadland Ramsar consist of five separate Sites of Special Scientific Interest which include broads and fens, with some drained marshes. They contain rich and rare aquatic habitats and species which currently suffer from phosphorous and nitrogen enrichment.

209. The policy applies to development in the river catchments which could add pollutants to the protected habitats. The catchments cover the majority of Greater Norwich so that

development in the Norwich urban area and the main towns of Aylsham, Long Stratton and Wymondham, along with many service villages and village clusters, is impacted. The exception which is not affected is the area around Diss, Harleston and the Waveney Valley, Loddon and Acle. The issue also impacts other local planning authorities in Norfolk (see map 9 below), with the main towns of Dereham and Fakenham outside Greater Norwich also being affected.

210. To comply with the Habitats Regulations and Natural England advice, the policy applies firstly to residential developments leading to an increase in overnight accommodation. This includes new homes, student accommodation and care homes. Secondly, the policy applies to some types of non-residential development. These are developments which may draw people from outside the catchments of the SACs because of their scale or type, developments which may generate unusual amounts of surface water, or which may contain unusual pollutants in their surface water run-off. Tourist attractions, along with some uses which will need to be considered on their own merits, fall into this category.

211. Policy 3 consequently requires evidence to be submitted to show that mitigation has been secured to achieve nutrient neutrality. The evidence must show that this mitigation will be implemented prior to the occupation of relevant developments. Nutrient neutrality solutions must be retained in perpetuity, though short-term measures can subsequently be replaced by long-term approaches.

212. Therefore, proposals that require on-site mitigation will need to provide a costed management and maintenance plan to ensure they will not adversely affect the integrity of sites in an unfavourable condition, or alternative and equivalent means of demonstrating that the integrity of such sites will not be adversely affected. The plans must cover the lifetime of the development and should be accompanied by a monitoring framework. Proposals using off-site credits will need to submit evidence of the agreement with a mitigation provider to purchase adequate credits with their planning application.

213. The policy states that the nutrient neutrality requirement only applies whilst the protected sites are in unfavourable condition. Regular monitoring by the national environmental bodies and report in this plan's monitoring framework will provide updates.

214. The Greater Norwich partnership is working with other Norfolk local planning authorities, Anglian Water, Natural England, and other stakeholders to assist developers in accessing a wide portfolio of mitigation opportunities suitable for different scales of housing and other relevant development. Reflecting the scale of the issue affecting the area which led to a long period in which planning permissions could not be granted for affected development, this work has been funded both by national government and the local planning authorities.

215. In addition to a calculator provided by Natural England, a local nutrient neutrality calculator, the Norfolk Budget Calculator, enables developers to identify the scale of mitigation requirements on a site-by-site basis.

216. Evidence on a wide portfolio of the most suitable measures for use in Norfolk has been produced by consultants Royal Haskoning. For many sites, different types of off-site or on-site mitigation measures will be used in combination. The off-site measures will mainly be delivered through a Joint Venture company, Norfolk Environmental Credits. The company brokers delivery of a variety of mitigation options between providers, such as

landowners and developers. It secures mitigation and then issues certificates confirming the credits that have been purchased. Developers must submit the certificates with their planning applications.

217. This portfolio of mitigation measures includes:
    - Nature-based solutions such as silt traps.
    - Runoff management measures such as cover crops.
    - Wastewater management measures such as improvements to wastewater treatment works and
    - Demand management measures such as retrofitting water saving fixtures and fittings in existing properties.

218. Large-scale greenfield sites are generally able to provide dedicated on-site mitigation. It is estimated that around 60% of the homes in the plan will be on such sites. Some brownfield sites in Norwich will benefit from mitigation from a programme of retrofitting water efficiency measures in council housing. Therefore, the mitigation opportunities provided are of most importance to the developers of small and medium-scale greenfield sites and brownfield sites not benefitting from the retrofitting programme.

219. The portfolio of mitigation opportunities enables Habitats Regulations requirements to be addressed at a reasonable cost, limiting the impact on the viability of development. The Levelling Up and Regeneration Bill requires upgrades to Anglian Water's strategic wastewater treatment plants by 2030. This will lead to around a 36% reduction in phosphorus pollutants entering the watercourse from the treatment plants and a 65% reduction in nitrogen. The cost per dwelling of nutrient neutrality mitigation measures will be reduced once these improvements have been made.

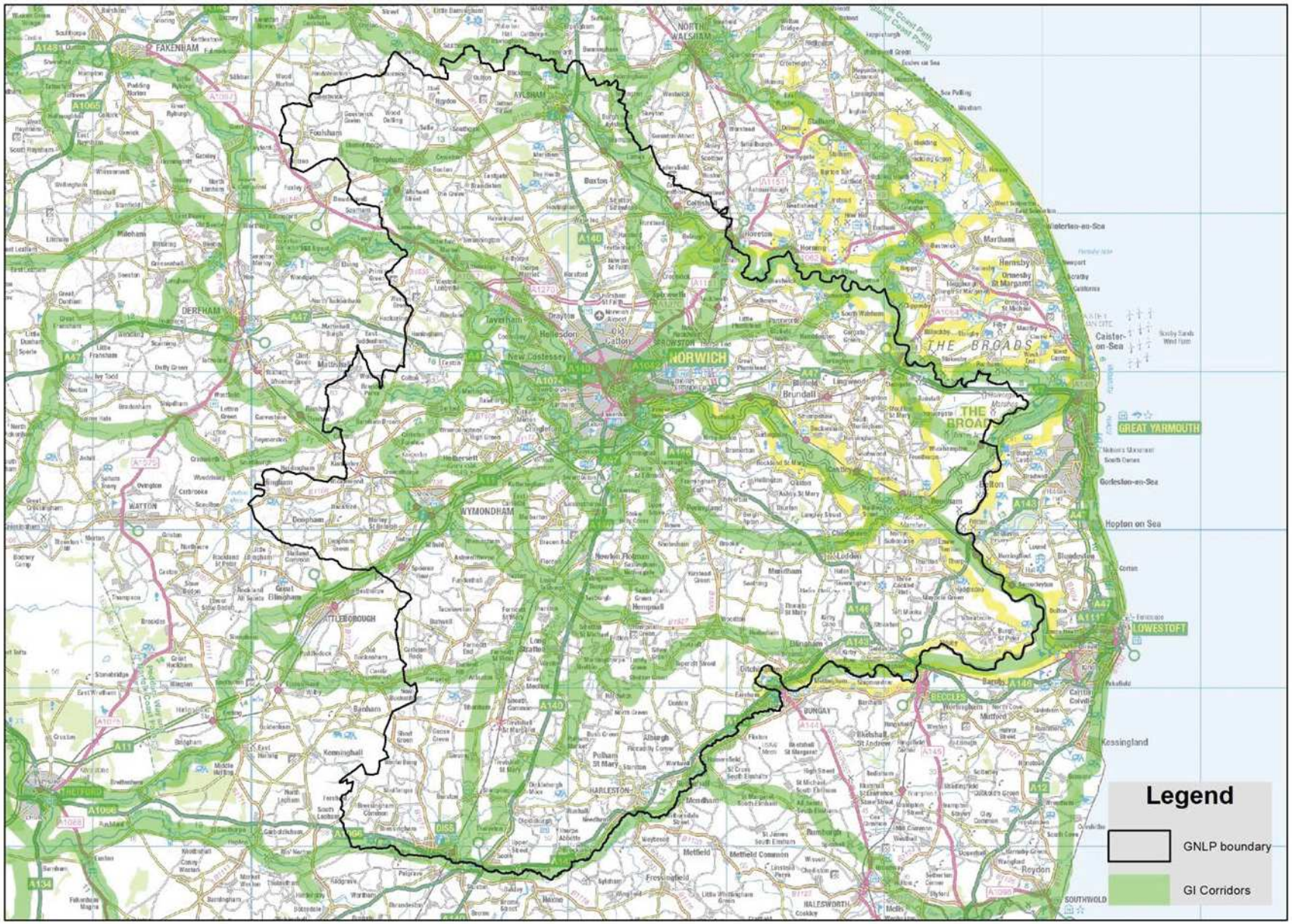
220. Natural England will also provide off-site schemes and nutrient neutrality credits through nature and land-based solutions such as wetlands and woodlands. These will be medium to long-term solutions. These solutions will sit alongside mitigation options provided through Norfolk Environmental Credits. It is also expected that commercial providers will enter the nutrient neutrality market.

221. Government guidance on combining environmental credits for biodiversity net gain and nutrient mitigation has confirmed that "stacking" of environmental credits is permitted. This means that credits from the same activity on a piece of land can be sold separately for both biodiversity net gain and nutrient mitigation provided that the eligibility criteria for each market is met.

222. The impacts of nutrient neutrality requirements have been taken into account in the plan's housing delivery trajectory.

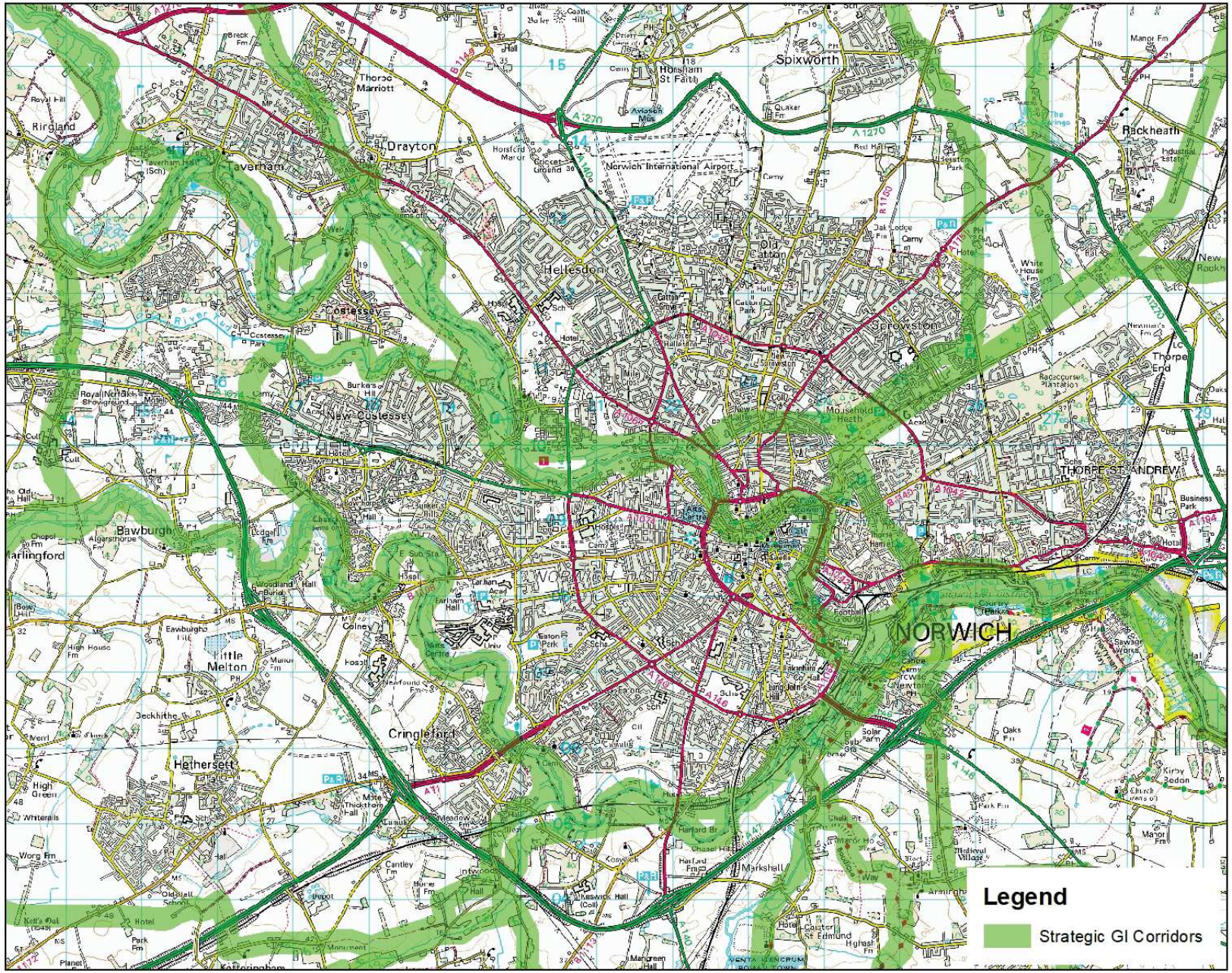
Map 8A Green Infrastructure (GI) Corridors in Greater Norwich

GNLP Corridors



Map 8B GI Corridors in the Norwich Urban Area

GNLP Corridors



Map 9 Areas of Norfolk affected by Nutrient Neutrality

European protected sites requiring nutrient neutrality strategic solutions

Scale: 1:330,000

Component SSSIs of The Broads SAC

Local Authorities
SSSI subject to nutrient neutrality strategy
Nutrient neutrality SSSI catchment

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NATURAL ENGLAND

POLICY 3 – ENVIRONMENTAL PROTECTION AND ENHANCEMENT

The Built and Historic Environment

The development strategy of the plan and the sites proposed for development reflect the area's settlement structure of the city, towns and villages, retaining the separate identities of individual settlements.

Development proposals should enhance the built and historic environment through:

- **Being designed to create a distinct sense of place and enhance local character, taking account of local guidance such as conservation area appraisals and historic landscape character assessments.**
- **Avoiding harm to designated and non-designated heritage assets, including their setting, having regard to their level of significance in accordance with the requirements of the NPPF and relevant policies in other Development Plan Documents and Neighbourhood Plans.**
- **Providing a continued or new use for heritage assets whilst retaining their historic significance.**
- **Undertaking a heritage impact assessment if significant impacts to a heritage asset might arise.**
- **Where relevant, heritage interpretation measures should be provided to enhance the appreciation and understanding of local heritage assets.**

The Natural Environment

Development proposals should enhance the natural environment through:

- **Being designed to respect, conserve and enhance natural assets, taking account of local design and other guidance such as landscape character assessment;**
- **Avoiding harm to designated and non-designated assets of the natural environment, having regard to their level of significance (local, national, and international) in accordance with the requirements of the NPPF and relevant policies in other Development Plan Documents and Neighbourhood Plans.**
- **Following a hierarchy of seeking firstly to avoid impacts, mitigate for impacts so as to make them insignificant for biodiversity, or as a last resort compensate for losses that cannot be avoided or mitigated for. Adherence to the hierarchy should be demonstrated.**
- **Undertaking a relevant assessment (such as a landscape or ecological assessment) if impacts to a natural asset might arise.**
- **Provision of new, or conservation or enhancement of existing, green infrastructure to contribute (directly or indirectly) to the strategic green infrastructure network having regard to local green infrastructure strategies (identified indicatively in Maps 8A and 8B).**
- **Respecting landscape character and retaining important views and features, having regard to landscape character assessments and sensitive areas such as landscape settings, strategic gaps and green spaces identified in Local or Neighbourhood Plans, and to the importance of the nationally designated Broads Authority area and its setting.**

In applying the above, regard will be given to the level of importance of the natural asset.

In addition, development will deliver net biodiversity gain through the provision of on-site or off-site natural features, creating new or enhancing existing green infrastructure

networks that have regard to local green infrastructure strategies. It should be demonstrated that the gain to biodiversity is a significant enhancement (at least a 10% gain) compared to the existing situation.

All residential development will address the potential visitor pressure caused by residents of the development that would detrimentally impact on sites protected under the Habitats Regulations through:

- **The payment of a contribution towards the cost of mitigation measures at the protected sites and**
- **The provision or enhancement of adequate green infrastructure, either on the development site or nearby, to provide for the informal recreational needs of the residents as an alternative to visiting the protected sites. This will equate to a minimum of 2 hectares per 1,000 population and will reflect Natural England's Accessible Natural Greenspace Standard.**

Any development that would be likely to have a significant effect on a European site, either alone or in combination with other plans or projects, will be subject to assessment under the Habitat Regulations at application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the application will be refused unless it passes the tests set out in Regulation 62, and any necessary compensatory measures will need to be secured.

Within the catchments of the River Wensum Special Area of Conservation (SAC), The Broads SAC and the Broadland Ramsar:

- **Residential development that results in an increase in the level of overnight stays; and**
- **Non-residential development that**
- **by virtue of its scale and type may draw people from outside the catchments of the SACs,**
- **and/or may generate unusual quantities of surface water,**
- **and/or, by virtue of the processes undertaken, may contain unusual pollutants within surface water run-off,**

must provide evidence to enable the local planning authority to conclude through a Habitats Regulations Assessment that the proposal will not adversely affect the integrity of sites in an unfavourable condition.

South Norfolk Local Plan

Development Management Policies Document

Adoption Version
October 2015

South Norfolk COUNCIL

Working with you, working for you

1.4 Environmental Quality and Local Distinctiveness

Reasoned Justification

1.29 Notwithstanding the need to consider the economic and social dimensions of all decisions (Policy DM 1.1), the Council is committed to ensuring that development proposals do not cause significant harm to irreplaceable **environmental assets**, and do make positive improvements in the quality of the built, natural and **historic environment** and people's quality of life. In accordance with the **National Planning Policy Framework**[1] this will include:

- moving from a net loss of bio-diversity to achieving net gains for nature;
- replacing poor design with better design;
- improving the conditions in which people live, work, travel and take leisure; and
- widening the choice of high quality homes.

1.30 In particular, all development proposals should demonstrate that full regard has been given to local circumstances and the distinctive local characters and qualities of the places found in South Norfolk. The Council will work with partners and stakeholders to identify and prepare information about these **environmental assets;** to help developers understand the important local natural, heritage and built assets and characteristics in the areas. For example the Council will work with the Local Nature Partnership – Wild Anglia, and the Norfolk Biodiversity Information Service, and with local special interest groups and parish councils to prepare conservation appraisals of conservation areas. Development proposals will also need to demonstrate that full regard has been given to the character of the Broads where they may have an impact.

1.31 The National Planning Policy Framework points to the importance of an inclusive design approach addressing the connections between people and places, and points to the desirability of new development making a positive contribution to local character and distinctiveness as part of supporting and building successful local communities and vitality.

1.32 The Council is committed to ensuring that development management decisions deliver the requirements of **Joint Core Strategy** Policy 1 'Addressing climate change and protecting **environmental assets**', and Policy 2 'Promoting good design'.

1.33 The development management policies and supplementary guidance produced by the Council will advise on how development proposals can achieve high quality by protecting important **environmental assets** and respond by making positive improvements to locally distinctive assets and characteristics. Relevant guidance will be produced to assist larger and smaller development proposals, for example: the

South Norfolk Place-Making Guide SPD, Development in the Historic Environment SPD, the Residential Alterations, Conversions and Extensions SPD and South Norfolk Landscape Character Assessment. Development will be expected to contribute to bio-diversity enhancement and **green infrastructure** in the areas of most significant development growth and change

1.34 The **Design and Access Statements** prepared by developers to support planning applications should demonstrate an understanding and evaluation of **environmental assets** and distinctive local characteristics, and justify the proposed layout and design against an expectation that all new development should make a positive improvement. The statement should address the natural, influenced and built environment and locally distinctive characteristics of places.

1.35 In carrying out development management functions the Council will seek to avoid duplication of functions and overburdening of developers with unwarranted requirements, by working closely with those responsible for other aspects of environmental regulation, including activities requiring Environmental Permit approvals otherwise administered by the Council and/or Environment Agency.

Policy DM 1.4 Environmental quality and local distinctiveness

a) The Council will work with developers to promote and achieve high quality and positive environmental improvement from all development. All development proposals must demonstrate an understanding and evaluation of the important environmental assets including locally distinctive characteristics, and justify the design approach.

b) Designated assets will be protected in accordance with their natural and historic significance, as detailed in the Development Management Policies.

c) A net environmental improvement will always be sought and all proposals should avoid environmental harm or where this is not possible, adequately mitigate and compensate for the adverse environmental effects of development.

d) All development should take all reasonable opportunities to:

- **i. Make a positive contribution to local character and distinctiveness;**
- **ii. Enhance biodiversity to achieve a net gain for nature;**
- **iii. To improve the resilience of ecosystems to environmental change including through the provision of improvements to enhance identified environmental sites; stepping stones and corridors;**

iv. **Protect environmental and water resources and enhance their efficient use;**
v. **Deliver the provision of essential infrastructure including water and wastewater network upgrades, waste facilities', flood defences and green infrastructure;**
vi. **Enhance, re-use and better reveal the significance of heritage assets;**
vii. **Re-use buildings rather than demolish, recycle building materials and select materials to maximise environmental sustainability and minimise impact on scarce resources and environment;**
viii. **Generate and utilise renewable energy in appropriate ways; and**
ix. **Work with the characteristics of the location to ensure that the necessary mitigation measures are not disproportionate to the benefits of the scale of development proposed.**

Notes

- Important aspects of local distinctiveness that new development should respond to are identified addressed in Section 2 of the **South Norfolk Place Making Guide**; Section 4.2 of the Guide includes detailed guidance on appraising a site and its context. This should form part of the **Design and Access Statement** submitted with proposals.
- The importance of contribution to local distinctiveness is also reflected in guidance applying to domestic scale development, in the **historic environment** and setting in the wider landscape - see **Residential Alterations, Conversions and Extensions SPD, Development in the Historic Environment SPD,** and **South Norfolk Landscape Character Assessment.**
- Policies in Section 4 of the Development Management policies set out how the environmental dimension of a proposal will be considered. Policies DM 4.4 – 4.9 address the natural environment and **influenced landscape**, DM 4.10 address **heritage assets**. Policy DM 3.8 addresses design principles including the regard given to local distinctive character.
- Development Management policy DM 1.1 addresses the presumption in favour of sustainable development that balances the economic, social and environmental dimensions in both the immediate and longer term.
- Policy 1 'Addressing climate change and protecting environmental assets', and Policy 2 'Promoting Good design' apply the Vision and Objectives of the **Joint Core Strategy** to all development proposals.
- Sections 7, 10, 11, 12 of the **National Planning Policy Framework** in particular promote design and environmental quality, including the protection and mitigation of impacts. Para 15 requires local plans to set out how the 'presumption in favour of sustainable development' will be applied locally; para 58 refers to the need to "understand and evaluate" the "defining characteristics" and to respond and reflect these, while not preventing appropriate innovation. Para 61 addresses the "connections between people and places" and the contribution to sustainable communities, para 121 points to the "desirability of new development making a positive contribution to local character and distinctiveness".
- The statement '*Environmental Quality in Spatial Planning'* – English Heritage, Environment Agency and Natural England (formerly The Countryside Agency and English Nature) provides guidance on incorporating the natural, built and historic environment, and rural issues in plans and strategies. http://www.environment-agency.gov.uk/static/documents/Research/envqualityplansupp_1351829.pdf

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- [1] The **National Planning Policy Framework** (paragraph 9) requires positive improvement in the quality of the built, natural and historic environment, and reflecting of local circumstances (paragraph 10).

3.8 Design Principles

Reasoned Justification

3.52 Good design is a key aspect of **sustainable development** to achieve social, economic and environmental objectives, and indivisible from good planning. All development should contribute positively to making places better for people[1].

3.53 The Council is committed to working positively with developers to achieve high quality and inclusive design for all development, including small and larger individual buildings, public and private spaces and wider area development. The Council will seek to ensure that new development will: function well; create attractive places and support community cohesion; optimise the potential of the site; respond to local character, history and distinctiveness; and be visually attractive as a result of good architecture and landscaping. In accordance with the **National Planning Policy Framework**, development of poor design that fails to take the opportunities for improving the character and quality of an area and the way it functions should be refused.

3.54 Reflecting the **Joint Core Strategy**, the Council places great importance on the need to promote and reinforce local distinctiveness, and the Council is committed to producing guidance, policies and information to help raise understanding and evaluation of these defining characteristics. This includes the South Norfolk Place Making-Guide SPD, a Residential Alterations, Conversions and Extensions SPD and other supplementary planning guidance and Conservation Area appraisals.

3.55 Good quality housing should provide for internal and external accommodation that is fit for purpose and suitable for its intended occupants. Homes must be designed to meet the demands of everyday life and offer the flexibility and potential to be occupied by householders with different needs over time.

3.56 Buildings that perform better than the minimum environmental standards are more sustainable in the long term, particularly in respect of sound insulation and energy efficiency. Well-proportioned rooms with good levels of natural light provide a better quality of life for occupiers, and will also be adaptable to meet changing circumstances over time.

3.57 The outdoor space around new homes may be provided as private gardens or as a communal amenity space. It should however be integral to the overall residential design of the site. Detailed guidance on the design and quality of outdoor space and arrangements of housing is set out in the **South Norfolk Place-Making Guide**. Provision of parking, refuse storage and utility space should not be

detrimental to the provision of suitable external amenity space; detailed guidance is referred to in the Notes below.

3.58 To ensure innovation and originality is not stifled and best practice is shared, the Council will also have regard to promote the sharing of best practice and will maintain a regular programme of local design review.

3.59 Reflecting Joint Core Strategy Policy 2, major development (500 dwellings or more) OR that of particular complexity, should be **masterplanned** using an inclusive recognised process demonstrating how the whole scheme will be delivered and related to adjacent areas. A lower threshold may be appropriate for new development in smaller settlements, and this should address the programming of timely infrastructure and so forth. Specific requirements are addressed in individual site allocation policies.

3.60 The importance of contributing to local distinctiveness, the **historic environment** and setting in the wider landscape applies at the smaller scale and to domestic scale development too - see Residential Alterations, Conversions and Extensions SPD, Development in the Historic Environment SPD, and Landscape Character Study.

Policy DM 3.8 Design Principles applying to all development

(1) The Council will work with applicants to achieve high quality design and positive improvement from all development, protect and enhance the environment and existing locally distinctive character and encourage innovation; the Council will refuse development that fails to take the opportunities for improving the character and quality of an area and the way the area functions.

(2) Major development should be masterplanned using an inclusive recognised process demonstrating how the whole scheme will be delivered and related to adjacent areas, including the programming of infrastructure requirements. A masterplan will also be required for sites of less than 500dwellings in the case of large developments incorporated into a smaller settlement or on sites of particular complexity.

(3) Dwellings should be designed so that internal spaces are suitable, adaptable and will be able to accommodate a range of residents over time.

(4) Planning permission will be granted for development that has been designed to, where relevant to the proposed development: respect adjoining structures, spaces, routes and local landscape; provide an attractive, accessible and safe environment; and conform to the following criteria:

(a) **The scale, height, massing, form and appearance of development is designed with a satisfactory relationship of structures, spaces and routes within the site and a successful integration into the surroundings;**

(b) **The development is created with high standards of design, building materials, finishes and landscaping reflecting the use of distinctive local building traditions, materials and heritage assets where relevant; or innovative contemporary design solutions reflecting local context and reinforcing or creating local distinctiveness;**

(c) **Access is provided by routes and public spaces that meet different requirements of accessibility (including pedestrians, cyclists and people with mobility or sensory difficulties) without an unsatisfactory domination of traffic;**

(d) **A clear distinction is made between public and private spaces within the site; all public and private spaces to be suitable for their purpose, attractive, landscaped, safe; and with adequate lighting where provided that is carefully controlled to minimise overspill;**

(e) **Visually attractive frontages and hard & soft boundary treatments are created to adjoining streets and public areas, public spaces and the open countryside; all appropriate frontages to contain windows and doors that assist informal surveillance of the public realm by occupants of the site;**

(f) **Buildings and spaces are orientated to: gain benefit from sunlight and passive solar energy and wherever possible designed around a Sustainable Drainage system;**

(g) **The entire development is designed to reduce any actual or perceived opportunities for anti-social activity on the site and in the surrounding area;**

(h) **Landscaping of the development is designed to retain important existing natural features, reflect the surrounding landscape characteristics of the area and contribute to relevant objectives of the local Biodiversity Action Plan; and**

(i) **Convenient, safe and visually attractive areas are created for servicing buildings and parking of vehicles and cycles without dominating the development or surroundings.**

Notes

- Sections 7, 10, 11 & 12 of the National Planning Policy Framework promote design and environmental quality, including the protection and mitigation of impacts. Para 15 requires local plans to set out how the 'presumption in favour of sustainable development' will be applied locally; para 58 refers to the need to "understand and evaluate" the "defining characteristics" and to respond and reflect these, while not preventing appropriate innovation. Para 61 addresses the "connections between people and places" and the contribution to sustainable communities, para 121 points to the "desirability of new development making a positive contribution to local character and distinctiveness".
- **Joint Core Strategy** Policy 2 promotes good quality design that creates a strong sense of place and reflects local distinctiveness. The need to reflect local distinctiveness in development is addressed in the Place Making Guide SPD (Section 2) and Section 4.2 of the guide includes detailed guidance on appraising a site and its context. This should form part of the **Design and Access Statement**.
- Reflecting Joint Core Strategy Policy 2, all development of 10 units or more should be evaluated for the Building for Life Criteria and its successors.
- Development Management Policies expand on the necessary assessments of **environmental assets** and requirements.
- Further advice and guidance prepared by South Norfolk Council to help designers identifying important local characteristics and appropriate design response include:
    - **South Norfolk Landscape Characterisation Study** – published
    - **South Norfolk Place-Making Guide** – Adopted Supplementary Planning Document
    - **South Norfolk Design in the Historic Environment Guide** - (to be prepared)
    - **South Norfolk Residential Alternations, Conversions and Extensions Guide** - (to be prepared)
- Presentation of these documents on the Council's web site pages will include examples of updates, best practice and the results of design review.

- [1]Section 7 of the **National Planning Policy Framework** clearly states the importance of good design to sustainable development and that permission should be refused for development that fails to take the opportunities available for improving character and quality of an area and the way it functions.

3.13 Amenity, Noise and Quality of Life

Reasoned Justification

3.84 Planning policies seek to ensure a high quality design and quality of life for all existing and future occupiers of the land and buildings. All development proposals should take into consideration the impact on the living and working conditions of existing and future occupiers and the continued operation of the authorised uses and businesses surrounding the site. This applies to all development including changes of use and small scale building extensions.

Amenity

3.85 For planning purposes '**amenity**' is defined as the 'the desirable features of a place that ought to be protected or enhanced in the public interest'. These features include maintaining privacy and light, and ensuring the existing and potential occupiers are protected from pollution including that in the forms of noise, odour, vibration, air, dust, insects or artificial light pollution. The potential impact of development needs to be considered on a cumulative as well as individual basis, and indirect impacts such as traffic generation as well as more direct impacts also need to be considered.

3.86 New development consistent with the **Local Plan** and the continuance of existing businesses should not have unreasonable restrictions put on it because of the introduction of new and incompatible land uses. The policy therefore takes a cautious approach to ensure that new development forms a pattern which does not adversely affect the area as a whole in the future.

Noise

3.87 Planning decisions should avoid development that would give rise to noise that would have significant adverse impacts on health and quality of life. It is recognised that development will create some noise and a business wanting to develop in continuance of their business should not be unreasonably restricted if land uses have changed around them since they were established. Therefore development which is likely to give rise to noise pollution should not be located close to land uses that are sensitive to noise, and new noise sensitive uses such as residential development should not be located in a noisy area.

3.88 Conditions will be used to reduce the impact of noise on quality of life. A precautionary approach will be taken and it may be necessary to apply conditions such as restrictions on opening hours etc. However, these conditions need to be proportionate, reasonable and not overly restrictive to new business. The existing back ground noise level will affect the impact of noise generating uses on the area and their effect on health and quality of life, and this should be reflected in any

planning conditions imposed. Proposals also need to be considered both individually and cumulatively with special consideration given to the impact noise generating uses will have on the tranquillity of a rural area.

Lighting

3.89 **Amenity** and environmental quality can be impacted in other ways including by poorly designed and managed lighting. This is a particular issue in rural parts where the relatively 'dark skies' contribute greatly to character and amenity. References to useful guidance and advice are given in the Notes below.

3.90 The importance of tranquillity to wildlife should also be recognised. Increased noise and lighting in particular can have an adverse impact on certain bat and bird species.

Policy DM 3.13 Amenity, noise and quality of life

(1) Development should ensure a reasonable standard of amenity reflecting the character of the local area. In all cases particular regard will be paid to avoiding:

- **a. Overlooking and loss of private residential amenity space**
- **b. Loss of day light, overshadowing and overbearing impact**
- **c. Introduction of incompatible neighbouring uses in terms of noise, odour, vibration, air, dusts, insects, artificial light pollution and other such nuisances.**

Planning permission will be refused where proposed development would lead to an excessive or unreasonable impact on existing neighbouring occupants and the amenity of the area or a poor level of amenity for new occupiers.

(2) In considering applications which may result in an increase in noise exposure, account will be taken of the operational needs of the proposed and neighbouring businesses, the character and function of the area including background noise levels at different times of day and night and the need to protect areas of rural tranquillity.

(3) Development will not be permitted where the proposed development would generate noise or artificial light which would be significantly detrimental to the amenity of nearby residents or the occupants of other noise sensitive uses. Proportionate mitigating measures including limiting conditions will be used to reduce the potential noise or artificial light impact to an appropriate level whenever practical to do so.

Notes

- **National Planning Policy Framework** Core Planning Principles para. 17 states that planning decisions should always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings
- **National Planning Policy Framework** section Conserving Natural Environment Para 122- 123 addresses the conserving and enhancing of the natural environment.
- **Joint Core Strategy** Policy 7 expects all development to maintain or enhance the quality of life and well being of communities.
- Detailed guidance on noise is provided in *Noise Policy Statement for England* - Department for the Environment, Food and Rural Affairs. http://archive.defra.gov.uk/environment/quality/noise/policy/documents/noise-policy.pdf
- The Environment Agency have produced *Guidance for developments requiring planning permission and environmental permits under the Environmental Permitting* (England and Wales) Regulations 2010 (EPR). Planning and permitting decisions are separate but closely linked. Planning permission determines if a development is an acceptable use of the land. Permitting determines if an operation can be managed on an ongoing basis to prevent or minimise pollution. Further advice is also available in a *Guide for Developers* and on the Environment Agency's web pages. http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_7260_bba627.pdf
- *Further detailed advice and guidance used and subscribed to by the Council's Environmental Services is available, including*:
    - Technical Guidance: Planning on noise (incl. wind turbines) - draft based on PPG24 - Norfolk Environmental Protection Group
    - Planning and Pollution in Norfolk – Norfolk Environmental Protection Group
- Useful advice on the design of lighting to control light pollution is produced by the Institute of Lighting Professionals in association with others. Of particular relevance are guidance documents focusing on reducing obtrusive light, providing reasonably adequate lighting for crime reduction, and protection of bats and other sensitive species:
    - *Guidance Notes for the Reduction of Obtrusive Light GN01* – ILP: 2011 https://www.theilp.org.uk/documents/obtrusive-light/
    - *A Guide for Crime Reduction Professionals* – ILP / ACPO Secured by Design: 2011 http://www.securedbydesign.com/pdfs/110107_LightingAgainstCrime.pdf
    - *Bats and Lighting in the UK* - Institute of Lighting Engineers / Bat Conservation Trust: 2009 http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk__final_version_version_3_may_09.pdf
- Norfolk County Council Environmental Lighting Zones Policy expect all public highways lighting to minimise light pollution in respect of all

exterior lighting installations with reference to the Norfolk County Council Environmental Lighting Zones.

3.14 Pollution, Health and Safety

Reasoned Justification

3.91 Planning decisions should take account of whether the location and site has (or is capable of) suitable environmental conditions for the development proposed. Development management decisions will focus on whether the development is an acceptable use of the land and the impacts of the proposed use, rather than the control of processes or emissions which are subject to approval under pollution control and permitting regimes[1]. Planning decisions will assume that environmental regulatory regimes operate correctly.

3.92 The planning process plays an important role in determining the location of new development that might give rise to pollution problems. It is important that site conditions and the potential direct and indirect affects of development on health, the natural environment and general amenity are assessed and appropriate mitigation identified. However, the responsibility of securing the safe development of the land clearly rests with the developer or landowner.

3.93 Three aspects of pollution and safety are addressed in more detail below (although this is not intended as an exclusive list) and regard should also be given to Policy DM3.13 that addresses amenity more generally.

Contaminated land

3.94 Land should be suitable for the new use, ensuring that both human health and the environment are safeguarded from unacceptable risk. Sites which are known or suspected to be contaminated should be identified at an early stage.

3.95 For such sites, an assessment by a competent person should be submitted with the application determining whether or not the site is contaminated and demonstrating adequate remediation as appropriate for the proposed use. Where the extent or existence of contamination is unclear a precautionary approach should be taken.

Air quality

3.96 Air quality in South Norfolk is generally good and whilst there are currently no declared **air quality management areas** there are several areas of concern which are approaching air quality 'limits'. Development should not worsen air quality in any air quality management area that is designated.

3.97 Equally, development should not be permitted where it is likely to result in the inappropriate location of a sensitive use into a problematic area, and specifically, the need for the designation of an area as an air quality management area.

3.98 Where development is permitted (whether by the Council or Secretary of State) a section 106 agreement will be required to provided a percentage contribution towards appropriate local air quality management activities of the Council.

Water quality and the impact of water abstraction on water courses

3.99 It is an offence under the Water Resources Act 1991 to pollute ground or surface water; the Water Framework Directive requires there to be no deterioration in 'water status'.

3.100 Part of South Norfolk falls within Ground Water Source Protection Zones 1, 2 & 3 with principal and secondary aquifers are present. These are identified by the Environment Agency and their definition is subject to change over time as a result of the updating of technical modelling.

3.101 There is also the need to protect ground water sources from abstraction which would impact on wildlife conservation in the area. Given the close proximity of The Broads Area and other sensitive areas such as **Sites of Special Scientific Interest** and **County Wildlife Sites** it is important that consideration is given to this when formulating development proposals and these sites are protected from over-abstraction and pollution.

3.102 Developers will need to be mindful of the potential for such changes in definition and seek advice from the Council's environmental services and the Environment Agency as necessary.

Health and Safety

3.103 There are a number of installations within South Norfolk that are used for handling hazardous substances including high pressure gas and oil pipelines. Whilst these installations are subject to control under stringent Health and Safety legislation it is prudent to avoid locating new development on or within the vicinity of them.

3.104 Where appropriate the advice of the Environment Agency and Health and Safety Executive should be taken to assess any additional public risk created by a proposed development. The installations that have been identified to the Council are shown on the Policies Map.

Policy DM 3.14 Pollution, health and safety

a) **All development should minimise and where possible reduce the adverse impact of all forms of emissions and other forms of pollution, and ensure that there is no deterioration in water quality or water courses.**

b) **When assessed individually or cumulatively, development proposals should ensure that there will be no unacceptable impacts on:**

   i. **Air quality**
   ii. **Surface and ground water quality**
   iii. **Land quality and condition**
   iv. **Health and safety of the public**

c) **Permission will only be granted on or near contaminated land if it is subject to remediation which will make it safe for the proposed use. On a contaminated site or one suspected to be contaminated or within 250 metres (or on more if considered appropriate on a risk based approach) of an existing or disused landfill site, applications will need to be accompanied with an assessment of the extent of contamination on the site and any possible risks.**

d) **Developments which may impact on air quality will not be permitted where they have an unacceptable impact on human health, sensitive designated species or habitats, and general amenity, unless adequate mitigation can be ensured. Development will not be granted in locations where it is likely to result in an Air Quality Management Area being designated or the worsening of air quality in an existing Air Quality Management Area.**

e) **Permission will not be granted for development on or in the vicinity of hazardous installations including high pressure gas and oil pipelines unless the development would not give rise to additional public risk.**

Notes

- The Environment Agency have produced *Guidance for developments requiring planning permission and environmental permits under the Environmental Permitting* (England and Wales) Regulations 2010 (EPR). Planning and permitting decisions are separate but closely linked. Planning permission determines if a development is an acceptable use of the land. Permitting determines if an operation can be managed on an ongoing basis to prevent or minimise pollution. Further advice is also available in a *Guide for Developers* and on the Environment Agency's web pages.
  http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_7260_bba627.pdf
  Additional Guidance available from the Environment Agency in *Groundwater protection: policy and practice (GP3)*
- The **National Planning Policy Framework** section on Conserving and Enhancing the Natural Environment provides further guidance. This is consistent with **Joint Core Strategy** Policy 7.
- The **National Planning Policy Framework - Technical Guidance** addresses development affected by contamination in detail.
- Policy DM 3.14 addresses Amenity and noise.
- Anglian Water's 'Asset Encroachment' guidance should be consulted at http://www.anglianwater.co.uk/developers/encroachment.aspx
- Further specialist advice and guidance on the assessment and mitigation of pollution is available (or is now being prepared) from the *Norfolk Environmental Protection Group*:
  - Land Contamination Reports
  - Planning and pollution in Norfolk
  - Land Contamination Reports – Advice for Consultants and Developers
  - Technical Advice: Air quality and land use planning
  - Technical Guidance: Development on Land Affected by Contamination – (final draft of the specific guidance relating to contaminated land)
  - Technical Guidance: Planning and noise (incl. wind turbine) is being drafted but will be based on PPG24 assessment methodology

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- [1]See **National Planning Policy Framework** paragraph 121 - 2 which summaries the position in legislation. It is important that planning does not duplicate other environmental regulatory regimes or unnecessarily burden development. The Penfold Review is considering this interface of planning and environmental regulatory regimes further.

4.4 Natural Environmental Assets - Designated and Locally Important Open Space

Reasoned Justification

4.26 The **National Planning Policy Framework** requires not only that important designated **natural environmental assets** are protected, but requires that all development seeks positive improvements to the quality of the natural local environment jointly and simultaneously with other improvements[1]. Development should protect and enhance all natural **environmental assets** including: valued landscapes (including those influenced by man-made features), geological conservation interests and soils, and minimise impact and provide net gains in bio-diversity where possible. The National Planning Policy Framework also recognises the wider benefits of **ecosystem services** to peoples' lives and communities.

4.27 Part (a) of the Policy addresses the important natural **environmental assets** to be protected from any harmful impact arising from new development, and requires that new development contribute to the positive improvement of these natural environmental assets where opportunities arise. Sites will be identified on the **Policies Map** and in supporting evidence; the sites of highest status which are designated at International, National and County-wide level. Other important assets such as the best and most versatile agricultural land are not shown on the Policies Map but are identified in supporting evidence. It should also be noted that changes to the County Wildlife Sites register may change over the lifetime of the DPD.

4.28 Part (b) of the Policy addresses other Important Local Open Spaces that are also to be protected and positively improved where opportunities arise. These too are identified on the Policies Map as locally recognised important open spaces and natural **environmental assets** which are important to local communities and the natural environment. A small number of sites are designated as Locally Important Open Spaces where recognition is not otherwise provided in material planning policies and appraisals.

4.29 Part (c) of the Policy develops upon **Joint Core Strategy** Policies 1 and 2. More widely, the Council will work with partners to evolve strategies to ensure individual new development sites contribute effectively to the establishment and positive improvement of coherent ecological networks that will be resilient to future pressures. The basis of these strategies for Biodiversity Enhancement Areas and multi-functional **Green Infrastructure** Networks are set out in JCS Policy 1. The Council will work with partners (including the Local Nature Partnerships (Wild Anglia), the Norfolk Biodiversity Information Service and others to develop these strategies in more detail on a priority basis,

addressing areas under most pressure for change first, in order to ensure appropriate development that contributes to the enhancement of these networks. Specific detail will also be included in **Area Action Plans, Site Specific Allocations and Policies,** and community led **Neighbourhood Development Plans**.

Proposal Map designations of International, National and County-wide status

4.30 The International, National and County environmental designations are all included on the Policies Map.

Proposal Map designations of Important Local Open Spaces

4.31 A number of locally important multi-functional open spaces were identified in the South Norfolk Local Plan (2003); the need to retain some of these and also to include some new designations has been identified through the public consultation on the **Site Specific Allocations and Policies** DPD. These designations are listed below, and are shown on Inset Maps as indicated below:

(1) Poringland Conservation and Fishing Lakes Area

4.32 The Poringland Conservation and Fishing Lakes Association provides public access for leisure purposes and is in frequent use. The **Joint Core Strategy** identified that development in Poringland/Framingham Earl would have to take particular account of surface water flood issues. The fishing lakes provide a valuable attenuation area for surface water.

4.33 The designation is shown on Map 4.4 (1).

(2) Land to the west of Hethersett High School

4.34 This land was allocated for use as public open space in the **South Norfolk Local Plan (2003)**, to help meet previously identified deficiencies in open space provision in the village. Since that time, the farm buildings have been converted to residential use with some of the former open space allocation now being in residential use.

4.35 The **Joint Core Strategy** identified a need for enhanced **green infrastructure** in Hethersett. Although this site does not presently afford public access to the countryside, it forms a valuable element of the existing green infrastructure in the village.

4.36 The designation is shown on Map 4.4 (2).

(3) Old Costessey

4.37 Old Costessey is situated in the valleys of the rivers Wensum and Tud. Woodland is of 'immense scenic importance' (Landscape Character Assessment, LUC 2001); the woodlands in the Tud and Wensum Valleys create an important backdrop of trees and areas of heavily wooded, low-density development help give the settlement its character. Two important areas of woodland fall within the Old Costessey Development Boundary, to the north of Townhouse Road (including Green Hills) and between The Croft and Folgate Lane. Nearby Carrs Hill Wood also forms part of this feature, but is outside the Development Boundary for Old Costessey.

4.38 The designation is shown on Map 4.4 (3).

(4) Brooke

4.39 An important part of the character of the Brooke Conservation Area is derived from the prominence of trees and hedges, some are parts of private gardens, others like the Meres, part of public places. (The feature of the Meres water features tightly bound by public space and located outside of the Settlement boundary.) These features are protected as **Heritage Assets** under policy DM 4.10.

4.40 Outside of the Conservation Area, the open space at the corner of Brecon Road contributes significantly to the character of Brooke and is therefore designated as an Important Open Space designation – see Map 4.4 (4).

(5) Diss

4.41 The form and character of Diss is very heavily reliant on the contribution made by various open spaces. A landscape history research carried out by the Norfolk Gardens Trust in 1997 identified a high number of ornamental gardens but a lack of small parks and puts this down to the industrial nature of the town in the 18th and 19th centuries. As such the public open spaces that have survived and emerged since the late 19th early 20th centuries are of a particularly high value, and have an historical background.

4.42 Previously designations under the **South Norfolk Local Plan (2003)** Policy IMP 3 are the following areas:

Fair Green: Important as a space, historically as the site of the

medieval market, and a key setting for a number of listed buildings on the east and south sides:

The Park: Only came into public ownership in 1960, the main public access to the Mere. The view over the park and Mere to the town is unrivalled and a key element in the setting of the town.

The Mere and banks : The presence of the Mere dictated the pattern of the town and while the gardens and yards that form its boundaries on the three sides opposite the Park, have deteriorated over time, the open leafy character survives.

Parish Fields: An interesting space with the entrance off Mount Street purposely designed to enhance the setting of The Cedars a grand listed building on the road opposite. It is possible that the house was also remodelled to present its main elevation to the west to acknowledge the land opposite.

Mount Street Gardens: The land associated with the Manor House, The Grove and Eaton Lodge on the east side of Mount Street are remains of the ornamental gardens referred to above

Rectory meadows and school playing fields: Part of these grounds was associated with the Rectory, now Mere Manor, but is an important "green lung" bisected by a footpath.

4.43 These spaces contribute significantly to the special character and appearance of the Conservation Area in not just a visual sense, but socially, historically and architecturally. The designations are shown on Map 4.4 (5).

(6) Hethersett Village centre

4.44 This public open space and the adjacent public car park was created through the housing development at Great Melton Close. It is managed by the Parish Council and forms a small 'village green' space at the village centre. The designation is shown on Map 4.4(6).

Policy DM 4.4 Natural environmental assets - designated and locally important open space

a) The highest status natural environmental assets are identified on the Policies Map and in supporting evidence, and will be protected from any significant harmful impact arising from new development. New development impacting on these designated sites will be required to contribute positive improvement of these natural environmental assets where opportunities arise. International, National and County-wide level sites will be accorded the highest levels of priority.

b) At the Important Local Open Spaces identified in paragraphs 4.32 – 4.44 and on Maps 4.4 (1) – (6) and on the Proposal Map, development will only be permitted where it retains the open

character and appearance of the site, where it respects the contribution which the identified open site or open frontage makes to the form and character of the Settlement and where there is no significant adverse impact on the setting of any existing building. New development impacting on these designated sites will be required to contribute positive improvement of these natural environmental assets where opportunities arise.

c) Developers will need to work with partners to evolve strategies to enable individual new development sites to contribute most effectively to the opportunities for the establishment and positive improvement of coherent ecological networks, Biodiversity Enhancement Areas and multi-functional Green Infrastructure Networks.

Notes

- The Broads are internationally important with a national designation equal to that of a national park and fall within the Broads Authority planning area. However, development in adjacent areas of the district could impact on The Broads and the Council will liaise accordingly.
- See strategic diagrams for Bio-diversity Enhancement Areas, **Green Infrastructure** and the Green infrastructure Priority Areas at pages 28, 29 and 62 of the **Joint Core Strategy**. More detailed mapping and description will be prepared with partners on a priority basis, to identify a positive strategy to enhance multi-functional **green infrastructure** and bio-diversity to which relevant development might support. More detailed mapping will be made available through the Council's web pages as it becomes available.
- Further detail is provided in the *Green Infrastructure Strategy* (GNDP, 2007) and the *Green Infrastructure Delivery Plan* (GNDP, 2009). The latter document maps Core Biodiversity Areas for part of the district including the Hethersett / Cringleford Area.
  http://www.gndp.org.uk/content/wp-content/uploads/downloads/2010/06/gndp-green-infrastructure-delivery-plan.pdf

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- [1] **Environmental assets** are defined in the Glossary - Source references for international, national, county and local designations are to be listed on the website.

4.5 Protection and Enhancement of Landscape Character

Reasoned Justification

4.45 The landscape of South Norfolk comprises a rich and often subtle diversity of character and features, whether natural or influenced by man. Outside the limits of the main built-up centres of the market towns and larger villages, expanses of agricultural land are punctuated by scattered settlements, woodlands, trees and hedgerows, commons, rivers, broads, and heaths.

4.46 The district has a slightly undulating topography with gentle transitions. River valleys provide the greatest natural variation in landform and contrast to the arable farmed plateaus, while man-made features such as the Roman town at Caistor St Edmund, railway lines and the dual carriageway by-passes for Norwich (A47) and Wymondham (A11) have imposed their own contrasts.

4.47 Throughout the district are identified assets that have helped enrich the landscape. There are many Registered Historic Parks, such as Kimberley, which has arguably one of the finest concentrations of veteran trees in the county, and also a number of locally significant parks and gardens. In addition are remnants of former estates, such as Costessey, the plantings of which still provide significant visual reminders of a grand past. Across the district are many sites of ancient woodland, and also an identified historic hedgerow pattern in the Dickleburgh area.

4.48 The landscape of the district includes four of the National Character Areas and studies commissioned by the Council have identified seven Landscape Types that share common characteristics of geology, topography and vegetation. The parts of the district within the Broads Authority area are subject to the Broads Landscape Character Assessment. The seven Landscape Types identified within the studies for this plan are: Rural River Valley, Tributary Farmland, Tributary Farmland with Parkland, Settled Plateau Farmland, Plateau Farmland, Valley Urban Fringe and Fringe Farmland. These in turn are further divided to give more detailed analysis.

4.49 Studies confirm the distinctive characteristics and special qualities of the five identified Rural River Valleys, the Valley Urban Fringe and their constituent Landscape Character Areas, within South Norfolk that are desirable to safeguard. They contribute:

- a distinctive character and sense of place;
- contain important/rare features and landmarks and diverse habitats;

- grazed pastoral valley floors; intimate and enclosed landscape with overall small-scale character; and
- enjoy a largely intact rural character, which in places is highly tranquil and undisturbed.

4.50 The Rural River Valleys and Valley Urban Fringe Extents are identified with the Landscape Character Areas to which they contribute.

4.51 The **National Planning Policy Framework** and **Joint Core Strategy** emphasise the importance of identifying and responding to **landscape character** and distinctiveness through good design. Development proposals will be expected to demonstrate how they have taken into account the key findings from the 2001 South Norfolk Landscape Assessment as updated by the 2012 review. This will be particularly relevant when the development sits in a location with distinctive and sensitive landscape characteristics.

4.52 The landscape character areas and river valley extents (Rural River Valley and Valley Urban Fringe) are shown on Map 4.5

Policy DM 4.5 Landscape Character and River Valleys

All development should respect, conserve and where possible, enhance the landscape character of its immediate and wider environment. Development proposals that would cause significant adverse impact on the distinctive landscape characteristics of an area will be refused.

All development proposals will be expected to demonstrate how they have taken the following elements (from the 2001 South Norfolk Landscape Assessment as updated by the 2012 review) into account:

- **The key characteristics, assets, sensitivities and vulnerabilities;**
- **The landscape strategy; and**
- **Development considerations.**

Particular regard will be had to protecting the distinctive characteristics, special qualities and geographical extents of the identified Rural River Valleys and Valley Urban Fringe landscape character types.

Notes

- Core Planning Principles para 17 (point 5) of the **National Planning Policy Framework** requires planning to account for the different roles and character of different urban and rural areas and recognising the 'intrinsic beauty of the countryside'. Section 11 addresses the conservation and enhancement of the natural environment including criteria for assessing proposals impacting on landscape. Paragraph

170 calls for landscape character assessments to be prepared in areas where expansion is considered.

- Sections 7 and 11 of the National Planning Policy Framework address how the impact of development on **landscape character** should be assessed.
- **Joint Core Strategy** Objectives 8 & 9 and Policy 2 address the need to reflect landscape character
- The South Norfolk Landscape Assessment Report (2001) identifies areas of distinctive landscape characters in the district. All development proposals should demonstrate how they have taken account of these characteristics.
- The source of Map 4.5 is the **2012 Local Landscape Designations Review** work on Landscape Character Areas and River Valleys in the Norwich Policy Area, carried out by Chris Blandford Associates. This confirms the boundaries of the Landscape Character Areas arising from the 2001 study findings and the Rural River Valleys and Valley Urban Fringe Extents. These will be identified on the Policies Map.
- The **South Norfolk Place-making Guide** also provides guidance in regard to landscaping.

4.8 Protection of Trees and Hedgerows

Reasoned Justification

4.68 The value of trees, woodlands and hedgerows is widely recognised and their existence contributes greatly to the identified landscape character areas within the district. Trees can offer many environmental, economic, social and climatic benefits. By their absorption of CO_2 trees help create a significant carbon sink and therefore can play a key part in helping to combat climate change.

4.69 The Council expects all development proposals to fully consider the existing trees both on and adjacent to the site. Development will be permitted where it can be demonstrated that there exists a harmonious and sustainable relationship between trees and structures.

4.70 Where necessary the Council will protect trees using Tree Preservation Orders (TPOs) in order to retain significant trees; tools such as the TEMPO (Tree Evaluation Method for Preservation Orders) system will be used to help identify trees that are suitable for preservation. In identifying suitable trees and woodlands for protection particular regard will be given to relevant priority Biodiversity Action Plan habitats, aged/veteran trees and ancient woodland.

4.71 Hedgerows are distinctive features of the countryside and are the most traditional form of field boundary in the district. Many date back to the first enclosure of the land and some, especially in the case of those in the vicinity of Dickleburgh and Rushall, are indicators of a much older land pattern. In addition to their visual benefits the network of countryside hedgerows often contain a great range of plant and wildlife species and can form important linkages between other habitats such as woods.

4.72 The Hedgerows Regulations 1997 make it clear that the presumption is in favour of retaining hedgerows that qualify as 'important' unless satisfied that the circumstances justify removal. On development sites, the Council will promote and encourage the retention of hedgerows; the presumption will be for the retention of all sections of 'important' hedgerows.

4.73 The Council will continue to promote the planting of new trees, woodlands and hedgerows as part of new developments (see Policy DM 4.9) and to complement existing features.

Policy DM 4.8 Protection of Trees and Hedgerows

The Council will promote the retention and conservation of significant trees, woodlands and traditional orchards and will serve Tree Preservation Orders where necessary.

The Council will presume in favour of the retention of 'important' hedgerows as defined by the Hedgerows Regulations 1997.

The Council will safeguard and promote the appropriate management of protected and other significant trees and hedgerows, unless the need for, and benefits of, a development clearly outweigh their loss.

Notes

- The importance and multiple benefits of protecting trees and hedgerows is clearly identified **National Planning Policy Framework** Section 11, paragraphs 117 and 118, and the **Joint Core Strategy** objectives 1, 8 and 9.
- Policy DM 1.4 requires development to avoid environmental harm and protect local distinctiveness, and Policy DM 3.8 sets out design principles that include retaining important natural features.
- The identified Landscape Character Areas in the district are detailed in the **South Norfolk Landscape Assessment** (Vol. 1 – Landscape Types of South Norfolk, Vol. 2 – Landscape Character Areas of the Norwich Policy Area, and Vol. 4 – Landscape Character Areas of the Rural Policy Area)
- The **Norfolk Biodiversity Action Plan** prepared Norfolk Biodiversity Partnership details action plans for important habitats and species and addresses the contribution that trees and hedgerows make to environmental biodiversity.
  http://www.norfolkbiodiversity.org/actionplans/
- Detailed regulations, recommended standards and advice for development affecting trees and hedgerows include:
  - The *Hedgerows Regulations 1997*
    http://www.naturalengland.org.uk/ourwork/regulation/hedgeregs/default.aspx
  - Forestry Commission - *The case for trees in development and urban areas, 2010.*
    http://www.forestry.gov.uk/forestry/infd-88nfvy
  - *BS 5837 Trees in relation to design, demolition and construction* – Recommendations.
    http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030213642

4.9 Incorporating Landscape into Design

Reasoned Justification

4.74 Good quality landscaping should make an important contribution to good design. All development proposals will be expected to respect the character and distinctiveness of the local landscape, its pattern, vegetation type and landform; the Landscape Character Assessment provides advice on this.

4.75 Where this is relevant the design and specification of planting should support the strategy for new **green infrastructure** and **biodiversity**, and it will need to be resilient to the impacts of climate change.

4.76 Where possible, new development will be required to incorporate areas for Sustainable Drainage Systems; appropriate landscaping will be particularly important to ensuring the successful appearance and performance of these areas.

4.77 The landscaping of new development in towns and villages should also respect local built character and the **historic environment** – the South Norfolk Place-Making Guide and Conservation Areas character appraisals highlight important characteristics and guide how landscaping design might respond. Other factors such as 'designing out crime' and facilitating pedestrian movement will also have a bearing on landscape design.

4.78 The 'soft' (planting) and 'hard' (e.g. paving, street furniture) elements of a landscape design should be an integral part of a design and development, and should be considered from the outset. The design of boundary treatments can be particularly important, for example facing onto public spaces, on the edge of settlements / open countryside and facing public highways.

Policy DM 4.9 Incorporating landscape into design

Where appropriate, detailed development proposals must demonstrate a high quality of landscape design, implementation and management as an integral part of the new development.

The provision for new planted features (such as tree belts, hedgerows, wild flowers and specimen trees) is expected to form part of development proposals from their outset and should provide an appropriate landscape setting for the scheme.

'Hard' landscape features (such as paving, kerb stones, street furniture, boundary treatments etc) will reflect and where possible enhance locally

distinctive character and styles where relevant; or innovative contemporary solutions reflecting local context and reinforcing or creating local distinctiveness and the setting of the development.

Landscape schemes will be required to respect the character and distinctiveness of the local landscape and should ensure that any land remodelling respects the local topographic character in terms of height, slope, angle and character. Landscape schemes should be clearly and properly specified.

Notes

- The importance and multiple benefits of incorporating trees, and soft landscaping into development is clearly identified the **National Planning Policy Framework** Section 11 and the **Joint Core Strategy** Objectives 1, 8 and 9, and Polices 1 and 2.
- The Joint Core Strategy requires development to further the achievement of the **Green Infrastructure Strategy** and *Norfolk Biodiversity Action Plan.*
  http://www.norfolkbiodiversity.org/actionplans/
- Policies DM 1.1 and 1.4 require development to make a net enhancement of the environment and take opportunities to protect and reflect local distinctiveness. Policy DM 3.8 sets out design principles that include incorporating landscaping as an integral part of design.
- The identified Landscape Character Areas in the district are detailed in the **South Norfolk Landscape Assessment** (Vol. 1 – Landscape Types of South Norfolk, Vol.2 – Landscape Character Areas of the Norwich Policy Area, and Vol. 4 – Landscape Character Areas of the Rural Policy Area).
- The **South Norfolk Place-Making Guide SPD**, **Development in the Historic Environment SPD** and *Conservation Area character appraisals and management plans* provide guidance on appropriate landscaping
  http://www.south-norfolk.gov.uk/planning/4021.asp

4.10 Heritage Assets

Reasoned Justification

4.79 South Norfolk has a considerable wealth of buildings and settlements of architectural and historic interest, with important examples from a range of historical periods, architecture styles and traditional methods of construction. Local building traditions are strongly related to the local availability of materials which dictated their form of construction and appearance. These indigenous characteristics help provide a 'sense of place' and contribute towards defining the local distinctiveness of the district. The South Norfolk Place-Making Guide SPD includes an overview of local context and the key characteristics of the various parts of the district – reflecting the historic built environment and landscape setting. A programme of Conservation Area appraisals is in place to add further detail in the designated areas and the Council is developing the **South Norfolk Development in the Historic Environment SPD** to provide specific guidance for development proposals to ensure that **heritage assets** are conserved in a manner that is appropriate to their significance.

4.80 The **National Planning Policy Framework** advocates that local plan policies should aim to ensure that developments "respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation". It places "great weight" on the conservation of **heritage assets**, and how they can make a positive contribution to sustainable communities.

4.81 Heritage assets are defined by the National Planning Policy Framework as "a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest". It includes nationally '**designated heritage assets'** and other '**non-designated heritage assets'**.

4.82 The National Planning Policy Framework defines 'significance' in this context as "the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence but also from its setting."

4.83 The 'designated heritage assets' in the district comprise over 3400 listed buildings, 53 Conservation Areas, 37 Scheduled Ancient Monuments, and 7 Registered parks and gardens. Where practical these are shown on the **Policies Map**.

4.84 In considering whether to grant planning permission for development which affects a listed building or its setting, s66 (1) of the Listed Buildings Act 1990 requires that the decision maker shall have special

regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses. S72 of the Act requires that in the exercise of planning and certain other stated statutory functions, special attention shall be paid to the desirability of preserving or enhancing the character or appearance of a conservation area. Applications will be considered as to whether they result in substantial harm or less than substantial harm as set out in the NPPF.

Policy DM 4.10 Heritage Assets

All development proposals must have regard to the historic environment and take account of the contribution which heritage assets make to the significance of an area and its sense of place, as defined by reference to the national and local evidence base relating to heritage.

Change of use, alterations and extensions affecting the significance of a designated heritage asset, including its setting, must have regard to and positively respond to, that significance.
Proposals must sustain, and where possible enhance and better reveal the significance of the asset and make a positive contribution to local distinctiveness.

Proposals must show how the significance of the heritage asset has been assessed and taken into account by reference to the Historic Environment Record, suitable expertise and other evidence/research as may be necessary.

Considerable importance and weight must be given to the desirability of preserving listed buildings, their settings and the character and appearance of conservation areas. Development should avoid causing any loss to a heritage asset, or harm to it. Substantial harm or total loss will only be justified where it can be demonstrated that it is necessary to achieve substantial benefits or where the retention of the asset is unsustainable, no viable alternatives can be identified and the harm or loss is outweighed by the benefits of bringing the site back into use.

Less than substantial harm will only be justified where there are public benefits that outweigh the harm. In carrying out this planning balance, less than substantial harm will be afforded considerable importance and weight.

Proposals which adversely affect the significance of a heritage asset will only exceptionally be permitted where clear and convincing justification is provided.

Notes

- The **National Planning Policy Framework** Section 12 addresses the conservation and enhancement of the **historic environment**

- **Joint Core Strategy** Policies 1 and 2 address the protection of **environmental assets** (including built environment and **heritage assets**) and promotes good quality design that respects the historic environment taking account of conservation appraisals and the wider landscape.
- Guidance on the historic characteristics of places in South Norfolk and how to respond to these characteristics is set out in:
    - **South Norfolk Place-Making Guide SPD**
    - **South Norfolk Development in the Historic Environment SPD**
    - *Conservation Area character appraisals and management plans* *http://www.south-norfolk.gov.uk/planning/4021.asp*
- Many known heritage assets are also catalogued in the *Norfolk Historic Environment Record* maintained by Norfolk County Council. http://www.norfolk.gov.uk/Environment/Historic_environment/NCC081336
- English Heritage produces a variety of guidance and advice on the design response of proposals which affect heritage assets, and information on the use of traditional construction techniques. http://www.english-heritage.org.uk/professional/
- Where practical the location of nationally designated heritage assets is identified on the Policies Map. *Further details of listed buildings and Conservation Areas are available from the Council's web sit*e and the conservation team.

http://www.south-norfolk.gov.uk/planning/4021.asp

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

9th December 2025

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Executive summary

The district of South Norfolk is increasingly finding itself the host of many energy-related nationally significant infrastructure projects (NSIPs) and being asked to determine energy-related planning applications. This increased pressure is due to a number of factors including: changes in the way energy is generated, changes in national policy, the availability of large areas of agricultural land, the high number of sunshine hours in the district, and the availability of existing transmission infrastructure.

The district encompasses a number of different types of landscape, including river valleys, farmland plateau, settled plateau parkland, and urban fringe, as well as transitional areas, for example between the plateau and the river valleys. These landscapes are described in the South Norfolk Landscape Character Assessment (2012).

Since different landscapes are defined by different physical and perceived qualities and attributes, it is likely that they will have differing resiliencies to a particular form of development. For example, a rural landscape could more readily accommodate a traditional barn, without changing the character of the area, whereas other types of development such as a distribution warehouse could potentially result in important changes to the character of the landscape.

In 2024, South Norfolk Council commissioned The Landscape Partnership to undertake a study to assess the sensitivities of the various landscapes of South Norfolk district in relation to energy-related NSIP and non-NSIP projects.

The aim of the study is to provide guidance for those seeking to identify suitable sites for the location of energy generation, storage and transmission projects. It will also be used to inform the council's responses to such proposals in the context of national and local planning policies and the need to reasonably minimise any adverse effects on the landscape and communities of South Norfolk.

The SPD plans positively for energy-related infrastructure but there is also high regard for the intrinsic beauty of the district and to safeguard it for generations to come. The study is written as an evidence document for protecting South Norfolk landscapes from inappropriate development that would harm that intrinsic beauty and character.

Applicants for energy-related projects should not underestimate the importance of landscape-related considerations when making a planning application. Development proposals in landscapes with a high susceptibility and vulnerability to change will be considered less favourably, unless they provide significant and appropriate mitigations that reduce the harm.

The study has two main objectives:

i) To assess the landscape susceptibility of the landscape types and landscape character areas identified in the South Norfolk Landscape Character Assessment in relation to different types and scales of energy development/infrastructure.

ii) To provide guidance to assist the site-specific design of the various energy-related development and infrastructure projects, including the appropriate approach to layout, siting and landscape proposals within the district and its different landscape types.

The energy-related development scenarios considered in this study are:

- solar photovoltaic developments (small-scale up to 5MW, medium-scale up to 15MW, large-scale 15 to 50MW, and very large scale over 50MW)
- anaerobic digestion (AD) plants (farm scale up to 1ha in size and larger installations up to 5ha)
- battery storage facilities (small scale up to 1ha, and larger scale over 1ha)
- overhead powerlines (132kV lines that utilise smaller pylons and 400kV lines that utilise the largest pylons)
- underground cable routes
- substations

South Norfolk Council has previously published a similar study regarding wind turbine developments: South Norfolk District, Wind Turbine Landscape Sensitivity Study, dated April 2006.

The study also includes:

- a more detailed local landscape character assessment to identify the special qualities and characteristics of the landscape surrounding the Norwich Main Substation, and how they might be affected by energy-related projects,
- consideration of South Norfolk Local Plan 2015 Policy DM4.6, which seeks to protect the landscape setting of the A47 Norwich Southern Bypass as it passes to the south of Norwich, and how that might inform energy-related projects.

The findings of the study are summarised in this report, which should be read in conjunction with the accompanying appendices.

1 Introduction

1.1 Introduction to the Supplementary Planning Document

1.1.1 The South Norfolk Landscape Susceptibility Study Supplementary Planning Document (SPD) provides additional guidance on matters covered by the South Norfolk Local Plan, and is a material consideration for decision makers.

1.1.2 The SPD expands on district-wide policies in the Local Plan and provides additional details on how they will be implemented.

1.1.3 The purpose of this susceptibility study is to assess the susceptibility of different landscapes to various types of energy-related development.

1.1.4 The document also provides design guidance for the different types of development which might come forwards. The Supplementary Planning Document provides additional advice and guidance on protecting and enhancing local character and achieving sustainable development, and expands on policies set out in the adopted Local Plan, in particular *Policy 3 – Environmental Protection and Enhancement* in the Greater Norwich Local Plan.

1.1.5 Specific objectives of the SPD are to:

- Enable applicants to understand the relative susceptibility of the landscape to different types of energy-related development,
- Assist applicant's understanding of the local context including locally distinctive characteristics and their susceptibility to change,
- Help ensure that proposals are appropriately designed to be compatible with their surroundings.

1.2 How to use this document

1.2.1 Users are recommended to refer to the South Norfolk Landscape Character Assessment to understand which Landscape Character Area a particular site falls within. Users can then refer to the overall findings in Section 5 or to the more detailed Landscape Susceptibility Analysis in Appendix 3 to understand how susceptible the landscape is to different scales of development. Applicants should also refer to the design guidance in Section 4 to help ensure that development proposals make a positive contribution to local character and distinctiveness, and achieve good design.

1.2.2 The purpose of the SPD is to provide additional evidence about South Norfolk's landscape and this evidence will be a material consideration for a wide variety of energy-related development proposals. These range from Nationally Significant Infrastructure Projects (NSIPs) that affect South Norfolk, to all other schemes under the Town and Country Planning Act 1990, which are

determined by the Council.[1] Due regard should also be given to other adopted landscape guidance relevant to the local context.

1.2.3 All proposals for energy generation, storage, and transmission must seek to achieve sustainable development, and it should be recognised that landscape effects are often an important consideration. On which basis South Norfolk Council will use this SPD as evidence to resist inappropriate proposals for development in landscapes with a high susceptibility and vulnerability to change, unless appropriate and effective mitigation is being provided that addresses the harm.

1.3 Background to the study

1.3.1 The district of South Norfolk is increasingly finding itself the host of many energy-related NSIPs (nationally significant infrastructure projects) and the Council is also being asked to determine energy-related planning applications under the Town and Country Planning Act. Many of these projects are attracted to the district due to the proximity of the electricity transmission hub known as Norwich Main, which is located within the district, to the south of Norwich.

1.3.2 South Norfolk Council has previously published a study on the sensitivity of the landscape of the district to further wind turbine developments (South Norfolk District, Wind Turbine Landscape Sensitivity Study),[2] but as assessment of other types of energy-related development has yet to be undertaken.

1.3.3 The council has been successful in bidding for funding under the Department for Levelling Up, Housing and Communities' Innovation and Capacity Fund, which aims to help speed-up infrastructure delivery. Part of the funding has enabled the council to commission a study to assess the sensitivities and capacities of the various landscapes of South Norfolk district to accommodate energy-related NSIP and non-NSIP projects.

1.3.4 The aim of the study is to provide guidance for those seeking to identify suitable sites for the location of energy generation, storage and transmission projects. It will also be used to inform the council's responses to such proposals in the context of national and local planning policies and the need to reasonably minimise any adverse effects on the landscape and communities of South Norfolk.

1.4 Commission

1.4.1 The Landscape Partnership was commissioned by South Norfolk Council in April 2024 to undertake the study of the susceptibility of the landscape of the district of South Norfolk in relation to energy generation, storage and transmission.

1.4.2 The results of the study are presented in this report, with further assessment and analysis contained in the accompanying appendices.

[1] NSIP are projects of such size that permission for them needs to be given at a national level by the Secretary of State. South Norfolk Council are not responsible for determining NSIPs.
[2] South Norfolk District, Wind Turbine Landscape Sensitivity Study, Land Use Consultants, April 2006, final amendments January 2008

1.5 Objectives

1.5.1 The study has two main objectives:

i) To identify the landscape susceptibility of different types and scales of energy development/infrastructure in relation to the seven generic landscape types (LTs) in the district (A: Rural River Valley, B: Tributary Farmland, C: Tributary Farmland with Parkland, D: Settled Plateau Farmland, E: Plateau Farmland, F: Valley Urban Fringe and G: Fringe Farmland) as defined in the South Norfolk Landscape Character Assessment[3], along with the 20 geographically discrete landscape character areas (LCAs) identified in the assessment.

ii) To provide guidance to assist with the site-specific design of different energy development/infrastructure projects, including the appropriate approach to layout, siting and landscape proposals within the district and its different landscape types.

1.5.2 The study area comprises the whole of the district of South Norfolk except for the areas which fall within the Broads Authority Executive Area.

1.5.3 The study includes a more detailed local landscape character assessment to identify the special qualities and characteristics of the landscape surrounding the Norwich Main Substation (which, as noted above, is a particular focus for energy-related projects) and how they might be affected by energy-related projects. The study area for this assessment encompasses the landscape within a 5km radius of Norwich Main, but excludes areas within the Norwich City administrative boundary.

1.5.4 The study also includes specific consideration of South Norfolk Local Plan 2015 Policy DM4.6, which seeks to protect the landscape setting of the A47 Norwich Southern Bypass as it passes to the south of Norwich, and how that might inform energy-related projects.

1.6 Structure of the report

1.6.1 The Landscape Susceptibility Study is structured as follows:

- Section 1 provides an introduction to the Landscape Susceptibility Study and establishes its purpose.
- Section 2 sets out the methodology which has been used to undertake the Landscape Susceptibility Study.
- Section 3 provides a high-level summary of planning policy as it relates to the design and the landscape siting of energy-related development.
- Section 4 identifies the different types and scales of energy projects and infrastructure that have been considered in the study, i.e. the energy-related development scenarios. It includes an overview of their potential effects on the landscape, and design guidance to minimise such effects.

[3] South Norfolk Landscape Assessment, Landscape Character Areas of the Rural Policy Area, Land Use Consultants, April 2006

- Section 5 provides an overview of the LTs and LCAs within the district and presents a summary of the findings of the Landscape Susceptibility Study for each of the development scenarios as they relate to each LT and LCA.
- Section 6 is a local landscape character assessment of a 5km radius of the Norwich Main.
- Section 7 considers how the Norwich Southern Bypass Protection Zone policies might influence the form and siting of energy-related development.

1.6.2 The report is supported by a number of accompanying appendices:

- Appendix 1: Figures
- Appendix 2: Criteria for assessing Susceptibility to Change
- Appendix 3: Landscape Susceptibility Analysis
- Appendix 4: Local Landscape Character Analysis

2 Planning policy context

2.1 Overview

2.1.1 The following paragraphs provide a high-level summary of planning policy as it relates to the design and location of energy-related developments.

2.2 National Planning Policy Framework (NPPF)

2.2.1 The National Planning Policy Framework[4] [NPPF] sets out the Government's planning polices for England and how these should be applied. It promotes a plan-led planning system and requires that development plans include strategic policies to address each Local Planning Authority's priorities for development and use of land, including [§20] a strategy for:

> *… infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat) …*

2.2.2 Chapter 14: *Meeting the challenge of climate change, flooding and coastal change*, notes:

> *The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.* [§161]

2.2.3 To help increase the use and supply of renewable and low carbon energy and heat, §165 requires that plans should (amongst other things): *"provide a positive strategy for energy from these sources, that maximises the potential for suitable development, … while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts)"*, and *"consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development"*.

2.2.4 With regard to landscape as a consideration in the location of energy-related projects, planning policies and decisions should *"contribute to and enhance the natural and local environment by… protecting and enhancing valued landscapes..."* and *"recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland"* [§187].

2.2.5 In terms of protected landscapes "*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and National Landscapes which have*

[4] National Planning Policy Framework, Ministry of Housing, Communities & Local Government (December 2024)

the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas and should be given great weight in National Parks and the Broad. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas" [§189].

2.3 South Norfolk Local Plan

2.3.1 The adopted South Norfolk Local Plan is made up of various documents. These include the Greater Norwich Local Plan (GNLP), which was jointly prepared by South Norfolk and Broadland District Councils, Norwich City Council and Norfolk County Council, which was adopted on the 25th March 2024. The plan covers the period up to 2038 and includes strategic policies to guide future development and plans to protect the environment, seeking to ensure that delivery of development is achieved in a way which promotes sustainability.

2.3.2 Section 2 describes the Greater Norwich spatial profile. Regarding renewable energy, §109 notes:

> *Renewable Energy 109. Recent years have seen an increase in renewable energy generation locally, chiefly from solar power (both small and large-scale), with some wind and biomass developments. Our plan should support further development of decentralised, renewable and low carbon sources of energy in appropriate locations*

2.3.3 Regarding landscape, §§122 to 124 note:

> *The varied landscape character areas identified by Natural England in and adjacent to Greater Norwich area consist of: the fens and marshes of the Broads to the east of Greater Norwich* [NCA 80]*; a more intimate landscape of small fields and hedgerows adjacent to the Broads, also in the east* NCA 79*; rolling landscapes of varied geology including woodland, heath and former parkland estates in the west and north* [NCA 84 and 78] *and an extensive open clay plateau in the south* [NCA 83].
>
> *These nationally identified landscape character areas inform local landscape character studies. Locally significant landscapes include strategic gaps between settlements, river valleys (including the Wensum, Waveney, Bure, Tiffey, Tas and Chet), undeveloped approaches to Norwich and the setting of the Broads.*
>
> *Greater Norwich does not have a nationally designated Green Belt. National policy is clear that new Green Belts should very rarely be established. Therefore this plan will need to carry forward policies for protecting our valued landscapes.*

2.3.4 Energy and the environment are at core of *The Vision for Greater Norwich in 2038*:

> *By promoting this Greater Norwich Local Plan our aim is that it will support growth of a diverse low carbon economy which will compete globally through its world class knowledge-intensive jobs in the Cambridge Norwich Tech Corridor.*
>
> *As a result, by 2038 Greater Norwich will have vibrant, healthy, inclusive and growing communities supported by the delivery of new homes, infrastructure and an enhanced*

environment. Growth will make the best of Greater Norwich's distinct built, natural and historic environments, whilst protecting and enhancing them.

To achieve this, growth will be clean and resource efficient, with significantly reduced emissions to ensure that Greater Norwich plays a full part in meeting national commitments on tackling climate change and is moving towards a post-carbon economy. The focus on three high growth sectors: clean energy, agri-food and ICT/digital, along with the high environmental standards and significant further improvements to our extensive green infrastructure network promoted through this plan, will support Norfolk and Suffolk as the United Kingdom's clean growth region.

2.3.5 It continues: *"Greater efficiency in water and energy usage will minimise the need for new infrastructure, and further reductions in carbon emissions will be delivered through the increased use of sustainable local energy sources"*, *"The distinctive characteristics of our landscapes will also be protected and enhanced. This will be achieved by shaping high-quality, well designed and beautiful new development …"* and *"Critically, our plan will have helped to achieve reductions in our greenhouse gas emissions to contribute to the national target to reduce all greenhouse gas emissions by 68% by 2030 and by 78% by 2035 compared to 1990 levels and the zero-emission target by 2050."*

2.3.6 **Policy 2: Sustainable Communities** requires that development proposals should, were relevant, address the following matters (amongst others) in order to contribute to the achievement of sustainable communities:

- *Make efficient use of land with development densities taking account of accessibility and local character consideration. …*
- *Create beautiful, well-designed places and buildings which respect the character of the local area and seek to enhance it through appropriate design, having regard to any local design guidance (including design codes).*
- *Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption and the risk of overheating.*
- *Provide for the use of sustainable energy, local energy networks and battery storage where appropriate.*

2.3.7 **Policy 3: Environmental Protection and Enhancement.** Sub section **The Natural Environment** requires that development proposals should enhance the natural environment through, amongst things:

- *Being designed to respect, conserve and enhance natural assets, taking account of local design and other guidance such as landscape character assessment.*
- *Avoiding harm to designated and non-designated assets of the natural environment, having regard to their level of significance (local, national, and international) in accordance with the requirements of the NPPF and relevant policies in other Development Plan Documents and Neighbourhood Plans.*

- *Following a hierarchy of seeking firstly to avoid impacts, mitigate for impacts so as to make them insignificant for biodiversity, or as a last resort compensate for losses that cannot be avoided or mitigated for. Adherence to the hierarchy should be demonstrated.*
- *Undertaking a relevant assessment (such as a landscape or ecological assessment) if impacts to a natural asset might arise.*
- *Provision of new, or conservation or enhancement of existing, green infrastructure to contribute (directly or indirectly) to the strategic green infrastructure network having regard to local green infrastructure strategies (identified indicatively in Maps 8A and 8B).*
- *Respecting landscape character and retaining important views and features, having regard to landscape character assessments and sensitive areas such as landscape settings, strategic gaps and green spaces identified in Local or Neighbourhood Plans, and to the importance of the nationally designated Broads Authority area and its setting.*

2.3.8 In applying the above, regard will be given to the level of importance of the natural asset.

2.3.9 The South Norfolk Local Plan Development Management Policies Document, Adoption Version, October 2015 includes a policy on renewable energy.

2.3.10 **Policy DM 4.1: Renewable Energy** notes:

> *Proposals for renewable energy generating development requiring planning permission other than for proposals for wind energy development will be supported and considered (taking account of the impact of relevant ancillary equipment) in the context of sustainable development and climate change on the wider environmental, social and economic benefits of maximising use of renewable energy. The Council will encourage the use on-site communal-scale energy generation measures.*

2.3.11 It notes that consideration will be given to the effect of the proposal on number of factors, including the *"character and appearance of the landscape"*, and that *"Permission will be granted where there are no significant adverse effects or where any adverse effects are outweighed by the benefits."* It also notes that where appropriate, planning conditions will be imposed requiring the decommissioning and removal/dismantling of all plant and ancillary equipment and, if necessary, the restoration of land, on the cessation of use.

2.3.12 The document also contains several policies that relate directly to landscape character and the location and design of development within the landscape.

2.3.13 **Policy DM 4.5: Landscape Character Areas and River Valleys**, requires that:

> *All development should respect, conserve and where possible, enhance the landscape character of its immediate and wider environment. Development proposals that would cause significant adverse impact on the distinctive landscape characteristics of an area will be refused.*

All development proposals will be expected to demonstrate how they have taken the following elements (from the 2001 South Norfolk Landscape Assessment as updated by the 2012 review) into account:

- *The key characteristics, assets, sensitivities and vulnerabilities;*
- *The landscape strategy; and*
- *Development considerations.*

Particular regard will be had to protecting the distinctive characteristics, special qualities and geographical extents of the identified Rural River Valleys and Valley Urban Fringe landscape character types.

2.3.14 **Policy DM 4.6: Landscape Setting of Norwich** is considered in more detail at Section 7.

2.3.15 **Policy DM 4.7: Strategic gaps between settlements within the Norwich Policy Area** states:

Gaps between settlements within the Norwich Policy Area Development will be permitted in the Strategic Gaps identified on the Policies Map, between the development boundaries of the Settlements listed below, where it would not erode or otherwise undermine the openness of the Strategic Gap, and complies with other Development Plan policies.

- *Cringleford – Hethersett*
- *Hethersett - Wymondham*

2.3.16 **Policy DM 4.8: Protection of Trees and Hedgerows** states:

The Council will promote the retention and conservation of significant trees, woodlands and traditional orchards and will serve Tree Preservation Orders where necessary. 119 The Council will presume in favour of the retention of 'important' hedgerows as defined by the Hedgerows Regulations 1997.

The Council will safeguard and promote the appropriate management of protected and other significant trees and hedgerows, unless the need for, and benefits of, a development clearly outweigh their loss.

2.3.17 **Policy DM 4.9: Incorporating landscape into design** emphasises the importance of good quality design:

Where appropriate, detailed development proposals must demonstrate a high quality of landscape design, implementation and management as an integral part of the new development.

The provision for new planted features (such as tree belts, hedgerows, wild flowers and specimen trees) is expected to form part of development proposals from their outset and should provide an appropriate landscape setting for the scheme.

'Hard' landscape features (such as paving, kerb stones, street furniture, boundary treatments etc) will reflect and where possible enhance locally distinctive character and

styles where relevant; or innovative contemporary solutions reflecting local context and reinforcing or creating local distinctiveness and the setting of the development.

Landscape schemes will be required to respect the character and distinctiveness of the local landscape and should ensure that any land remodelling respects the local topographic character in terms of height, slope, angle and character. Landscape schemes should be clearly and properly specified.

2.4 Overarching National Policy Statement for Energy (EN-1)

2.4.1 Overarching National Policy Statement for Energy, dated 2024, sets out the government's policy for the delivery of major energy infrastructure.

2.4.2 In England, the National Policy Statements (NPS) may be a material consideration in decision making. Whether the policies in a NPS are material and to what extent will be judged on a case-by-case basis and will depend upon the extent to which the matters are already covered by applicable planning policy. For the purposes of Nationally Significant Infrastructure Projects (NSIPs), the NPSs represent the primary policy for decision making.

2.4.3 The government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives. However, *"it will not be possible to develop the necessary amounts of such infrastructure without some significant residual adverse impacts. These effects will be minimised by the application of policy set out in Parts 4 and 5 of this NPS."*

Electricity storage

2.4.4 Electricity storage is considered to have *"a key role to play in achieving net zero and providing flexibility to the energy system"*]§3.3.25]. There is currently around 4GW of electricity storage operational in Great Britain, around 3GW of which is pumped hydro storage and around 1GW battery storage.

2.4.5 Electricity Storage facilities are not generally considered to be NSIPs except for pumped hydro storage facilities above 50MW.

New electricity infrastructure

2.4.6 The NPS states that substantial reinforcement of the transmission network is required in East Anglia to handle increased power flows from offshore wind generation [§3.3.68], which may also require additional offshore connections coming to land in England.

The historical approach to connecting offshore wind resulted in individual radial connections developed project-by-project… For regions with multiple windfarms or offshore transmission projects it is expected that a more coordinated approach will be delivered. For these areas, this approach is likely to reduce the network infrastructure costs as well as the cumulative environmental impacts and impacts on coastal communities by installing a smaller number of larger connections, each taking power from multiple windfarms instead of individual point-to-point connections for each windfarm. [§3.3.71]

2.4.7 The final Phase 1 report for National Grid ESO's Offshore Coordination Project (published December 2020) found that the number of new electricity infrastructure assets, including cables

and onshore landing points could be reduced by up to 50 per cent, significantly reducing environmental impacts and impacts on coastal communities.

Heat networks

2.4.8 Heat networks are systems of insulated pipes that take heat from a central source and supply it, as hot water, to residential, commercial and public sector buildings to provide hot water and heating. There are over 14,000 heat networks in the UK with nearly 492,000 connections in total including 446,500 domestic customers.

Assessment principles

2.4.9 In considering any proposed development the Secretary of State should take into account:

- its potential benefits, and
- its potential adverse impacts, including on the environment, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for adverse impacts. [§4.1.5]

2.4.10 It is stated that:

> *The overarching need case for each type of energy infrastructure, and the substantial weight which should be given to this need … is the starting point for all assessments of energy infrastructure applications.* [§4.2.6]
>
> *Applicants must apply the mitigation hierarchy, and demonstrate that it has been applied. … Applicants should demonstrate that all residual impacts are those that cannot be avoided, reduced or mitigated.* [§4.2.11]
>
> *Applicants should set out how residual impacts will be compensated for as far as possible. ... The cumulative impacts of multiple developments with residual impacts should also be considered.* [§4.2.12]

2.4.11 All proposals for projects that are subject to the Environmental Impact Assessment Regulations must be accompanied by an Environmental Statement describing the aspects of the environment likely to be significantly affected by the project.

Criteria for good design for energy infrastructure

2.4.12 The NPS notes that:

> *Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, land form and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area.*
>
> *The Secretary of State should be satisfied that the applicant has considered both functionality (including fitness for purpose and sustainability) and aesthetics (including its*

contribution to the quality of the area in which it would be located, any potential amenity benefits, and visual impacts on the landscape or seascape) as far as possible.

Climate change adaption and resilience

2.4.13 Regarding climate change:

Applicants should demonstrate that proposals have a high level of climate resilience built-in from the outset. [§4.10.11]

Ancient Woodland and veteran trees

2.4.14 Regarding Ancient Woodland and veteran trees:

Applicants should include measures to mitigate fully the direct and indirect effects of development on ancient woodland, ancient and veteran trees or other irreplaceable habitats during both construction and operational phases. [§5.4.32]

Landscape and visual

2.4.15 Landscape and visual impacts are considered in Section 5.10 of the NPS.

The landscape and visual effects of energy projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development. [§5.10.1]

Landscape effects arise not only from the sensitivity of the landscape but also the nature and magnitude of change proposed by the development, whose specific siting and design make the assessment a case-by-case judgement. [§5.10.4]

Virtually all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation. [§5.10.5]

Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate. [§5.10.6]

The applicant should consider landscape and visual matters in the early stages of siting and design, where site choices and design principles are being established. [§5.10.19]

2.4.16 The assessment should include the effects on landscape components and character as well as the impact on views and visual amenity. The assessment should also address the landscape and visual impacts of noise and light pollution.

Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality. [§5.10.24]

Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within its development site and wider setting. The careful consideration of colours and materials will support the delivery of a well-designed scheme, as will sympathetic landscaping and management of its immediate surroundings. [§5.10.27]

Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site. For example, filling in gaps in existing tree and hedge lines may mitigate the impact when viewed from a more distant vista. [§5.10.28]

The scale of energy projects means that they will often be visible across a very wide area. The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project. [§5.10.35]

Other NPSs

2.4.17 Five further technology-specific NPSs have also been published:

- EN-2: natural gas electricity generation
- EN-3: renewable electricity generation (both onshore and offshore)
- EN-4: gas supply infrastructure and gas and oil pipelines
- EN-5: the electricity transmission and distribution network
- EN-6 nuclear electricity generation

3 Methodology for the Landscape Susceptibility Study

3.1 Approach

3.1.1 The methodology for undertaking the Landscape Susceptibility Study (LSS) is based on the process set out in *An approach to landscape sensitivity assessment – to inform spatial planning and land management* (ALSA), Natural England, June 2019.[5] Reference was also made to *Guidelines for Landscape and Visual Impact Assessment,* Landscape Institute and Institute of Environmental Management and Assessment, 3rd Edition, April 2013 (GLVIA) and *Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity*, Countryside Agency and Scottish Natural Heritage, 2002.

3.1.2 The development of the methodology was informed by similar studies carried out by The Landscape Partnership in the past. It also took account of principles expounded in the Holford Rules (regarding the routing of overhead transmission lines) and the Horlock Rules (regarding the siting of substations, etc.).

3.1.3 The European Landscape Convention promotes achieving *"sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment"*. [6]

3.1.4 ASLA and GLVIA adopt a similar basic approach to the assessment of sensitivity, i.e. that sensitivity is a product of:

1/ the susceptibility of a landscape or visual baseline to a specific change; and

2/ the value of the landscape and its visual characteristics.

3.1.5 However, there are some important distinctions to be made in terms of how sensitivity is considered by ALSA, compared to the approach within GLVIA:

- In GLVIA terms, sensitivity, and in particular susceptibility to change, is considered with regard to a known development, whereas ALSA allows a more strategic assessment of landscape sensitivity, and it's the principle of a particular type of development change scenario that is considered.
- Within the context of spatial planning, landscape sensitivity refers to landscape character and the associated visual resource. GLVIA on the other hand considers the landscape and visual effects separately.

3.1.6 For the purposes of landscape sensitivity assessments, landscape sensitivity can be considered as a measure of *"the resilience, or robustness, of a landscape to withstand specified change arising*

[5] An approach to landscape sensitivity assessment – to inform spatial planning and land management. Tudor, C, Natural England, 2019
[6] Council of Europe (2000), European Landscape Convention, Council of Europe, Florence, October 2000

from development types or land management practices, without undue negative effects on the landscape and visual baseline and their value."[7]

3.1.7 Similarly, Topic Paper 6 noted that landscape sensitivity relates to *"the stability of character, the degree to which that character is robust enough to continue and to be able to recuperate from loss or damage. A landscape with a character of high sensitivity is one that, once lost, would be difficult to restore; a character that, if valued, must be afforded particular care and consideration in order for it to survive*."[8]

3.1.8 Historically, there has been some confusion concerning the use of the words sensitivity and capacity, and on occasions the two terms have been used interchangeably. The ASLA notes that:

> *Sensitivity and capacity have different meanings. When dealing with an area's sensitivity the question is, 'to what'? When dealing with an area's landscape capacity perhaps to absorb a certain amount of development without unacceptable changes to landscape character – the question generally relates to, 'how much'? Importantly, a sensitivity study will identify areas of relative sensitivity to particular development scenarios, and inform place based objectives and guidance and possibly decisions concerning environmental capacity - perhaps by way of what some might call a Landscape Capacity Assessment. The latter might help decision makers to set more detailed objectives about the amount of acceptable change within a specified area, and therefore inform a more detailed strategy regarding desired amounts of development / change.*

3.1.9 ALSA states that landscape sensitivity assessment should *"enable associated decision making to be sequential, transparent and auditable."*

[7] An approach to landscape sensitivity assessment – to inform spatial planning and land management. Tudor, C, Natural England, 2019
[8] Topic Paper 6 – Techniques for judging capacity and sensitivity

3.2 Landscape sensitivity

3.2.1 The sensitivity of a landscape or visual receptor is determined by combining the value afforded to the receptor with its susceptibility to change.

3.2.2 ***Landscape value*** is based on considerations such as landscape quality/condition; landscape fabric and rarity; scenic quality; wildlife, heritage and cultural interest; recreation value; and perceptual aspects. The presence of a landscape designation can help to identify value and reasons for a designation are usually established in a supporting study. Landscapes or features without any formal designation may also express characteristics that are valued locally. Where there is no supporting evidence base, details regarding sensitivity should typically be derived from landscape character assessments.

3.2.3 ***Susceptibility to change*** assesses the relative ability of a landscape to accommodate the changes that would result from a particular type of development. This is an integral element of the landscape assessment but one that can only be judged in the context of the generic type of development being proposed. However, it is not necessary to understand the specifics of the development to make this judgement and thus susceptibility to change can be considered as part of the baseline assessment.

3.2.4 This LSS assesses the susceptibility of the different landscapes within the South Norfolk district to change from a range of energy-related development scenarios defined at Section 4.

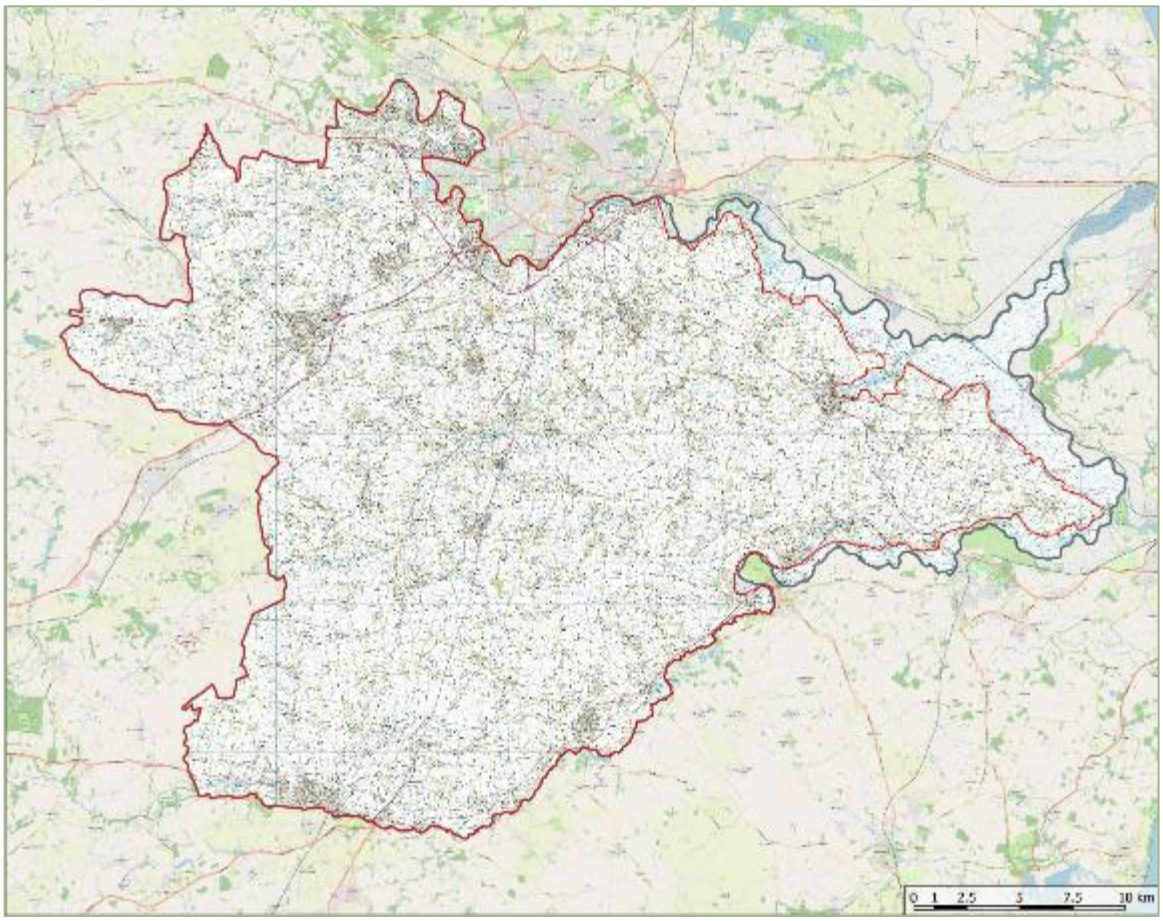
3.2.5 It considers the susceptibility of the landscape types (LTs) and landscape character areas (LCAs) defined in the South Norfolk Landscape Character Assessment to each of the generic development scenarios, assuming it is constructed somewhere within the LT or LCA. It does not consider the precise location of each scenario within the LT or LCA; however, where relevant, commentary is provided if particular parts of an LT or LCA might be more sensitive to a development scenario than others.

3.2.6 The LSS does not consider the landscape value of the various LTs and LCAs within the district. This would be a separate, further exercise. Combining such information with the corresponding susceptibility to change, using professional judgement, would give an overall landscape sensitivity.

3.2.7 As a broad generalisation, some initial indication of the value of a landscape can be ascertained by the presence (or not) of any landscape-related designations encompassing all or part of a particular LCA. Such landscape-related designations are illustrated at Appendix 1 | Figures 03-05 and, where relevant, the presence of such designations has been referred to in the analysis.

3.3 The study area

3.3.1 The study area comprises the whole of the district of South Norfolk except for the areas which fall within the Broads Authority Executive Area. It does not include the neighbouring authorities of Breckland, Broadland, the Borough of Great Yarmouth, Norwich City, East Suffolk or Mid Suffolk. Where cross-boundary issues of landscape setting exist, consultation prior to making a planning application is recommended with those authorities potentially affected.



Study area shown in red. For full size map, see Appendix 1, Figure 01

3.3.2 Whilst outside the study area, the Broads is an internationally important wetland and designated protected landscape of the highest order with the status of a national park. There is a legal duty to protect and enhance its natural beauty, wildlife, and cultural heritage, and such considerations could be relevant where an energy project situated in the South Norfolk administrative area could have an incongruous effect on the setting to the Broads landscape.[9]

[9] Part of the Broads lies within South Norfolk district area. The Levelling Up and Regeneration Act, which received Royal Assent on 26 October 2023, amended Section 17A of the Norfolk and Suffolk Broads Act 1988. Section 17A creates a general duty of public bodies and this was amended to replace 'shall have regard to' with 'must seek to further' the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the Broads, promoting opportunities for the understanding and enjoyment of the special qualities of the Broads by the public; and protecting the interests of navigation.

Landscape character of the study area

3.3.3 The importance of understanding the landscape character of all landscapes in England is recognised in the National Planning Policy Framework (NPPF) §187, which states that planning policies and decisions should contribute to the natural environment by: *"recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland"*.

3.3.4 The LSS considers the susceptibility of the different landscapes within South Norfolk district to various energy-related development scenarios.

3.3.5 Since different landscapes are defined by different physical and perceived qualities and attributes, it is likely that they will have differing resilience to a particular form of development. For example, a rural landscape could more readily accommodate a traditional barn, without changing the character of the area, whereas other types of development such as a distribution warehouse could potentially result in important changes to the character of the landscape.

3.3.6 To understand the different effects that the various development scenarios would have on the different landscapes within the district it was first necessary to define geographical areas of common landscape character and qualities.

3.3.7 Landscape character assessment is the process that can identify these intrinsic values and unique characteristics of the diverse landscapes within a given area, in this case South Norfolk district. It enables landscapes to be described and understood by mapping natural, physical and cultural features in order to define different landscapes and demonstrate what makes them special. These landscape character types share similar characteristics, such as underlying geology, soil type, topography and landform, the pattern and type of land/field enclosure, historic land use, the pattern of settlements and types of building that these comprise, tree and woodland cover and the general visual experience of the area.

3.3.8 It is important to note that landscape character assessments can be undertaken at a range of scales. It should also be noted that boundaries are only indicative of the change between areas and therefore when working at a site scale, especially close to boundaries between character types or character areas, users should carefully identify which landscape the land parcel belongs to, based on its characteristics. In addition, it is important to note that while drawn with a line on a map, areas close to boundaries often may be better thought of as an area of transition and may display some of the characteristics and sensitivities of both character areas.

3.3.9 Effects on landscape character can be direct (i.e. on the character area/landscape type that the site is located within) or indirect (i.e. changes to characteristics or perceptions of character that occur beyond the boundary of a character area/landscape type). In addition, effects on landscape character may be positive, neutral or negative, i.e. strengthening and enhancing the characteristic patterns and features, or eroding and losing the patterns and features that contribute to landscape character.

3.3.10 The landscape of South Norfolk has been characterised in the published South Norfolk Landscape Character Assessment, Volume 4: Landscape Character of the Rural Policy Area, dated April 2006 (final amendments January 2008). The specific purpose of the report was to *"provide a clear understanding of the character of the landscape within the Rural Policy Area. In particular, the assessment process aims to describe the distinctive features or characteristics that are important to the landscape and to provide guidance on those aspects of the landscape that are most sensitive to change"* (§1.6).

3.3.11 The South Norfolk District Landscape Character Assessment[10] describes a total of seven landscape types (LTs) within the district:

A: Rural River Valleys

B: Tributary Farmland

C: Tributary Farmland with Parkland

D: Settled Plateau Farmland

E: Plateau Farmland

F: Valley Urban Fringe

G: Fringe Farmland

3.3.12 The seven LTs have been broken down into 20 geographically discrete landscape character areas (LCAs):

A1: Tas Rural River Valley

A2: Yare/Tiffey Rural River Valley

A3: Tud Rural River Valley

A4: Wensum Rural River Valley

A5: Waveney Rural River Valley

B1: Tas Tributary Farmland

B2: Tiffey Tributary Farmland

B3: Rockland Tributary Farmland

B4: Waveney Tributary Farmland

B5: Chet Tributary Farmland

B6: Yare Tributary Farmland

C1: Yare Tributary with Parkland

C2: Thurlton Tributary Farmland with Parkland

[10] South Norfolk District Landscape Character Assessment, 2001, Prepared on behalf of South Norfolk District Council by Land Use Consultants

D1: Wymondham Settled Plateau Farmland

D2: Poringland Settled Plateau Farmland

E1: Ashwellthorpe Plateau Farmland

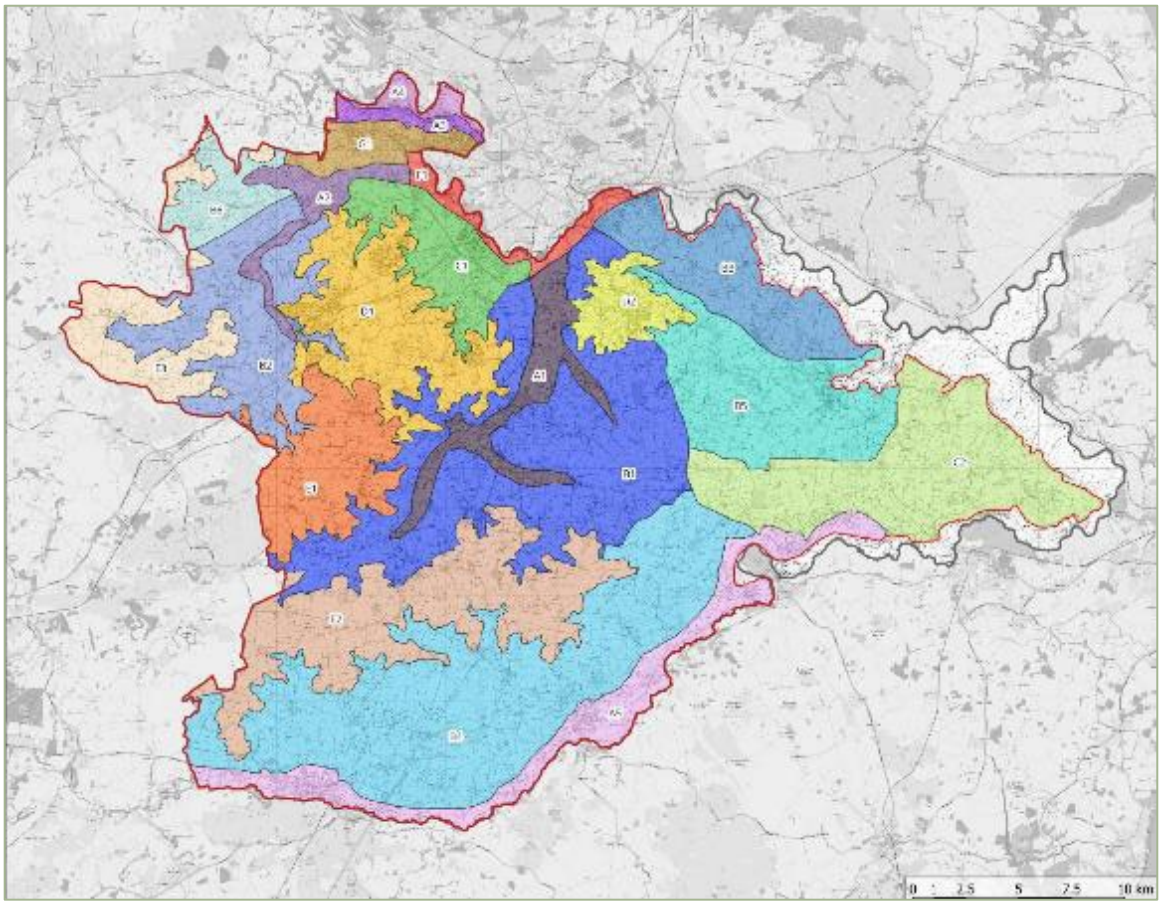
E2: Great Moulton Plateau Farmland

E3: Hingham Mattishall Plateau Farmland

F1: Yare Valley Urban Fringe

G1: Easton Fringe Farmland

3.3.13 It is these LCAs that are used to provide the areas of common landscape character whose susceptibility to change is assessed within the LSS, i.e. the baseline units for analysis. The LCAs are mapped below and at Appendix 1 | Figure 08.



Landscape Character Areas for South Norfolk Council. For full size map, see Appendix 1, Figure 08

3.4 Desktop Appraisal / sources of information

3.4.1 A desk-based study was undertaken that involved gathering and reviewing current and background information, including previous studies, environmental designations and other relevant baseline information. This included reference to:

- Natural England's National Character Area Profiles
- South Norfolk Landscape Character Assessment, 2008
- South Norfolk Local Plan
- South Norfolk Landscape Designations Review – Norwich Southern Bypass Landscape Protection Zone, 2012
- South Norfolk Landscape Designations Review – Landscape Character Areas & River Valleys in the Norwich Policy Area, 2012
- South Norfolk Landscape Designations Review – Local Designations Review, 2012
- South Norfolk District Landscape Sensitivity Study in relation to wind turbines, 2008

3.4.2 GIS data used for the LSS included OS map data, landscape-related designations, hydrology data, ecology designations (SSSI, NNR) and habitat data, heritage designations (both statutory and local, including Conservation Areas and Registered Parks and Gardens).

3.4.3 Reference was also made to Norfolk County Council's interactive map (Public Rights of Way, highways, etc.) and to the Government's Magic Map (landscape-related designations, etc.).

3.4.4 The baseline appraisal is presented as a collection of figures that can be found at Appendix 1 to the LSS.

3.4.5 The assessment findings should be read in conjunction with the figures within Appendix 1.

3.5 Susceptibility analysis

3.5.1 The susceptibility of each of the LCAs in relation to each of the development scenarios was assessed using a combination of desktop analysis and field work. The South Norfolk District Landscape Character Assessment was used to establish the key characteristics of each LT and LCA.

3.5.2 The field survey work was carried out by a team of Landscape Architects, all of whom were familiar with the qualities of the South Norfolk landscape, using a standard proforma to record data in a consistent manner.

3.5.3 Where appropriate, field notes were made to form the basis of guidance as to how the form of development might be adapted to make it more acceptable within the landscape and of any broad mitigation measures that might be appropriate to offset landscape effects or opportunities for landscape enhancements that might be delivered with development of the type proposed.

Approach to assessing the susceptibility of the landscape to change

3.5.4 The susceptibility of each LCA to the different energy-related development scenarios (as set out at Section 4) was assessed using a standard set of criteria. The criteria which were chosen reflected both the national guidance provided by Natural England and the particular circumstances of the project.

3.5.5 Each criterion was accompanied by a set of indicators to help guide the assessor in making judgements as to what factors should be considered to indicate a higher susceptibility to change, and what factors should be considered to indicate a lower susceptibility to change.

3.5.6 The selection of criteria was based on the attributes of the landscape that could be affected by energy developments. Energy developments can potentially affect the distinct and recognisable pattern of elements which create landscape character, as well as the perceptual and aesthetic qualities of the landscape.

3.5.7 The following criteria were used to assess susceptibility to change:

- Scale
- Enclosure
- Landform
- Field patterns
- Landcover
- Settlement pattern and human influence
- Perceptual aspects
- Visual characteristics
- Skylines
- Intactness

3.5.8 Relevant criteria were selected for each development scenario. The indicators of higher and lower susceptibility for each criteria are presented in Appendix 2.

3.5.9 The assessment of susceptibility has two aspects:

- The nature of the existing environment (the key characteristics of the assessment unit)
- The degree of change which is likely to occur

3.5.10 There are then variations between landscape character areas, and also variations between the different development scenarios.

3.6 Assessment of overall susceptibility to change

3.6.1 The susceptibility of the LCAs to each of the different development scenarios was assessed using a number of criteria. In each case susceptibility was assessed on a five-point scale of High, Medium-High, Medium, Medium-Low or Low. Commentary was also provided to explain the judgements. The findings of the assessments are recorded at Appendix 3. This allows the judgements made for each criterion to be viewed in a transparent, comparable and consistent manner.

3.6.2 Professional judgment was used to make an overall assessment of each LCA's susceptibility to change for each of the development scenarios, again using a five-point scale:

- Low susceptibility – Key characteristics and qualities are not vulnerable to change from this type of development. The landscape could accommodate new development with little change to its character. Care is still needed when siting and designing these developments to ensure best fit with the receiving landscape.
- Medium-Low susceptibility – Few of the key characteristics and qualities of the landscape are vulnerable to change. The landscape is likely to be able to accommodate new development with limited change in character. Care is still needed when siting and designing schemes to avoid adversely affecting local landscape character.
- Medium susceptibility – Some of the key characteristics and qualities of the landscape are vulnerable to change. Although the landscape may have some potential to accommodate development it is likely to cause a degree of change in character. Care would be needed in siting and design.
- Medium-High susceptibility – Key characteristics and qualities of the landscape are vulnerable to change. New developments of this type are likely to affect the character of the landscape. The LCA has limited potential for development of this type, and great care would be needed with siting and design.
- High susceptibility – Key characteristics and qualities of the landscape are highly vulnerable to change. New developments of this type are likely to result in a fundamental change in character i.e. they would alter the key characteristics of the landscape. The LCA has low potential for development of this type.

3.6.3 Unless effective mitigations are being provided that reduce the harm, South Norfolk Council will use this SPD as evidence against proposals that it considers to be detrimental to landscape areas with a high susceptibility to change. This, in the Council's judgement, is necessary because harmful development without adequate mitigation is unacceptable, as the landscape is intrinsic to the area's beauty and should be safeguarded for generations to come.

3.7 Limitations

3.7.1 In considering the findings of the LSS, the following limitations should be noted:

- It is important to remember that that landscape effects must be considered as a spectrum. There is no defined threshold that a development must reach in order to be considered acceptable against any of the criterion.
- When assessing the susceptibility of a landscape to change, consideration must be given to the effects of the development as perceived in neighbouring LCAs (and potentially further afield), not just the LCA in which the development is proposed.
- The landscape parcels, the LTs and LCAs, considered in the susceptibility appraisal are necessarily broad and in places extensive. As such, it is quite likely that there are variations in susceptibility within a landscape parcel itself, with some areas of the parcel being more capable of accommodating a particular development scenario than others.
- The LSS considers only the attributes and characteristics of the landscape and their susceptibility to change. There may be other very good reasons why a particular site is unsuitable or inappropriate for development of the type proposed, for example it might have poor access or be subject to flood risk. It is quite possible that an area may have relatively low sensitivity to a particular form of development in landscape terms but would be unsuitable in other respects e.g. due to the presence of important ecological habitats or heritage assets. Identification of such matters are beyond the scope of this study.
- It is important to recognise that within the LSS no weighting has been applied to any of the individual criterion. The results as presented in the tables in Appendix 3 show the range of factors that have been considered for each landscape parcel and development scenario, and where they sit in the descriptive scale for each criterion. It is not the intention to add up the entries for each criterion to give an overall numerical score. The relative importance of each criterion may vary between each landscape parcel for a range of reasons. The judgement of overall susceptibility should take into account the susceptibility in relation to the individual criteria as well as the relative importance of the criteria, which involves professional judgement.

3.7.2 The LSS provides an initial assessment of a landscape's ability to accommodate a particular type of development. Should any specific developments come forward, they would need to be tested through use of Landscape and Visual Impact Assessment to inform the emerging design and any mitigation measures necessary, and to determine any likely residual landscape and visual effects associated with that particular development proposal to assist those charged with determining the planning application.

4 Energy-related development scenarios

4.1 Energy-related development scenarios considered in the LSS

4.1.1 The types of energy-related development scenarios considered in this study are listed below. These are considered to be representative of projects that could realistically come forward within South Norfolk district within the foreseeable future. They comprise: solar photovoltaics, Anaerobic Digestion plants, battery storage and electricity transmission and distribution infrastructure.

4.1.2 For each project type, different scales of development have been considered as set out below:

Solar PV

- small-scale solar PV projects, up to 5 MW
- medium-scale solar PV projects, 5 to 15 MW
- larger-scale solar PV projects, 15 to 50 MW
- very-large solar PV projects, over 50MW

AD plants

- farm-scale, single or double tank system, up to 1ha
- larger installation, up to 5ha

Battery storage

- small-scale, up to 1ha in size
- large-scale, over 1ha is size

Overhead powerlines

- 132kV lines, utilising pylons within a nominal height of 26m
- 400kV, utilising pylons with a nominal height of 50m

Underground cable routes

- Comprising cable route and associated works

Substations

- Substations are typically required to connect generating facilities to the distribution network and so often found in association with other energy project types.

4.1.3 It is envisaged that this study will complement the South Norfolk District Wind Turbine Landscape Sensitivity Study (Land Use Consultants, 2006 – final amendments 2008). Consequently, wind turbines have not been considered in this study.

4.2 Other energy-related development types

4.2.1 Energy-related developments can also include combustion power stations (including biomass plants, advanced conversion technologies, landfill gas projects, and natural gas-fired plants) and nuclear power stations.

4.2.2 Biomass plants are already present in the local area at Thetford, Snetterton and Eye. Thetford Biomass Power Station is run primarily on poultry litter and woodchip while Snetterton and Eye are primarily straw fired. The potential for this technology is limited by the available feedstock so it is unlikely that new plants will be required in the foreseeable future.

4.2.3 Landfill gas projects have been implemented across many landfill sites in Norfolk. The potential for this technology is clearly limited geographically to existing landfill sites, so it is not considered further in this study.

4.2.4 Advanced conversion technologies (ACT) are designed to recover energy from waste. ACT is considered the next generation of thermal heat treatment and can be applied to a variety of feedstocks. Most ACT plants produce a gaseous product known as syngas. The adoption of this technology has been slow and the amount of electricity that can be generated is limited by the available feedstock.

4.2.5 Natural gas-fired power stations are large installations. Natural gas remains part of the present energy mix but will eventually be phased out. The nature of this technology means that it is limited to a few large sites, and it is therefore unlikely that this form of energy-related development would come forward within South Norfolk.

4.2.6 Nuclear power stations are situated on the coast and would not therefore be located within South Norfolk.

4.3 Overview of energy-related development scenarios

4.3.1 For each of the development scenarios considered in the LSS, the following matters are considered:

- Overview of the development type
- Development scales considered in the LSS
- Parameters assumed in the LSS
- Potential landscape effects
- Cumulative effects
- Design development guidelines

4.3.2 The design development guidelines relate to landscape susceptibility only and do not address sensitivities relating to other areas of potential environmental impact, or other non-landscape considerations which might affect the feasibility of development.

4.3.3 The guidelines are generic and apply to all the LTs and LCAs.

Generic development guidelines

4.3.4 The following siting or design development guidelines are applicable to all development scenarios:

- The effects of the proposed development on landscape and visual receptors should be tested throughout the siting and design process by landscape and visual impact assessment to ensure adverse effects are minimised.
- Trees, hedges and other woody vegetation at the site should be retained wherever possible and protected during the construction works in accordance with BS5837:2012, to ensure their long-term health and viability, and contribution to the landscape.
- Disturbance of soils should be minimised. Where necessary, the existing soils at a site should be stripped prior to works commencing, separated into topsoil and subsoil, and stored in a manner that would safeguard their long-term health. On completion of the building works the soils should be used as part of the landscape scheme.
- Development (buildings and surfaces) should be located in a manner that retains the general character of the surrounding landform, where it can be accommodated without abrupt changes in levels or steep gradients or the need for prominent retaining structures or bunds. Where possible, levels should follow the wider contours and general gradient.
- Consider the landscape effects of drainage features such as SuDs, which can have a highly engineered form and introduce ancillary infrastructure. Ensure they have sufficient space to enable shallow sides and opportunities for habitat creation, so as to create meaningful and positive additions to the landscape.
- Ensure that any earthworks, including artificial mounds that might be used to screen the development, and sensitively designed in terms of height, profile and gradient, to fit in with the surrounding landscape. Generally, such features do not provide effective growing conditions for planting.
- Boundary features such as hedges should be retained in a meaningful and continuous manner.
- Development at a site should be accompanied by a comprehensive landscape scheme with an appropriate landscape management plan to guide its implementation and ongoing maintenance and ensure its long term contribution to the landscape. The scheme should be implemented in a timely manner in the first available planting season.
- New planting should be designed using appropriate and predominantly native planting so as to reflect the character of the wider landscape, with plant species selected to minimise long term maintenance and maintenance, with a view to being resilient to future climate change.

4.4 Cumulative effects

4.4.1 Cumulative effects are effects "that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project." [11] Cumulative landscape and visual effects would result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other development(s) (associated with, or separate to, it).[12]

4.4.2 The guidelines for minimising cumulative impact are as follows:

- When assessing the potential effects of a proposed scheme, reference should be made to the relationship between the proposal and any existing, consented or proposed energy-related developments within the district, and especially within the same character area or neighbouring landscape character areas.
- The character of existing developments in relation to the landscape should be considered. If there is a distinct pattern of development in a particular type of landscape, then continuation of this pattern would have less of an impact on character than the introduction of a different size or form of development in an undisturbed location.
- The closer developments are to each other the more likely they are to be viewed in combination (or in sequence).
- Even if developments are not visible from the same viewpoint the cumulative effects on character still need to be considered as they can have an effect on the experience of moving through a landscape (sequential effects).
- In many scenarios, locating new development in proximity to existing development could be considered to minimise its impact and preserve the more undisturbed and tranquil parts of the district. The combined effects of different developments could, however, change the fundamental character of an area if the common characteristics of the developments were to become the defining characteristics of the area.
- Cumulative effects relate primarily to the amount of development within a given landscape, as well as to intervisibility, intra-visibility and sequential effects. [13] Good design could reduce cumulative effects by avoiding intervisibility for example.
- Whilst it might be argued that only developments which are intervisible can have cumulative effects, this is not necessarily the case. Developments which are scattered across the landscape might be considered to affect a broader area, and to affect the perception of the area as a whole and/or the sequential experience of travelling through it.

[11] Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, European Commission, 1999
[12] Guidelines for Landscape and Visual Impact Assessment, Second Edition, Landscape Institute and IEMA, 2002
[13] Intervisibility is the visibility between two points. Two points on the ground or two features are described as 'intervisible' when they are visible from each other. Intra-visibility is when two points can be seen/experienced from a third point (in many cases, this is more important that pure intervisibility); e.g. a listed building might be experienced in the same view as a new industrial building by a sensitive visual receptor.

4.5 Solar PV

Overview of the development type

4.5.1 Solar PV developments comprise arrays of solar photovoltaic panels that are mounted on frames. The back panel height is typically up to 3m. The panels are usually positioned at a fixed angle of 20-40 degrees from the horizontal facing south and sited in parallel rows with gaps between the rows for access and to prevent shading of adjacent rows. Frames can be fixed in position through piles driven into the ground or placed on concrete shoes, avoiding the need for mass concrete foundations. The solar arrays are typically accompanied by inverters, transformers, and small buildings such as substations. The proposals typically include perimeter fencing, pole-mounted CCTV cameras, and access tracks. Some security lighting may be proposed in conjunction with the buildings.

4.5.2 Solar installations tend to be measured by their capacity in megawatts. 1 MW of installed capacity occupies, on average, 2ha of land.

4.5.3 Schemes of over 50 MW are defined as NSIPs and are determined by the Secretary of State rather than the local planning authority.

4.5.4 Solar PV developments typically have an operational life of 25 to 40 years and planning permissions are usually limited in terms of their duration. The solar farm owner and landowner are responsible for the decommissioning of solar PV developments. Planning conditions can be used to ensure that installations are removed when no longer in use, and to ensure that the land is restored to its previous (or another agreed) use.

4.5.5 Whilst solar PV can in theory be installed almost anywhere, there are technical considerations such as the capacity of the local substations.

Scenarios considered in the LSS

4.5.6 Four scales of solar PV project are considered in this study:

- small-scale solar PV projects, up to 5 MW
- medium-field solar PV projects, 5 to 15 MW
- larger-scale solar PV projects, 15 to 50 MW
- very large solar PV projects, over 50 MW

Parameters assumed in the LSS

4.5.7 For the purposes of the LSS, the following parameters are assumed for solar PV developments:

- Small-scale solar PV projects, up to 5 MW – typically 5 to 10ha and contained within a single field unit.
- Medium-scale solar PV projects, 5 to 15 MW – typically 10 to 30ha and extending over a small number of fields.

- Larger-scale solar PV projects, 15 to 50 MW – typically 30 to 100ha and encompassing several fields.
- Very large scale solar PV projects, over 50 MW – encompassing substantial tracts of countryside.
- Ground mounted panels up to a maximum of 4m high.
- Appropriate fencing.
- No external lighting, save that for emergency attendance.
- Grazed or habitat enhancement land cover.
- Timely implementation of a well-considered and maintained landscape scheme to integrate the development into the surrounding landscape framework.
- A lifespan of up to 40 years, followed by full decommissioning and removal of all structures and a return to agricultural land use.

Potential landscape effects

4.5.8 Solar PV developments, although not prominent in terms of height, can occupy substantial areas of ground and may be quite visible, particularly if located on slopes. Landscape effects may include the following:

- Solar arrays may be particularly visible in open landscapes, or on slopes.
- On a sunny day they can appear blue while on a cloudy day they can appear a dark grey, both of which contrast with surrounding green areas.
- The presence of PV panels and associated infrastructure may increase the perceived human influence on the landscape and change land cover patterns of rural landscapes.
- Solar PV developments will change the land use and appearance of a field or fields, affecting land cover patterns.
- The regular edges of solar PV developments may be conspicuous in more irregular landscapes (particularly where they do not follow contours or where field boundaries are irregular in form).
- The height of the panels means that they may over-sail typical hedgerow field boundaries.
- Screen planting around solar PV development can change the sense of enclosure of a landscape (NB: some changes in management, such as allowing hedges to grow out, may enhance diversity and local landscape character resulting in positive change, but may in turn block valued longer distance views across the wider landscape).
- Mitigation for a PV development can include large scale planting schemes which can enhance the biodiversity of a field and diversify the local habitats.

- Structures may appear out of place in particularly rural landscapes which are valued for their sense of remoteness.
- Ancillary buildings and security requirements (such as fencing and/or CCTV) may introduce new and unfamiliar features into the landscape, increasing the perceived human influence on the landscape, and eroding the intrinsically rural character. Often, these elements can have more influence than the panels themselves.
- Solar PV schemes can take valuable arable land out of production for many years.
- Solar schemes might intercept or disrupt the routes of existing public rights of way, or influence the experience of those using them.
- In more open landscapes foreground mitigation planting may have the unintended effect of blocking or altering the composition of longer distance views.
- Where multiple field units are involved, consideration should be given to the sequential influence of solar PV as it is experienced by those moving through the landscape, e.g. on public rights of way.

Cumulative effects

4.5.9 There are a number of existing Solar PV developments within South Norfolk. A map of consented and proposed renewable energy schemes within South Norfolk is provided on the Council's website: Renewables mapping | Broadland and South Norfolk

4.5.10 Considering the presence of several solar PV arrays in South Norfolk district, and the continued pressure for this type of development, it is important that consideration is given to their cumulative effects when they can be appreciated in close proximity to other similar developments and/or other energy-related infrastructure that they often need to connect to, such as substations.

Design development guidelines

4.5.11 The following guidelines are relevant to the siting and design of solar PV developments in South Norfolk:

- Locate development on lower slopes/within folds in gently undulating lowland landscapes or on flat plateau sites, rather than on slopes, especially higher slopes, crests and plateau edges.
- Site solar development in landscapes with a sense of enclosure (e.g. provided by woodland or high hedges) rather than in open and unenclosed landscapes (unless on an elevated plateau lacking intervisibility with surrounding landscapes).

- Avoid areas of greater time-depth – e.g. historic landscape types such as commons, co-axial enclosures or parklands, and landscapes that form part of the setting of a conservation area, listed building, scheduled monument or registered park and garden.[14]
- Avoid development that adversely affects the setting of The Broads, the openness of the Norwich Southern Bypass Landscape Protection Zone, views to Norwich or the undeveloped approaches to Norwich.
- Consider views from local viewpoints, settlements (particularly Conservation Areas) and popular walking or cycling routes such as the Boudicca Way. If development will be visible ensure it does not dominate and detract from the experience of visiting these locations/ travelling along these routes, either in terms of individual field units or as the sequence of passing through multiple fields.
- Ensure the area or extent of development is in scale with the landscape in which it lies – larger scale developments are more suited to large scale landscapes.
- Solar PV arrays are better suited to areas with a rectilinear field pattern. Within a field the space between panels should be consistent and logical.
- The layout should avoid effects on existing trees and hedges. Since panels are unlikely to be positioned where they would be shaded by vegetation, this is usually relatively easily achieved. Panels should be set back from boundaries to maintain the legibility of field patterns (and also to assist with hedgerow management and potentially to provide habitat). Care should be taken that the associated infrastructure does not conflict with tree root protection areas.
- Panel heights should be kept as low as possible, to minimise visual effect. Where relevant, sufficient space must, however, be provided below the panels for sheep grazing or habitat creation.
- The creation of new tracks for access to solar arrays will increase the landscape impact. Where new tracks are needed, they should as far as possible follow field boundaries. Temporary trackways should be used where possible to minimise longer-term effects.
- Ancillary buildings or structures, such as substations, transformers and inverters should be located in inconspicuous locations. The local vernacular should be considered in relation to buildings – see also comments in relation to substations.
- Dark, recessive colours in non-reflective materials should be chosen for panel frames and ancillary structures, and where appropriate, fencing.
- Only install lighting that is justified. Use of infrared security cameras could avoid the need for new lighting altogether.
- Grid connections should be via underground cable.

[14] Time-depth can be described succinctly as the imprint of the past on a place. Whilst all landscapes have a history some have a more ancient history which is still apparent in the landscape. This is referred to as a greater time-depth.

- Fences should be set back from surrounding hedges, to reduce their apparent height when viewed from beyond the boundary.
- Efforts should be made to maintain land uses on the site that fit with the character of the surrounding area. The spaces between and around the solar arrays can be utilised productively for grazing or habitat creation.
- Hedgerows can be managed to provide ecological benefits as well as screening, which may include the strengthening of existing field boundaries, or introduction of new planting.
- Hedges can provide effective landscape mitigation, either by managing them at higher levels or planting new hedges. However, care should be taken that such hedges do not block long distance views or create a tunnel or corridor effect, for example where planted in association with public rights of way.
- Incorporate biodiversity net gain into any new development and consider opportunities to contribute to the delivery of the Green Infrastructure network in South Norfolk.
- As a temporary development it will be important to demonstrate that the development can be decommissioned effectively and that the landscape can be restored to at least as good a condition as it was prior to the development taking place.

4.6 AD plants

Overview of the development type

4.6.1 Anaerobic digestion (AD) is a natural process where animal or plant materials (biomass) is broken down by microorganisms in the absence of air. The resultant methane-rich biogas can be used to generate heat and/or power (Combined Heat and Power), or upgraded to biomethane for injection into the national gas grid.

4.6.2 AD plants can be classified into two general categories: those that process agricultural feedstock (such as manures, slurries, crops and crop residues), and those that use predominantly municipal, commercial and industrial waste streams as feedstock. AD plants that receive waste feedstock fall under the jurisdiction of the County Planning Authority and are assessed in accordance with the Minerals and Waste Local Plan. The LSS only applies to AD plants that do not involve waste feedstock and therefore do not constitute County Matters.

4.6.3 Built forms relating to AD plants generally comprise fermentation tanks, which can be inflatable, and associated buildings/ancillary structures including gas to grid processing units, Combined Heat and Power (CHP) units, control buildings and feedstock storage including silage clamps. The largest (and most distinctive) elements tend to be the circular storage tanks (which can vary in size from 2.75 - 30.5m in diameter and 1.5 - 33.5m in height) and the flare stack (typically 3 to 5m in height). The feedstock storage areas can be quite extensive and the total site area varies from around 2ha up to 9ha. AD Plants are assumed to be permanent.

Scenarios considered in the LSS

4.6.4 Two scenarios for AD plants are considered in this study:

- farm-scale, single or double tank system, up to 1ha
- larger installation, up to 5ha

Parameters assumed in the LSS

4.6.5 For the purposes of the LSS, the following parameters are assumed for AD plants:

- 16m high tanks
- Perimeter fencing
- Lightning conductor rods
- Timely implementation of a well-considered and maintained landscape scheme to integrate the development into the surrounding landscape framework.

Potential landscape effects

4.6.6 Landscape effects from AD plants may include the following:

- Direct loss of landscape features within the area developed.
- The tanks and/or the flare stack can be a prominent feature in the landscape.
- The bulky industrial style structures can increase the sense of human influence and introduce an industrial character in what might otherwise be a relatively rural landscape.
- Vehicle movements, ancillary activities/storage, security and flood lighting associated with these developments can also increase human influence in more naturalistic or rural landscapes.
- Introduction of artificial slopes or mounds which would have a negative effect on the landform.
- Additional adverse effects on the landscape if SuDS features are not well designed.

Cumulative effects

4.6.7 AD plants are not particularly common, and cumulative effects are therefore unlikely. A map of consented and proposed renewable energy schemes within South Norfolk is provided on the Council's website: Renewables mapping | Broadland and South Norfolk

Design development guidelines

4.6.8 The following guidelines are relevant to the siting and design of AD plants in South Norfolk:

- Aim to locate new structures close to existing built form (e.g. existing electricity substation infrastructure) or in areas which are already well screened by existing vegetation.
- Ensure the scale of development is appropriate for its context.

- The materiality and colours of the proposed structures will be important in terms of their effects on the landscape. Consultation with the LPA will be required to develop the most appropriate design.
- Protect the existing network of hedgerows, woodlands, and semi-natural habitats and aim to extend these as part of any landscape scheme associated with development.
- Enhance existing screening through planting that integrates with features such as woodland and hedgerows within the wider landscape, to reinforce local character and biodiversity.
- Protect undeveloped skylines and backdrops from encroachment – set any new built development back from valley crests and avoid highly visible slopes.
- Ensure that existing landmark features remain prominent in the landscape and new development does not detract from these features.
- Plants should be carefully sited to take advantage of existing screening. Avoid exposed locations.
- Avoid areas with greater time depth such as pre-18th century fields and common land, or areas of higher landcover interest such as unimproved grassland.
- Avoid development which adversely affects the setting of The Broads, the openness of the Norwich Southern Bypass Landscape Protection Zone, views to Norwich or the undeveloped approaches to Norwich.
- Schemes should be limited to small scale plants that can be easily contained within an existing farmyard setting and operate without the need to import material from other farms.
- Consider the landscape effects of drainage features such as SuDS, which can have a highly engineered form and introduce ancillary infrastructure. Ensure they have sufficient space to enable shallow sides and opportunities for habitat creation, so as to create meaningful and positive additions to the landscape.
- Ensure that any earthworks, including artificial mounds that might be used to screen the development, are sensitively designed in terms of height, profile and gradient, to fit in with the surrounding landscape. Generally, such features do not provide effective growing conditions for planting.
- Consider views from local viewpoints, settlements (particularly Conservation Areas) and popular routes (e.g. walking or cycling route). If development will be visible, ensure it does not dominate and detract from the experience of visiting these locations/ travelling along these routes.
- Consider use of green roofs.
- The local vernacular should be considered in relation to buildings.

- Ensure planting around the buildings reflects the underlying landscape character by using locally-appropriate species and linking to the existing green infrastructure network.
- Minimise the use of security lighting. Use full cut-off light fittings to avoid any direct upward light and ensure that lighting is designed to minimise light spill into the surrounding landscape. Consider use of infrared cameras to avoid the need for lighting.
- Consider providing enhanced management of landscape features and habitats as part of any development.
- Incorporate biodiversity net gain into any new development and consider opportunities to contribute to the delivery of the Green Infrastructure network in South Norfolk.

4.7 Battery Storage

Overview of the development type

4.7.1 Battery storage facilities enable energy from renewable sources to be stored and later transferred back to the grid. They are sometimes referred to as battery energy storage systems (BESS).

4.7.2 Battery storage facilities comprise individual battery units (which normally consist of free-standing units) and associated inverters (which convert DC battery power to AC grid power), transformers (transferring power between the grid and the batteries) and switchgear/control room building/cabin all within a fenced compound which may require ground levelling.

4.7.3 The scale of commercial battery storage schemes is highly variable, depending on the required storage capacity. There are technical constraints on where battery storage can be located as they have to be situated close to existing transmission lines. Battery storage facilities are increasingly being co-located with solar arrays to allow excess power to be stored and later transferred back to the grid, to improve the economic viability of solar farms.

4.7.4 A typical site area for a 50MW capacity battery storage is likely to be around 1ha in size, depending on the battery technology used.

4.7.5 Batteries and other components have a design life, and planning permissions are therefore issued on a temporary basis.

Scenarios considered in the LSS

4.7.6 Two scenarios for battery storage are considered in this study:

- Small-scale, up to 1ha
- Larger-scale, over 1ha in size

Parameters assumed in the LSS

4.7.7 For the purposes of the LSS, the following parameters are assumed for battery storage:

- Battery storage cabinets up to 3m high for small scale battery storage projects
- Larger and taller structures for large scale battery storage projects

- Security fencing
- Transformers inverters
- Switchgear/control room building/cabin
- Cable connection to grid
- No external lighting, save that for emergency attendance
- Timely implementation of a well-considered and maintained landscape scheme to integrate the development into the surrounding landscape framework.

Potential landscape effects

4.7.8 The following landscape effects may arise from Battery Storage:

- Direct loss of landscape features within the area developed.
- The bulky industrial style structures can increase the sense of human influence and introduce an industrial character in what might otherwise be a relatively rural landscape.
- Vehicle movements, ancillary activities/storage, security and flood lighting associated with these developments can also increase human influence in more naturalistic or rural landscapes.
- Introduction of artificial slopes or mounds which would have a negative effect on the landform.
- Additional adverse effects on the landscape if SuDS features are not well designed.

Cumulative effects

4.7.9 There are a number of approved battery storage schemes within South Norfolk including the Hornsea 3 Energy Balancing Infrastructure. A map of consented and proposed renewable energy schemes within South Norfolk is provided on the Council's website: Renewables mapping | Broadland and South Norfolk

4.7.10 There is likely to be increased pressure in the future for battery storage in the South Norfolk district. Consideration should be given to the cumulative effects on landscape features that might arise from any new battery storage (including associated substations) when they can be appreciated in close proximity to existing facilities and/or other energy infrastructure.

Design development guidelines

4.7.11 The following guidelines are relevant to the siting and design of Battery Storage developments in South Norfolk.

- Aim to locate new structures close to existing built form (e.g. existing electricity substation infrastructure) or in areas which are already well screened by existing vegetation.
- Ensure the scale of development is appropriate for its context.

- The materiality and colours of the proposed structures will be important in terms of their effects on the landscape. Consultation with the LPA will be required to develop the most appropriate design.
- Protect the existing network of hedgerows, woodlands, and semi-natural habitats and aim to extend these as part of any landscape scheme associated with development.
- Enhance existing screening through planting that integrates with features such as woodland and hedgerows within the wider landscape, to reinforce local character and biodiversity.
- Protect undeveloped skylines and backdrops from encroachment – set any new built development back from valley crests and avoid highly visible slopes.
- Ensure that existing landmark features remain prominent in the landscape and new development does not detract from these features.
- Avoid areas with greater time depth such as pre-18th century fields and common land.
- Avoid locating in open, undeveloped landscapes or areas with historical significance e.g. parklands. Avoid loss of areas of greater landcover interest, such as unimproved grassland or deciduous woodland.
- Avoid development which adversely affects the setting of The Broads, the openness of the Norwich Southern Bypass Landscape Protection Zone, views to Norwich or the undeveloped approaches to Norwich.
- Consider the landscape effects of drainage features such as SuDS, which can have a highly engineered form and introduce ancillary infrastructure. Ensure they have sufficient space to enable shallow sides and opportunities for habitat creation, so as to create meaningful and positive additions to the landscape.
- Ensure that any earthworks, including artificial mounds that might be used to screen the development, are sensitively designed in terms of height, profile and gradient, to fit in with the surrounding landscape. Generally, such features do not provide effective growing conditions for planting.
- Consider views from local viewpoints, settlements (particularly Conservation Areas) and popular routes (e.g. walking or cycling route). If development will be visible, ensure it does not dominate and detract from the experience of visiting these locations/ travelling along these routes.
- Consider use of green roofs.
- The local vernacular should be considered in relation to buildings.
- Ensure planting around the buildings reflects the underlying landscape character by using locally-appropriate species and linking to the existing green infrastructure network.
- Only install lighting that is justified. Use of infrared security cameras could avoid the need for new lighting altogether.

- Consider providing enhanced management of landscape features, habitats and heritage assets as part of any development.
- Incorporate biodiversity net gain into any new development and consider opportunities to contribute to the delivery of the Green Infrastructure network in South Norfolk.

4.8 Overhead powerlines

Overview of the development type

4.8.1 Overhead powerlines consist of overhead wires suspended on wooden poles or steel pylons. The National Grid infrastructure in England is largely made up of 400 kV and 132 kV lines. Besides this there is also infrastructure that belongs to the distribution network operator (DNO) i.e. UK Power Networks.

4.8.2 Electricity pylons were first introduced in 1928 when the National Grid was created, and the basic design of the pylon has remained largely the same since then. The National Grid initially consisted of 132 kV lines, but higher voltage lines requiring larger pylons were introduced in the 1960s.

4.8.3 Overhead powerlines are suspended on steel lattice towers (commonly known as pylons). There are three basic types of towers, straight line towers, angle towers, and terminal towers. Most lines are double circuit and feature towers with three symmetrical cross arms. Angle towers are bulkier than straight line towers. They have tensions insulators rather than suspension insulators and can be asymmetrical. 132 kV lines typically use towers of around 26m in height[15] while 400 kV lines typically use towers of around 50m in height.[16] This standard height can, however, be varied. The largest lines use two or four wire bundles separated by spacers.

4.8.4 132 kV and 400 kV overhead lines of over 2km length are defined as NSIPs and are determined by the Secretary of State rather than the local planning authority.

Scenarios considered in the LSS

4.8.5 Two scenarios for above ground energy transmission are considered in this study:

- 400kV lines that utilise the largest pylons. These are typically owned by National Grid and transmit electricity from where its generated (e.g. power stations) to substations.
- 132kV lines that utilise smaller pylons. These are operated by DNOs and distribute electricity from the substations to homes, businesses, etc.

Parameters assumed in the LSS

4.8.6 For the purposes of the LSS, the following parameters are assumed for overhead transmission lines:

- 400kV lines – pylons with a nominal height of 50m

[15] The standard height of a straight line L4 tower is 26.1m
[16] The standard height of a straight line L6 tower is 50.6m

- 132kV lines – pylons with a nominal height of 26m

Potential landscape effects

4.8.7 Overhead power lines may affect the landscape in the following ways:

- Introduction of tall (frequently the tallest) features into the landscape. As a comparison, commercial warehouses are typically have a ridge height 14m, housing a ridge height of 9m to 12m, and a mature oak 20m to 25m.
- Pylons are inevitably seen as new, and frequently dominant, features in the landscape that introduce a strong sense of modernity.
- The size of the structures and the frequency of the pylon repeat patterns is often in stark contrast with and out of scale to smaller scale, finer grain landscape patterns and features.
- Cables that contrast, in terms of colour, against the prevalent landscape colour, e.g. sky or woodland. Colouring cables green can often make them look more prominent since the green appears artificial against more muted natural tones.
- Pylon construction (and replacement) can involve considerable disruption. Pylons are frequently located in rural or remote locations and temporary access roads are often required.
- Need for ongoing vegetation clearance can affect the landscape underneath transmission lines. Vegetation management can have consequential effects on the character of the landscape below the transmission line.
- Addition of lights on lines (as ecological mitigation measure) would have consequential effects on the landscape, particularly in terms of night-time effects.

4.8.8 Consideration should be given to consequential additions to the landscape that would inevitably arise with overhead lines and pylons, such as extensions to existing or new substations.

4.8.9 Overhead power lines can in theory be decommissioned, i.e. removed when no longer needed, or replaced with underground cables. The DNO (UK Power Networks) has for example taken down power lines between Earlham and Bowthorpe and replaced them with underground cabling.

Cumulative effects

4.8.10 Cumulative effects on landscape and visual receptors might arise from any new overhead power lines when they can be appreciated in close proximity to existing lines and associated infrastructure such as pylons and substations and/or other energy facilities such as battery storage systems.

4.8.11 Existing overhead transmission infrastructure in South Norfolk includes the 400 kV Norwich Main-Bramford power line, the 400 kV Norwich Main-Walpole power line, the 132 kV Norwich Main-Earlham Grid, the 132 kV Norwich Main-Trowse Grid, the 132 kV line between Trowse and Lowestoft, and the 132 kV line between Bramford and Lowestoft.

National Grid Electricity Transmission (National Grid) are proposing to build c.184km of new electricity transmission in order to reinforce the high voltage power network in East Anglia between existing substations at Norwich Main in Norfolk, Bramford in Suffolk, and Tilbury in Essex, as well as to connect new offshore wind generation. The project is known as Norwich to Tilbury. Norwich to Tilbury meets the current criteria of an NSIP.As such, an application for Development Consent will be submitted to the Planning Inspectorate. If consent for the project is awarded, this would be granted in the form of a Development Consent Order (DCO) from the Secretary for State for Business, Energy and Industrial Strategy following a public examination of the application. Within South Norfolk the proposed route would extend southwards from the Norwich Main Substation through the district to the Mid Suffolk border.

Holford Rules

4.8.12 Guidelines on the routeing of overhead lines were first formulated in 1959 by Sir William (later Lord) Holford and became known as the Holford Rules. It is acknowledged that present day environmental assessment has a wider remit than the visual amenity that the Holford Rules concentrate on. Nonetheless, National Grid has reviewed the guidelines and concluded that they remain relevant.

Rule 1:

> *Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the first line in the first place, even if the total mileage is somewhat increased in consequence.*

4.8.13 A sub note to Rule 1 requires that designers should *"Investigate the possibility of alternative routes, avoiding if possible the areas of the highest amenity value"* and, importantly, that *"The consideration of alternative routes must be an integral feature of environmental statements."*

Rule 2:

> *Avoid smaller areas of high amenity value, or scientific interests by deviation; provided that this can be done without using too many angle towers, ie the more massive structures which are used when lines change direction.*

4.8.14 The sub note to Rule 2 notes that *"Where possible choose routes which minimise the effects on the setting of areas of architectural, historic and archaeological interest including Conservation Areas, Listed Buildings, Listed Parks and Gardens and Ancient Monuments."*

Rule 3:

> *Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers.*

4.8.15 Sub note of Rule 3: *"Where possible choose inconspicuous locations for angle towers, terminal towers and sealing end compounds."*

Rule 4:

Choose tree and hill backgrounds in preference to sky backgrounds wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees.

Rule 5:

Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees.

4.8.16 Sub note on Rules 4 and 5: *"Utilise background and foreground features to reduce the apparent height and domination of towers from pan viewpoints"*, *"Minimise the exposure of numbers of towers on prominent ridges and skylines"*, *"Where possible avoiding cutting extensive swathes through woodland blocks and consider opportunities for skirting edges of copses and woods"*, *"Protecting existing vegetation, including woodland and hedgerows, and safeguard visual and ecological links with the surrounding landscape"*.

Rule 6:

In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration or 'wirescape'.

4.8.17 Sub note 6 continues the commentary on cumulative effects:

In all locations minimise confusing appearance. Arrange wherever practicable that parallel or closely related routes are planned with tower types, spans and conductors forming a coherent appearance; where routes need to diverge, allow where practicable sufficient separation to limit the effects on properties and features between the lines.

Rule 7:

Approach urban area through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of the undergrounding, for lines other than those of the highest voltage.

4.8.18 Sub note for Rule 7 includes:

… Alignments should be chosen after consideration of effects on the amenity of existing development and on proposals for new development. When siting substations take account of the effects of the terminal towers and line connections that will need to be made and take advantage of screening features such as ground form and vegetation.

4.8.19 Supplementary notes include:

Avoid routeing close to residential areas as far as possible on grounds of general amenity.

Where possible choose routes which minimise the effect on Special Landscape Areas, areas of Great Landscape Value and other similar designations of County, District or Local value

Other design development guidelines

4.8.20 The following guidelines should be considered when designing overhead powerlines:

- Overhead powerlines are tall structures, with a standardised design. The mitigation of effects is therefore difficult as it is rarely possible to screen pylons with planting, nor is it possible for the structures to reflect local identity. The main aspect of good design then relates to the choice of alignment and the siting of individual pylons within the landscape.
- Power lines follow straight paths and are better suited to large-scale landscapes with rectilinear field patterns.
- Simple plateau landscapes are more able to accept overhead powerlines than areas with intricate landform.
- Whilst valleys are sometimes preferred for overhead cable routes this would be inappropriate for South Norfolk as the pylons would overwhelm the shallow valleys.
- Consider following the route of existing powerlines to minimise the area which is affected by overhead powerlines and to preserve the remaining areas of undisturbed countryside. [Conversely, in such scenario, consideration must also be given to cumulative effects].
- Angle towers are bulkier than suspension towers and include tension insulators rather than suspension insulators. Sharp changes of direction require unattractive asymmetrical towers and should be avoided. The number of angle towers should be as few as possible and angle towers should also be placed in inconspicuous locations where possible.
- Termination towers are squat and are particularly unattractive, while cable sealing ends add further infrastructure to the landscape. The number of these features should therefore be as few as possible.
- Ancillary features such as cable sealing ends and substations should as far as possible be sited in conjunction with existing infrastructure to minimise harm. These features should also be sited in inconspicuous locations.
- Consider whether use of T-pylons might reduce the potential landscape effects.
- Consult with public on different designs of pylon and other options such as following existing overhead transmission routes.

4.8.21 There is a presumption that underground cable routes are more appropriate than overhead powerlines within protected or more sensitive landscapes. The effect of overhead powerlines within the setting of the Broads will also have be considered to avoid effects on the designated landscape.

4.9 Underground cable routes

Overview of the development type

4.9.1 Underground cable routes refer to underground electricity transmission infrastructure. Cables are employed to connect energy generating infrastructure (e.g. offshore windfarms) with the National

Grid via a substation. The National Grid uses underground cable routes within particularly sensitive landscapes for example National Parks and National Landscapes, and lower voltage underground cables are also used to distribute power at the district level.

Scenarios considered in the LSS

4.9.2 The study considers a single scale of underground cable route.

Parameters assumed in the LSS

4.9.3 For the purposes of the LSS, the following parameters are assumed for underground cable routes:

- Up to six separate trenches, works corridor up to 100m wide.
- Use of trenchless crossings to avoid effects on sensitive features and habitats.
- Removal of all temporary haul routes, compounds and bellmouths at the end of the implementation phase.
- Timely implementation of a well-considered and maintained landscape scheme to reinstate landscape features and make good any damage to the landscape.

Potential landscape effects

4.9.4 For underground cabling, the most pronounced effects are generally during the implementation phases of the project.

4.9.5 Underground cable corridors can be installed via either open cut trenching or horizontal directional drilling (HDD) for shorter distances, which does not require a trench. HDD is typically used for only the most sensitive areas, such as woodland and watercourses.

4.9.6 Some larger offshore windfarms may require multiple trenches. Construction works typically include fencing, vegetation clearance and topsoil stripping and storage, temporary haul routes, the excavation of a trench, the installation of cable ducts, backfilling, cable pulling and reinstatement works. The width of land which is typically required for a cable corridor falls within the range of 30-100m. Typical buried depths are 1.2 to 2m and trenches may be up to 5m wide at the surface.

4.9.7 Following completion of trenching and laying of cable routes permanent residual effects on the landscape include inspection chambers for cable jointing bays and marker posts indicating the location of the cable routes. Cable sealing ends add physical structures that link above and below ground sections of the route. In terms of decommissioning it is understood that cables are normally left buried in the ground at the end of the operation phase.

4.9.8 Cable trenches may affect the landscape in the following ways:

- Laying of the cable can result in direct loss of landscape features along the route (such as trees and sections of hedgerows) and disturbance to ground over long distances. Whilst hedges are typically replanted, trees are not generally replaced.

- Cables are generally laid in straight lines and the temporary trench can be visible over long distances, particularly if it is located in an elevated position or on steep slopes.
- The construction activities can affect characteristics of stillness, remoteness and solitude – although this is temporary.
- Post-construction, the recovering vegetation can produce scarring of the landscape. The time taken for vegetation to recover will depend on the type of landcover and standards of post-construction maintenance. Soil compaction on clay soils can result in long term drainage issues potentially affecting productivity.

Cumulative effects

4.9.9 It is unlikely onshore cable routes would result in notable cumulative effects beyond the implementation phases.

Design development guidelines

4.9.10 The following guidelines should be considered when designing the route for underground cables:

- Minimise the width of the required corridor.
- Ensure successful ground re-instatement/restoration can be achieved.
- Use horizontal directional drilling (HDD) in sensitive locations to conserve above-ground features such as important or irreplaceable trees, hedgerows or nature reserves.
- Avoid steep slopes wherever possible and aim to route through less visible areas.
- Aim to avoid landscape features such as mature trees and woodland, historic sites such as Registered Parks and Gardens, and irreplaceable habitats such as Ancient Woodland.
- Consider views from local viewpoints, settlements (particularly Conservation Areas) and popular walking or cycling routes including the Boudicca Way. If development will be visible ensure it does not dominate and detract from the experience of visiting these locations/ travelling along these routes.
- Minimise disruption to field boundaries as far as possible – routeing through areas of historic small-scale fields will result in a greater impact than routeing through large-scale arable fields.

4.10 Substations

Overview of the development type

4.10.1 Substations transform electricity to a higher voltage to allow it to be transmitted over long distances and also transform it to a lower voltage to allow it to be distributed locally. Substations are typically required to connect generating facilities to the distribution network. The category also includes converter stations which transform one type of current to another.

4.10.2 The typical components of an electrical substation include a secure outdoor compound containing switch gear, control room buildings, and outdoor electrical equipment. There is no standard design of substations. They can be extensive in dimensions, for example, the proposed onshore substation associated with the Sheringham Shoal Extension Project includes an operational compound of up to 6ha, a building height up to 15m, and lightning masts up to 30m. Substations are assumed to be permanent development.

Potential landscape effects

4.10.3 The landscape effects of substations may include the following:

- Direct loss of landscape features in areas to be developed.
- The bulky industrial style structures can increase human influence and industrial character which may be particularly at odds in naturalistic or more remote landscapes.
- Vehicle movements and ancillary activities/storage associated with these developments can also increase human influence in naturalistic or rural landscapes.
- Introduction of artificial slopes or mounds which would have a negative effect on the landform.
- Additional adverse effects on the landscape if SuDS features are not well designed.

Cumulative effects

4.10.4 Substations are typically required to connect generating facilities to the distribution network and so are often found in association with other energy project types.

4.10.5 Consideration should be given to the cumulative effectives on landscape features that might arise from any new substations when they can be appreciated in close proximity to existing facilities and/or other energy infrastructure such as battery energy storage systems and pylons.

4.10.6 Existing substations in South Norfolk include the Norwich Main Substation (located in Stoke Holy Cross Parish), Trowse Grid and Earlham Grid.

4.10.7 The Hornsea Three offshore windfarm project includes a new onshore substation/converter station which will connect to the Norwich Main substation. The new substation will be located to the south of the A47 and east of the B1113 and will occupy a considerable area.

4.10.8 It is proposed that a new onshore substation would be installed to the south of the existing Norwich Main substation as part of the Sheringham Shoal offshore windfarm project. The proposed substation will be up to 6ha in size. The substation will include a control building, transformers, switchgear, access roads, a lightning rod, landscape screening and drainage. The largest structure will be the control building with an approximate height of 15m. The main electrical equipment will not exceed a height of 15m.

4.10.9 The proposed Norwich to Tilbury project also includes an extension to the Norwich Main substation which would be located to the west of the existing facility.

Scenarios considered in the LSS

4.10.10 Although one scale of substation is considered in this study, it should be noted that (as set out above) the scale of substations can vary widely depending on their use or purpose.

Parameters assumed in the LSS

4.10.11 For the purposes of the LSS, the following parameters are assumed for substations:

- Built structures up to 15m tall.
- Security fencing
- Lighting infrastructure for emergency use only. The substation would not typically be lit during normal operation.
- Timely implementation of a well-considered and maintained landscape scheme to integrate the development into the surrounding landscape framework.

Horlock Rules

4.10.12 National Grid's Horlock Rules provide guidance regarding the siting of substations, etc.

Overall System Options and Site Selection

1. *In the development of system options including new substations, consideration must be given to environmental issues from the earliest stage to balance the technical benefits and capital cost requirements for new developments against the consequential environmental effects in order to keep adverse effects to a reasonably practicable minimum.*

Amenity, Cultural or Scientific Value of Sites

2. *The siting of new NGC substations, sealing end compounds and line entries should as far as reasonably practicable seek to avoid altogether internationally and nationally designated areas of the highest amenity, cultural or scientific value by the overall planning of the system connections.*
3. *Areas of local amenity value, important existing habitats and landscape features including ancient woodland, historic hedgerows, surface and ground water sources and nature conservation areas should be protected as far as reasonably practicable.*
4. *Local Context, Land Use and Site Planning 4 The siting of substations, extensions and associated proposals should take advantage of the screening provided by land form and existing features and the potential use of site layout and levels to keep intrusion into surrounding areas to a reasonably practicable minimum.*
5. *The proposals should keep the visual, noise and other environmental effects to a reasonably practicable minimum.*
6. *The land use effects of the proposal should be considered when planning the siting of substations or extensions.*

Design

7. *In the design of new substations or line entries, early consideration should be given to the options available for terminal towers, equipment, buildings and ancillary development appropriate to individual locations, seeking to keep effects to a reasonably practicable minimum.*
8. *Space should be used effectively to limit the area required for development consistent with appropriate mitigation measures and to minimise the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation.*
9. *The design of access roads, perimeter fencing, earthshaping, planting and ancillary development should form an integral part of the site layout and design to fit in with the surroundings.*

Line Entries

10. *In open landscape especially, high voltage line entries should be kept, as far as possible, visually separate from low voltage lines and other overhead lines so as to avoid a confusing appearance.*

11. *The inter-relationship between towers and substation structures and background and foreground features should be studied to reduce the prominence of structures from main viewpoints. Where practicable the exposure of terminal towers on prominent ridges should be minimised by siting towers against a background of trees rather than open skylines.*

Other design development guidelines

4.10.13 The following guidelines are relevant to the design of Substations in South Norfolk:

- Aim to locate new structures close to existing built form (e.g. existing electricity substation infrastructure) or in areas which are already well screened by existing vegetation.
- Ensure the scale of development is appropriate for its context.
- The materiality and colours of the proposed structures will be important in terms of their effects on the landscape. Consultation with the LPA will be required to develop the most appropriate design.
- Protect the existing network of hedgerows, woodlands, and semi-natural habitats and aim to extend these as part of any landscape scheme associated with development.
- Enhance existing screening through planting that integrates with features such as woodland and hedgerows within the wider landscape, to reinforce local character and biodiversity.
- Protect undeveloped skylines and backdrops from encroachment – set any new built development back from valley crests and avoid highly visible slopes.
- Ensure that existing landmark features remain prominent in the landscape and new development does not detract from these features.
- Avoid areas with greater time depth such as pre-18th century fields and common land.
- Avoid locating in open, undeveloped landscapes or areas with historical significance e.g. parklands. Avoid loss of areas of greater landcover interest, such as unimproved grassland or deciduous woodland.
- Avoid development which adversely affects the setting of The Broads, the openness of the Norwich Southern Bypass Landscape Protection Zone, views to Norwich or the undeveloped approaches to Norwich.
- Consider the landscape effects of drainage features such as SuDS, which can have a highly engineered form and introduce ancillary infrastructure. Ensure they have sufficient space to enable shallow sides and opportunities for habitat creation, so as to create meaningful and positive additions to the landscape.

- Ensure that any earthworks, including artificial mounds that might be used to screen the development, are sensitively designed in terms of height, profile and gradient, to fit in with the surrounding landscape. Generally, such features do not provide effective growing conditions for planting.
- Consider views from local viewpoints, settlements (particularly Conservation Areas) and popular routes (e.g. walking or cycling route). If development will be visible, ensure it does not dominate and detract from the experience of visiting these locations/ travelling along these routes.
- Consider use of green roofs.
- The local vernacular should be considered in relation to buildings.
- Ensure planting around the buildings reflects the underlying landscape character by using locally-appropriate species and linking to the existing green infrastructure network.
- Minimise the use of lighting.
- Consider providing enhanced management of landscape features and habitats as part of any development.
- Incorporate biodiversity net gain into any new development and consider opportunities to contribute to the delivery of the Green Infrastructure network in South Norfolk.

5 Findings of the Landscape Susceptibility Study

5.1 Overview

5.1.1 The following section summarises the findings of the LSS.

5.1.2 The detailed analysis of landscape susceptibility is contained within Appendix 3. Within each table, the susceptibility of the Landscape Type to the different development scenarios is assessed using a set of standard criteria. Finally, an overall judgement is made regarding the susceptibility of each of the LCAs to different forms of development.

5.1.3 Whilst this susceptibility assessment provides an initial indication of the relative susceptibility of different landscapes to a range of development types it should not be interpreted as a definitive statement on the suitability of a certain location for a particular development proposal. It is not a replacement for detailed studies on specific siting and design, and all developments will need to be assessed on their individual merits.

5.1.4 This assessment does not consider the cumulative impact of energy-related developments, other than as noted at Section 4 above where generic commentary is provided. It is important to note that however low the sensitivity rating for an individual type of development, the cumulative effect of multiple energy-related developments can be important, regardless of their individual size. Cumulative assessment of specific energy-related proposals will be a key part of the development process.

5.1.5 The following tables summarise the overall susceptibility of the different Landscape Character Areas to different forms of development.

Table 1: Susceptibility to Solar PV development

Landscape Character Type/Area	Small-scale (up to 5MW)	Medium-scale (5MW - 15MW)	Large-scale (15MW - 50MW)	Very large-scale (over 50MW)
A: Rural River Valley				
A1: Tas Rural River Valley	Medium-High	High	High	High
A2: Yare/Tiffey Rural River Valley	Medium-High	High	High	High
A3: Tud Rural River Valley	Medium-High	High	High	High
A4: Wensum Rural River Valley	Medium-High	High	High	High
A5: Waveney Rural River Valley	Medium-High	High	High	High
B: Tributary Farmland				
B1: Tas Tributary Farmland	Medium	Medium	Medium-High	Medium-High
B2: Tiffey Tributary Farmland	Medium	Medium	Medium-High	Medium-High
B3: Rockland Tributary Farmland	Medium	Medium	Medium-High	Medium-High
B4: Waveney Tributary Farmland	Medium	Medium	Medium-High	Medium-High
B5: Chet Tributary Farmland	Medium	Medium	Medium-High	Medium-High
B6: Yare Tributary Farmland	Medium	Medium	Medium-High	Medium-High
C: Tributary Farmland with Parkland				
C1: Yare Tributary Farmland with Parkland	Medium	Medium	Medium-High	Medium-High
C2: Thurlton Tributary Farmland with Parkland	Medium	Medium	Medium-High	Medium-High
D: Settled Plateau Farmland				
D1: Wymondham Settled Plateau Farmland	Medium	Medium	Medium-High	Medium-High
D2: Poringland Settled Plateau Farmland	Medium	Medium	Medium-High	Medium-High
E: Plateau Farmland				
LCA E1: Ashwellthorpe Plateau Farmland	Medium	Medium	Medium-High	Medium-High
LCA E2: Great Moulton Plateau Farmland	Medium	Medium	Medium-High	Medium-High
LCA E3: Hingham-Mattishall Plateau Farmland	Medium	Medium	Medium-High	Medium-High
F: Valley Urban Fringe				
LCA F1: Yare Valley Urban Fringe	Medium	Medium	Medium-High	Medium-High
G: Fringe Farmland				
LCA G1: Easton Fringe Farmland	Medium	Medium	Medium-High	Medium-High

Table 2: Susceptibility to AD plants

Landscape Character Type/Area	Farm-scale (up to 1ha)	Larger-scale (up to 5ha)
A: Rural River Valley		
A1: Tas Rural River Valley	Medium-Low	High
A2: Yare/Tiffey Rural River Valley	Medium-Low	High
A3: Tud Rural River Valley	Medium-Low	High
A4: Wensum Rural River Valley	Medium-Low	High
A5: Waveney Rural River Valley	Medium-Low	High
B: Tributary Farmland		
B1: Tas Tributary Farmland	Low	Medium-High
B2: Tiffey Tributary Farmland	Low	Medium-High
B3: Rockland Tributary Farmland	Low	Medium-High
B4: Waveney Tributary Farmland	Low	Medium-High
B5: Chet Tributary Farmland	Low	Medium-High
B6: Yare Tributary Farmland	Low	Medium-High
C: Tributary Farmland with Parkland		
C1: Yare Tributary Farmland with Parkland	Low	Medium-High
C2: Thurlton Tributary Farmland with Parkland	Low	Medium-High
D: Settled Plateau Farmland		
D1: Wymondham Settled Plateau Farmland	Low	Medium-High
D2: Poringland Settled Plateau Farmland	Low	Medium-High
E: Plateau Farmland		
LCA E1: Ashwellthorpe Plateau Farmland	Low	Medium-High
LCA E2: Great Moulton Plateau Farmland	Low	Medium-High
LCA E3: Hingham-Mattishall Plateau Farmland	Low	Medium-High
F: Valley Urban Fringe		
LCA F1: Yare Valley Urban Fringe	Low	Medium-High
G: Fringe Farmland		
LCA G1: Easton Fringe Farmland	Low	Medium-High

Table 3: Susceptibility to Battery Storage schemes

Landscape Character Type/Area	Small-scale (up to 1ha in size)	Larger-scale (over 1ha in size)
A: Rural River Valley		
A1: Tas Rural River Valley	Medium-High	High
A2: Yare/Tiffey Rural River Valley	Medium-High	High
A3: Tud Rural River Valley	Medium-High	High
A4: Wensum Rural River Valley	Medium-High	High
A5: Waveney Rural River Valley	Medium-High	High
B: Tributary Farmland		
B1: Tas Tributary Farmland	Medium	Medium-High
B2: Tiffey Tributary Farmland	Medium	Medium-High
B3: Rockland Tributary Farmland	Medium	Medium-High
B4: Waveney Tributary Farmland	Medium	Medium-High
B5: Chet Tributary Farmland	Medium	Medium-High
B6: Yare Tributary Farmland	Medium	Medium-High
C: Tributary Farmland with Parkland		
C1: Yare Tributary Farmland with Parkland	Medium	Medium-High
C2: Thurlton Tributary Farmland with Parkland	Medium	Medium-High
D: Settled Plateau Farmland		
D1: Wymondham Settled Plateau Farmland	Medium	Medium-High
D2: Poringland Settled Plateau Farmland	Medium	Medium-High
E: Plateau Farmland		
LCA E1: Ashwellthorpe Plateau Farmland	Medium	Medium-High
LCA E2: Great Moulton Plateau Farmland	Medium	Medium-High
LCA E3: Hingham-Mattishall Plateau Farmland	Medium	Medium-High
F: Valley Urban Fringe		
LCA F1: Yare Valley Urban Fringe	Medium-Low	Medium
G: Fringe Farmland		
LCA G1: Easton Fringe Farmland	Medium	Medium-High

Table 4: Susceptibility to Overhead powerlines

Landscape Character Type/Area	132kV lines	400kV lines
A: Rural River Valley		
A1: Tas Rural River Valley	Medium-High	Medium-High
A2: Yare/Tiffey Rural River Valley	High	High
A3: Tud Rural River Valley	High	High
A4: Wensum Rural River Valley	High	High
A5: Waveney Rural River Valley	High	High
B: Tributary Farmland		
B1: Tas Tributary Farmland	Medium	Medium-High
B2: Tiffey Tributary Farmland	Medium-High	High
B3: Rockland Tributary Farmland	Medium	High
B4: Waveney Tributary Farmland	Medium-High	High
B5: Chet Tributary Farmland	Medium	High
B6: Yare Tributary Farmland	Medium	Medium-High
C: Tributary Farmland with Parkland		
C1: Yare Tributary Farmland with Parkland	Medium-Low	Medium-Low
C2: Thurlton Tributary Farmland with Parkland	Medium	High
D: Settled Plateau Farmland		
D1: Wymondham Settled Plateau Farmland	Medium	Medium-High
D2: Poringland Settled Plateau Farmland	Medium	High
E: Plateau Farmland		
LCA E1: Ashwellthorpe Plateau Farmland	Medium-High	High
LCA E2: Great Moulton Plateau Farmland	Medium-High	High
LCA E3: Hingham-Mattishall Plateau Farmland	Medium-High	High
F: Valley Urban Fringe		
LCA F1: Yare Valley Urban Fringe	Medium-Low	Medium-Low
G: Fringe Farmland		
LCA G1: Easton Fringe Farmland	Medium-Low	Medium-High

Table 5: Susceptibility to Underground cable routes

Landscape Character Type/Area	Underground cable routes and associated works
A: Rural River Valley	
A1: Tas Rural River Valley	Medium-High
A2: Yare/Tiffey Rural River Valley	Medium-High
A3: Tud Rural River Valley	Medium-High
A4: Wensum Rural River Valley	Medium-High
A5: Waveney Rural River Valley	Medium-High
B: Tributary Farmland	
B1: Tas Tributary Farmland	Low
B2: Tiffey Tributary Farmland	Low
B3: Rockland Tributary Farmland	Low
B4: Waveney Tributary Farmland	Low
B5: Chet Tributary Farmland	Low
B6: Yare Tributary Farmland	Medium-Low
C: Tributary Farmland with Parkland	
C1: Yare Tributary Farmland with Parkland	Medium-Low
C2: Thurlton Tributary Farmland with Parkland	Medium
D: Settled Plateau Farmland	
D1: Wymondham Settled Plateau Farmland	Low
D2: Poringland Settled Plateau Farmland	Low
E: Plateau Farmland	
LCA E1: Ashwellthorpe Plateau Farmland	Low
LCA E2: Great Moulton Plateau Farmland	Low
LCA E3: Hingham-Mattishall Plateau Farmland	Low
F: Valley Urban Fringe	
LCA F1: Yare Valley Urban Fringe	Medium-High
G: Fringe Farmland	
LCA G1: Easton Fringe Farmland	Low

Table 6: Susceptibility to Substations

Landscape Character Type/Area	Substations
A: Rural River Valley	
A1: Tas Rural River Valley	High
A2: Yare/Tiffey Rural River Valley	High
A3: Tud Rural River Valley	High
A4: Wensum Rural River Valley	High
A5: Waveney Rural River Valley	High
B: Tributary Farmland	
B1: Tas Tributary Farmland	Medium-High
B2: Tiffey Tributary Farmland	Medium-High
B3: Rockland Tributary Farmland	Medium-High
B4: Waveney Tributary Farmland	Medium-High
B5: Chet Tributary Farmland	Medium-High
B6: Yare Tributary Farmland	Medium-High
C: Tributary Farmland with Parkland	
C1: Yare Tributary Farmland with Parkland	Medium-High
C2: Thurlton Tributary Farmland with Parkland	Medium-High
D: Settled Plateau Farmland	
D1: Wymondham Settled Plateau Farmland	Varying from Medium to Medium-High
D2: Poringland Settled Plateau Farmland	Varying from Medium to Medium-High
E: Plateau Farmland	
LCA E1: Ashwellthorpe Plateau Farmland	Medium-High
LCA E2: Great Moulton Plateau Farmland	Medium-High
LCA E3: Hingham-Mattishall Plateau Farmland	Medium-High
F: Valley Urban Fringe	
LCA F1: Yare Valley Urban Fringe	Medium-High
G: Fringe Farmland	
LCA G1: Easton Fringe Farmland	Medium-High

6 Local Landscape Character Assessment relating to Norwich Main Substation

6.1 Overview

6.1.1 The following section provides a local level Landscape Character Assessment, to set out the key characteristics and special features of a 5km radius from Norwich Main (excluding the area beyond the district boundary). This will include a judgement on landscape value. The study area considers the published Landscape Character Assessments, to establish the landscape value and susceptibility to change, and therefore the resultant sensitivity of the landscape surrounding the Norwich Main substation.

6.2 Scope

6.2.1 The importance of understanding the landscape character of all landscapes in England is recognised in the National Planning Policy Framework (NPPF), which states [§187] that planning policies and decisions should contribute to the natural environment by: *"recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland"*. Landscape character assessment is the process which can identify these intrinsic values and unique characteristics of the diverse landscapes in the UK.

6.2.2 Landscape character assessments enable landscapes to be described and understood by mapping natural, physical and cultural features in order to define different landscapes and demonstrate what makes them special. Landscape character types share similar characteristics, such as underlying geology, soil type, topography and landform, the pattern and type of land/field enclosure, historic land use, the pattern of settlements and types of building that these comprise, tree and woodland cover and the general visual experience of the area. Landscape character areas are specific geographic instances of a particular landscape type.

6.2.3 It is important to note that landscape character assessments can be undertaken at a range of scales. It should also be noted that boundaries are only indicative of the change between areas and therefore when working at a site scale, especially close to boundaries between character types or character areas, users should carefully identify which landscape the land parcel belongs to, based on its characteristics. In addition, it is important to note that while drawn with a line on a map, areas close to boundaries often may be better thought of as an area of transition and may display some of the characteristics and sensitivities of both character areas.

6.2.4 Effects on landscape character can be both direct, i.e. on the character area/landscape type that the proposed development is located within, and indirect, i.e. changes to characteristics or perceptions of character that occur beyond the boundary of a character area/landscape type. In addition, effects on landscape character may be positive or negative, i.e. strengthening and

enhancing the characteristic patterns and features, or eroding and losing the patterns and features that contribute to landscape character.

6.2.5 The published LTs and LCAs from the national to the local levels within the Norwich Main 5km study area are summarised in the Table below.

Table 4: Hierarchy of Landscape Character Types and Character Areas

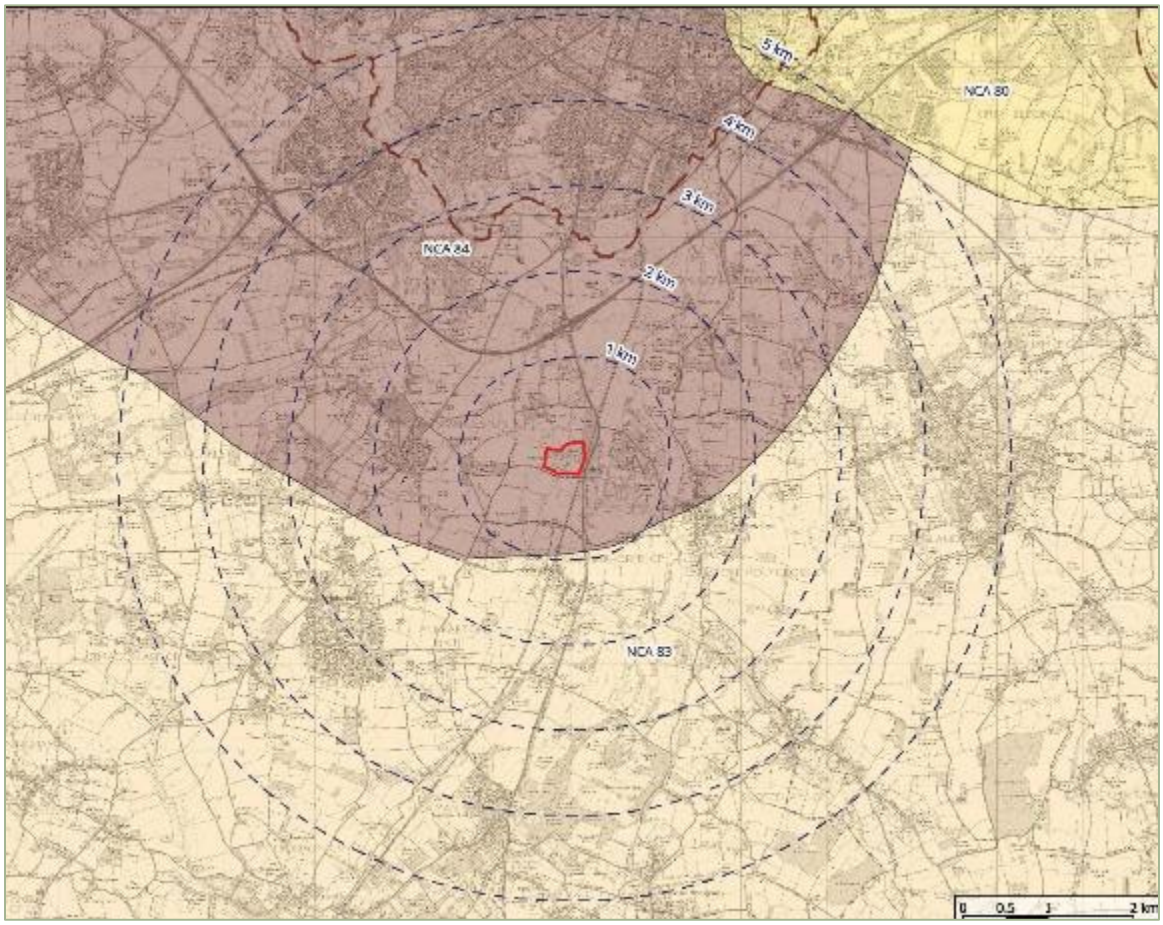
Level	Landscape Character Type (LCT)	Landscape Character Area (LCA)
National: National Character Area (NCA) Profiles (Natural England 2014)	*Site sits within;* Mid Norfolk NCA (84)	
	Neighbouring; South Norfolk and High Suffolk Claylands NCA (83)	
District: South Norfolk Council - South Norfolk Landscape Character Assessment (2001)	*Site sits within;* Tributary Farmland	*Site sits within;* B1 Tas Tributary Farmland
	Neighbouring; River Valley Tributary Farmland with Parkland Settled Plateau Farmland	*Neighbouring;* A1 Tas Rural River Valley C1 Yare Tributary Farmland with Parkland D1 Wymondham Settled Plateau Farmland D2 Poringland Settled Plateau Farmland

6.2.6 This section seeks to assess the Landscape Character Areas surrounding Norwich Main, and provide an assessment of sensitivity to the different energy-related development scenarios, as set out above in section 4.1.

6.3 National Character Baseline

6.3.1 At the national level Norwich Main is located within NCA 84: Mid Norfolk. The broadly flat, rural landscape of the Mid Norfolk National Character Area (NCA) occupies the northern section of the East Anglian Plain, becoming more undulating to the north where it merges with the Central North Norfolk NCA in a curving line across the Wensum Valley, and more rolling towards Norwich to the east. This is ancient countryside with a long-settled agricultural character, where arable land is enclosed by winding lanes and hedgerows, interspersed with woodland and heath and dissected by lush pastoral river valleys. A patchwork of cultivated land, numerous church spires, distant wooded horizons and big skies dominate the landscape.

6.3.2 The NCA notes that '*The main pressures for change to the area are posed by growth and a need to accommodate increased development, especially around Norwich. The potential for further agricultural intensification and a need for sustainable approaches to commercial farming practices are also key challenges. Maintaining the traditional farmed landscape of Mid Norfolk NCA – through sustainable land management practice to help protect its important natural processes and resources, its areas of high tranquillity and enhance the natural landscape for recreational opportunity, geodiversity and biodiversity – is also presenting further challenges into the future*.'



National Character Areas within 5km of Norwich Main.

6.3.3 Norwich Main is located close to the border with NCA 83: South Norfolk and High Suffolk Claylands, and can therefore is considered to occupy a zone of transition, at the national level.

6.3.4 The South Norfolk and High Suffolk Claylands occupy a large area of central East Anglia between the Yare Valley in the north and the Gipping Valley in the south. The area is defined by the underlying clay soils which contrast with the sandy soils of Breckland (to the west) and the Sandlings (to the East). The area was formerly well-wooded and was dominated by wood-pasture and dairy farming. The Napoleonic Wars, at the turn of the C19, coincided with the introduction of underdrainage. Because of the war wheat prices rose dramatically and the area switched to arable farming. Many of the woodlands and individual trees were removed in the C19, and the C20 has seen further hedgerow loss. The central clay belt within the county was traditionally referred to as High Suffolk (in contrast to the Brecklands and the Sandlings). The character area consists of a predominantly flat clay plateau which is incised by numerous small-scale wooded river valleys with complex slopes. The underlying chalk bedrock is overlain by a layer of glacial till. The Waveney, the largest of the NCA's rivers, forms the division between the counties of Norfolk and Suffolk. Most rivers however are small and slow following. The river valleys often contain a

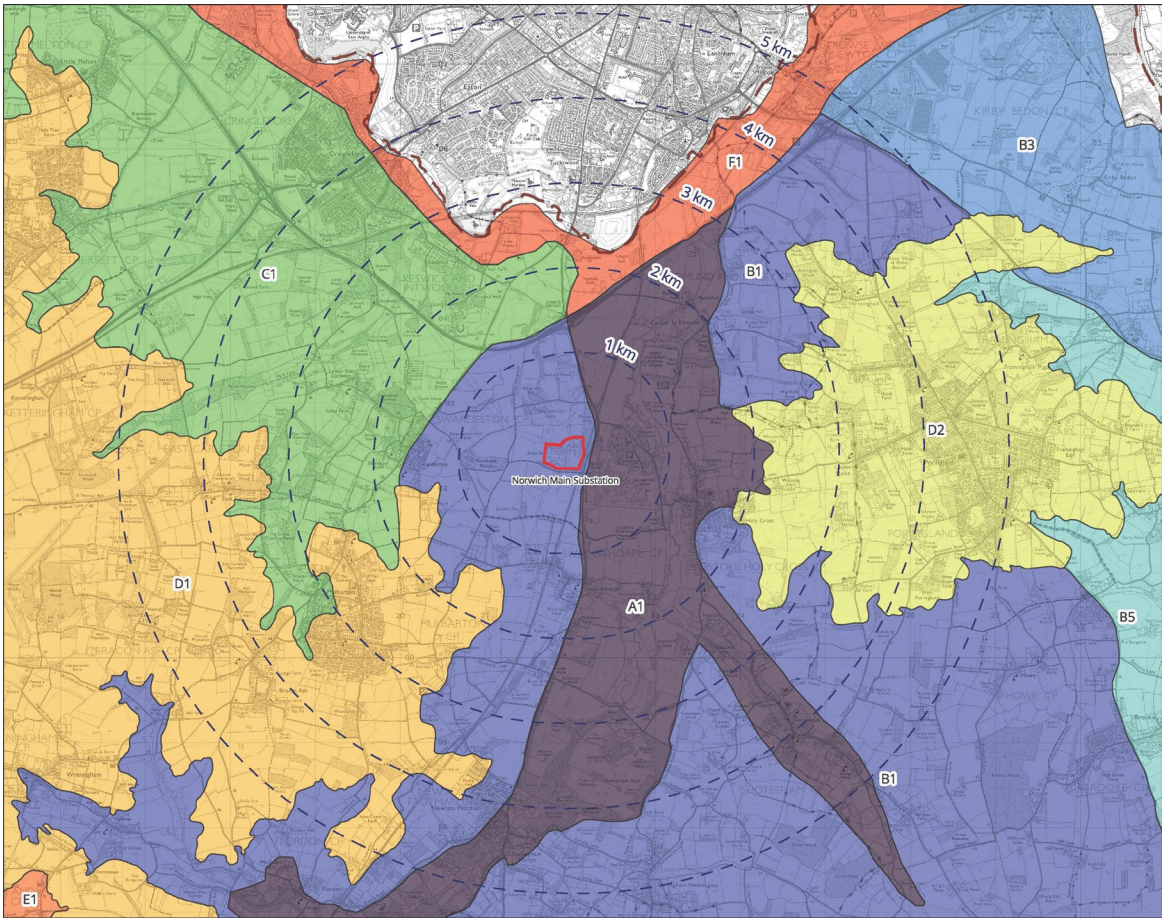
mosaic of habitats such as small-scale pasture or fens. Large areas of woodland are scarce within the current landscape.

6.3.5 The main pressures for change are described as the need to accommodate increased development in and around traditional centres, especially along the main transport corridors.

6.3.6 The landscape surrounding Norwich Main consists of arable farmland divided by native hedges, interspersed with small woods. It also contains historic lanes, while the settlement pattern consists of nucleated villages and isolated halls. It is therefore considered to be typical of both Mid Norfolk and the South Norfolk and High Suffolk Claylands NCAs.

6.4 District Landscape Character Baseline

6.4.1 Utilising the existing District Landscape Character Assessment, quotes and comments relating to susceptibility criteria and value characteristics are identified in Tables 01-10, Appendix 04.



District Landscape Character areas within 5km of Norwich Main.

6.4.2 At the district level the Norwich Main Substation is located within **B1 Tas Tributary Farmland LCA**. The Tas Tributary Farmland is a large area of land situated between the Tas Rural River Valley and

the surrounding Plateau areas at an elevation of about 30m AOD to 50m AOD. See Tables 01-02, Appendix 04.

6.4.3 To the east of Norwich Main lies **A1 Tas Rural River Valley LCA**. The Tas Rural River Valley extends from Tasburgh in the south, to the Yare Valley in the north. The boundaries are defined topographically in relation to the top of the valley sides and roughly follow the 30m contour. See Tables 03-04, Appendix 04.

6.4.4 To the north west of Norwich Main lies **C1 Yare Tributary Farmland with Parkland LCA**. The Yare Tributary Farmland with Parkland occurs to the south west of Norwich and is defined by the rural and urban reaches of the River Yare to the east and north, and by the settled plateau farmland around Hethersett and Wymondham (above the 40m AOD contour) to the south. See Tables 05-06, Appendix 04.

6.4.5 To the south west of Norwich Main lies **D1 Wymondham Settled Plateau Farmland LCA**. The Wymondham Settled Plateau Farmland occupies an area to the southwest of Norwich, above contour level 40m AOD. It includes the towns of Wymondham and Hethersett. See Tables 07-08, Appendix 04.

6.4.6 To the east of Norwich Main and east of A1 Tas Rural River Valley LCA, lies **D2 Poringland Settled Plateau Farmland**. The Poringland Settled Plateau Farmland is defined by the 40m AOD contour. See Tables 09-10, Appendix 04.

6.5 Landscape Sensitivity of the LCAs surrounding Norwich Main

6.5.1 The sensitivity of each of the five LCAs that fall within the Norwich Main study area, as set out above, was assessed using a combination of desktop and field work.

6.5.2 It is recognised that the South Norfolk Landscape Character Assessments' purpose is not to attribute relative values to different character area, in keeping with LCA guidance, which recognises that all landscapes are valued to some extent by some people, whilst the GLVIA guidance recognises that there are differences in value which will affect sensitivity, so some consideration of value is therefore required.

Susceptibility of the landscape to change

6.5.3 The susceptibility of each LCA to each of the different types of development proposed was assessed using a pre-defined set of criteria. These criteria reflect both the national guidance and the particular circumstances of the landscape the study area.

6.5.4 For each criterion, indicators of higher susceptibility and indicators of lower susceptibility were provided, to help guide judgements. The criteria, together with the indicators of susceptibility, are reproduced at Appendix 02.

6.5.5 To assess each LCA's susceptibility to change, certain assumptions were made. These were necessarily broad, since (as noted above) a Landscape Susceptibility Study assesses the principle of a particular type of development rather than a known development. For the purposes of this study, the extents and heights of the various types of energy related development are set out in

section 4.1. The tables below provide some relative comparisons of known features within the region.

Table 5: Tall structures comparison

Structure	Height
Domestic Buildings	6-10m
Mature deciduous trees (depending upon species)	10-25m
Standard lattice tower 'pylons'	15-55m
Norwich Cathedral Spire	96m

Table 6: Comparative Areas

Land use	Area (hectares)
Typical football pitch	0.6-0.8 ha
Norwich Main Substation	14 ha
Dunston Hall Golf Course	36 ha
Approved solar array in Swainsthorpe, 49.9 MW - not yet constructed.	79.6 ha

6.5.6 The susceptibility of the landscape of each LCA to change from development of the type proposed was assessed against each of the specific criteria, using a five-point scale of ***High, High/Medium, Medium, Medium/Low or Low*** susceptibility to change.

Value

6.5.7 Value is an inherent quality of the baseline conditions, which is independent of the type of development proposed. GLVIA3 recognises that landscape value is not always signified by designation. Landscape value should be determined by a review of existing assessments and, where appropriate, by new analysis. The Landscape Institute Technical Guidance Note 02/21 sets out a range of factors that can be considered when assessing landscape value. The different

aspects of value are natural heritage, cultural heritage, landscape condition, associations, distinctiveness, recreational, perceptual, and functional. The presentation of information about landscape value should be proportionate to the task at hand.

6.5.8 The landscape value of each LCA was assessed using a pre-defined set of criteria based on TGN 02/21. The LCA descriptions are drawn upon to identify any factors which add value either to the LCA or to particular elements within it. These might be special qualities associated with a designated landscape (e.g. AONB) or other aspects which could influence the sensitivity of the landscape to the identified energy related development.

6.5.9 The value of the LCA was assessed against each of the specific criteria, using a five-point scale of **High, High/Medium, Medium, Medium/Low, Low value**.

6.5.10 TGN 02/21 notes that "Value is best appreciated at the scale at which a landscape is perceived – rarely is this on a field-by-field basis." As such, the value judgements considered the sites and their landscape settings.

Sensitivity

6.5.11 The landscape units described in the district-level landscape character assessment have been used to provide the baseline data for assessing the sensitivity of the landscape character as they provide the most detailed assessment of landscape character available.

6.5.12 Landscape sensitivity is a product of susceptibility and value, and is expressed in the matrix below;

Table 7: Landscape Sensitivity

Criteria		Value				
		High	Medium / High	Medium	Medium / Low	Low
Susceptibility	High	High	High	Medium / High	Medium	Medium
	Medium / High	High	Medium / High	Medium / High	Medium	Medium
	Medium	Medium / High	Medium / High	Medium	Medium	Medium / Low
	Medium / Low	Medium	Medium	Medium	Medium / Low	Low
	Low	Medium	Medium	Medium / Low	Low	Low

6.6 Summary of LCA Sensitivity to Change

6.6.1 The **B1 Tas Tributary Farmland LCA** has no national landscape designations, whilst it does contain designated ecological assemblages and a number of County Wildlife Sites, ancient woodland and medieval deer parks, the large scale hedgerow removal and modern development influence the overall quality of the landscape baseline, considered to be of *Medium* value. Within the eastern part of the LCA a large double line of overhead powerlines traverse the landscape, with Norwich Main substation to the north west of the LCA, a large solar PV development approved (not yet under construction) to the south west, and large transmitting station west of Howe already have an adverse effect on landscape character by extending vertically above the wooded horizons, so sensitivity to modern development would be lower, but larger developments in terms of extent and vertical axis would be out of scale with the field pattern, landform and landcover.

6.6.2 Whilst this LCA may accommodate the small to medium-scale energy development scenarios, consideration must be made regarding cumulative impact, especially given the likelihood of requiring connection to the existing substation at Norwich Main, which is located within the north western part of this LCA.

6.6.3 The **A1 Tas Rural River Valley LCA** has no national landscape designations, whilst it does contain designated ecological assemblages including wet grassland and shallow fenland peat, the landscape remains predominantly pastoral with linear wet woodland following the river corridor, with good hedgerow network with mature trees, with the overall quality of the landscape baseline, considered to be of *Medium-High* value. The A140 runs along the upper slopes on the

western side of the valley, adding noise and movement to the otherwise peaceful valley landscape. Overhead power lines and pylons, along with the mainline railway into Norwich, cross the northern extent of the LCA, with the Norwich Southern Bypass forming the northern limit of the character area, reducing sensitivity in these locations.

6.6.4 This LCA is a clearly defined flat valley floor with shallow side slopes, moderately wide and following a simple valley floor. The nature of much of the LCA is a scenic and largely tranquil rural landscape which would have a relatively high level of sensitivity to any distinctly modern development.

6.6.5 The **C1 Yare Tributary Farmland with Parkland LCA** has no national landscape designations, whilst it does contain a Registered Park and Garden, Intwood Hall, the landscape presents a variety of more intimate landscape settings, with many estates and historic parklands, with a sparse hedgerow and hedgerow tree network, with occasional mature / veteran oaks forming distinctive features along the lanes. The overall quality of the landscape baseline is considered to be of *Medium-High* value. The Norwich Southern Bypass and A11 trisect the landscape, along with the Great Eastern Main Line, creating corridors of noise and movement within the otherwise peaceful landscape.

6.6.6 This LCA is a peaceful farmland landscape with small farm woodlands and intermittently wooded tributary valleys creating a quiet rural atmosphere. The nature of much of the LCA is a scenic and largely tranquil rural landscape, with a high preponderance of large parkland estates, tree-lined avenues and traditional wooded parkland.

6.6.7 The **D1 Wymondham Settled Plateau Farmland LCA** has no national landscape designations, whilst it does contain areas of ancient woodland and some village ponds, the landscape generally presents as large expanses of arable plateau, with little variation, with long views afforded from the plateau edge. The overall quality of the landscape baseline is considered to be of *Medium* value. The A11 bisects the landscape, creating a corridor of noise and movement. This study area does not extend beyond the A11, to the north of which, between Norwich, Hethersett and Wymondham is an area designated as Strategic Gap.

6.6.8 This LCA is a settled landscape with large edge of plateau towns and villages with smaller settlements dispersed across the plateau. The nature of much of the LCA is of a large scale open arable landscape often monotonous character due to the large scale arable monocultures.

6.6.9 The **D2 Poringland Settled Plateau Farmland LCA** has no national landscape designations, whilst it does contain areas of ancient woodland and some moats, the landscape generally presents as large scale arable plateau, with a wooded character to the north of the LCA and around settlements. Long views are afforded from the plateau edge towards Norwich and to the Tas Valley. The overall quality of the landscape baseline is considered to be of *Medium* value. The large telecommunications towers (radio and radar) located at the high point of the plateau in Caistor St Edmund, are visible from a large area, extending above wooded horizons.

6.6.10 This LCA has a densely settled core area, with ribbon development interconnecting to other village cores. The long distance national trail of Boudica's Way cuts across the LCA leading towards the

Tas Valley. The nature of much of the LCA is of a large scale open arable landscape, with reduced levels of tranquillity near settlements.

6.6.11 Consideration must be made regarding cumulative impact, especially given the likelihood of requiring connection to the existing substation at Norwich Main, which is located within the Tas Tributary Farmland LCA.

6.6.12 The assessment of landscape value is summarised below. Landscape value can be combined the judgements on susceptibility in Tables 1-3 to arrive at a judgement on the sensitivity of the LCA to a particular type of development.

Table 8: Landscape value

Landscape Character Area	Landscape value
B1: Tas Tributary Farmland	Medium
A1: Tas Rural River Valley	Medium-High
C1: Yare Tributary Farmland with Parkland	Medium-High
D1: Wymondham Settled Plateau Farmland	Medium
D2: Poringland Settled Plateau Farmland	Medium

7 Policy DM 4.6: Landscape Setting of Norwich

7.1 Background

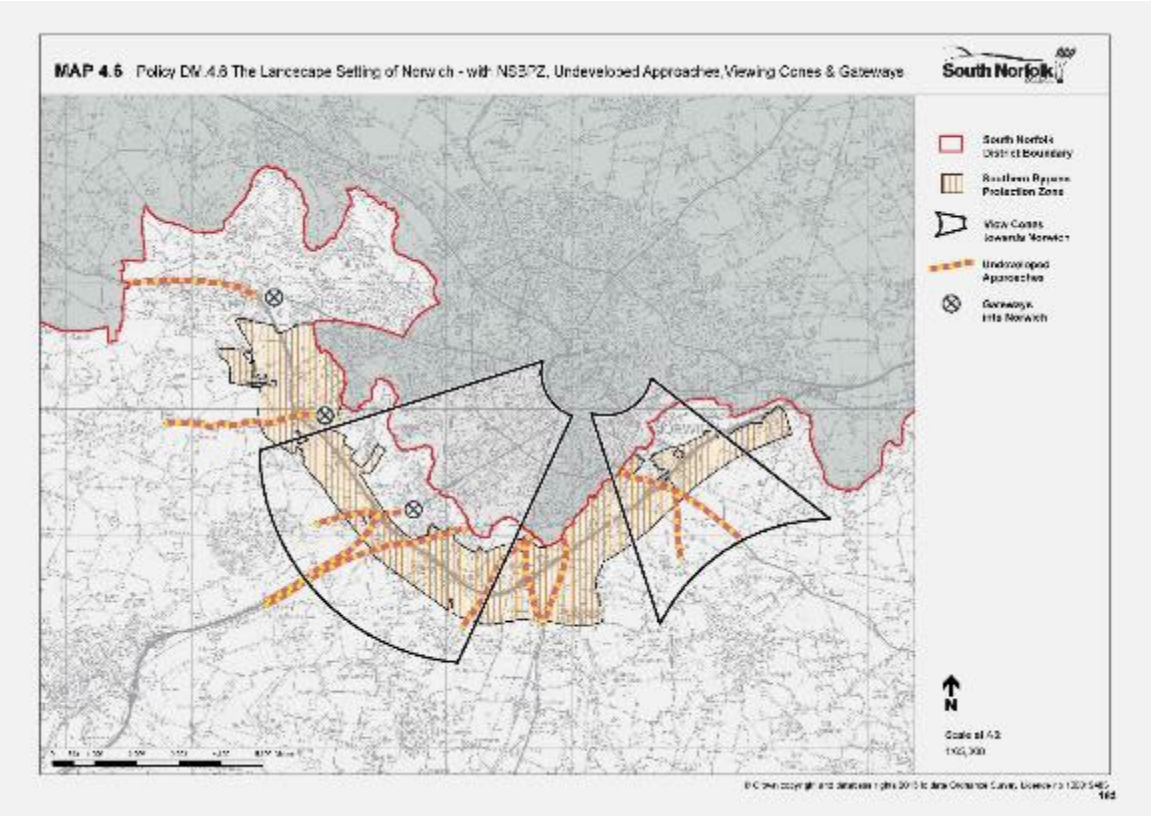
7.1.1 Chapter 4.5 of the South Norfolk Local Plan Development Management Policies Document, Adopted October 2015, considers the landscape setting of Norwich. §4.53 notes that *"As the dominant centre of the sub-region, the city of Norwich will continue to act as the focus of significant development pressures."* Although the Norwich Policy Area is the preferred focus for growth, there has been a history of local planning policies designed to *"protect the City's surroundings from "inappropriate development" and to "preserve those attributes of the City's natural setting which contribute to its environmental quality."* In particular, there has been concern that *"development pressure at the junctions on the Southern Bypass is not allowed to outweigh the environmental protection of important landscape characteristics in these locations."*

7.1.2 The A47 Norwich Southern Bypass is recognised to have been *"well designed to fit into the landscape through which it passes and it is accepted that it should not be regarded as a boundary up to which development is acceptable"* [§4.54]. Within South Norfolk a Landscape Zone has been identified where there is a high level of visual accessibility to and from the bypass to a predominantly open rural area, that positively enhances the setting of Norwich.

7.1.3 Any development proposed within the landscape setting of Norwich will be assessed against South Norfolk Local Plan Development Management Policies Document, Policy DM 4.6: Landscape Setting of Norwich. This policy seeks to ensure that all development proposals will not harm and will, where possible, enhance the landscape setting of Norwich with regard to:

- the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ)
- Key Views – identified long distance view cones into and out of the city
- Undeveloped Approaches to Norwich
- Gateways marking the arrival at and departure from Norwich

7.1.4 These designations are all as identified on the policies map as illustrated on the figure below. It is noted that *"Development which would significantly harm the NSBLPZ or the landscape setting of the Norwich urban area will not be permitted."*



Map extract from South Norfolk Development Management Policies Document, Adopted October 2015

7.2 Norwich Southern Bypass Landscape Protection Zone

7.2.1 Policy DM 4.6 notes:

> *All development proposals within the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ), as shown on the Policies Map, should have regard to protecting the openness of the Zone and, where possible, enhancing the landscape setting of the southern bypass, including the practice of wild flower planting and management regimes.*

7.2.2 The supporting text notes [§4.56]:

> *A Landscape Zone has been identified where there are high levels of visual accessibility to and from the road to a predominantly open rural area that plays an important part in making the landscape setting of Norwich. This Zone does not have a distinct or special landscape character in its own right.*

and [§4.58]:

> *Any development to be permitted within the Landscape Zone (including that within the highway and other transport corridors) should have regard to protecting the openness of the Landscape Zone and, where possible, enhancing the landscape setting of the Southern Bypass, including the practice of wild flower planting and management regimes.*

7.2.3 Within South Norfolk, the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ) encompasses land from Bawburgh in the north-west to Whitlingham in the east, following the edge of the city and the route of the bypass. In doing so, it encompasses land in the following LCAs:

- G1: Easton Fringe Farmland
- F1: Yare Valley Urban Fringe
- A2: Yare/Tiffey Rural River Valley
- C1: Yare Tributary Farmland with Parkland
- B1: Tas Tributary Farmland
- A1: Tas Rural River Valley
- B3: Rockland Tributary Farmland

Considerations for the LSS

7.2.4 The following paragraphs provide commentary on how the various development scenarios identified at Section 4 would accord with the objectives of the NSBLPZ.

7.2.5 Openness is understood to mean freedom from development and, as such, it is not possible to mitigate the effect on openness per se.

Solar PV

7.2.6 Solar PV projects tend to cover large areas and would therefore have a correspondingly large effect on the openness of the NSBLPZ. Although Solar PV projects retain the soil and vegetation cover beneath the panels, and are theoretically a temporary land use, they are nonetheless a form of development and represent an urbanising feature within the landscape. Solar PV then conflicts in principle with the aims of the policy. Whilst it is sometimes possible to screen Solar PV with planting this is less likely to be achievable in the NSBLPZ as the landscape zone encompasses the slopes of the Yare Valley. Screening is also made more difficult by embanked sections of the A47 which look across the Yare Valley.

AD plants

7.2.7 AD Plants include large structures and represent substantial developments. AD Plants therefore would be incompatible with maintaining the openness of the NSBLPZ, and would not enhance the setting of the bypass.

7.2.8 The landscape zone does however include occasional farms, and AD Plants which are proposed for processing farm materials in a sustainable way should not be discouraged, as long as they are sited within the existing farmyard.

Battery Storage

7.2.9 Battery Storage represents a smaller form of development, but would nonetheless compromise the openness of the NSBLPZ and the landscape setting of the bypass. Battery storage represents a type of infrastructure development which is at odds with the countryside. This form of development tends to have a utilitarian appearance which would not enhance the setting of the road. The effect could potentially be reduced by more appropriate rural forms of fencing, hedging, and by painting the cabinets dark green.

Overhead powerlines

7.2.10 Overhead powerlines have a small physical footprint which would not compromise the openness of the NSBLPZ. They would however have a negative effect on the views from the road to the surrounding countryside.

Underground cable routes

7.2.11 Underground cable routes would not affect the openness of the NSBLPZ. Whilst there might be some temporary visual effects which are experienced during installation this particular type of development would not alter the nature of the landscape zone.

Substations

7.2.12 Substations would by their nature affect the openness of the NSBLPZ and would introduce a strong developed character. If substations are located away from the existing urban edge this would tend to increase their impact as they would represent isolated development within the countryside.

7.3 Key Views

7.3.1 Policy DM 4.6 notes:

> *All development proposals located within the Key Views 'cones' shown on the Policies Map should ensure they do not obstruct the long distance views to and from the City.*

7.3.2 The supporting text notes [§4.59]:

> *The opportunities for long distance views into the city of Norwich from the south of the city are limited by the topography and screening effect of vegetation. However, fieldwork has identified important opportunities to view the city from the northern edge of the plateau to the south west and south east of the city. (These locations lie within the Landscape Character Areas of Wymondham Settled Plateau Farmland and Poringland Settled Plateau Farmland respectively.) In these areas, broad Key Views 'cones' have been identified (see Map DM 4.6). Within these 'cones' all development proposals should ensure they do not obstruct the long views to and from the city.*

Considerations for the LSS

7.3.3 The following paragraphs provide commentary on how the various development scenarios identified at Section 4 would accord with the objective of the Key Views.

Solar PV

7.3.4 Given their height Solar PV panels are unlikely to completely obstruct views to or from Norwich.

AD plants

7.3.5 AD plants include large structures and clamps which are likely to obstruct views. Any proposed mitigation planting would further obstruct views.

Battery Storage

7.3.6 Battery storage tends to consist of low elements which are unlikely to completely obstruct views. Mitigation planting associated with a battery storage facility could however reduce views across the landscape. Battery storage may be visible in views from Norwich, particularly if it is located on the valley-side.

Overhead power lines

7.3.7 An overhead power line would detract from existing views but would not obstruct them per se.

Underground cable routes

7.3.8 An underground cable route would not obstruct views to or from Norwich.

Substations

7.3.9 Substations represent large developments with moderately tall structures which could potentially obstruct views to or from the city. Any proposed mitigation planting is likely to obstruct views.

7.4 Undeveloped Approaches to Norwich

7.4.1 Policy DM 4.6 notes:

> *All development proposals on the approaches to defined Gateways (shown on the Proposal Map) shall reinforce and avoid undermining the significance of these Gateways as the visual points of the landscape and townscape change marking the 'arrival' at and 'departure' from the city of Norwich.*

7.4.2 Policy DM 4.6 notes:

> *All development proposals within the visual zone of influence viewed from the identified Undeveloped Approaches to Norwich should reinforce and avoid undermining the rural character of the Undeveloped Approaches to Norwich.*

7.4.3 The supporting text notes [para 4.60]:

> *There are several road and rail corridors approaching the city that have a very distinctive rural character and that afford views across the surrounding countryside and to Norwich. These Undeveloped Approaches are defined on the Proposal Map (and Map DM 4.6) as the full breadth of these transport corridors, but the Policy will ensure all development within the wider zone of visual influence visible from the transport corridors is designed to reinforce*

and avoid undermining the rural character experienced when travelling along the Undeveloped Approaches into Norwich.

Considerations for the LSS

7.4.4 The following paragraphs provide commentary on how the various development scenarios identified at Section 4 would accord with the objective of the undeveloped approaches.

Solar PV

7.4.5 Although Solar PV preserves the existing soils and vegetation cover beneath the panels it nonetheless represents a form of development. Whilst it might be possible to screen Solar PV from the undeveloped approaches this would not be within the spirit of maintaining a genuinely undeveloped approach.

AD plants

7.4.6 AD plants include large structures and clamps and are not compatible with the aims of the policy.

Battery Storage

7.4.7 Battery Storage represents a utilitarian form of development which is not compatible with the aims of the policy.

Overhead power lines

7.4.8 Overhead powerlines increase the sense of human influence and are a form of development. It is considered that new Overhead powerlines would have an adverse effect on the undeveloped approaches.

Underground cable routes

7.4.9 Underground cable routes would have no perceived effect on the undeveloped approaches.

Substations

7.4.10 A substation would have a substantial negative effect on the undeveloped approaches. Whilst it may be possible to screen a substation with planting this would not be within the spirit of maintaining a genuinely undeveloped approach to the city.

7.5 Gateways

7.5.1 Policy DM 4.6 notes:

7.5.2 All development proposals on the approaches to defined Gateways (shown on the Proposal Map) shall reinforce and avoid undermining the significance of these Gateways as the visual points of the landscape and townscape change marking the ‘arrival’ at and ‘departure’ from the city of Norwich.

7.5.3 The supporting text notes [para 4.61]:

In line with the Joint Core Strategy the submitted Norwich Local Plan has identified important Gateways where the landscape and townscape changes, marking the 'arrival' into Norwich urban area. South Norfolk Council has similarly identified three such points within the district.

Considerations for the LSS

7.5.4 The following paragraphs provide commentary on how the various development scenarios identified at Section 4 would accord with the objective of the gateways.

Solar PV

7.5.5 The gateways mark the transition from the countryside to the city. Development which alters the character of the countryside will similarly affect the character of the gateway and alter the sense of arrival. Solar PV is not particularly typical of the town or the countryside, and in this sense has a character of its own. Although Solar PV would not be perceived as an extension of the urban area it would have an adverse influence on the landscape setting of the city, which would make the gateway less effective.

AD plants

7.5.6 Farm-scale AD plants which are related to an existing farm would be seen as part of the countryside and would not therefore affect the gateway, which represents the transition from the rural area to the city.

7.5.7 Larger AD Plants clearly have a developed character which would compromise the landscape setting of the city, and the experience of the gateway. AD plants might be separated from the urban area itself, but would be seen as a type of urban fringe development which would create a poor entrance to the city.

Battery Storage

7.5.8 Battery storage installations have a developed, utilitarian character in common with other types of infrastructure. Battery storage would have a negative effect on the landscape setting of Norwich and the sense of transition which is represented by the gateway. Battery storage may however consist of lower elements which have some potential for screening.

Overhead power lines

7.5.9 Overhead powerlines are not seen as a form of urban development and would not alter the position of the gateway. Whilst overhead powerlines could alter the character of the countryside they would not affect the gateway as such.

Underground cable routes

7.5.10 Underground cable routes would not have any material effect on the gateways.

Substations

7.5.11 Grid and main substations are typically found on the edges of settlements and may be separated from the urban area (due to noise). The substations themselves include taller structures and security fencing and are urbanising features within the landscape. Substations therefore are likely to compromise the clean transition between the countryside and the urban area which is represented by the gateways. Substations offer limited opportunities for mitigation but could be screened with substantial planting.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.2
Landscape Susceptibility Analysis
AD plants

November 2025

thelandscapepartnership

LT A: Rural River Valleys

The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

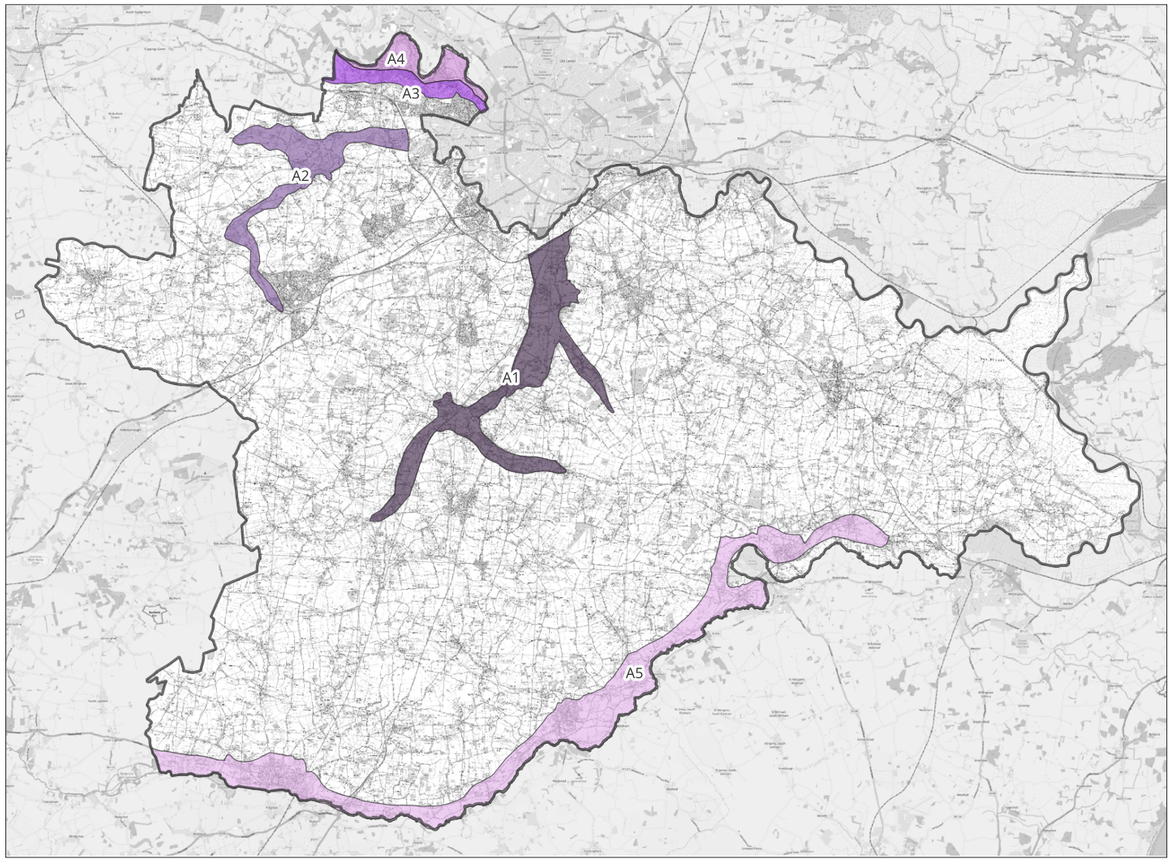
The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.

The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley



LT A: Rural River Valleys - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • A semi-enclosed landscape with some long views within the valleys but restricted views out. Areas of more intimate character on the valley floor. • Some river valleys less enclosed than others, the Waveney for example is a wide valley which has a more open character.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**Medium** • The valleys of South Norfolk are typically shallow-sided. • The valley floor is typically undeveloped and would therefore be sensitive to development – which would be out of character. • Some ability to accommodate farm-scale AD plant outside of floodplain.	**High** • The valleys of South Norfolk are typically shallow-sided. • Valley sides tend to have high susceptibility to features such as AD plants which have a semi-industrial character and would be difficult to accommodate. • The valley floor is typically undeveloped and would therefore be sensitive to development – which would be out of character.
Landcover • Distinctive land cover: small-scale field pattern and prevalence of grazed pastures on the valley floor, with mix of arable and pasture on the valley sides, creating a complex landcover pattern. • Characteristic ecological assemblages – reeds and marsh, wet meadows/ pastures, woodland plus areas of heathland. High ecological value recognised in designations (SAC/SSSIs). • Willow pollards and lines of poplar flank ditches and watercourses. • Some areas of active mineral working and open water associated with mineral extraction sites, for example in A3: Tud and A4: Wensum valleys. • The Tas Valley features two historic parks, an iron age hillfort at Tasburgh, and a Roman colony at Venta Icenorum.	**Medium** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be unsuitable for development. The majority of the land within the rural river valleys however is not priority habitat, so developments could potentially avoid this ecological constraint. • A farm-scale AD plant occupies a smaller footprint so is potentially easier to accommodate within the existing landcover pattern.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be unsuitable for development. The majority of the land within the rural river valleys however is not priority habitat, so developments could potentially avoid this ecological constraint.

LT A: Rural River Valleys - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Settlement pattern and human influence • Valleys have historically been a focus for settlement and the valleys contain some historic villages. • The floodplain however tends not to be settled, except for occasional mills. • Settlements predominantly small and nucleated of strong vernacular character. Isolated farms are present on the edges of the floodplain. • The Waveney Valley is generally rural but the area around Diss is more urbanised.	**Low** • Development of this scale could be accommodated within the context of an existing farm complex.	**High** • Plants of this size would have an industrial character which would tend to be inappropriate within the rural landscape.
Perceptual aspects • The river valleys are typically settled, but for the most part this consists of small rural villages, often with historic character recognised through Conservation Area designations, connected by minor roads. • The generally quiet character and low density of settlement contribute to the perception of an intimate, tranquil rural landscape within the River Valleys. • Tranquillity is reduced in the Waveney Valley by the A1066 and the A143. • Tranquillity is also reduced in the middle section of the Yare Valley by the A47.	**Low** • AD plants have some connection to the rural landscape so would have less of an effect on the rural qualities of the area than other forms of development. • If AD plant related to farm wastes only then additional vehicular movements would be minimal.	**Medium** • Development of this scale would have an adverse effect on the rural qualities of the river valleys. • AD plants have little effect on tranquillity but might increase vehicle movements and introduce lighting.
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**Medium-Low** • Scenic quality is sensitive to development; however, development of this scale would have a limited effect on scenic quality. • Intervisibility between the Waveney Valley and The Broads increases its sensitivity.	**Medium-High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. • Intervisibility between the Waveney Valley and The Broads increases its sensitivity. • The scenic quality is more susceptible to development of this scale, which would be perceived more as industrial development.

LT A: Rural River Valleys - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Skylines • The valley crests form a skyline in views from the valley floor marking the transition to the adjacent landscape type. • In A5: Waveney Valley- a series of churches on the ridgeline form a prominent landmark. • Skyline is usually undeveloped creating a rural context. • Woodland along the valley crest is a key feature of A3: Tud River Valley.	**Medium** • The skylines are susceptible to AD plants, which are likely to include taller elements. • Valley crests and skylines with churches on the ridgeline have high susceptibility to change.	**Medium** • The skylines are susceptible to AD plants, which are likely to include taller elements. • Valley crests and skylines with churches on the ridgeline have high susceptibility to change.
Intactness • Ditches, fens, meadows, riparian vegetation and vernacular buildings create a sense of place. • The Tas Valley has an intact character. Small villages are present just above the floodplain. The character is somewhat influenced by nearby pylons, railway and A-road. • The Yare and Tiffey Valleys have an intact rural character with meadows, wet woodland, and historic parkland. Small villages are also present just above the floodplain. A tranquil character away from the A47, and a strong sense of place. • The Tud Valley is largely undeveloped and the historic pattern is still legible, however the A47 cuts through the pre-existing landscape pattern and weakens the sense of character. The eastern portion of the valley is found within an increasingly urban context. The land use here has changed with the introduction of a golf course at Costessey Park, and paddocks. • The Wensum Valley is partially disturbed by flooded mineral workings in the base of the valley. The valley is largely undeveloped. • The Waveney Valley is undeveloped and largely rural except around Diss. Pattern of meadows, fens and carrs remains intact throughout most of the area. Tranquillity is reduced by the A143, but there is a relatively strong sense of place.	**Medium-Low** • Settlement is found on the valley sides while the floodplain is generally undeveloped. The floodplain then is sensitive to development of all types. • A farm-scale AD plant is in some sense connected to the rural landscape in that it uses agricultural feedstocks. The susceptibility to this form of development is therefore lower.	**Medium-High** • Settlement is found on the valley sides while the floodplain is generally undeveloped. The floodplain then is sensitive to development of all types. • Development of this scale might use non-farm feedstocks, and has less of a connection to traditional rural land uses. Development of this scale would have a negative effect on the intactness of the rural landscape. • An AD plant is unlikely to contribute to the distinctiveness of the local area.

LT A: Rural River Valleys - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA A1: **Tas Rural River Valley**	**Medium-Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tas Rural River Valley. There are however some sensitivities in terms of habitats and heritage assets, which would need to be avoided.	**High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace grazing marsh this would have a further adverse effect on character. An AD plant of this size is not considered to be compatible with the established characteristics of the Tas Valley, so the susceptibility is assessed as High.
LCA A2: **Yare/Tiffey Rural River Valley**	**Medium-Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Yare/Tiffey Rural River Valley. There are however some sensitivities in terms of habitats and heritage assets which would need to be avoided.	**High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace grazing marsh this would have a further adverse effect on character. An AD plant of this size is not considered to be compatible with the established characteristics of the Yare/Tiffey Valley, so the susceptibility is assessed as High.
LCA A3: **Tud Rural River Valley**	**Medium-Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tud Rural River Valley. There are however some sensitivities in terms of habitats and heritage assets which would need to be avoided.	**High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace grazing marsh this would have a further adverse effect on character. An AD plant of this size is not considered to be compatible with the established characteristics of the Tud Valley, so the susceptibility is assessed as High.
LCA A4: **Wensum Rural River Valley**	**Medium-Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Wensum Rural River Valley. There are however some sensitivities in terms of habitats and heritage assets such as Costessey Conservation Area.	**High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace grazing marsh this would have a further adverse effect on character. An AD plant of this size is not considered to be compatible with the established characteristics of the Wensum Rural River Valley, so the susceptibility is assessed as High.

LT A: Rural River Valleys - susceptibility to AD plants

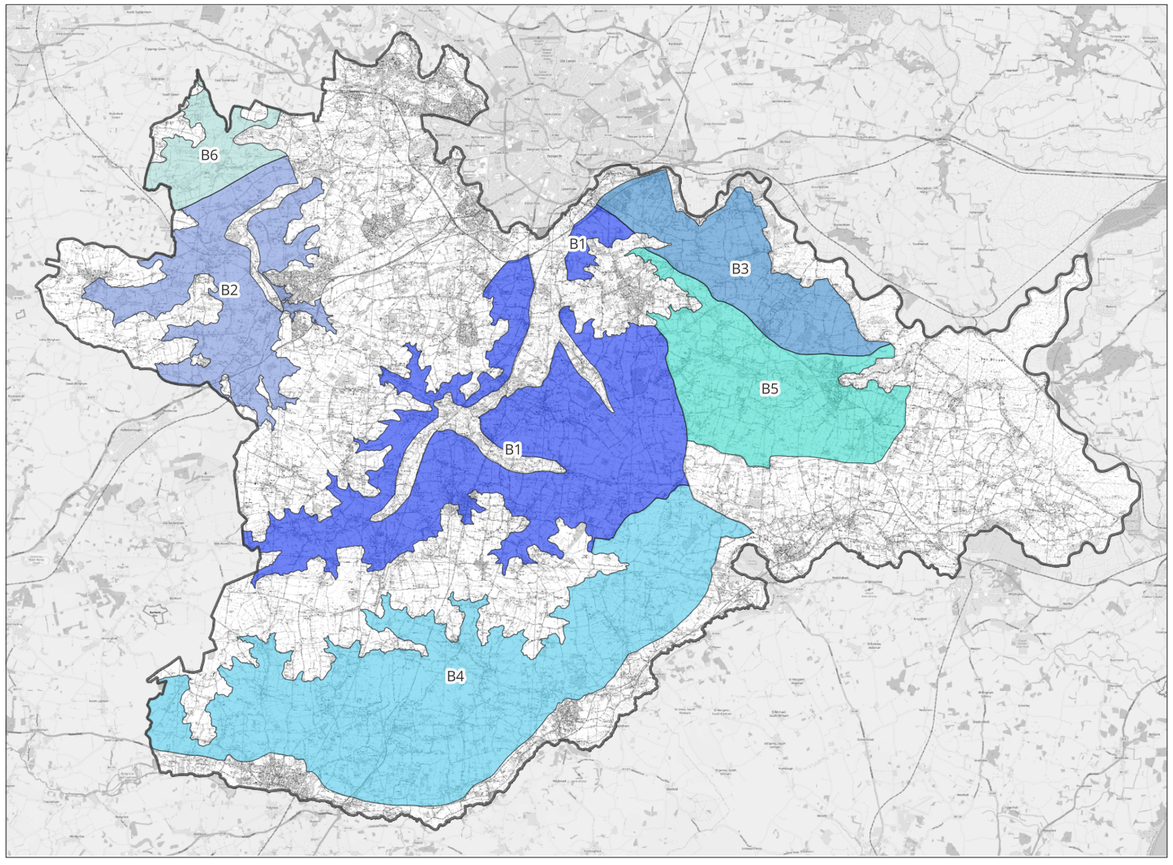
Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA A5: **Waveney Rural River Valley**	**Medium-Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Waveney Rural River Valley. There are however some sensitivities in terms of priority habitats which would need to be avoided.	**High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace grazing marsh this would have a further adverse effect on character. An AD plant of this size is not considered to be compatible with the established characteristics of the Waveney Valley, so the susceptibility is assessed as High.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • Woodland blocks impart a semi-wooded, semi-enclosed character to much of the area. • Valley landforms offers opportunity for longer views.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.
Landcover • Varied pattern from small scale, intricate networks of fields/hedgerows in tributary valleys and around settlements to large, open fields on higher ground. • An intricate network of narrow, winding lanes often bounded by ditches. • Elusive tributaries, evident but usually hidden within the landscape by topography or trees. • Medium to large-scale arable fields enclosed by sparse hedges with hedgerow trees. Permanent pasture and woodland found within valleys. • Remnant parkland which sometimes relates to former deer parks, plus areas of common land. • High proportion of important assemblages protected as SSSIs including woodland and wetland habitat.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with AD plants. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided. • A farm-scale AD plant occupies a smaller footprint so is potentially easier to accommodate within the existing landcover pattern.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with AD plants. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.

LT B: Tributary Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Settlement pattern and human influence • Dispersed settlement pattern of small villages, hamlets, farmsteads and manors distributed across the landscape. Occasional large agricultural buildings e.g. poultry sheds • Compact villages sheltered within small valleys. • Mixed architectural character comprising modern bungalow development and vernacular architecture with stepped gable ends and other vernacular characteristics. Local building materials such as brick and flint. • Isolated churches. Locally distinctive round towered churches e.g. St Michael's Aslacton • The Chet Tributary Farmland contains the small town of Loddon.	**Low** • Development of this scale could be accommodated within the context of an existing farm complex without altering the sense of human influence.	**Medium** • The landscape does include some modern elements such as poultry sheds, however human influence is limited, so the landscape lies in the middle of the susceptibility spectrum.
Perceptual aspects • For the most part the landscape is peaceful, rural and tranquil. • Roads introduce a local source of movement within the landscape.	**Low** • AD plants have some connection to the rural landscape so would have less of an effect on the rural qualities of the area than other forms of development. • If the AD plant related to farm products only then additional vehicular movements would be minimal.	**Medium** • Development of this scale would have an adverse effect on the rural qualities of the Tributary Farmlands. • AD plants have little effect on tranquillity but might increase vehicular movements and introduce lighting.

LT B: Tributary Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium-Low** • The type does feature some sensitive views e.g. long-ranging views across the countryside or views to landmarks, however development of this scale would have a limited effect on visual character.	**Medium-High** • Views across arable fields to sloping valley sides and down to small-scale wooded tributary valleys create a moderate to high scenic quality, which indicates higher susceptibility to this form of development. • AD plants include large elements which are potentially visible in the gently undulating landscape. • The presence of historic landmark features increases the susceptibility of the landscape to large structures such as those contained within AD plants.
Skylines • The skyline varies across the landscape type from clear to interrupted by woodland blocks and undulations in landform. • In the enclosed tributary valleys the skyline can include prominent valley crests.	**Medium** • Undeveloped skylines, though not generally prominent or distinctive. • Prominent valley crests are sensitive to development. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility.	**Medium** • Undeveloped skylines, though not generally prominent or distinctive. • Prominent valley crests are sensitive to development. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility.
Intactness • Some roads have been modernised and there has been some modest expansion of settlements. Changing agricultural practices have led to a simplification of the landscape pattern and the loss of some landscape features. The historic pattern is nonetheless legible, and there are relatively few modern elements. The rural character of the area is intact, and there is a moderately strong sense of place.	**Low** • The tanks associated with an AD plant are similar in scale to large agricultural buildings, through the form of the structures is distinctive. • If an AD plant uses farm products only then it can be more easily accepted as part of the rural landscape. • A development of this scale would have a limited effect on the intactness of the rural landscape.	**Medium** • The tanks associated with an AD plant are similar in scale to large agricultural buildings, through the form of the structures is distinctive. • A larger AD plant is likely to use non-farm waste and would have a more industrial character with less connection to the existing rural landscape. Similarly, if bioenergy crops were to replace farm crops there would no longer be any connection to agriculture as such. • A development of this scale would affect the intactness of the rural landscape.

LT B: Tributary Farmland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA B1: **Tas Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tas Tributary Farmlands. Careful siting is still required within the predominantly open landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Tas Tributary Farmlands are susceptible to this type of development, especially where there are views to heritage assets such as Venta Icenorum, Dunston Hall, or Norwich. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.
LCA B2: **Tiffey Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tiffey Tributary Farmlands. Careful siting is still required within the predominantly open landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Tiffey Tributary Farmlands are susceptible to this type of development, especially where there are views to local landmarks including Wymondham Abbey and Wicklewood Windmill. Elements of vernacular interest are vulnerable to generic forms of development which weaken sense of place. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.

LT B: Tributary Farmland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA B3: **Rockland Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Rockland Tributary Farmlands. Careful siting is still required within the predominantly open landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Rockland Tributary Farmlands are susceptible to this type of development, especially where there are views to the Yare Valley, or to isolated churches. Elements of vernacular interest are vulnerable to generic forms of development which weaken sense of place. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.
LCA B4: **Waveney Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Waveney Tributary Farmlands. Careful siting is still required within the predominantly open landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Waveney Tributary Farmlands are susceptible to this type of development, especially where there are views to The Broads or to landmark features such as round-towered or isolated churches. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.

LT B: Tributary Farmland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA B5: **Chet Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Chet Tributary Farmlands. Careful siting is still required within the landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Chet Tributary Farmlands are susceptible to this type of development, especially where there are views to The Broads or to landmark features such as round-towered or isolated churches. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.
LCA B6: **Yare Tributary Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Yare Tributary Farmlands. Careful siting is still required within the predominantly open landscape.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were also introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Yare Tributary Farmlands are susceptible to this type of development, especially where there are views to landmark features such as round-towered or isolated churches. The scenic qualities of the landscape are sensitive to this type of development, so susceptibility is assessed as Medium-High.

LT C: Tributary Farmland with Parkland

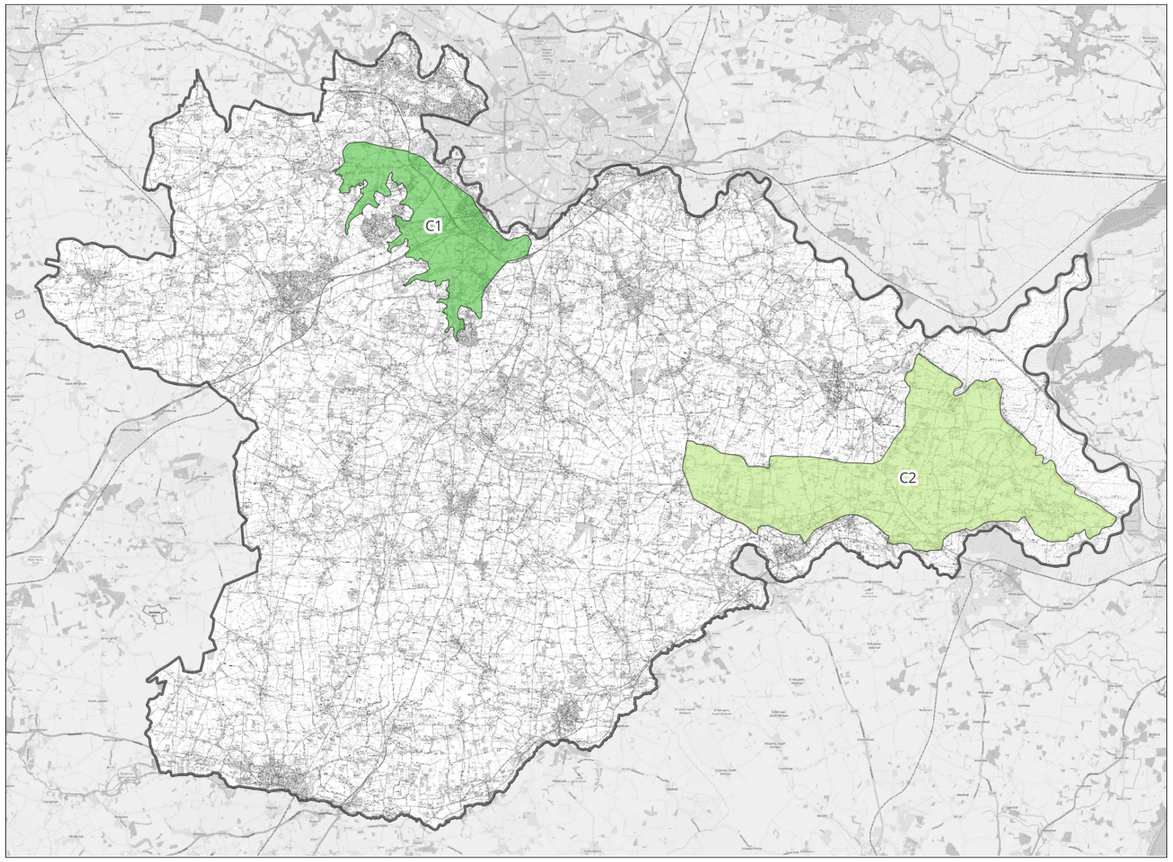
The Tributary Farmland with Parkland Landscape Type occupies two discrete areas of landscape, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • Open arable landscape is interrupted by areas of woodland. • Areas of woodland associated with estates provide greater enclosure.	**Medium** • Semi-enclosed character is moderately sensitive to development.	**Medium** • Semi-enclosed character is moderately sensitive to development.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • The varied landform results in localised areas of higher and lower susceptibility to developments such as AD plants according to the degree of slope.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • The varied landform results in localised areas of higher and lower susceptibility to developments such as AD plants according to the degree of slope.
Landcover • Presence of large parkland estates particularly associated with the tributary valleys. Estate railings, prominent gatehouses, parkland belts, tree-lined avenues and areas of pasture reveal the presence of parkland within the wider arable landscape. • Peaceful arable farmland with small ancient woodlands and scattered coverts with medium to large-scale fields of wheat, barley, oilseed rape and sugarbeet surrounded by sparse hedges and hedgerow trees. • An intricate network of small rural roads. • Becks.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with AD plants. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided. • A farm-scale AD plant occupies a smaller footprint so is potentially easier to accommodate within the existing landcover pattern than other forms of development.	**Varying from Medium to High** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with AD plants. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.

LT C: Tributary Farmland with Parkland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Settlement pattern and human influence • Dispersed but evenly distributed settlement with a pattern of farmsteads and small villages. • Sparse settlement pattern across C2. C1 Yare Tributary Farmland somewhat more settled with larger village of Cringleford as well as Norfolk & Norwich Hospital and A47. • Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped gables and brick and flint. • Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in larger villages.	**LCA C1: Medium** **LCA C2: Low** • C1 Yare Tributary Farmland with Parkland already displays considerable human influence, however it also lies within the Norwich Southern Bypass Protection Zone so is sensitive to development which would reduce the openness of the area. • C2 has a farmed character. Farm-scale AD is related to the agricultural landscape so it is considered that the susceptibility to this form of development is low.	**LCA C1: Medium-High** **LCA C2: Medium-High** • An AD plant of this scale would have a considerable influence on the openness of the landscape and introduce a strong sense of human influence. Susceptibility to this form of development is therefore judged as Medium-High.
Perceptual aspects • Tamed arable farmland. • C2 is a peaceful rural landscape. C1 is adversely influenced by the Norwich Southern Bypass and the A11. • Pylons and the A47 negate any sense of remoteness within C1. There is however a sense of remoteness within C2, particularly adjacent to The Broads.	**LCA C1: Low** **LCA C2: Medium** • The lack of remoteness or tranquillity within C1 reduces susceptibility. • AD plants have some connection to the rural landscape so would have less of an effect on the rural qualities of the area than other forms of development.	**LCA C1: Medium-High** **LCA C2: Medium-High** • Although C1 lacks remoteness or tranquillity the landscape lies within the Norwich Southern Bypass Protection Zone and is therefore sensitive to development which compromises the openness of the landscape. • A larger AD plant would source the feedstock from several farms, or from non-farm sources, so cannot be seen as an extension of an existing farm complex. • A development of this size would affect the rural qualities of the landscape. • A larger AD plant would potentially increase traffic and introduce lighting which would affect tranquillity and dark skies.

LT C: Tributary Farmland with Parkland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**Medium-Low** • The type does feature some sensitive views e.g. views to The Broads, or to local landmarks, however development of this scale would have a limited effect on visual character. • Development which is related to an existing farm complex would be seen as part of the rural landscape.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality, which indicates higher susceptibility to development. • AD plants include large elements which are potentially visible in the gently undulating landscape. • The presence of historic features increases susceptibility to large structures such as those contained within AD plants. • Intervisibility between LCA C2 and the Broads increases the sensitivity of this area.
Skylines • In places interrupted by woodland, pylons and posts. • Views to parkland edges and woodland. • Intermittent long views to development at the City of Norwich and Norwich Southern Bypass (from C1).		**C1: Low** **C2: Medium-Low** • Existing skylines in C1 are already influenced by pylons, and the susceptibility is considered to be low. • Skylines in C2 have some influence from existing pylons.

LT C: Tributary Farmland with Parkland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Intactness • Intactness varies. Some areas have experienced considerable change with the introduction of the Norwich Southern Bypass and the expansion of settlements such as Cringleford, and the introduction of pylons and other development. • Elsewhere, there is a much stronger and more intact rural character.	**LCA C1: Low** **LCA C2: Low** • The tanks associated with an AD plant are similar in scale to large agricultural buildings, through the form of the structures is distinctive. • If an AD plant uses farm products only then it can be more easily accepted as part of the rural landscape. • A development of this scale would have a limited effect on the intactness of the rural landscape.	**LCA C1: Medium** **LCA C2: Medium-High** • The tanks associated with an AD plant are similar in scale to large agricultural buildings, through the form of the structures is distinctive. • A larger AD plant is likely to use non-farm waste and would have a more industrial character with less connection to the existing rural landscape. Similarly, if bioenergy crops were to replace farm crops there would no longer be any connection to agriculture as such. • A development of this scale would affect the intactness of the rural landscape. • AD plants utilise standard elements which would not make any contribution to local distinctiveness. • The stronger character of C2 has increased susceptibility to all forms of development. • The more fragmented landscape pattern of C1 leads to a lower sensitivity.

LT C: Tributary Farmland with Parkland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA C1: **Yare Tributary Farmland with Parkland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tributary Farmland with Parklands. There are still some sensitivities relating to views from the southern bypass towards Norwich, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. The key characteristics of the Yare Tributary Farmland with Parklands are susceptible to this type of development, especially where there are views from the southern bypass, or to Norwich. The scenic qualilties of the area are reduced by existing development, however the remaining rural areas are vulnerable to change, so the overall susceptibility is assessed as Medium-High.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Tributary Farmland with Parklands. There are still some sensitivities relating to historic parks and sensitive views, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. The key characteristics of the Thurlton Tributary Farmland with Parklands are susceptible to this type of development, especially where there are views to historic estates, churches, or adjacent landscapes. The scenic qualities of the landscape are sensitive to this type of development, and the sense of place would be diluted by generic forms of development. Susceptibility then is assessed as Medium-High.

LT D: Settled Plateau Farmland

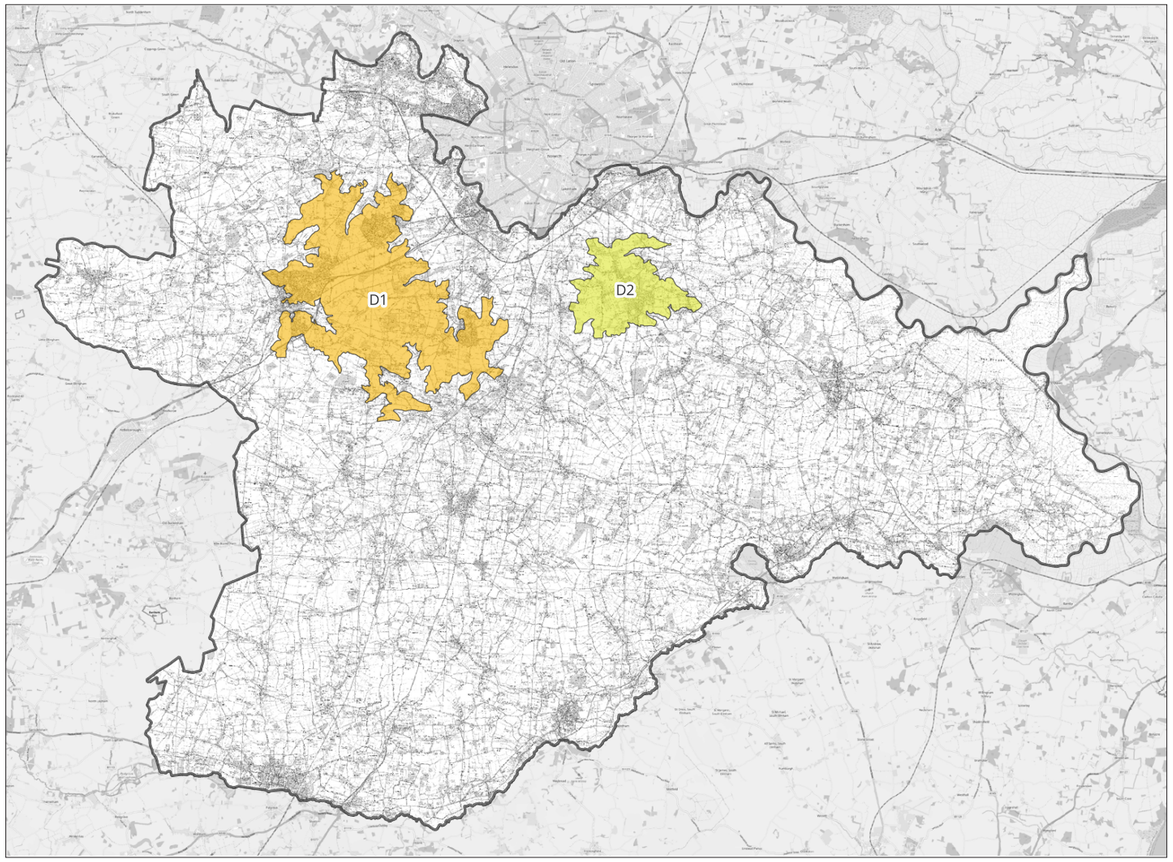
There are two areas of the Settled Plateau Farmland Landscape Type, one to the east and one to the west of the Tas Valley around the settlements of Wymondham and Poringland respectively. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • Generally open landscape. Poor hedgerows accentuate the openness of the landscape. • Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements. • Wooded character in parts provides enclosure, particularly around settlements.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**Varying from Low to High** • The simple, flat landform is less sensitive to this type of development. • The plateau edges however would be sensitive to AD plants, which would be exposed and difficult to screen.	**Varying from Low to High** • The simple, flat landform is less sensitive to this type of development. • The plateau edges however would be sensitive to AD plants, which would be exposed and difficult to screen.
Landcover • Large arable fields characterised by swathes of cereals, oilseed rape and sugarbeet. • Some evidence of historic landscape features including moats, historic parkland and farm ponds. • Woodland blocks tend to be associated with halls/remnant parkland	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.

LT D: Settled Plateau Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Settlement pattern and human influence • Historically somewhat sparsely settled but with some dispersed settlement including green-side settlement. • The modern day settlement pattern includes the town of Wymondham and a number of large villages. • Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development. • Wymondham and Mulbarton retain a historic character despite more recent peripheral development, whereas Poringland and Hethersett have a much more modern character (characterised by post-war bungalow development). • Former airfield at Hethel (now site of motor works).	**Medium-Low** • More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11.	**Medium** • Areas of countryside between settlements are sensitive to the urbanising effect of a larger AD plant.
Perceptual aspects • A number of large settlements are present and there is therefore little sense of remoteness. • The A11 cuts across the Wymondham Settled Plateau Farmlands and introduces a source of noise, movement and modernity. • Whilst this is a settled landscape the villages are set within a rural landscape and there is a sense of countryside.	**Low** • A farm-scale AD plant which is related to agricultural activities would have less of an effect on the rural qualities of the landscape than other forms of development.	**Medium** • The remaining areas of countryside are sensitive to urbanisation. • A larger AD plant may use non-farm feedstocks and would be more industrial in character. This scale of plant would then have an adverse effect on the perceptions of rurality. • A larger AD plant would use feedstocks from several farms or from non-farm sources. Increased traffic could affect the tranquillity of the area. • Lighting would affect dark skies.

LT D: Settled Plateau Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**Varying from Low to Medium** • The interior of the plateau is not considered particularly sensitive to this form of development, but exposed plateau edges would have a higher sensitivity.	**Varying from Medium to High** • AD plants have a moderate height (assumed to be up to 14m) which is comparable to modern farm structures. • The prominent nature of D2 makes it sensitive to views from adjoining landscape character areas. • The edge of D1 is potentially sensitive to views from adjoining landscapes. The interior of the plateau may be less sensitive to AD plants, particularly where they are seen as part of a large-scale landscape, or where there is strong enclosure from existing woodland.
Skylines • Strong open horizons – the archetypal 'Norfolk' landscape. • Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.	**Medium** • The long views to open horizons are sensitive to taller forms of development including AD plants. • Mitigation planting could also affect the characteristic open horizons.	**Medium** • The long views to open horizons are sensitive to taller forms of development including AD plants. • Mitigation planting could also affect the characteristic open horizons.

LT D: Settled Plateau Farmland - susceptibility to AD plants

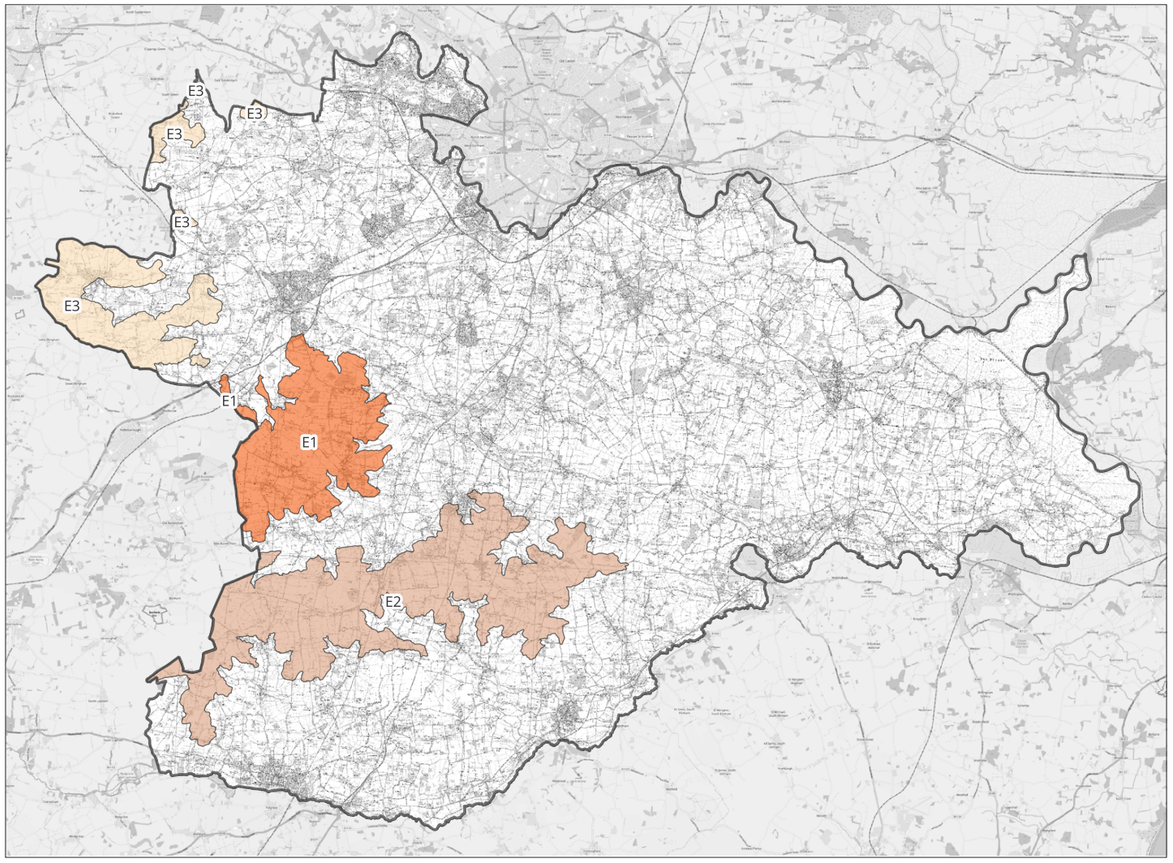
Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA D1: **Wymondham Settled Plateau Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Settled Plateau Farmlands. There are still some sensitivities relating to the openness of the landscape, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace food crops this would have a further, subtle effect on character with characteristic cereal crops being replaced. The key characteristics of the Wymondham Settled Plateau Farmlands are susceptible to this type of development, especially where there are views to Wymondham Church. The characteristic open views are sensitive to this type of development, as are the gaps between settlements. Susceptibility then is assessed as Medium-High.
LCA D2: **Poringland Settled Plateau Farmland** **Overall susceptibility**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the Poringland Settled Plateau Farmlands. There are still some sensitivities relating to the openness of the landscape, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. If bioenergy crops were to replace food crops this would have a further, subtle effect on character with characteristic cereal crops being replaced. The key characteristics of the Poringland Settled Plateau Farmlands are susceptible to this type of development, especially where there are views to and from adjacent landscapes. The characteristic open views are sensitive to this type of development, and susceptibility is assessed as Medium-High.

LT E: Plateau Farmland

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.

Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields



The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • Sense of openness and exposure due to the elevation and scarcity of enclosing elements. • The flatness of the plateau creates a strong sense of openness with large skies and distant horizons.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Varying from Low to High** • The simple, flat landform is less sensitive to this type of development. • The plateau edges however would be sensitive to AD plants, which would be exposed and difficult to screen.	**Varying from Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however would be sensitive to AD plants, which would be exposed and difficult to screen.
Landcover • Large fields of arable monoculture with characteristic swathes of wheat, barley, oilseed rape and sugar beet. • Mature hedgerow oaks are features in the agricultural landscape. However hedgerows have been severely degraded or lost, leading to a much simplified landscape. • Generally an early enclosed landscape, but with significant areas of common/ heath, many of which were enclosed in the C19. Some remaining commons. • Mixed field patterns relating to the history of enclosure.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.
Settlement pattern and human influence • Dispersed settlement pattern. Common-edge settlement, hamlets and small nucleated villages. Many small halls, often isolated, with moats. No large parklands. • Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development. • Linear settlements occur along roads with some vernacular buildings intermixed with more modern development. • Disused airfields. • Occasional tall structures including wind turbines.	**Low** • A farm-scale AD plant would be similar in nature to existing farm buildings, which suggests low susceptibility to this scale of development.	**Medium-High** • Little industrial or modern development within the landscape. The landscape is then sensitive to development of this scale.

LT E: Plateau Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Perceptual aspects • A peaceful rural character created by the absence of main roads and development. • Quiet rural lanes dissect the landscape. • The A140 cuts north-south through part of E2.	**Low** • A farm-scale AD plant would relate to existing agricultural activities, and would therefore have little effect on the rural qualities of the landscape. • If an AD plant were to use farm products only it is unlikely to lead to a significant increase in traffic.	**Medium-High** • The peaceful, rural character is sensitive to development of this scale. • A larger AD plant would use feedstocks from several farms or from non-farm sources which potentially leads to increased traffic. • Lighting could affect dark skies.
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas.	**Varying from Low to Medium** • The plateau edges are sensitive to views from adjoining landscape character areas while the interior of the plateau is less sensitive. • A farm-scale AD plant connected to existing farm buildings would have little effect on the visual characteristics of the plateau farmlands.	**Varying from Medium to High** • AD plants have a moderate height (up to 14m) which is comparable to modern farm structures. • The plateau edges are sensitive to views from adjoining landscape character areas. • The interior of the plateau is less sensitive. A development of this size and scale however is likely to compromise the characteristic sense of openness. • Whilst smaller AD plants can be seen as part of the agricultural landscape a larger plant would have a more industrial character which is less compatible.
Skylines • The flatness of the plateau creates a strong sense of openness with vast skies and dramatic horizons. • Expansive skies are a defining feature with distant views and farm buildings are visible in the open landscape. • 360 degree horizon in places.	**Medium** • The long views to open horizons are sensitive to taller forms of development including AD plants. • Mitigation planting could also affect the characteristic open horizons.	**Medium** • The long views to open horizons are sensitive to taller forms of development including AD plants. • Mitigation planting could also affect the characteristic open horizons.
Intactness • The landscape has experienced ongoing change including enclosure in the C19 and rationalisation in the C20. Some elements of the landscape however can be traced back to the medieval era and there is some sense of historic continuity. Modern elements are relatively few. • Though there have clearly been changes in land management, including the amalgamation of fields, the landscape retains a strong rural character.	**Low** • A farm-scale AD plant is related to the rural landscape and is similar in scale to modern farm buildings. • There is potential to accommodate an AD plant of this scale in connection with existing farm buildings.	**Medium-High** • Development is nucleated and there is a clear distinction between urban areas and the countryside. • An AD plant of this size would have a more industrial character, and the scale of the plant would affect the intactness of the countryside. The strong rural character of the plateau farmlands indicates higher sensitivity to this type of development.

LT E: Plateau Farmland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA E1: **Ashwellthorpe Plateau Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the rural character of the Ashwellthorpe Plateau Farmlands. There are still some sensitivities relating to the openness of the landscape, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. Were bioenergy crops to be introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Ashwellthorpe Plateau Farmlands are susceptible to this type of development, especially where there are panoramic views. The rural landscape is sensitive to industrialisation, and the characteristic open views also increase sensitivity. Susceptibility then is assessed as Medium-High.
LCA E2: **Great Moulton Plateau Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the rural character of the Great Moulton Plateau Farmlands. There are still some sensitivities relating to the openness of the landscape, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. Were bioenergy crops to be introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Great Moulton Plateau Farmlands are susceptible to this type of development, especially where there are panoramic views. The rural landscape is sensitive to industrialisation, and the characteristic open views also increase sensitivity. Susceptibility then is assessed as Medium-High.
LCA E3: **Hingham-Mattishall Plateau Farmland**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the rural character of the Hingham-Mattishall Plateau Farmlands. There are still some sensitivities relating to the openness of the landscape, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. Were bioenergy crops to be introduced this would have a further subtle effect on character, with characteristic cereal crops being replaced. The key characteristics of the Hingham-Mattishall Plateau Farmlands are susceptible to this type of development, especially where there are views to adjacent landscapes. The rural landscape is sensitive to industrialisation, and the characteristic open views also increase sensitivity. Susceptibility then is assessed as Medium-High.

LT F: Valley Urban Fringe

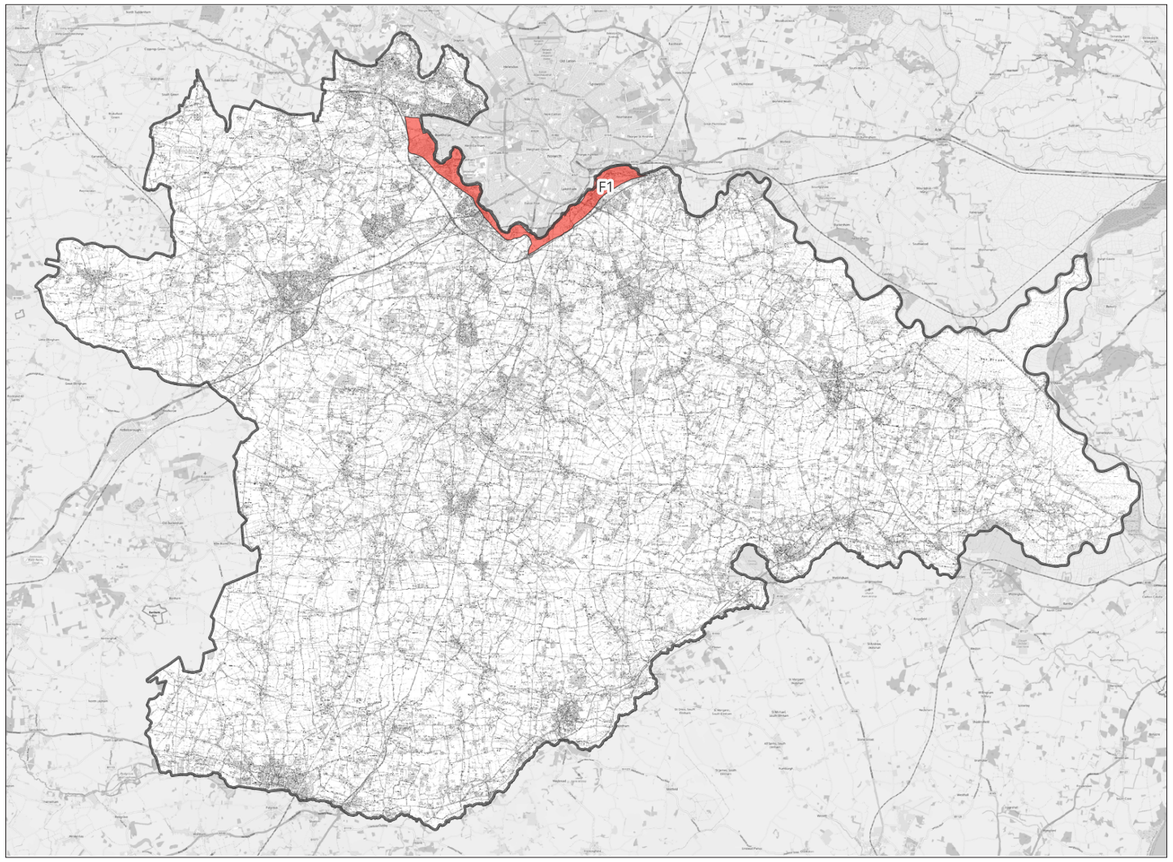
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • A sense of containment. • Wide, fairly flat floodplain with enclosing valley sides. • Trees and woodland also contribute to enclosure in places.	**Medium** • Semi-enclosed landscape with medium susceptibility. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.	**Medium** • Semi-enclosed landscape with medium susceptibility. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**Medium** • Floodplain is flat, but is subject to flooding constraint. • Some potential to accommodate farm-scale AD plant outside of floodplain.	**High** • Floodplain is flat, but is subject to flooding constraint. • A larger AD plant would be difficult to accommodate on the valley side without major earthworks. The plant would also be difficult to screen.
Landcover • Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland. Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded appearance. • Glacial gravel deposits, which have been and continue to be exploited resulting in remnant flooded gravel workings along the valley floor. • Natural character. Nature reserves such as Whitlingham Marsh. The river itself is a chalk river. • Presence of recreational landscapes including the country park at Whitlingham and playing fields at UEA. • Inaccessible valley floor with relatively few river crossings.	**Medium** • Semi-natural habitats within floodplain have higher susceptibility. • Valley sides however are less sensitive in terms of landcover. • A farm-scale AD plant occupies a small footprint so is potentially easier to accommodate within the existing landcover pattern.	**Varying from Medium to Medium-High** • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be unsuitable for development. • Valley sides however are less sensitive in terms of landcover.
Settlement pattern and human influence • Highly influenced by Norwich urban fringe along parts of the upper valley sides. • A number of large institutional buildings in or adjacent to the valley. • Green buffer and comprehensible development edge to the City of Norwich. • Floodplain has remained undeveloped.	**Low** • Floodplain is largely undeveloped but development is present on the valley-sides. Development of this scale could be accommodated within the context of an existing farm complex.	**Medium** • Floodplain is sensitive to development, which would be out of character. Valley-sides do feature development however development of this scale is likely to weaken the perception of the Yare Valley as a green buffer.

LT F: Valley Urban Fringe - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Perceptual aspects • Noise of traffic on the Norwich Southern Bypass disturbs the tranquillity of the valley. Overall, despite these urban influences, the valley is mostly quiet and secluded.	**Low** • Little sense of tranquillity or remoteness. • Proximity to urban area is apparent. • Lighting from urban area.	**Medium-Low** • Development of this scale potentially introduces additional lighting, movement and noise, however the existing conditions indicate lower susceptibility.
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium-Low** • Development of this scale would have a limited effect on the setting of Norwich.	**Medium-High** • Larger AD plants represent substantial structures which could potentially block or interfere with views to Norwich. Mitigation planting could also block views.
Skylines • The valley crests form a skyline in views from the valley floor. • Mixed woodland blocks and shelter belts occur on the valley sides creating a well-wooded skyline.		**Low** • The well wooded skylines means that development is unlikely to be visible on the skyline. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility. • Generally low susceptibility, but valley crests are sensitive to development.

LT F: Valley Urban Fringe - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA F1: **Yare Valley Urban Fringe**	**Low** • A farm-scale AD plant which is connected to existing farm buildings could be seen as an extension of farming practices and would not therefore alter the fundamental characteristics of the landscape. There are still some sensitivities relating to key views to and from Norwich, and careful siting would therefore be required.	**Medium-High** • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. The key characteristics of the Yare Valley Urban Fringe are susceptible to this type of development, especially where there are views to and from Norwich. The scenic qualities of the area are reduced by existing development, however the remaining rural areas are vulnerable to change, so the overall susceptibility is assessed as Medium-High.

LT G: Fringe Farmland

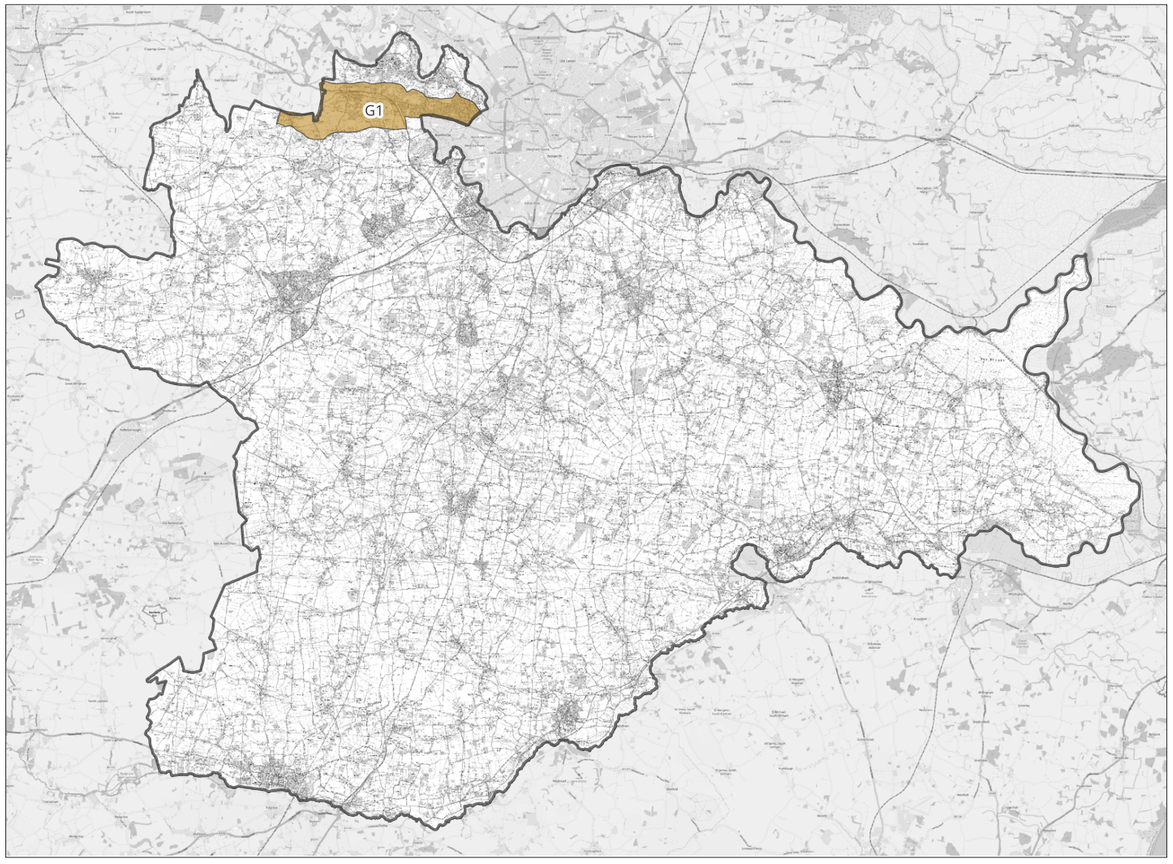
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Sense of enclosure • This landscape can feel exposed in places as a consequence of the elevated ridge topography and relatively low–level of woodland.	**Varies** • Areas of localised enclosure would have lower susceptibility. • The more open and exposed areas have higher susceptibility.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • The more open and exposed areas have high susceptibility.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**Medium** • Ridge landform is sensitive but there is some potential to accommodate farm-scale AD in connection with an existing farm complex.	**High** • The ridge and undulating landform is sensitive. • A larger AD plant would sit awkwardly in relation to the topography and would potentially appear as a stark addition to the landscape.
Landcover • Defined predominantly by farmland with urban and urban fringe development. A degraded farmland context. • History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas. • Urban fringe uses including a park and ride scheme, retail warehouses, a golf course and the Royal Norfolk Showground. • Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.	**Medium-Low** • Fragmented landscape pattern has lower susceptibility to change.	**Varies** • Fragmented landscape pattern has lower susceptibility to change. • The more rural parts of the area have moderate sensitivity.
Settlement pattern and human influence • Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton. • Relatively developed character. • Retail warehouses and supermarkets on edge of town.	**Low** • Significant levels of settlement indicate lower susceptibility.	**Medium-Low** • Significant levels of settlement indicate lower susceptibility. • Development of this scale would nonetheless be substantial and would introduce additional human influence to the landscape.

LT G: Fringe Farmland - susceptibility to AD plants

Landscape attribute	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
Perceptual aspects • Not a remote or tranquil landscape. Recent construction and land use activities have had significant effect upon the rural character. • The Norwich Southern Bypass introduces a corridor of noise and movement. Other roads of the area retain a strong rural character.	**Low** • Qualities such as tranquiliity and remoteness are unlikely to be affected by this type of development.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**Medium-Low** • The ridge is a sensitive feature, however careful siting could limit the effect.	**High** • The existing visual characteristics are more susceptible to this scale of development. • The ridge is sensitive to this form of development, which would appear stark. • Views to and from the adjacent valley landscapes increase sensitivity.
Skylines • Skyline varies, sometimes formed by distant views to adjacent landscapes but often interrupted by development and shelterbelts.	**Medium-Low** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • The presence of pylons reduces the susceptibility of the skyline.	**Medium-Low** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • The presence of pylons reduces the susceptibility of the skyline.

LT G: Fringe Farmland - susceptibility to AD plants

Overall susceptibility	Farm-scale AD plant, single or double tank system, up to 1ha	Larger AD plant, over 1ha
LCA G1: **Easton Fringe Farmland**	**Low** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. • A development of this size would have a limited effect on the key characteristics of the Easton Fringe Farmland. There are still some sensitivities relating to the ridge topography and views from adjacent landscapes, and careful siting would therefore be required.	**Medium-High** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. Views from adjacent landscapes increase sensitivity. • An AD plant of this size would have a more industrial character and is unlikely to be related to a single farm. A larger AD plant would potentially appear stark in this location. The effects on the landscape would be harder to mitigate, and the susceptibility to this scale of development is therefore higher.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.3
Landscape Susceptibility Analysis
Battery Storage

November 2025

thelandscapepartnership

LT A: Rural River Valleys - susceptibility to Battery Storage

The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

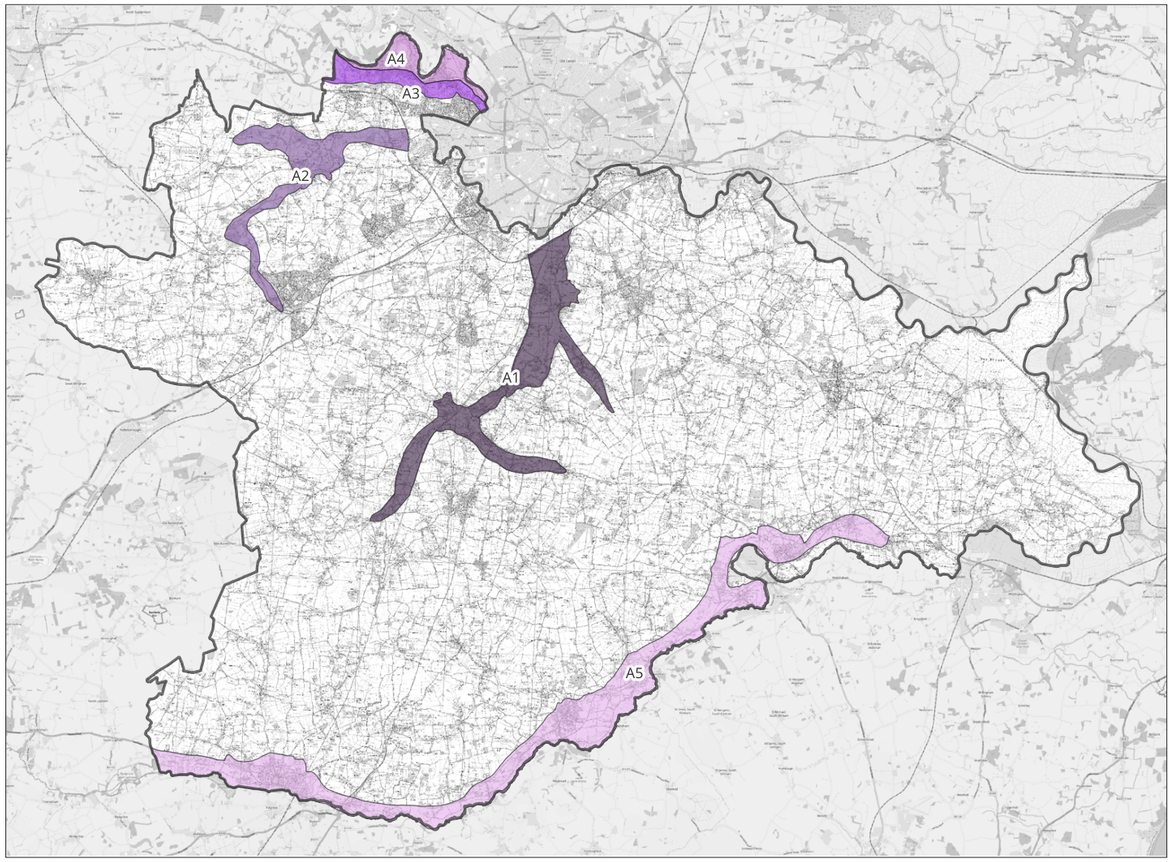
The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.

The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley



LT A: Rural River Valleys - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • A semi-enclosed landscape with some long views within the valleys but restricted views out. Areas of more intimate character on the valley floor. • Some river valleys less enclosed than others, the Waveney for example is a wide valley which has a more open character.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**High** • The valleys of South Norfolk are typically shallow-sided. • Valley sides have high susceptibility to battery storage, which would typically require a level platform. Development on a valley-side would also be difficult to screen. • The valley floor is typically undeveloped and would therefore be sensitive to development, which would be out of character.	**High** • The valleys of South Norfolk are typically shallow-sided. • Valley sides have high susceptibility to battery storage, which would typically require a level platform. Development on a valley-side would also be difficult to screen. • The valley floor is typically undeveloped and would therefore be sensitive to development, which would be out of character.

LT A: Rural River Valleys - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Field pattern **A1- Tas** • Meadows and fens, some surviving unenclosed land e.g. at Shotesham and Flordon. • 19th century enclosure at Tasburgh along with earlier enclosures. **A2 – Yare Tiffey** • Narrow floodplain meadows. Some C19 enclosure of meadows. • Meadows defined by dykes. • Small scale field pattern within floodplain. **A3 – Tud** • Narrow floodplain meadows. • Rationalised early enclosures on valley-side. **A4 – Wensum** • Small organic and regular enclosures bound by dykes in the vicinity of Costessey. • Large, regular enclosures on valley-side. **A5 – Waveney** • 19th century enclosure awards, with some earlier enclosure. • Fields defined by dykes rather than hedges. • Mixture of organic field patterns and regular field patterns reflecting history of enclosure.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Battery storage units would appear stark, while the introduction of hedges would be out of character.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Battery storage units would appear stark, while the introduction of hedges would be out of character.
Landcover • Distinctive land cover: small-scale field pattern and prevalence of grazed pastures on the valley floor, with mix of arable and pasture on the valley sides, creating a complex landcover pattern. • Characteristic ecological assemblages – reeds and marsh, wet meadows/ pastures, woodland plus areas of heathland. High ecological value recognised in designations (SAC/SSSIs). • Willow pollards and lines of poplar flank ditches and watercourses. • Some areas of active mineral working and open water associated with mineral extraction sites, for example in A3: Tud and A4: Wensum valleys. • The Tas Valley features two historic parks, an iron age hillfort at Tasburgh, and a Roman colony at Venta Icenorum.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valley-sides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be unsuitable for development. The majority of the land within the rural river valleys however is not priority habitat, so developments could potentially avoid this ecological constraint.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valley-sides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be unsuitable for development. The river valleys are therefore constrained.

LT A: Rural River Valleys - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Settlement pattern and human influence • Valleys have historically been a focus for settlement and the valleys contain some historic villages. • The floodplain however tends not to be settled, except for occasional mills. • Settlements predominantly small and nucleated of strong vernacular character. Isolated farms are present on the edges of the floodplain. • The Waveney Valley is generally rural but the area around Diss is more urbanised.	**Medium-High** • Frequent small villages and narrow country lanes create a complex settlement pattern which has a higher susceptibility to development. • Battery storage installations could detract from historic features such as church towers or villages.	**High** • Frequent small villages and narrow country lanes create a complex settlement pattern which has a higher susceptibility to development. • Battery storage installations could detract from historic features such as church towers or villages, and would dilute the strong vernacular character.
Perceptual aspects • The river valleys are typically settled, but for the most part this consists of small rural villages, often with historic character recognised through Conservation Area designations, connected by minor roads. • The generally quiet character and low density of settlement contribute to the perception of an intimate, tranquil rural landscape within the River Valleys. • Tranquillity is reduced in the Waveney Valley by the A1066 and the A143. • Tranquillity is also reduced in the middle section of the Yare Valley by the A47.	**Medium-High** • Battery storage would have a negative effect on the rural qualities of the river valleys. • Battery storage would have a localised effect on tranquillity.	**Medium-High** • Battery storage would have a negative effect on the rural qualities of the river valleys. • Battery storage would have a localised effect on tranquillity.
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**Medium-High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. This scenic quality increases susceptibility to development. • Views from the Waveney Valley into The Broads increases its sensitivity.	**Medium-High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. This scenic quality increases susceptibility to development. • Views from the Waveney Valley into The Broads increases its sensitivity.

LT A: Rural River Valleys - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Skylines • The valley crests form a skyline in views from the valley floor marking the transition to the adjacent landscape type. • In A5: Waveney Valley- a series of churches on the ridgeline form a prominent landmark. • Skyline is usually undeveloped creating a rural context. • Woodland along the valley crest is a key feature of A3: Tud River Valley.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as valley crests forming skylines, and churches on the ridgeline.	**Medium** • The skylines are more susceptible to large battery storage schemes which are likely to include taller elements. • Valley crests and skylines with churches on the ridgeline have high susceptibility to change.
Intactness • Ditches, fens, meadows, riparian vegetation and vernacular buildings create a sense of place. • The Tas Valley has an intact character. Small villages are present just above the floodplain. The character is somewhat influenced by nearby pylons, railway and A-road. • The Yare and Tiffey Valleys have an intact rural character with meadows, wet woodland, and historic parkland. Small villages are also present just above the floodplain. A tranquil character away from the A47, and a strong sense of place. • The Tud Valley is largely undeveloped and the historic pattern is still legible, however the A47 cuts through the pre-existing landscape pattern and weakens the sense of character. The eastern portion of the valley is found within an increasingly urban context. The land use here has changed with the introduction of a golf course at Costessey Park, and paddocks. • The Wensum Valley is partially disturbed by flooded mineral workings in the base of the valley. The valley is largely undeveloped. • The Waveney Valley is undeveloped and largely rural except around Diss. Pattern of meadows, fens and carrs remains intact throughout most of the area. Tranquillity is reduced by the A143, but there is a relatively strong sense of place.	**High** • Battery storage would introduce a new and discordant use. • Battery storage typically consists of generic elements which would dilute the sense of place.	**High** • Battery storage would introduce a new and discordant use. • Battery storage typically consists of generic elements which would dilute the sense of place.

LT A: Rural River Valleys - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA A1: **Tas Rural River Valley**	**Medium-High** • The existing characteristics are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Small scale battery storage developments have some potential for mitigation, and the overall susceptibility is assessed as Medium-High.	**High** • The existing characteristics are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Large battery storage developments are likely to include taller elements and would be more difficult to mitigate. The susceptibility is therefore judged as High.
LCA A2: **Yare/Tiffey Rural River Valley**	**Medium-High** • The existing characteristics of the Yare/Tiffey Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Small scale battery storage developments have some potential for mitigation, and the overall susceptibility is assessed as Medium-High.	**High** • The existing characteristics of the Yare/Tiffey Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Large battery storage developments are likely to include taller elements and would be more difficult to mitigate. The susceptibility is therefore judged as High.
LCA A3: **Tud Rural River Valley**	**Medium-High** • The existing characteristics of the Tud Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Small scale battery storage developments have some potential for mitigation, and the overall susceptibility is assessed as Medium-High.	**High** • The existing characteristics of the Tud Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Large battery storage developments are likely to include taller elements and would be more difficult to mitigate. The susceptibility is therefore judged as High.

LT A: Rural River Valleys - susceptibility to Battery Storage

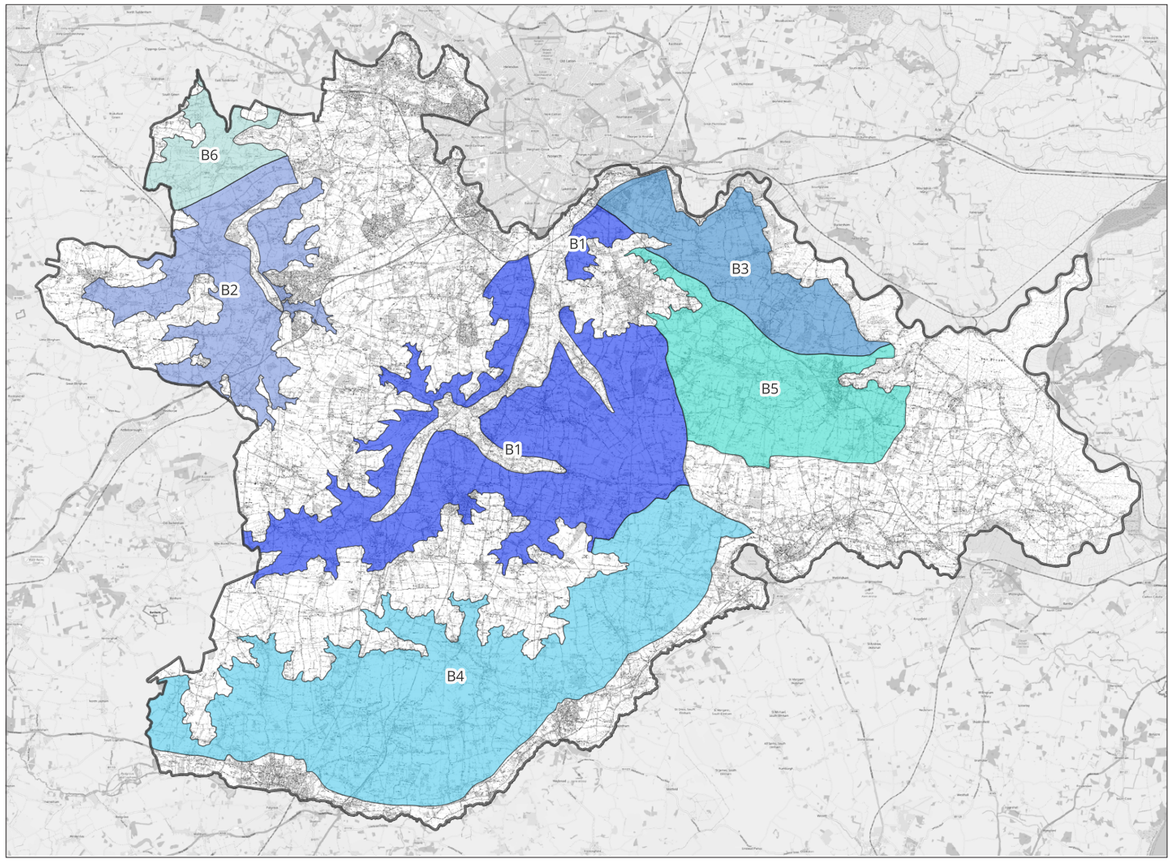
Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA A4: **Wensum Rural River Valley**	**Medium-High** • The existing characteristics of the Wensum Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Small scale battery storage developments have some potential for mitigation, and the overall susceptibility is assessed as Medium-High.	**High** • The existing characteristics of the Wensum Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Large battery storage developments are likely to include taller elements and would be more difficult to mitigate. The susceptibility is therefore judged as High.
LCA A5: **Waveney Rural River Valley**	**Medium-High** • The existing characteristics of the Waveney Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Small scale battery storage developments have some potential for mitigation, and the overall susceptibility is assessed as Medium-High.	**High** • The existing characteristics of the Waveney Rural River Valley are considered to be sensitive to battery storage, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to battery storage installations, which are composed of generic elements. • Large battery storage schemes are likely to include taller elements and would be more difficult to mitigate. The susceptibility is therefore judged as High.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • Woodland blocks impart a semi-wooded, semi-enclosed character to much of the area. • Valley landforms offers opportunity for longer views.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to battery storage as this type of development typically requires a level platform.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to battery storage as this type of development typically requires a level platform.

LT B: Tributary Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Field pattern **B1 - Tas Tributary Farmland** • Early rectilinear field patterns across much of the area. • Planned enclosures of former greens and heaths prior to the C18 creating semi-regular field pattern. • Common arable fields in Forncett St Mary visible on tithe map. • Late enclosure of fens, for example at Hingham • Some unenclosed meadows/fen. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B2 – Tiffey** • Mix of field patterns. Some irregular, presumably early enclosures. • Late enclosures at Spooner Row and Barnham Broom. • Medieval deer parks at Kimberley and Oxehaghe. • Small area of unenclosed meadow at Coston. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B3 – Rockland** • Mix of organic field patterns, suggesting early enclosure, and rectilinear field patterns, suggesting late enclosure. • Late enclosures of marshland and heathland in Kirby Bedon and Surlingham. • Sinuous field boundaries in Ashby St Mary suggest enclosure from common field. **B4 – Waveney Tributary Farmland** • Early rectilinear field patterns e.g. at Alburgh and Denton. • Ancient, irregular enclosures across much of the area. • Sinuous enclosures from open fields in Denton. • Considerable hedgerow loss. **B5 – Chet** • Early rectilinear field systems e.g. at Seething. Medieval open fields possibly based on earlier field system. • Late enclosure of Yelverton Heath.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.

LT B: Tributary Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Landcover • Varied pattern from small scale, intricate networks of fields/hedgerows in tributary valleys and around settlements to large, open fields on higher ground. • An intricate network of narrow, winding lanes often bounded by ditches. • Elusive tributaries, evident but usually hidden within the landscape by topography or trees. • Medium to large-scale arable fields enclosed by sparse hedges with hedgerow trees. Permanent pasture and woodland found within valleys. • Remnant parkland which sometimes relates to former deer parks, plus areas of common land. • High proportion of important assemblages protected as SSSIs including woodland and wetland habitat.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.	**Medium** • Pre-C18 enclosures, commons, ancient woodland, and parklands display considerable time depth and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. • Arable farmland is a resource in its own right and is therefore sensitive to larger scale developments.
Settlement pattern and human influence • Dispersed settlement pattern of small villages, hamlets, farmsteads and manors distributed across the landscape. Occasional large agricultural buildings e.g. poultry sheds • Compact villages sheltered within small valleys. • Mixed architectural character comprising modern bungalow development and vernacular architecture with stepped gable ends and other vernacular characteristics. Local building materials such as brick and flint. • Isolated churches. Locally distinctive round towered churches e.g. St Michael's Aslacton • The Chet Tributary Farmland contains the small town of Loddon.	**Medium** • The existing rural settlement pattern is somewhat susceptible to this type of development. • The landscape includes some modern elements and has a mixed architectural character. • Historic features less likely to be affected by battery storage as this type of development consists of low elements. • The settlement pattern is considered to be moderately sensitive to Small battery storage developments.	**Medium-High** • The existing rural settlement pattern is somewhat susceptible to this type of development. • The landscape does include some modern elements and has a mixed architectural character. • Large scale battery storage would have a more pronounced effect on the rural settlement pattern, and is more likely to affect historic features.

LT B: Tributary Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Perceptual aspects • For the most part the landscape is peaceful, rural and tranquil. • Roads introduce a local source of movement within the landscape.	**Medium** • Battery storage does not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities of the Tributary Farmlands. • Battery storage schemes are likely to have a localised effect on tranquillity. • Sensitive design i.e. infrared cameras, could avoid the need for lighting.	**Medium-High** • Battery storage does not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities of the Tributary Farmlands. Large schemes would have a more pronounced effect on the rural qualities of the countryside. • Battery storage schemes are likely to have a localised effect on tranquillity. • Sensitive design i.e. infrared cameras, could avoid the need for lighting.
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The landscape is less susceptible to small scale battery storage than to other forms of development as battery storage installations are composed of low elements.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Large scale battery storage could include shipping containers or taller structures which would have a considerable negative influence on the visual characteristics of the Tributary Farmlands. The susceptibility to this form of development is therefore higher.
Skylines • The skyline varies across the landscape type from clear to interrupted by woodland blocks and undulations in landform. • In the enclosed tributary valleys the skyline can include prominent valley crests.	**Varies** • This form of development is limited in height meaning it is less likely to affect skylines. • There are however local sensitivities such as prominent valley crests.	**Medium** • Undeveloped skylines, though not generally prominent or distinctive. • Prominent valley crests are sensitive to development. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility.

LT B: Tributary Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Intactness • Some roads have been modernised and there has been some modest expansion of settlements. Changing agricultural practices have led to a simplification of the landscape pattern and the loss of some landscape features. The historic pattern is nonetheless legible, and there are relatively few modern elements. The rural character of the area is intact, and there is a moderately strong sense of place.	**Medium-High** • The intact rural character is susceptible to the urbanising influence of battery storage, which would fragment the landscape pattern. • Battery storage installations consist of standard, utilitarian elements which would dilute the sense of place.	**Medium-High** • The intact rural character is susceptible to the urbanising influence of battery storage, which would fragment the landscape pattern. • Battery storage installations consist of standard, utilitarian elements which would dilute the sense of place.

LT B: Tributary Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA B1: **Tas Tributary Farmland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Tas Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.
LCA B2: **Tiffey Tributary Farmland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Tiffey Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.

LT B: Tributary Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA B3: Rockland Tributary Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Rockland Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.
LCA B4: Waveney Tributary Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Waveney Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.

LT B: Tributary Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA B5: **Chet Tributary Farmland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Chet Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.
LCA B6: **Yare Tributary Farmland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • The Yare Tributary Farmlands are considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.

LT C: Tributary Farmland with Parkland

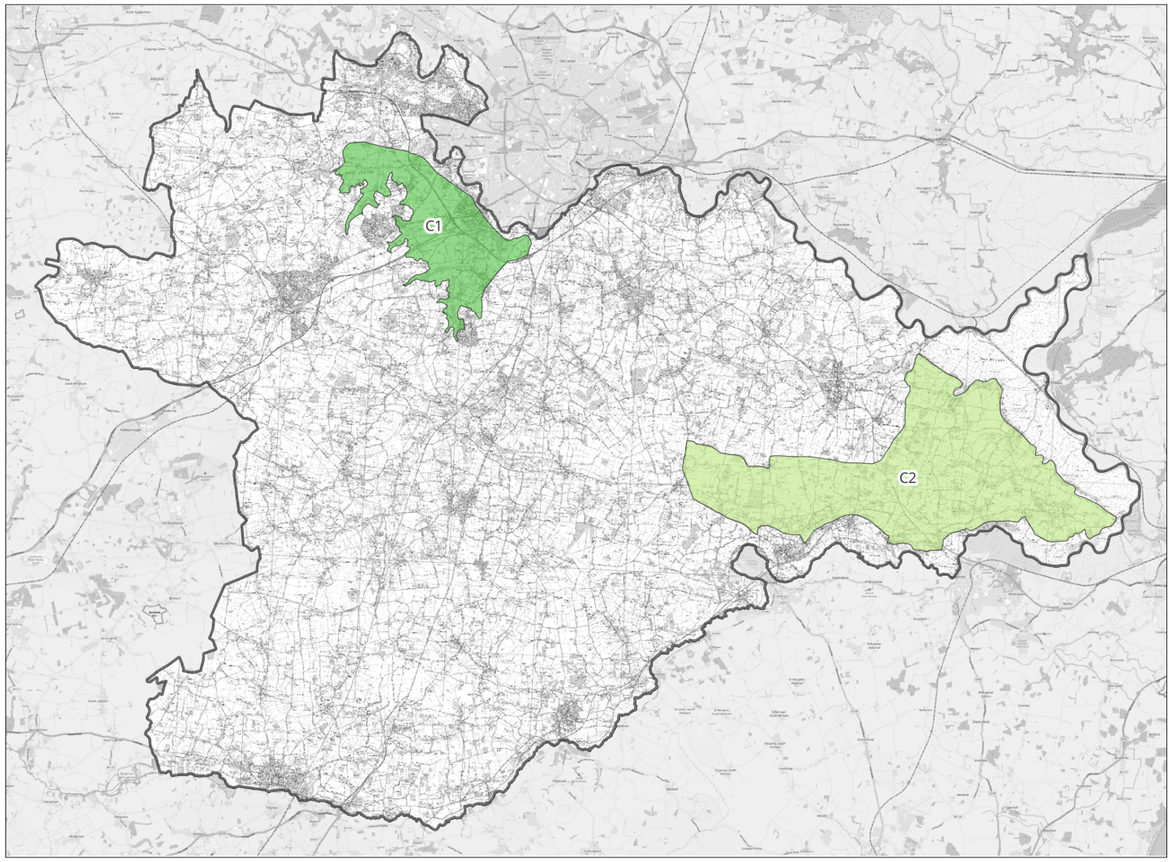
The Tributary Farmland with Parkland Landscape Type occupies two discrete areas of landscape, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • Open arable landscape is interrupted by areas of woodland. • Areas of woodland associated with estates provide greater enclosure.	**Medium** • Semi-enclosed character is moderately susceptible to development.	**Medium** • Semi-enclosed character is moderately susceptible to development.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The area consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to battery storage installations as they typically require a level platform.	**Medium** • The area consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to battery storage installations as they typically require a level platform.
Field pattern **C1 - Yare** • Irregular enclosures. • Late enclosure e.g. at Little Melton. • Parks. • Unenclosed land at Swardeston Common. **C2 - Thurlton** • Ancient irregular enclosures. • Considerable field amalgamation.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • A development of this size is likely to be contained within a single field and the effect on the field pattern would be limited.	**Medium** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • A larger Battery Storage scheme would potentially have a greater effect on the field pattern.
Landcover • Presence of large parkland estates particularly associated with the tributary valleys. Estate railings, prominent gatehouses, parkland belts, tree-lined avenues and areas of pasture reveal the presence of parkland within the wider arable landscape. • Peaceful arable farmland with small ancient woodlands and scattered coverts with medium to large-scale fields of wheat, barley, oilseed rape and sugarbeet surrounded by sparse hedges and hedgerow trees. • An intricate network of small rural roads. • Becks.	**Varying from Medium to High** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, and parklands display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.	**Varying from Medium to High** • Pre-C18 enclosures, commons, ancient woodland, and parklands display considerable time depth and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. • Arable farmland is a resource in its own right and is therefore sensitive to larger scale developments.

LT C: Tributary Farmland with Parkland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Settlement pattern and human influence • Dispersed but evenly distributed settlement with a pattern of farmsteads and small villages. • Sparse settlement pattern across C2. C1 Yare Tributary Farmland somewhat more settled with the larger village of Cringleford, as well as the Norfolk & Norwich Hospital and the A47. • Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped gables and brick and flint. • Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in larger villages.	**LCA C1: Medium-Low** **LCA C2: Medium** • C2 has a sparse rural settlement pattern which is susceptible change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change. • Historic features are less likely to be affected by small scale battery sXtorage installations as they are composed of low elements. • Small scale schemes consisting of low elements would have a limited effect on the settlement pattern.	**C1: Medium** **C2: Medium-High** • C2 has a sparse rural settlement pattern which is susceptible change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change. • Large scale battery storage would have a more pronounced effect on the rural settlement pattern, and is more likely to affect historic features.
Perceptual aspects • Tamed arable farmland. • C2 is a peaceful rural landscape. C1 is adversely influenced by the Norwich Southern Bypass and the A11. • Pylons and the A47 negate any sense of remoteness within C1. There is however a sense of remoteness within C2, particularly adjacent to The Broads. .	**LCA C1: Low** **LCA C2: Medium** • The lack of remoteness or tranquillity within C1 reduces susceptibility. • Battery storage does not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities and sense of remoteness within C2. • Battery storage schemes are likely to have a localised effect on tranquillity. • Sensitive design could avoid the need for lighting.	**LCA C1: Low** **LCA C2: Medium-High** • The lack of remoteness or tranquillity within C1 reduces susceptibility. • Battery storage does not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities and sense of remoteness within C2. Large schemes would have a more pronounced effect on the rural qualities of the countryside. • Battery storage schemes are likely to have a localised effect on tranquillity. • Sensitive design i.e. infrared cameras, could avoid the need for lighting.

LT C: Tributary Farmland with Parkland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**Medium** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The visual characteristics are less susceptible to small scale battery storage installations than to other forms of development as they are typically composed of low elements.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Large scale battery storage could include shipping containers or taller structures which would have a considerable negative influence on the visual characteristics of the landscape. The susceptibility to this form of development is therefore higher.
Skylines • In places interrupted by woodland, pylons and posts. • Views to parkland edges and woodland. • Intermittent long views to development at the City of Norwich and Norwich Southern Bypass (from C1).	**C1: Low** **C2: Low** • This form of development is low in height meaning it is less likely to affect skylines.	**C1: Low** **C2: Medium-Low** • Existing skylines in C1 are already influenced by pylons, and the susceptibility is considered to be low. • Skylines in C2 have some influence from existing pylons.

LT C: Tributary Farmland with Parkland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Intactness • Intactness varies. Some areas have experienced considerable change with the introduction of the Norwich Southern Bypass and the expansion of settlements such as Cringleford, and the introduction of pylons and other development. • Elsewhere, there is a much stronger and more intact rural character.	**LCA C1: Medium** **LCA C2: Medium-High** • The remaining open rural land within C1 is susceptible to further development and fragmentation. The area forms part of the Norwich Southern Bypass Protection Zone so is sensitive to development which would compromise the rural setting of the road. • The stronger character of C2 has increased susceptibility to all forms of development, including battery storage.	**LCA C1: Medium** **LCA C2: High** • The remaining open rural land within C1 is susceptible to further development and fragmentation. The area forms part of the Norwich Southern Bypass Protection Zone so is sensitive to development which would compromise the rural setting of the road. • The stronger character of C2 has increased susceptibility to all forms of development. Large scale battery storage would introduce new contrasting features which would have a considerable impact on the intactness of the existing rural landscape.

LT C: Tributary Farmland with Parkland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Large battery storage development (over 1ha in size)
LCA C1: **Yare Tributary Farmland with Parkland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the remaining rural landscape. The standardised design would have a negative effect on sense of place. • LCA C1 is considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place. • Larger battery storage schemes would have a more profound effect on the intactness of the remaining rural landscape. Larger battery storage schemes are likely to include shipping containers or taller structures, and the visual sensitivity to this form of development is higher. Development of this scale would be incompatible with the Norwich Southern Bypass Landscape Protection Zone, the effects on the landscape would be harder to mitigate, and the overall susceptibility is therefore higher.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on sense of place and would also introduce overt human influence to a rural landscape. • LCA C2 is considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on sense of place and would also introduce overt human influence to a rural landscape. • Larger battery storage schemes would have a more profound effect on the rural character of the landscape, and the visual sensitivity to this form of development is higher. The effects would be harder to mitigate and the overall susceptibility is therefore higher.

LT D: Settled Plateau Farmland

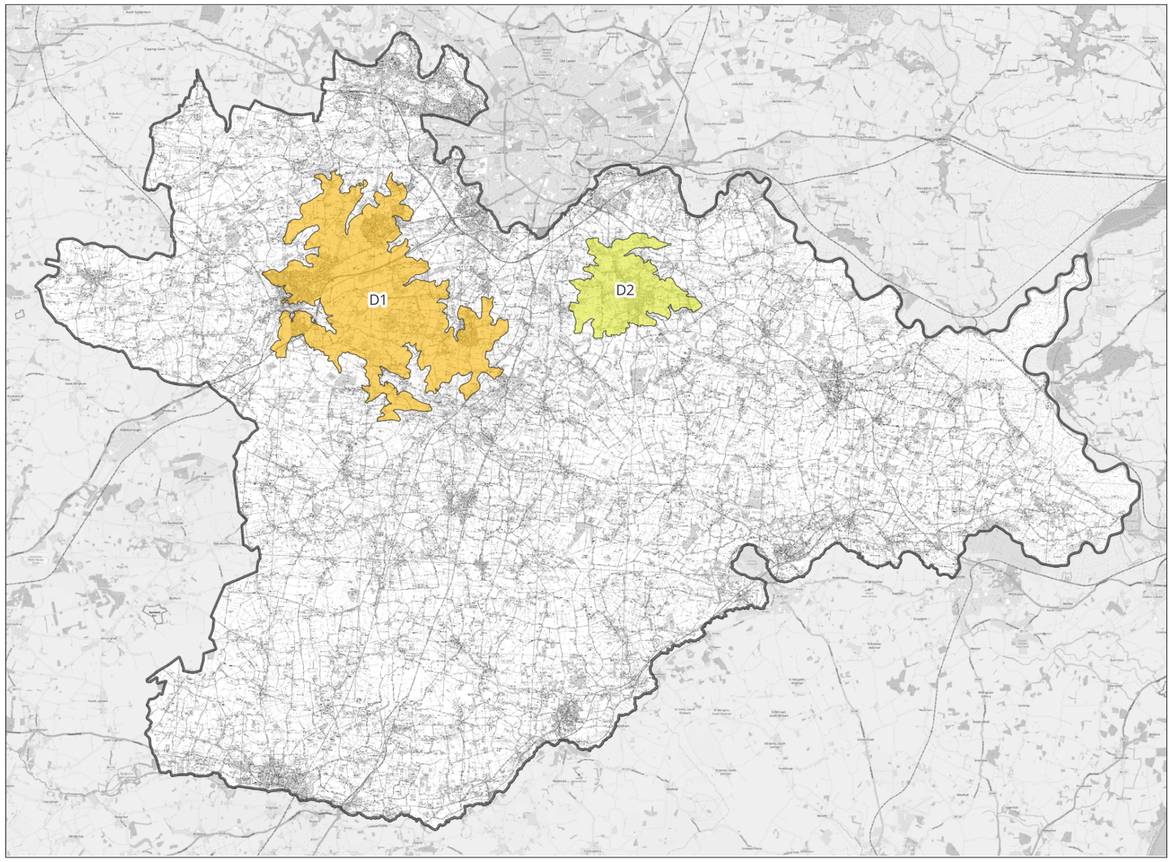
There are two areas of the Settled Plateau Farmland Landscape Type, one to the east and one to the west of the Tas Valley around the settlements of Wymondham and Poringland respectively. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • Generally open landscape. Poor hedgerows accentuate the openness of the landscape. • Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements. • Wooded character in parts provides enclosure, particularly around settlements.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**Medium-Low to High** • The simple flat landform is less susceptible to development. • The plateau edges however would be susceptible to development, which would be exposed and difficult to screen.	**Medium-Low to High** • The simple flat landform is less susceptible to development. • The plateau edges however would be susceptible to development, which would be exposed and difficult to screen.
Field pattern **D1 - Wymondham** • Early irregular enclosures at Bracon Ash and Mulbarton. • Irregular field pattern in Ketteringham. • Late enclosure of greens e.g. High Green, Melton and High Green, Wreningham. • Park at Ketteringham. • Field pattern obliterated by airfield at Hethel. **D2 – Poringland** • Late enclosure of former heath (shared between settlements). • Former park at Bixley Hall.	**Medium-Low** • A mix of different field patterns. • A development of this size is likely to be contained within a single field and the effect on the field pattern would be limited.	**Medium** • A mix of different field patterns. • A larger Battery Storage scheme would potentially have a greater effect on the field pattern.
Landcover • Large arable fields characterised by swathes of cereals, oilseed rape and sugarbeet. • Some evidence of historic landscape features including moats, historic parkland and farm ponds. • Woodland blocks tend to be associated with halls/remnant parkland	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.	**Medium** • Arable farmland is a resource in its own right, and is therefore sensitive to larger scale developments.

LT D: Settled Plateau Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Settlement pattern and human influence • Historically somewhat sparsely settled but with some dispersed settlement including green-side settlement. • The modern day settlement pattern includes the town of Wymondham and a number of large villages. • Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development. • Wymondham and Mulbarton retain a historic character despite more recent peripheral development, whereas Poringland and Hethersett have a much more modern character (characterised by post-war bungalow development). • Former airfield at Hethel (now site of motor works).	**Medium-Low** • Settlement pattern has somewhat altered with the expansion of settlements. More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11. • More settled parts of the area have a lower susceptibility to development.	**Medium** • Large scale battery storage would have a more pronounced effect on the settlement pattern, and the susceptibility to this form of development is therefore higher.
Perceptual aspects • A number of large settlements are present and there is therefore little sense of remoteness. • The A11 cuts across the Wymondham Settled Plateau Farmlands and introduces a source of noise, movement and modernity. • Whilst this is a settled landscape the villages are set within a rural landscape and there is a sense of countryside.	**Varying from Medium-Low to Medium** • The remaining areas of countryside are susceptible to development. • Battery storage would detract from the rural qualities where these are present. • Away from the A11 there is a higher level of tranquillity which is somewhat susceptible to this form of development.	**Varying from Medium-Low to Medium-High** • The remaining areas of countryside are susceptible to development. • Large scale Battery Storage would have a more pronounced effect on rural qualities of the landscape. • Away from the A11 there is a higher level of tranquillity which is somewhat susceptible to this form of development.

LT D: Settled Plateau Farmland - susceptibility to Battery Storage

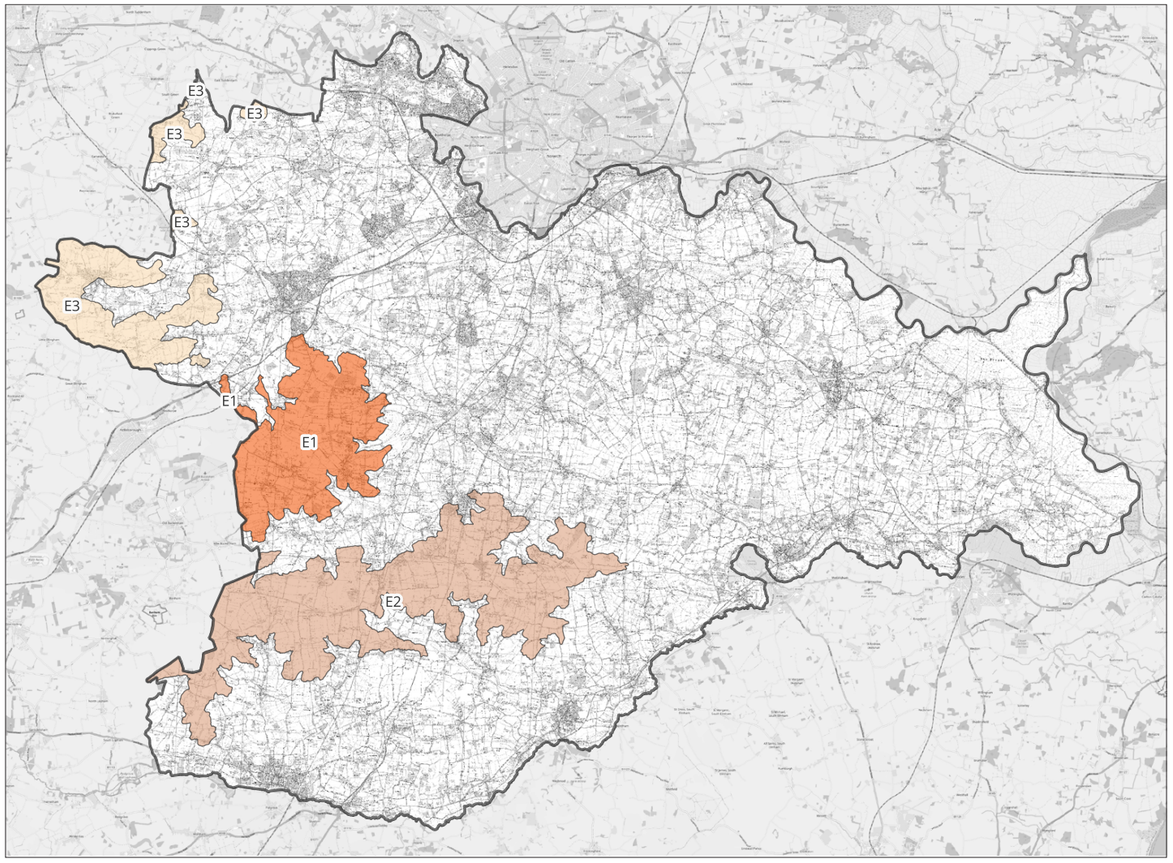
Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**Varying from Low to Medium** • The interior of the plateau is not considered particularly sensitive to this form of development, but exposed plateau edges would have a higher sensitivity.	**Varying from Medium to High** • Larger battery storage installations are likely to include shipping containers or taller elements which would have a considerable effect on the visual characteristics of the Settled Plateau Farmland. The plateau edges have High sensitivity to this form of development. • Mitigation planting is likely to affect the characteristic open views.
Skylines • Strong open horizons – the archetypal 'Norfolk' landscape. • Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Medium** • The long views to open horizons are sensitive to taller forms of development including large battery storage schemes. • Mitigation planting could also affect the characteristic open horizons.
Intactness • The landscape has clearly experienced considerable change through the expansion of settlements. • Poringland extends across the central part of D2 and is a relatively modern settlement. • Within D1, the settlements of Wymondham, Hethersett and Mulbarton have extended into the countryside, and the area is bisected by the A11. Earlier patterns have also been disrupted by the introduction of a WW2 airfield. The settlements are nonetheless separated by substantial areas of countryside.	**Medium** • Development is nucleated and there is a clear distinction between urban areas and the countryside. • Battery storage would be an urbanising element which would potentially fragment the remaining areas of countryside. The area then is moderately susceptible to this form of development.	**Medium-High** • Development of this scale has more potential to fragment the remaining countyside, and the susceptibility is therefore higher.

LT D: Settled Plateau Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA D1: Wymondham Settled Plateau Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the remaining areas of countryside. The standardised design would have a negative effect on the sense of place within this area. • LCA D1 is considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the remaining areas of countryside. The standardised design would have a negative effect on the sense of place within this area. • Larger battery storage schemes would have a more profound effect on the intactness of the remaining rural landscape. Larger battery storage schemes are likely to include shipping containers or taller structures, and the visual sensitivity to this form of development is higher. The effects on the landscape would be harder to mitigate, and the overall susceptibility is therefore higher.
LCA D2: Poringland Settled Plateau Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the remaining areas of countryside. The standardised design would have a negative effect on the sense of place within this area. • LCA D2 is considered to be moderately sensitive to small scale battery storage schemes - which have some potential for mitigation.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the remaining areas of countryside. The standardised design would have a negative effect on the sense of place within this area. • Larger battery storage schemes would have a more profound effect on the intactness of the remaining rural landscape. Larger battery storage schemes are likely to include shipping containers or taller structures, and the visual sensitivity to this form of development is higher. The effects on the landscape would be harder to mitigate, and the overall susceptibility is therefore higher.

LT E: Plateau Farmland

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.



Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields

The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • Sense of openness and exposure due to the elevation and scarcity of enclosing elements. • The flatness of the plateau creates a strong sense of openness with large skies and distant horizons.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Varying from Low to High** • The simple flat landform is less susceptible to this type of development. • The plateau edges however are potentially susceptible to development, including battery storage.	**Varying from Low to High** • The simple flat landform is less susceptible to this type of development. • The plateau edges however are potentially susceptible to development, including battery storage.
Field pattern **E1 – Ashwellthorpe Plateau Farmland** • Ancient rectilinear enclosures in Bunwell • Ancient irregular enclosures at Fundenhall • Late enclosure of large commons (shared between settlements). • Fields on poor drained plateau bound by ditches. **E2 – Great Moulton** • Ancient rectilinear field patterns in Burston, Tibenham, Great Moulton and Hardwick. • Irregular field patterns, presumably early enclosures. • Large heath at western edge of area enclosed in C18. • Some remaining unenclosed land e.g. Wacton Common. • Field pattern eroded by airfields and hedgerow loss. **E3 – Hingham - Mattishall** • Later enclosure of commons and warren signified by rectilinear field pattern e.g at Deopham Green. • Irregular field patterns at Hingham an Wicklewood. • Late enclosure of Welborne Common (C18)	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape. • A development of this size is likely to be contained within a single field and the effect on the field pattern would be limited.	**Medium** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape. • A larger Battery Storage scheme would potentially have a greater effect on the field pattern.

LT E: Plateau Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Landcover • Large fields of arable monoculture with characteristic swathes of wheat, barley, oilseed rape and sugar beet. • Mature hedgerow oaks are features in the agricultural landscape. However hedgerows have been severely degraded or lost, leading to a much simplified landscape. • Generally an early enclosed landscape, but with significant areas of common/ heath, many of which were enclosed in the C19. Some remaining commons. • Mixed field patterns relating to the history of enclosure.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.	**Medium-High** • Arable farmland is a resource in its own right and is therefore sensitive to larger scale developments. • Larger scale developments could alter perceptions of typical landcover so susceptibility is higher.
Settlement pattern and human influence • Dispersed settlement pattern. Common-edge settlement, hamlets and small nucleated villages. Many small halls, often isolated, with moats. No large parklands. • Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development. • Linear settlements occur along roads with some vernacular buildings intermixed with more modern development. • Disused airfields. • Occasional tall structures including wind turbines.	**Medium-High** • Strong sense of historical settlement pattern indicates higher susceptibility to development. • Battery storage schemes could detract from historic features including vernacular buildings.	**High** • Strong sense of historical settlement pattern indicates higher susceptibility to development. • Larger battery storage installations would introduce a much greater sense of human influence.
Perceptual aspects • A peaceful rural character created by the absence of main roads and development. • Quiet rural lanes dissect the landscape. • The A140 cuts north-south through part of E2.	**Medium** • Peaceful rural character is susceptible to development. • Sense of tranquillity is somewhat susceptible to this form of development. • Battery storage is smaller and more compact than other forms of development, so susceptibility in relation to battery storage is somewhat lower.	**Medium-High** • Battery storage does not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities of the Plateau Farmlands. Large schemes would have a more pronounced effect on the rural qualities of the countryside.

LT E: Plateau Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas.	**Medium** • Visual connections with adjacent landscapes, including some long views, indicates higher susceptibility. • The visual character is less susceptible to battery storage than to other forms of development as battery storage installations consists of low elements. Overall then the Plateau Farmland is considered to have medium susceptibility to this form of development.	**Medium-High** • Visual connections with adjacent landscapes, including some long views, indicates higher susceptibility. • Large scale battery storage could include shipping containers or taller structures which would have a considerable negative influence on the visual characteristics of the Plateau Farmlands. The susceptibility to this form of development is therefore higher.
Skylines • The flatness of the plateau creates a strong sense of openness with vast skies and dramatic horizons. • Expansive skies are a defining feature with distant views and farm buildings are visible in the open landscape. • 360 degree horizon in places.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Medium** • The long views to open horizons are sensitive to taller forms of development including large battery storage schemes. • Mitigation planting could also affect the characteristic open horizons.
Intactness • The landscape has experienced ongoing change including enclosure in the C19 and rationalisation in the C20. Some elements of the landscape however can be traced back to the medieval era and there is some sense of historic continuity. Modern elements are relatively few. • Though there have clearly been changes in land management, including the amalgamation of fields, the landscape retains a strong rural character.	**Medium-High** • Battery storage is likely to consist of standard, utilitarian elements which would dilute the sense of place. • Battery storage would contrast with the rural character of the area.	**High** • Battery storage is likely to consist of standard, utilitarian elements which would dilute the sense of place. • Large battery storage developments would have a more profound effect on the intactness of the existing landscape pattern.

LT E: Plateau Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA E1: Ashwellthorpe Plateau Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character which is present across much of the area. • Small battery storage developments typically consist of low features, and there is some potential for mitigation. The existing landscape character is moderately susceptible to this type and scale of development.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character which is present across much of the area. • Large battery storage developments are likely to include shipping containers or taller elements. Development of this scale would have a more profound effect on the intactness of the rural landscape, and susceptibility is therefore higher.
LCA E2: Great Moulton Plateau Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character which is present across much of the area. • Small battery storage developments typically consist of low features, and there is some potential for mitigation. The existing landscape character is moderately susceptible to this type and scale of development.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character which is present across much of the area. • Large battery storage developments are likely to include shipping containers or taller elements. Development of this scale would have a more profound effect on the intactness of the rural landscape, and susceptibility is therefore higher.

LT E: Plateau Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA E3: Hingham-Mattishall Plateau Farmland	**Medium** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character of the area. • Small battery storage developments typically consist of low features, and there is some potential for mitigation. The existing landscape character is moderately susceptible to this type and scale of development.	**Medium-High** • Battery Storage has no intrinsic link with the countryside so this type of development would affect the intactness of the rural landscape. The standardised design would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Battery Storage would also affect the tranquil and undisturbed character which is present across much of the area. • Large battery storage developments are likely to include shipping containers or taller elements. Development of this scale would have a more profound effect on the intactness of the rural landscape, and susceptibility is therefore higher.

LT F: Valley Urban Fringe

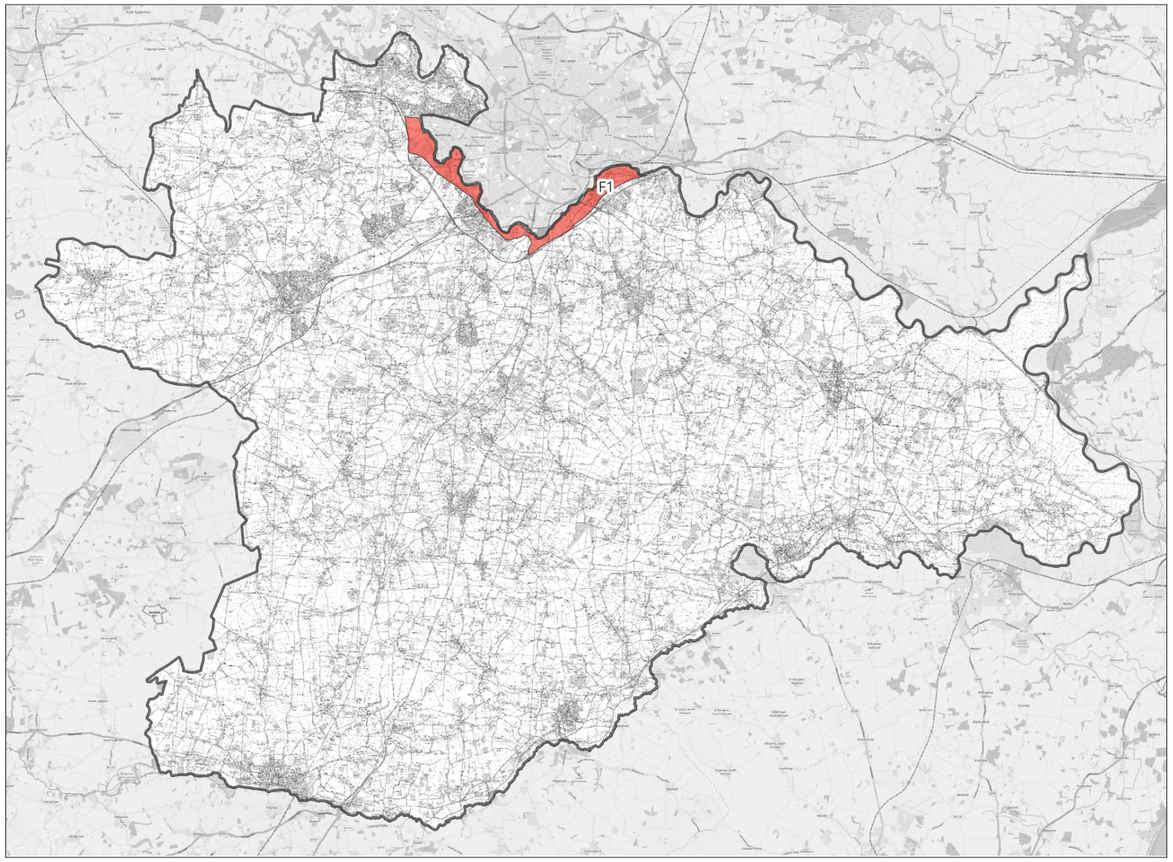
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • A sense of containment. • Wide, fairly flat floodplain with enclosing valley sides. • Trees and woodland also contribute to enclosure in places.	**Medium** • Semi-enclosed landscape with medium susceptibility. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.	**Medium** • Semi-enclosed landscape with medium susceptibility. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**High** • Valley floor is flat, but subject to flooding constraint. • Valley sides have high susceptibility to battery storage, which would typically require a level platform. Development on a valley-side would also be difficult to screen.	**High** • Valley floor is flat, but subject to flooding constraint. • Valley sides have high susceptibility to battery storage, which would typically require a level platform. Development on a valley-side would also be difficult to screen.
Field pattern • The field pattern largely consists of irregular flood meadows divided by dykes. • The valley sides feature irregular and regular enclosures, as well as parkland.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape. • A development of this size is likely to be contained within a single field and the effect on the field pattern would be limited.	**Medium** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape. • A larger Battery Storage scheme would potentially have a greater effect on the field pattern.
Landcover • Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland. Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded appearance. • Glacial gravel deposits, which have been and continue to be exploited resulting in remnant flooded gravel workings along the valley floor. • Natural character. Nature reserves such as Whitlingham Marsh. The river itself is a chalk river. • Presence of recreational landscapes including the country park at Whitlingham and playing fields at UEA. • Inaccessible valley floor with relatively few river crossings.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Battery storage units would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Battery storage units would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.

LT F: Valley Urban Fringe - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Settlement pattern and human influence • Highly influenced by Norwich urban fringe along parts of the upper valley sides. • A number of large institutional buildings in or adjacent to the valley. • Green buffer and comprehensible development edge to the City of Norwich. • Floodplain has remained undeveloped.	**Medium-Low** • The valley largely functions as a green buffer, but there is some development at Colney, Cringleford and Trowse Newton. • The urban influence in the area reduces its susceptibility to change.	**Medium** • Development of this scale would be urbanising, and would erode the green buffer. • Considering the existing development which is already present the susceptibility is assessed as Medium.
Perceptual aspects • Noise of traffic on the Norwich Southern Bypass disturbs the tranquillity of the valley. Overall, despite these urban influences, the valley is mostly quiet and secluded.	**Medium-Low** • Potentially introduces additional lighting and noise, however the existing conditions indicate lower susceptibility.	**Medium-Low** • Potentially introduces additional lighting and noise, however the existing conditions indicate lower susceptibility.
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium** • Small battery storage developments typically consist of low cabinets and are unlikely to completely obscure views. They can however change the visual characteristics of the area.	**Medium-High** • Large battery storage developments may include shipping containers or taller structures which would have a more profound effect on the visual characteristics of the area. Mitigation planting may block views across the valley, which would be detrimental. The susceptibility to this scale of development is therefore higher.
Skylines • The valley crests form a skyline in views from the valley floor. • Mixed woodland blocks and shelter belts occur on the valley sides creating a well-wooded skyline.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Generally low susceptibility, but valley crests are sensitive to development.	**Low** • The well wooded skylines means that development is unlikely to be visible on the skyline. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility. • Generally low susceptibility, but valley crests are sensitive to development.

LT F: Valley Urban Fringe - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Intactness • The floodplain features former meadows and parkland, but nature conservation and recreation are increasingly important. • The land uses have evolved and there is a weak sense of historical continuity. • The intactness is to some extent disturbed by past mineral workings, which have made a lasting impression on the landscape. • The intactness of the valley is also influenced by the development of railways and later road bridges.	**Medium-Low** • Development of this scale would have a limited effect on the intactness of the landscape.	**Medium** • Development of this scale would have a considerable influence on the existing landscape pattern. • Taking account of past changes the Valley Urban Fringe is considered to be moderately susceptible to development of this type and scale, which would cause further fragmentation.

LT F: Valley Urban Fringe - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA F1: **Yare Valley Urban Fringe**	**Medium-Low** • The valley is somewhat susceptible to Battery Storage installations. The floodplain is undeveloped and would not be suitable for development, while the valleysides are also sensitive to this form of development. The valley is fairly contained which indicates lower susceptibility, and there is also existing settlement and human influence. • Small battery storage developments typically consist of low features, and there is some potential for mitigation.	**Medium** • The valley is somewhat susceptible to Battery Storage installations. The floodplain is undeveloped and would not be suitable for development, while the valleysides are also sensitive to this form of development. The valley is fairly contained which indicates lower susceptibility, and there is also existing settlement and human influence. • Large battery storage developments are likely to include shipping containers or taller elements. This form of development would have a considerable influence on the landscape pattern and would erode the green buffer. The susceptibilty of the existing character to this form of development is therefore higher.

LT G: Fringe Farmland

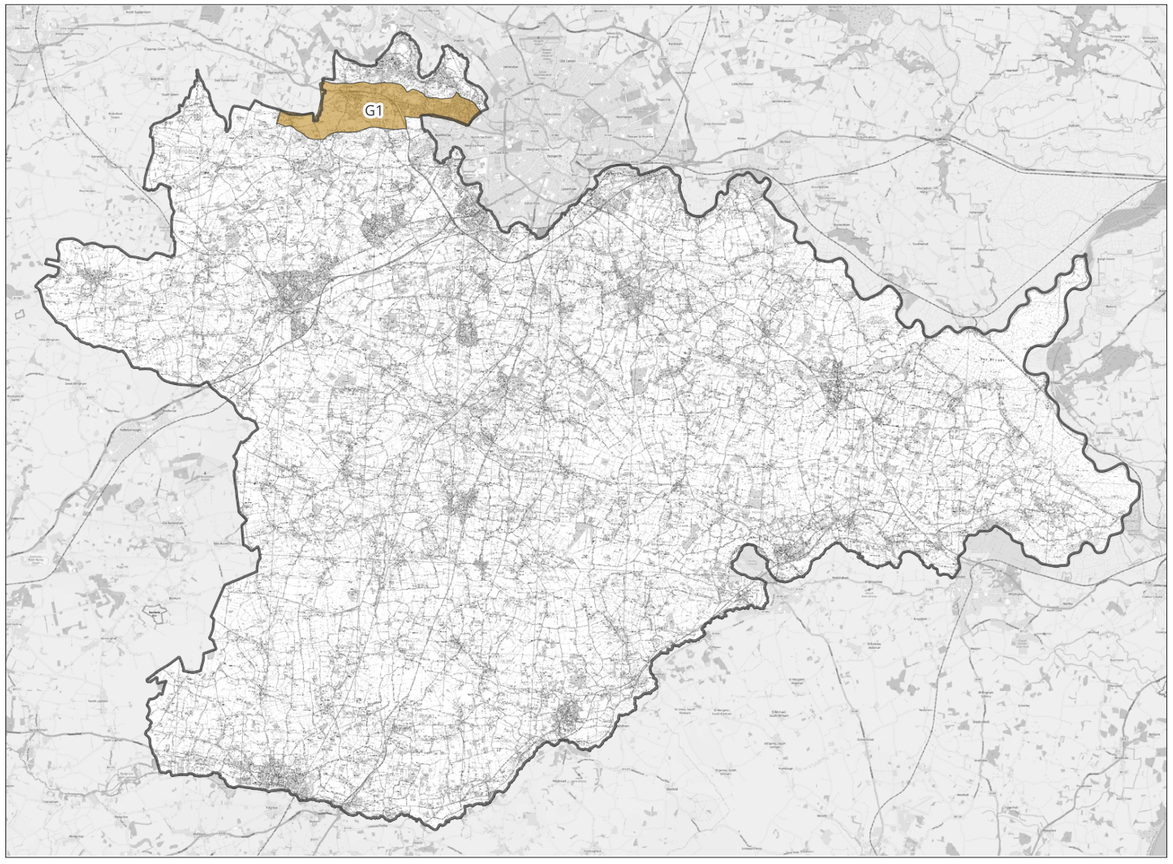
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Sense of enclosure • This landscape can feel exposed in places as a consequence of the elevated ridge topography and relatively low–level of woodland.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • The more open and exposed areas have high susceptibility.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • The more open and exposed areas have high susceptibility.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**Medium-High** • The ridgeline and undulating topography is sensitive. • Battery storage typically requires a level platform and the sloping topography of the ridge would therefore be susceptible to this form of development. • Battery storage on the crest of the ridge would potentially be very exposed.	**Medium-High** • The ridgeline and undulating topography is sensitive. • Battery storage typically requires a level platform and the sloping topography of the ridge would therefore be susceptible to this form of development. • Battery storage on the crest of the ridge would potentially be very exposed.
Field pattern • Field pattern is obscured by land use change across part of the area. • More rural parts of the area show a mix of regular and irregular field patterns which relates to the history of enclosure.	**Medium-Low** • Mix of irregular and regular enclosures. Medium to small-scale fields. • A development of this size is likely to be contained within a single field and the effect on the field pattern would be limited.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields. • A larger Battery Storage scheme would potentially have a greater effect on the field pattern.
Landcover • Defined predominantly by farmland with urban and urban fringe development. A degraded farmland context. • History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas. • Urban fringe uses including a park and ride scheme, retail warehouses, a golf course and the Royal Norfolk Showground. • Rural farmland origins and context, including both arable and pastoral farmland and retaining a peaceful rural quality.	**Varies from Low to Medium** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity.	**Varies from Low to Medium-High** • Landcover is more susceptible to development of this scale because of its greater extent. • Arable farmland is a resource in its own right, so there is some susceptibility to large scale development. • Development of this scale in the more rural parts of the area could alter perceptions of typical land cover. • More developed areas including the urban fringe have a lower sensitivity.

LT G: Fringe Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Settlement pattern and human influence • Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton. • Relatively developed character. • Retail warehouses and supermarkets on edge of town.	**Varies from Low to Medium** • The relatively developed character of much of the area indicates lower susceptibility. • The south-western part of the area however retains a rural settlement pattern.	**Varies from Low to Medium-High** • The relatively developed character of much of the area indicates lower susceptibility. • The south-western part of the area however retains a rural settlement pattern.
Perceptual aspects • Not a remote or tranquil landscape. Recent construction and land use activities have had significant effect upon the rural character. • The Norwich Southern Bypass introduces a corridor of noise and movement. Other roads of the area retain a strong rural character.	**Low** • Existing noise and disturbance indicate a low susceptibility to change.	**Low** • Existing noise and disturbance indicate a low susceptibility to change.
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**Medium** • The ridge is a locally prominent feature which is sensitive to development of all types. • Battery storage would potentially appear stark in this location. • Views to and from the adjacent valley landscapes increase sensitivity.	**Medium-High** • Large battery storage developments may include shipping containers or taller structures which would have a more profound effect on the visual characteristics of the area. • Development on the ridge would be more difficult to mitigate.
Skylines • Skyline varies, sometimes formed by distant views to adjacent landscapes but often interrupted by development and shelterbelts.	**Low** • This form of development is low and is unlikely to affect the skyline.	**Medium-Low** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • The presence of pylons reduces the susceptibility of the skyline.

LT G: Fringe Farmland - susceptibility to Battery Storage

Landscape attribute	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
Intactness • This Landscape Type has seen considerable land use change and there is a fragmented pattern of land uses. • Changing demands upon the land mean that the historical landscape pattern is weakly expressed. • Areas of more intact rural landscape do however occur away from urban edge.	**Medium-Low** • The land uses have evolved and there is a weak sense of historical continuity. • Battery Storage developments consist of standard components which would tend to dilute the local sense of place. • A development of this scale would have a limited effect on the intactness of the area.	**Medium** • Battery Storage developments consist of standard components which would tend to dilute the local sense of place. • Developent would further urbanise the area.

LT G: Fringe Farmland - susceptibility to Battery Storage

Overall susceptibility	Small battery storage development (up to 1ha in size)	Larger battery storage development (over 1ha in size)
LCA G1: **Easton Fringe Farmland**	**Medium** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. Views from adjacent landscapes increase sensitivity. • Small battery storage developments typically consist of low features, and there is some potential for mitigation. The existing landscape character is moderately susceptible to this type and scale of development.	**Medium-High** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. Views from adjacent landscapes increase sensitivity. • Larger battery storage schemes are likely to include shipping containers or taller structures, which could potentially appear stark on the ridge. The effects on the landscape would be harder to mitigate, and the susceptibility to this scale of development is therefore higher.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 4

Local Landscape Character Analysis

December 2025

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Table 01: Tas Tributary Farmland LCA Characteristics by Susceptibility Criteria

Criterion	
Scale	*'large scale arable landscape'* [1]
Enclosure	'*The large-scale arable landscape has an open to semi-enclosed character, and there are very few hedgerows remaining'* '*Scattered remnant hedgerow trees, particularly oak, sometimes including avenues lining the roads or marking former, denuded, field boundaries'*
Landform	*'gently undulating to flat and sloping landscape incised by shallow tributary valleys'*
Landcover	*'Large open arable fields or cereal, sugarbeet and occasionally maize'* *'Small blocks of deciduous woodland of high ecological and visual quality'* *'Damp grasslands of ecological importance located within the tributary valleys'* *'tributary streams which are not prominent landscape features'*
Human influence	*'The eastern part of the LCA includes modern infrastructure, with large double line of pylons and electricity substation, west of Dunston Hall. A large transmitting station west of Howe is visible from a wide are extending vertically from wooded horizons.'* *'Transportation corridors including main connecting roads. Ditches, low banks and wide grass verges associated with the network of rural roads'* *'Settlement characterised by a small number of large villages includes the administrative centre of South Norfolk – Long Stratton – with smaller hamlets, scattered farmhouses and agricultural buildings'* *'Mixed vernacular or timber-frame, stepped and Dutch Gables, thatch and round-towered churches'* *'Networks of recreational footpaths'*
Perceptual aspects (e.g. rural character, stillness, solitude, tranquillity, dark skies)	'*a landscape of gentle slopes leading down to shallow tributary valleys, the streams of which are frequently hidden within the landscape'* *'Hedgerow trees are sparse and appear as lone landmarks in the farmed landscape. There are also a number of intact avenues of mature oak standard hedgerow trees which punctuate the open arable landscape and provide an important vertical element*.'
Visual characteristics including skyline	*'views to Norwich and the Norwich Southern Bypass from the northern area of the LCA and also into the Tas Rural River Valley LCA including towards the earthworks of Venta Icenorum at Caister St Edmund. In the north of the LCA there are clear views into the Broads.'* *'wooded horizons which add variety to, and create intimacy within, the landscape'*
Intactness	*'few hedgerows remaining'*

[1] Quotes have been taken from the South Norfolk Landscape Character Assessment, 2001

Table 02: Tas Tributary Farmland LCA Value Characteristics

Criterion	Commentary
Natural heritage Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest that contributes positively to the landscape	No national landscape designations. SSSI designated ecological assemblages including hornbeam coppice habitats and ancient woodlands of particular importance - Little Wood, plus some grasslands – Fritton Common. North of Caistor St. Edmund - SSSI Chalk Pit. A number of County Wildlife Sites including several sites of ancient woodland - Great Wood, Popes Wood, Pye's Covert and, Brooke Wood, Howe Grove - semi natural woodland (Hill Farm Woodland)
Cultural heritage Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape	Medieval deer parks and a number of historic parklands were once a characteristic of this area, including examples at Bixley, Stoke Hall, Kirstead Hall, Brook House, Woodton and Boylands, but these have now largely disappeared. Scheduled Ancient Monuments feature parts of the remains of medieval settlements at Bixley and Arminghall. Presence of round-towered churches e.g. Topcroft and Fritton. Presence of isolated churches e.g. Tibenham Numerous Listed Buildings
Landscape condition Landscape which is in a good physical state both with regard to individual elements and overall landscape structure	Historic pattern of the landscape has altered due to hedgerow removal and development Landscape remains predominantly agricultural Small woodland blocks and individual mature trees create a wooded horizon Some overgrown hedgerows
Associations Landscape that is connected with notable people, events and the arts	Boudica Way long distance national trail cuts through the eastern half of the LCA – named after the legendary warrior Queen of the Iceni whose tribes once inhabited the area, with the Venta Icenorum (marketplace of the Iceni) in the neighbouring Tas Rural River Valley LCA.
Distinctiveness Landscape that has a strong sense of identity	Area provides strategic break between settled areas, particularly the area north of the Poringland Settled Plateau Farmland LCA and south of Norwich.

Table 02: Tas Tributary Farmland LCA Value Characteristics (continued)

Criterion	Commentary
Recreational Landscape offering recreational opportunities where experience of landscape is important	PRoW offering some opportunities for recreation
Perceptual (scenic) Landscape that appeals to the senses, primarily the visual sense	Agricultural landscape with large open fields. Some areas of pastoral farmland with visible grazing animals Areas where pylons, transmission masts and substations are notable and rise above the mature tree canopy
Perceptual (wildness and tranquillity) Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies	No perception of wilderness. Some sense of tranquillity through the agricultural landscape via PRoWs and within golf course, diminishing around the Norwich Southern Bypass (A47) and other A roads such as the A140
Functional Landscape that performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape	Trees and small woodland blocks perform ecosystem services Predominantly arable landscape and some drainage ditches Contributes to separation between southern edge of Norwich and surrounding settlements. The northern edge of the LCA is overlapped by the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ). This Landscape Zone has been identified where there are high levels of visual accessibility to and from the road to a predominantly open rural area that plays an important part in making the landscape setting of Norwich.
Other observations	*'further loss of vegetation structure including woodland and hedgerows from the landscape which would lead to a greater sense of openness;* *gently sloping topography and open landscape making this area sensitive to intrusion by tall and large elements, including large farm buildings and pylons;* *potential for adverse effects upon views in the north of this character area to/from Norwich and the Bypass;* *key reciprocal views to and from The Broads.'*

Table 03: Tas Rural River Valley LCA Characteristics by Susceptibility Criteria

Criterion	
Scale	*'Distinct, moderately wide, simple valley form'*
Enclosure	'*Less enclosed than some other valleys'*
Landform	*'medium-scale clearly defined flat valley floor, shallow side slopes and adjoining smaller-scale tributary valleys'*
Landcover	'*Pastoral valley floor with cattle grazing and distinctive willow pollards lining the watercourses on the valley floor'* *'Upper tributary valleys of great ecological richness and importance, including areas of fen, marsh and unimproved wet and neutral grassland'* '*Fragmented woodlands and shelterbelts on the valley sides creating a wooded fringe to much of the valley interspersed with more open areas of arable land'*
Human influence	'*Presence of historic earthworks including Scheduled Ancient Monuments, including the large highly visible defensive earthworks of Venta Icenorum and the earthworks at Tasburgh'* *'Sparsely settled character with buildings clustered around fording points and at the top of the valley sides'* *'Characteristic vernacular buildings particularly notable including weatherboarded mill houses and Dutch gable ends'* *'Presence of a small number of distinctive halls and parkland including English Heritage listed parkland at Rainthorpe Hall'*
Perceptual aspects (e.g. rural character, stillness, solitude, tranquillity, dark skies)	'*a feeling of exposure and openness and some long views with the valley but restricted external views'* '*A large number of attractive fords and small bridges occurring at regular intervals along the river and side tributaries'* *'Network of narrow peaceful rural lanes throughout the valley including sunken lanes'* *'Role in dividing and defining east and west of South Norfolk District'*
Visual characteristics including skyline	'*River alternately visible and hidden marked by sparse waterside vegetation including reed filled ditches and narrow woodland belts. The flat, wide, green valley floor is a distinctive feature'*
Intactness	*'A more disturbed character in the north of the area due to the influence of pylons, railway and roads'*

Table 04: Tas Rural River Valley LCA Value Characteristics

Criterion	Commentary
Natural heritage Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest that contributes positively to the landscape	No national landscape designations. SSSIs including Shotesham marshy and wet neutral grassland, Forncett Meadows, Aslacton Parish Land spring line meadow, Flordon Common shallow fenland peat, Caistor St. Edmund quarry.
Cultural heritage Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape	English Heritage listed Grade II parkland at Rainthorpe Hall. SAM at Tasburgh (earthworks) and Roman Centre at Caistor St. Edmund (Venta Icenorum) and associated sites, visible across the valley and create a distinct open landscape. Although not a principal defining characteristic of this character area, there are attractive ornamental gardens at Rainthorpe Hall, near Tasburgh, which are listed by English Heritage. There are also areas of parkland at associated with Dunston Hall (a hotel with golf course) and at Shotesham Park. Presence of round-towered churches (Tasburgh) and isolated churches (Caistor St. Edmund).
Landscape condition Landscape which is in a good physical state both with regard to individual elements and overall landscape structure	Landscape remains predominantly pastoral Small woodlands in the southern part of the valley with linear wet woodland lining the river corridor, plus larger woodland blocks in the valley near Newton Flotman create a wooded horizon Good hedgerow network. Mature hedgerow trees
Associations Landscape that is connected with notable people, events and the arts	Boudica Way long distance national trail cuts through the eastern half of the LCA – named after the legendary warrior Queen of the Iceni whose tribes once inhabited the area, with the Venta Icenorum (marketplace of the Iceni).
Distinctiveness Landscape that has a strong sense of identity	Distinctive valley landform. Sunken lanes.

Table 04: Tas Rural River Valley LCA Value Characteristics (continued)

Criterion	Commentary
Recreational Landscape offering recreational opportunities where experience of landscape is important	Golf course and Spa at Dunston Hall PRoW offering some opportunities for recreation
Perceptual (scenic) Landscape that appeals to the senses, primarily the visual sense	The river itself is not a particularly dominant feature and is often hidden within a wide green floodplain. The main indication of the presence of the river is the vegetation, which intermittently lines its banks, including some lines of willow pollards. The river is also observable from the crossing points - the large number of fords are a particularly characteristic and memorable feature of the Tas Valley. There are also a number of small bridged crossings such as the bridge at Newton Flotman.
Perceptual (wildness and tranquillity) Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies	No perception of wildness. The valley is distinct for the perceived scarcity of settlement due to the well integrated nature of the built environment with the surrounding landscape.
Functional Landscape that performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape	Trees and small woodland blocks perform ecosystem services Predominantly a strong pastoral quality and is grazed by cattle, creating a strong contrast with the more intensive arable land use of much of the district. The former Roman Road linking Norwich and Ipswich (now the A140) which runs along the upper slopes on the western side of the valley and effectively forms the boundary of the character area, adding an element of noise and movement to this peaceful valley landscape. Other modern intrusions include the pylons to the north of the area and the Norwich Southern Bypass, which defines the northern limit of the character area. Valley provides an important landscape division between settled plateaux to east and west of District. The northern edge of the LCA is overlapped by the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ). This Landscape Zone has been identified where there are high levels of visual accessibility to and from the road to a predominantly open rural area that plays an important part in making the landscape setting of Norwich.

Table 04: Tas Rural River Valley LCA Value Characteristics (continued)

Criterion	Commentary
Other observations	*'The need to conserve the peaceful rural character of the Tas Valley and the threat of incremental change, including upgrading of the rural lane network (e.g. kerbing would be very detrimental to the character of the sunken lanes which are a feature of the valley, with their small fords and river crossings);* *Particular vulnerabilities in the northern part of the valley due to the impact of infrastructure and large scale land uses relating to the urban edge of Norwich including pylons, golf courses and development in association with the transport corridors (A140 and A47);* *Visual sensitivities of the Tas Valley to new development/landscape change as a result of its open character, wide flat floor and long valley views;* *Loss of hedgerow boundaries and trees, resulting in a further opening up of the landscape creating some very large scale and bleak areas on valley sides;* *Sensitivity of historic landscapes, particularly Caistor St Edmund to visual intrusion'*

Table 05: Yare Tributary Farmland with Parkland LCA Characteristics by Susceptibility Criteria

Criterion	
Scale	*'a variety of open / more intimate landscape settings'* *'Transitional landscape occupying the mid ground between the upland plateau of the Wymondham-Hethersett settled plateau farmland and the principal Yare Valley and forming part of the transition between the rural and urban landscape'*
Enclosure	*'Fields surrounded by sparse hedges and hedgerow trees, with occasional mature/veteran oaks forming a distinctive feature alongside the lanes'* *'Estate railings, boundary fences and tree lined avenues'*
Landform	*'Shelving landform with a gently undulating topography created by the presence of small tributary stream valleys cutting through the landscape'*
Landcover	*'Arable and pastoral farmland of cereals and sugarbeet with more pastoral land uses within the immediate tributary valley corridor'* *'Presence of large parkland estates, tree lined avenues and traditional wooded parkland contribute to landscape character'* *'small farm woodlands and intermittently wooded tributary valleys'*
Human influence	*'Sparsely settled landscape of small clusters of farmhouses, small villages and rural dwellings interspersed with large manorial buildings and halls'* *'Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in the larger villages'* *'High number of large dwelling set in extensive grounds including characteristic large detached halls and manor houses. Usually constructed of brick, of high architectural quality, associated with the parkland estates of Keswick, Intwood, Thickthorn and Colney.'* *'Presence of large institutional buildings including new hospital and areas of the Research Park at Colney'* *'The Norwich Southern Bypass and A11 Wymondham Road trisect the landscape and the area is also traversed by the main Norwich-London railway line. These routes create corridors of movement and noise in this otherwise peaceful landscape. Elsewhere, there is an intricate network of narrow rural roads and lanes'*
Perceptual aspects (e.g. rural character, stillness, solitude, tranquillity, dark skies)	*' Peaceful farmland with small farm woodlands and intermittently wooded tributary valleys creating a quiet rural atmosphere'* *' A sense of impenetrability and remoteness despite the presence of major transportation corridors'*

Table 05: Yare Tributary Farmland with Parkland LCA Characteristics by Susceptibility Criteria (continued)

Criterion	
Visual characteristics including skyline	*'long / framed views'* *'Intermittent long views towards the City of Norwich and cathedral spire, particularly from the Southern Bypass which bisects this area'* *Halls and manor houses - These are frequently screened by woodland, and therefore visible only at close range*
Intactness	*'The parkland estates, including areas of English Heritage registered historic parkland, are one of the most distinguishing features of this area. Main examples are Thickthorn Hall, Colney Hall, Intwood Hall, Keswick Hall and East Carleton Manor.*

Table 06: Yare Tributary Farmland with Parkland LCA Value Characteristics

Criterion	Commentary
Natural heritage Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest that contributes positively to the landscape	No national landscape designations. Presence of round-towered churches – Keswick Church particularly noteworthy Presence of isolated churches
Cultural heritage Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape	Registered Park and Garden of Intwood Hall. Other estate parklands
Landscape condition Landscape which is in a good physical state both with regard to individual elements and overall landscape structure	Woodlands
Associations Landscape that is connected with notable people, events and the arts	No known associations
Distinctiveness Landscape that has a strong sense of identity	Presence of historic parkland, very characteristic, some have origins as a medieval deer park.
Recreational Landscape offering recreational opportunities where experience of landscape is important	PRoW offering some opportunities for recreation

Table 06: Yare Tributary Farmland with Parkland LCA Value Characteristics (continued)

Criterion	Commentary
Perceptual (scenic) Landscape that appeals to the senses, primarily the visual sense	Wooded appearance Attractive and impressive gatehouses and railings provide visual reference to the presence of historic Halls and parklands.
Perceptual (wildness and tranquillity) Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies	No perception of wildness.
Functional Landscape that performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape	Trees and small woodland blocks perform ecosystem services The north eastern edge of the LCA is overlapped by the Norwich Southern Bypass Landscape Protection Zone (NSBLPZ). This Landscape Zone has been identified where there are high levels of visual accessibility to and from the road to a predominantly open rural area that plays an important part in making the landscape setting of Norwich. Area of or including significant strategic breaks between settled areas – very important strategic gap between Hethersett and Cringleford (Norwich).
Other observations	*'Proximity to Norwich and loss of rural farmland character through expansion of the urban edge of the City beyond the Yare Valley, or development associated with the Southern Bypass/A11;* *Particular vulnerability to loss of clarity of the rural/urban divide created by the Yare Valley;* *Incremental change including upgrading of the rural land network (eg kerbing and lighting) plus isolated developments (eg institutions) resulting in a more urban character;* *A gently shelving topography from the plateau and on views making this area especially sensitive to the location of any new development / infrastructure – and potential impact on views to the City;* *Loss and degradation in the character of the historic parkland and designed landscapes, [particularly with changing uses and demands;* *Loss of mature tree boundaries (without replacement) resulting in further 'opening up' of views plus loss of woodland;* *Suburbanisation of field and parkland boundaries'*

Table 07: Wymondham Settled Plateau Farmland LCA Characteristics by Susceptibility Criteria

Criterion	
Scale	*'Large-scale, open arable fields'* *'Long views from plateau edge'*
Enclosure	*'Poor hedgerows generally, which accentuates the openness of the landscape. The resulting wide verges beside roads often contain attractive wildflowers. Some mature hedgerow trees are found, particularly besides roads, which are a distinctive feature.'*
Landform	*'Large expanses of flat landform with little variation'*
Landcover	*'Large-scale, open arable fields including sugarbeet, cereal and oilseed rape monocultures creating simple, often monotonous, character'* *'Sparsely wooded but with occasional woodland blocks, sometimes associated with former parkland areas, creating a more wooded character and wooded horizons in parts of this generally open landscape'*
Human influence	*'A settled landscape with large edge-of-plateau towns (including market towns and those of more modern origin) and villages plus, smaller, nucleated settlements which are dispersed across the plateau'* *'Vernacular buildings particularly brick built, timber-framed, and stepped gables. Some isolated churches, sometimes hidden by dense screening churchyard vegetation'*
Perceptual aspects (e.g. rural character, stillness, solitude, tranquillity, dark skies)	*'Large expanses of flat landform with little variation over long distances with strong horizons – the archetypal 'Norfolk' landscape of popular imagination.'*
Visual characteristics including skyline	*'Long views from plateau edge, including to Norwich from the northern plateau edge.'*
Intactness	*'Poor hedgerows generally. Areas of more intact hedgerow network sometimes occur around settlements. '*

Table 08: Wymondham Settled Plateau Farmland LCA Value Characteristics

Criterion	Commentary
Natural heritage Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest that contributes positively to the landscape	No national landscape designations. Areas of ancient woodland. Water bodies e.g. village pond at Mulbarton.
Cultural heritage Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape	Scheduled Ancient Monuments Presence of round-towered churches. Presence of isolated churches. Ketteringham parkland Moated structures occur around Hethel.
Landscape condition Landscape which is in a good physical state both with regard to individual elements and overall landscape structure	Large fields denuded of hedgerow and boundary vegetation, although some retained alongside roads. Woodlands
Associations Landscape that is connected with notable people, events and the arts	Just outside of the study area, to the north of the A11 - Kett's Oak, believed to be where William Kett addressed a group of men in what was to become Kett's Rebellion.
Distinctiveness Landscape that has a strong sense of identity	Presence of historic parkland, very characteristic, some have origins as a medieval deer park.
Recreational Landscape offering recreational opportunities where experience of landscape is important	PRoW offering some opportunities for recreation

Table 08: Wymondham Settled Plateau Farmland LCA Value Characteristics (continued)

Criterion	Commentary
Perceptual (scenic) Landscape that appeals to the senses, primarily the visual sense	Wooded appearance Strong regional vernacular character, partly eroded by modern development. Distinctive plateau landscape Important views to Norwich from north of area
Perceptual (wildness and tranquillity) Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies	No perception of wildness Wooded appearance
Functional Landscape that performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape	Trees and small woodland blocks perform ecosystem services To Note: this study area does not extend beyond the A11, to the north of which, between Norwich, Hethersett and Wymondham is an area designated as Strategic Gap
Other observations	*'imposition of insensitive developments and tall structures such as masts/grain silos and other large scale farm or industrial/commercial buildings that break up the skyline and intrude upon the sense of openness;* *loss of vernacular character, particularly as a result of sprawl from the edge of the existing plateau top settlements;* *development that intrudes upon the view to important landmarks e.g. Wymondham Abbey or the City of Norwich;* *further "opening up" of the landscape through loss of woodland, hedgerows or hedgerow trees.*

Table 09: Poringland Settled Plateau Farmland LCA Characteristics by Susceptibility Criteria

Criterion	
Scale	*'Large scale open arable fields'* *'Long views from plateau edge'*
Enclosure	*'Large scale open arable fields'* *'Long views from plateau edge'*
Landform	*'Flat landscape, which rises to a gentle central dome, with strong open horizons'*
Landcover	*'Large scale open arable fields including sugarbeet, cereal and oilseed rape monoculture'* *'Wooded character in parts and when viewed from afar, particularly around the settlements and due to the presence of woodland blocks in the north of the character area.'*
Human influence	*'Densely settled core area, predominantly of ribbons of post-war bungalows and other development which interconnect the older village cores. These older cores have a strong vernacular appeal.'* *'Vernacular buildings present but somewhat 'diluted' by more recent development'*
Perceptual aspects (e.g. rural character, stillness, solitude, tranquillity, dark skies)	*'Recreational routeways including Boudica's Way leading to the Tas Valley'*
Visual characteristics including skyline	*'Long views from plateau edge including to Norwich from northern plateau edge and to the Tas Valley.'* *'Prominent landmark telecommunications towers (radio and radar) located at the high point of the plateau and visible from a large area of the surrounding countryside'*
Intactness	*'Poor hedgerows but wide roadside verges and numerous remnant hedgerow standards, particularly around settled areas'*

Table 10: Poringland Settled Plateau Farmland LCA Value Characteristics

Criterion	Commentary
Natural heritage Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest that contributes positively to the landscape	No national landscape designations Areas of ancient woodland. Water bodies
Cultural heritage Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape	Scheduled Ancient Monuments. Presence of round-towered churches. Presence of isolated churches.
Landscape condition Landscape which is in a good physical state both with regard to individual elements and overall landscape structure	Wide grass verges alongside roads – often wide and flowery, particularly where they are a result of hedgerow removal Good hedgerow network Mature hedgerow trees
Associations Landscape that is connected with notable people, events and the arts	Boudica Way long distance national trail cuts through the western edge of the LCA – named after the legendary warrior Queen of the Iceni whose tribes once inhabited the area, with the Venta Icenorum (marketplace of the Iceni).
Distinctiveness Landscape that has a strong sense of identity	Distinctive plateau landscape
Recreational Landscape offering recreational opportunities where experience of landscape is important	PRoW offering some opportunities for recreation

Table 10: Poringland Settled Plateau Farmland LCA Value Characteristics (continued)

Criterion	Commentary
Perceptual (scenic) Landscape that appeals to the senses, primarily the visual sense	Wooded appearance – large mixed coniferous-deciduous blocks Strong regional vernacular character. Moats present Important views to and from Norwich – telecommunications towers are distinct local landmarks.
Perceptual (wildness and tranquillity) Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies	No perception of wildness. Reduced levels of tranquillity near settlements.
Functional Landscape that performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape	Area of or including significant strategic breaks between settled areas. Drainage ditches
Other observations	*'Further ribbon development along the rural lanes would blur the distinction between individual settlements;* *Developments that intrude upon plateau edge views either from the plateau or visible from the surrounding countryside, particularly the visually sensitive area between the plateau and the city of Norwich;* *Developments that impact upon or intrude upon the setting or views from recreational routes;* *Location of further tall structures such as communications towers which would break the skyline and would adversely affect the perception of a rural hinterland to the city of Norwich;* *Further opening up of the landscape through loss of woodland, hedgerows or hedgerow trees;* *Improvement of remaining rural lanes including kerbing, lighting or loss of verges.'*

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 2
Criteria for assessing Susceptibilty to Change

November 2025

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Table 1: Indicators and higher and lower susceptibility

Landscape attribute	Lower susceptibility	Medium susceptibility	Higher susceptibility
Scale	• Vast or larger-scale landscapes • Larger scale field patterns • Larger scale elements within landscape	• Intermediary or varied sense of scale	• Intimate and intricate landscapes • Small-scale field patterns • Small-scale landscape elements
Sense of enclosure	• Landscapes enclosed with large-scale elements such as woodland or plantation belts and/or by topographic variation	• Intermediary or varied sense of enclosure	• Landscapes open with only a few boundary features or woodland/tree cover and no topographical variation
Landform	• Simple landform e.g. wide plain or plateau	• Undulating landform • Plateau edges	• Irregular, complex or distinctive landform e.g. hills and ridges, steep slopes, narrow valleys
Field pattern	• Simple, regular, uniform or planned field pattern suggesting mainly modern origin • 20th century enclosures • Large fields with weak hedgerows	• Mixed field patterns • Medium-sized fields	• Irregular field pattern mainly of ancient origin • Small-scale fields with intact hedgerows
Landcover	• Large areas of urban, industrial/commercial, brownfield landscape or previously developed land • Substantial areas of settlement	• Arable farmland	• Complex, mosaic landcover pattern • Large areas of natural or semi-natural landcover in the form of woodlands, extensive tree cover or/and permanent pasture • Limited areas of settlement such as villages and small hamlets • Historic landscapes, e.g. parkland
Settlement pattern and human influence	• Modern settlement pattern • Developed character with modern elements such as larger roads, airfields, railways, industrial estates, housing estates, caravan parks, pylons or commercial greenhouses • Presence of major transmission infrastructure (including substations) • Prominent urban edges within or beyond the LCA • General absence of historic features		• Stronger sense of historic settlement pattern, which relates to the landscape e.g. to a river or a green, or forms part of the historic fabric of the landscape e.g. halls and churches, farms, hamlets, villages • Historic features, e.g. halls, moats, medieval churches, ponds, hundred lanes • Traditional rural land uses • General absence of modern development • Absence of industrial development
Perceptual aspects	• Strong sense of urbanising influences • Higher levels of noise from, e.g. airport, road, quarry or industrial plant • Higher levels of brighter lit landscapes		• Strong sense of rural character • Strong sense of tranquillity and/or solitude • General absence of artificial noise • Limited artificial light sources
Visual characteristics	• Strong sense of urbanising influences • Higher levels of noise from, e.g. airport, road, quarry or industrial plant • Higher levels of brighter lit landscapes	• Presence of typical views across the landscape • Some visual connections to adjacent areas including landforms and historic landscapes	• Presence of important, characteristics and/or promoted views • Strong visual connections to adjacent areas including landforms and historic landscapes
Skylines	• Generally non-prominent skylines • Few important landmark features such as church towers or windmills		• Skylines with prominent and important landmark features such as church towers or windmills • Presence of landmark features
Intactness	• Weak sense of place • Disturbed, fragmented landscape • Poorly maintained or abandoned land		• Strong sense of place • Individual elements in good condition

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.4
Landscape Susceptibility Analysis
Overhead powerlines

November 2025

thelandscapepartnership

LT A: Rural River Valleys

The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

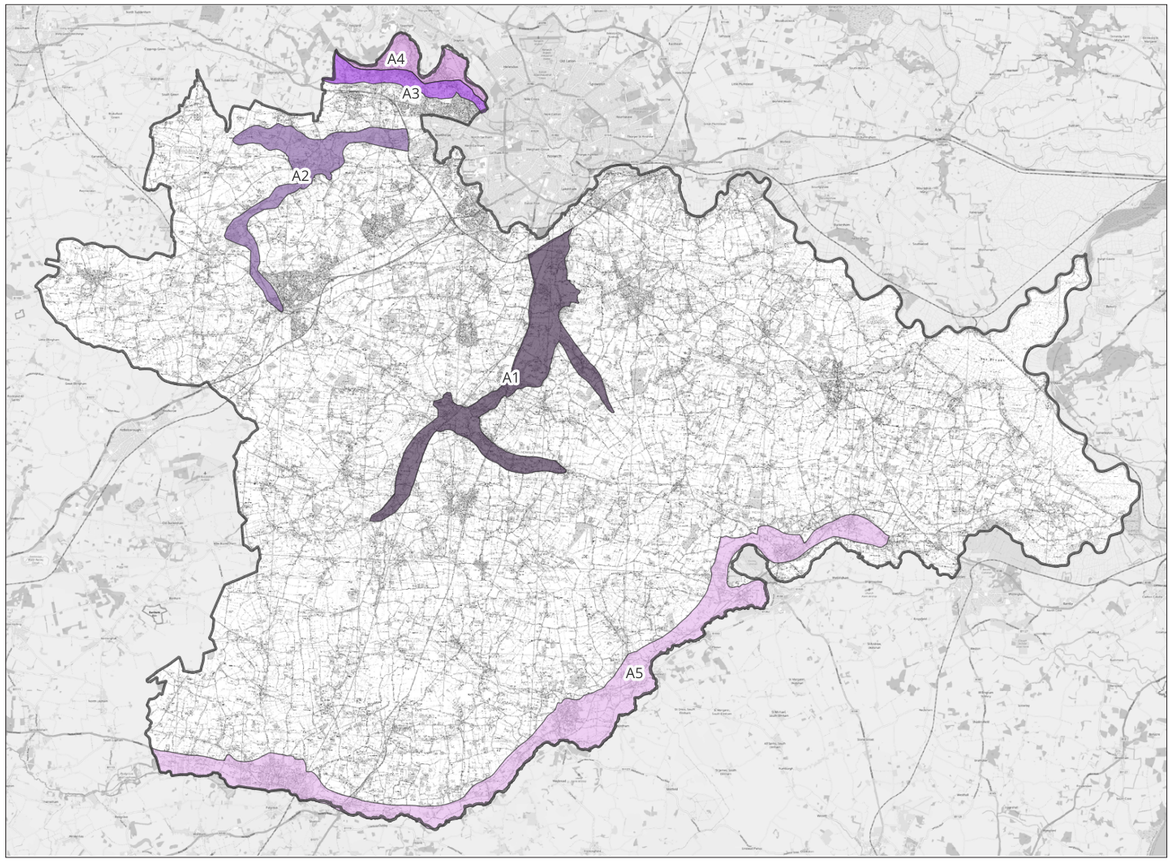
The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.

The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley



LT A: Rural River Valleys - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • The South Norfolk river valleys (except for the Waveney) are small in scale, with intricate topography. The Waveney is a broad shallow valley with simpler topography.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • Small-scale landscapes are considered to have higher susceptibility to this form of development. 26m pylons are likely to be the tallest element within the landscape.	**LCA A1, A2, A3, A4: High** **LCA A5: Medium** • Pylons of this size would overwhelm the small-scale river valleys and become the dominant element within the landscape.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**Medium-High** • Complex and often sinuous landform of the river valleys contrasts with the straightness of the overhead power lines. • Shallow valleys likely to be overwhelmed by pylons.	**High** • Complex and often sinuous landform of the river valleys contrasts with the straightness of the overhead power lines. • Shallow valleys likely to be overwhelmed by pylons.
Settlement pattern and human influence • Valleys have historically been a focus for settlement and the valleys contain some historic villages. • The floodplain however tends not to be settled, except for occasional mills. • Settlements are predominantly small and nucleated with strong vernacular character. Isolated farms are present on the edges of the floodplain. • The Waveney Valley is generally rural but the area around Diss is more urbanised.	**High** • Small villages and narrow country lanes create a complex settlement pattern which has a higher susceptibility to overhead powerlines.	**High** • Small villages and narrow country lanes create a complex settlement pattern which has a higher susceptibility to overhead powerlines.
Perceptual aspects • The river valleys are typically settled, but for the most part this consists of small rural villages, often with historic character recognised through Conservation Area designations, connected by minor roads. • The generally quiet character and low density of settlement contribute to the perception of an intimate, tranquil rural landscape within the River Valleys. • Tranquillity is reduced in the Waveney Valley by the A1066 and the A143. • Tranquillity is also reduced in the middle section of the Yare Valley by the A47.	**Medium-High** • Quiet rural landscapes indicate higher susceptibility across most of this type.	**Medium-High** • Quiet rural landscapes indicate higher susceptibility across most of this type.

LT A: Rural River Valleys - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. • Pylons tend to be perceived negatively, so the susceptibility to this form of development is high. • Views from the Waveney Valley into The Broads increases its sensitivity.	**High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. • Pylons tend to be perceived negatively, so the susceptibility to this form of development is high. • Views from the Waveney Valley into The Broads increases its sensitivity.
Skylines • The valley crests form a skyline in views from the valley floor marking the transition to the adjacent landscape type. • In A5: Waveney Valley- a series of churches on the ridgeline form a prominent landmark. • Skyline is usually undeveloped creating a rural context. • Woodland along the valley crest is a key feature of A3: Tud River Valley.	**Medium-High** • Valley landform tends to create prominent, sometimes distinctive skylines which have higher susceptibility. • Existing pylons are present in places. Where pylons are present this lowers local susceptibility.	**Medium-High** • Valley landform tends to create prominent, sometimes distinctive skylines which have higher susceptibility. • Existing pylons are present in places. Where pylons are present this lowers local susceptibility.

LT A: Rural River Valleys - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Intactness • Ditches, fens, meadows, riparian vegetation and vernacular buildings create a sense of place. • The Tas Valley has an intact character. Small villages are present just above the floodplain. The character is somewhat influenced by nearby pylons, railway and A-road. • The Yare and Tiffey Valleys have an intact rural character with meadows, wet woodland, and historic parkland. Small villages are also present just above the floodplain. A tranquil character away from the A47, and a strong sense of place. • The Tud Valley is largely undeveloped and the historic pattern is still legible, however the A47 cuts through the pre-existing landscape pattern and weakens the sense of character. The eastern portion of the valley is found within an increasingly urban context. The land use here has changed with the introduction of a golf course at Costessey Park, and paddocks. • The Wensum Valley is partially disturbed by flooded mineral workings in the base of the valley. The valley is largely undeveloped. • The Waveney Valley is undeveloped and largely rural except around Diss. Pattern of meadows, fens and carrs remains intact throughout most of the area. Tranquillity is reduced by the A143, but there is a relatively strong sense of place.	**High** • Standard design of pylons diminishes local distinctiveness. • Strong sense of place indicates a high susceptibility to this form of development.	**High** • Standard design of pylons diminishes local distinctiveness. • Strong sense of place indicates a high susceptibility to this form of development.

LT A: Rural River Valleys - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA A1: **Tas Rural River Valley**	**Medium-High** • The existing characteristics of the Tas Valley are considered sensitive to overhead power lines. The visual characteristics of the landscape are highly sensitive to overhead powerlines on account of their height. Pylons are also incompatible with existing features in terms of their visual appearance. The complex landscape patterns and high scenic quality of the Tas Valley indicates high sensitivity, while the strong sense of place is vulnerable to generic forms of development such as overhead powerlines. • A new 132kV line in connection with the existing 400kV line would cause visual confusion.	**Medium-High** • The Tas Valley is considered to be very sensitive to 400kV lines. Pylons of this size would overwhelm the existing valley landform, and are not relatable to existing landscape features. An existing 400kV line already has some influence on the character of the Tas Valley. A new 400kV line would cause pylons to become a dominant feature within the landscape. This scale of development would alter the characteristics of the landscape.
LCA A2: **Yare/Tiffey Rural River Valley**	**High** • The existing characteristics of the Yare/ Tiffey Valley are considered highly sensitive to overhead power lines. The undisturbed quality of the valley would be compromised by electricity transmission infrastructure, and the intricate topography is unsuited to this type of development. The visual characteristics of the landscape are highly sensitive to overhead powerlines on account of their height. The complex landscape patterns and high scenic quality of the Yare/Tiffey Valley indicates high sensitivity, while the strong sense of place is vulnerable to generic forms of development such as overhead powerlines.	**High** • The Yare/Tiffey Valley is considered to be very sensitive to 400kV lines. Pylons of this size would overwhelm the existing valley landform, and are not relatable to existing landscape features. The pylons would become new and dominant elements within the landscape, causing a fundamental change in character.

LT A: Rural River Valleys - susceptibility to overhead powerlines

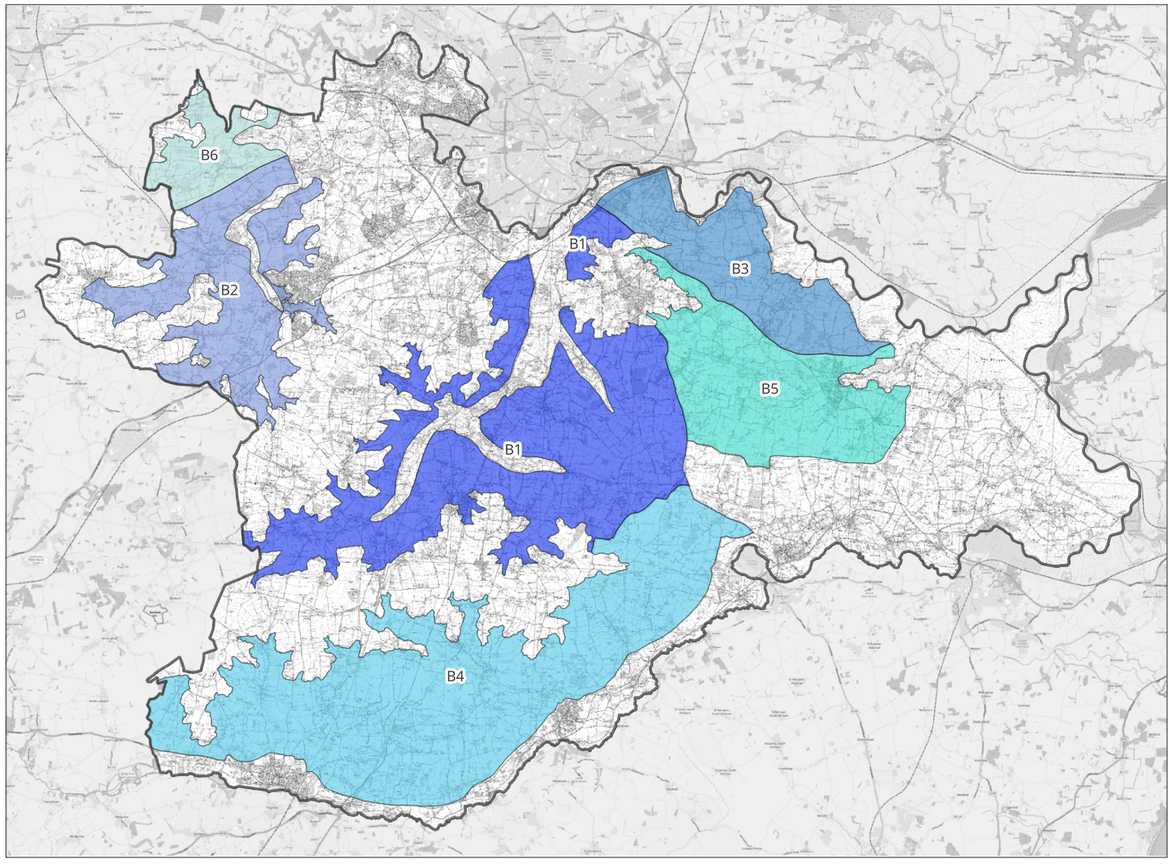
Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA A3: **Tud Rural River Valley**	**High** • The existing characteristics of the Tud Valley are considered sensitive to 132kV lines, which would overwhelm the small-scale valley landform. The visual characteristics of the landscape are highly sensitive to overhead powerlines on account of their height. Pylons are also incompatible with existing features in terms of their visual appearance. The complex landscape patterns and high scenic quality of the Tud Valley indicates high sensitivity, while the sense of place is vulnerable to generic forms of development such as overhead powerlines.	**High** • The Tud Valley is considered to be very sensitive to 400kV lines. Pylons of this size would overwhelm the existing valley landform, and are not relatable to existing landscape features. The pylons would become new and dominant elements within the landscape, causing a fundamental change in character.
LCA A4: **Wensum Rural River Valley**	**High** • The existing characteristics of the Wensum Rural River Valley are considered highly sensitive to overhead power lines. The meandering valley landform is incompatible with the straight alignments of overhead wires. The visual characteristics of the landscape are highly sensitive to overhead powerlines on account of their height. The complex landscape patterns and high scenic quality of the Wensum Valley indicates high sensitivity, while the strong sense of place is vulnerable to generic forms of development such as overhead powerlines.	**High** • The Wensum Valley is considered to be very sensitive to 400kV lines. Pylons of this size would overwhelm the existing valley landform, and are not relatable to existing landscape features. The pylons would become new and dominant elements within the landscape, causing a fundamental change in character.
LCA A5: **Waveney Rural River Valley**	**High** • The existing characteristics of the Waveney Valley are considered sensitive to 132kV lines. The visual characteristics of the landscape are highly sensitive to overhead powerlines on account of their height. Pylons are also incompatible with existing features in terms of their visual appearance. The high scenic quality of the Waveney Valley indicates high sensitivity, while the strong sense of place is vulnerable to generic forms of development such as overhead powerlines.	**High** • The Waveney Valley is considered to be very sensitive to 400kV lines. Pylons of this size would overwhelm the existing valley landform, and are not relatable to existing landscape features. The pylons would become new and dominant elements within the landscape, causing a fundamental change in character.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views. • Contrasting sense of enclosure from small scale and enclosed in the wooded valleys to wider, more open areas across large arable fields on higher ground.	**Medium** • In terms of scale the Tributary Farmlands lie in the middle of the susceptibility spectrum.	**Medium-High** • Pylons of this size are less relatable to existing landscape features so the susceptibility to this form of development is considered to be higher.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The area generally consists of gently undulating land which lies in the middle of the susceptibility spectrum.	**Medium** • The area generally consists of gently undulating land which lies in the middle of the susceptibility spectrum.
Settlement pattern and human influence • Dispersed settlement pattern of small villages, hamlets, farmsteads and manors distributed across the landscape. Occasional large agricultural buildings e.g. poultry sheds • Compact villages sheltered within small valleys. • Mixed architectural character comprising modern bungalow development and vernacular architecture with stepped gable ends and other vernacular characteristics. Local building materials such as brick and flint. • Isolated churches. Locally distinctive round towered churches e.g. St Michael's Aslacton • The Chet Tributary Farmland contains the small town of Loddon.	**Medium-High** • The historic settlement pattern is still evident with only modest recent expansion. • Existing pylons introduce more human influence in places, which reduces the local susceptibility. • Powerlines could affect views to locally distinctive round towered churches and other historic features. • Powerlines would introduce an increased sense of human influence.	**High** • The historic settlement pattern is still evident with only modest recent expansion. • Existing pylons introduce more human influence in places, which reduces the local susceptibility. • Powerlines could affect views to locally distinctive round towered churches and other historic features. • Powerlines of this scale would introduce a strong sense of human influence.

LT B: Tributary Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Perceptual aspects • For the most part the landscape is peaceful, rural and tranquil. • Roads introduce a local source of movement within the landscape.	**Medium** • Not as sensitive as wild or remote landscapes; however, pylons can affect the rural qualities of the landscape.	**Medium-High** • Pylons of this size have a greater effect on the rural qualities of the landscape.
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Connections to surrounding landscapes including the Broads and Norwich indicate higher susceptibility. • The scenic quality is sensitive to tall structures such as pylons.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Connections to surrounding landscapes including the Broads and Norwich indicate higher susceptibility. • The scenic quality is sensitive to tall structures such as pylons.

LT B: Tributary Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Skylines • The skyline varies across the landscape type from clear to interrupted by woodland blocks and undulations in landform. • In the enclosed tributary valleys the skyline can include prominent valley crests.	**Medium** • Undeveloped skylines, though not generally prominent or distinctive. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility. • Prominent valley crests are sensitive to development.	**Medium-High** • Undeveloped skylines, though not generally prominent or distinctive. • Pylons of this size would have a large effect on the skyline. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility. • Prominent valley crests are particularly sensitive to development.
Intactness • Some roads have been modernised and there has been some modest expansion of settlements. Changing agricultural practices have led to a simplification of the landscape pattern and the loss of some landscape features. The historic pattern is nonetheless legible, and there are relatively few modern elements. The rural character of the area is intact, and there is a moderately strong sense of place.	**Medium-High** • The intact rural character is sensitive to the urbanising influence of an overhead transmission line. • Standard design of pylons would dilute the sense of place.	**Medium-High** • The intact rural character is sensitive to the urbanising influence of an overhead transmission line. • Standard design of pylons would dilute the sense of place.

LT B: Tributary Farmland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA B1: **Tas Tributary Farmland**	**Medium** • The Tas Tributary Farmlands are sensitive due to the strong rural and tranquil character across most of the area, and sensitive views to heritage assets such as Venta Icenorum, Dunston Hall or to Norwich. Views to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • 132kV powerlines coupled with the existing 400kV line would create visual confusion. The existing 400kV line has already caused a considerable change in character in this area and there is limited capacity to adsorb further change.	**Medium-High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. • Where 400kV powerlines are present in the landscape this has already caused a considerable change in character. The susceptibility of the key characteristics to this type of development is therefore judged as Medium-High.
LCA B2: **Tiffey Tributary Farmland**	**Medium-High** • The strong rural, tranquil and undisturbed character across most of the area means that it is sensitive. Views to church towers or to Wicklewood Windmill are sensitive to this particular form of development, as are the undeveloped skylines. This particular form of development would have a large effect on the character of the existing views.	**High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. The area has an undisturbed character which is vulnerable to development of this type.

LT B: Tributary Farmland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA B3: **Rockland Tributary Farmland**	**Medium** • The Rockland Tributary Farmlands are sensitive due to the rural and tranquil character across most of the area. Views to the Broads and to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • The existing 132kV powerlines in this area have caused a considerable change in character and there is limited capacity to absorb further change.	**High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. 400kV powerlines coupled with the existing 132kV lines would create visual confusion. Overhead powerlines would become the dominant element of the landscape and there would also be negative effects on the setting of The Broads. Susceptibility to this form of development is therefore assessed as High.
LCA B4: **Waveney Tributary Farmland**	**Medium-High** • The Waveney Tributary Farmlands are sensitive due to the peaceful rural character across most of the area. Views to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • A 132kV line would compromise the existing characteristics of the landscape, so susceptibility is assessed as Medium-High.	**High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. The existing 400kV line has already caused a localised change in character. The susceptibility of the key characteristics to this type of development is therefore assessed as High.

LT B: Tributary Farmland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA B5: **Chet Tributary Farmland**	**Medium** • The Chet Tributary Farmlands are sensitive due to the peaceful rural character across most of the area. Views to round-towered and isolated church are sensitive to this particular form of development, as are the undeveloped skylines. • The existing 132kV powerlines in this area have caused a considerable change in character and there is limited capacity to absorb further change.	**High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. 400kV powerlines coupled with the existing 132kV lines would create visual confusion. Overhead powerlines would become the dominant element of the landscape and there would potentially be negative effects on the setting of The Broads. Susceptibility to this form of development is therefore assessed as High.
LCA B6: **Yare Tributary Farmland**	**Medium** • The Yare Tributary Farmlands are sensitive due to the intact rural character of the area. Views to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • Where 400kV powerlines are present in the landscape this has already caused a considerable change in character. 132kV lines coupled with the existing 400kV line would create visual confusion.	**Medium-High** • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. • Where 400kV powerlines are present in the landscape this has already caused a considerable change in character. The susceptibility of the key characteristics to this type of development is therefore judged as Medium-High.

LT C: Tributary Farmland with Parkland

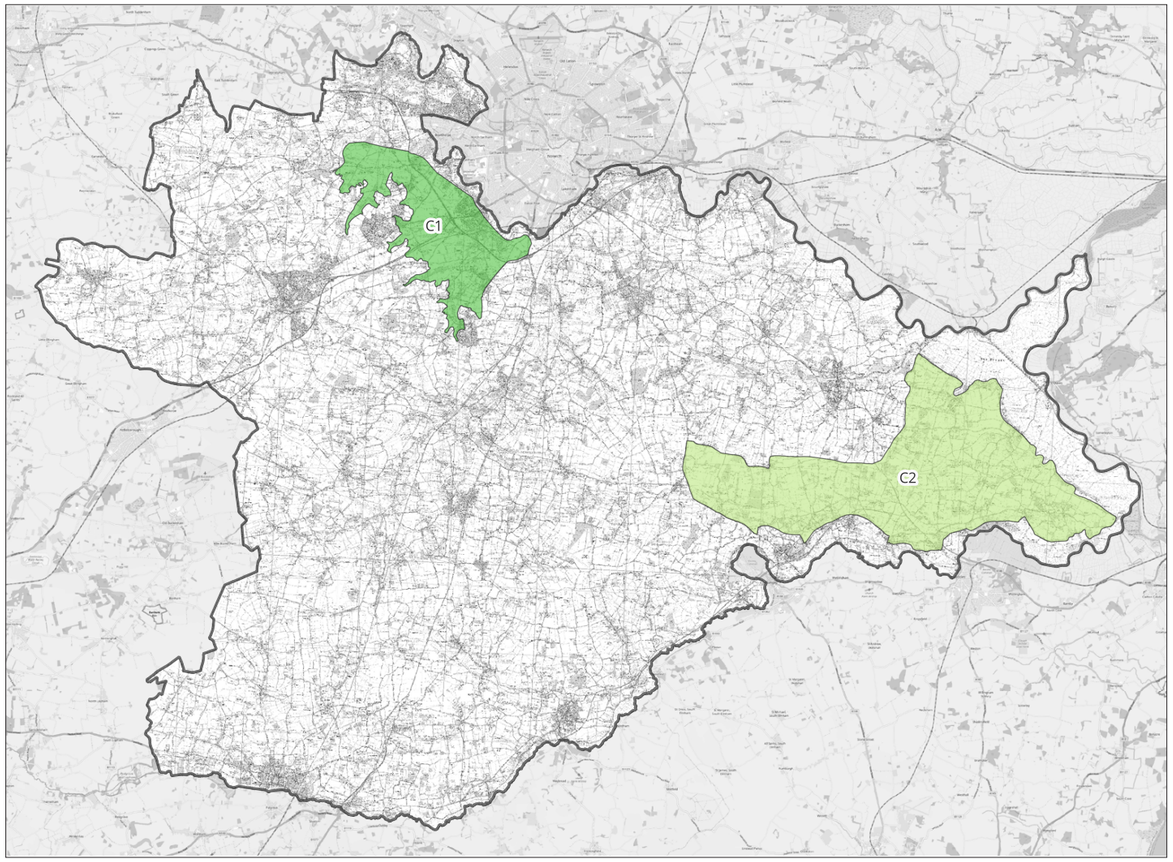
The Tributary Farmland with Parkland Landscape Type occupies two discrete areas of landscape, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • Transitional landscape occupying the midground between the upland plateau and the main river valley landscapes, providing varied opportunities for open and framed views. • Larger scale fields contrast with the more intimate valleys and smaller-scale pastoral areas and villages.	**Medium** • In terms of scale the Tributary Farmland with Parklands lie in the middle of the susceptibility spectrum.	**Medium-High** • Pylons of this size are less relatable to existing landscape features so the susceptibility to this form of development is considered to be higher.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The area consists of gently undulating land which lies in the middle of the susceptibility spectrum.	**Medium** The area consists of gently undulating land which lies in the middle of the susceptibility spectrum.
Settlement pattern and human influence • Dispersed but evenly distributed settlement with a pattern of farmsteads and small villages. • Sparse settlement pattern across C2. C1 Yare Tributary Farmland somewhat more settled with larger village of Cringleford as well as Norfolk & Norwich Hospital and A47. • Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped gables and brick and flint. • Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in larger villages.	**LCA C1: Medium** **LCA C2: Medium-High** • C1 Yare Tributary Farmland forms part of the Norwich Southern Bypass Landscape Protection Zone so is sensitive to further development. Pylons would not affect the openness of the landscape as such, but they would compromise the rural character as experienced from the A47. • C2 has a sparse rural settlement pattern which is sensitive to this type of development. • Potential effects on the setting of historic features.	**LCA C1: Medium** **LCA C2: Medium-High** • C1 Yare Tributary Farmland forms part of the Norwich Southern Bypass Landscape Protection Zone so is sensitive to further development. Pylons would not affect the openness of the landscape as such, but they would compromise the rural character as experienced from the A47. • C2 has a sparse rural settlement pattern which is sensitive to this type of development. • Potential effects on the setting of historic features.
Perceptual aspects • Tamed arable farmland. • C2 is a peaceful rural landscape. C1 is adversely influenced by the Norwich Southern Bypass and the A11. • Pylons and the A47 negate any sense of remoteness within C1. There is however a sense of remoteness within C2, particularly adjacent to The Broads. .	**LCA C1: Low** **LCA C2: Medium-High** • Less sensitive than natural or wild landscapes. • The lack of remoteness or tranquillity within C1 reduces susceptibility. • Pylons would have a negative effect on the rural qualities and sense of remoteness within C2.	**LCA C1: Low** **LCA C2: Medium-High** • Less sensitive than natural or wild landscapes. • The lack of remoteness or tranquillity within C1 reduces susceptibility. • Pylons would have a negative effect on the rural qualities and sense of remoteness within C2.

LT C: Tributary Farmland with Parkland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**LCA C1: Medium** **LCA C2: Medium-High** • Large parts of C1 lie within the Norwich View Cones which are identified in the Development Management Policies. Pylons would not obstruct views, but would detract from the composition of the views. • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Existing pylons within C1 reduce sensitivity. • Long views, including views to adjacent landscapes, increase susceptibility. • The visual character is particularly sensitive to overhead power lines due to their height.	**LCA C1: Medium** **LCA C2: Medium-High** • The sensitivity of C1 is reduced due to the presence of existing pylons.
Skylines • In places interrupted by woodland, pylons and posts. • Views to parkland edges and woodland. • Intermittent long views to development at the City of Norwich and Norwich Southern Bypass (from C1).	**C1: Low** **C2: Low** • Existing pylons have considerable influence on character in C1. • 132kV lines already feature within C2.	**C1: Low** **C2: Medium-High** • Existing pylons have considerable influence on character in C1. • New 400kV line would create visual confusion with existing 132kV lines in C2.

LT C: Tributary Farmland with Parkland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Intactness • Intactness varies. Some areas have experienced considerable change with the introduction of the Norwich Southern Bypass and the expansion of settlements such as Cringleford, and the introduction of pylons and other development. • Elsewhere, there is a much stronger and more intact rural character.	**LCA C1: Medium-Low** **LCA C2: High** • Whilst pylons would not affect the openness of the landscape as such they would affect the rural character within C1. Pylons as tall features would be intrusive within views towards Norwich and would compromise the undeveloped approaches to the city. • Existing development including pylons within C1 reduces the sensitivity of this area. • The stronger character of C2 has increased susceptibility to all forms of development, including overhead powerlines.	**LCA C1: Medium-Low** **LCA C2: High** • Whilst pylons would not affect the openness of the landscape as such they would affect the rural character within C1. Pylons as tall features would be intrusive within views towards Norwich and would compromise the undeveloped approaches to the city. • Existing development including pylons within C1 reduces the sensitivity of this area. • The stronger character of C2 has increased susceptibility to all forms of development, including overhead powerlines.

LT C: Tributary Farmland with Parkland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA C1: **Yare Tributary Farmland with Parkland**	**Medium-Low** • Pylons in this area have effectively become a dominant element of the landscape. Considering the effect that the existing pylons have already had on the landscape the susceptibility to further overhead powerlines is reduced. The Registered Park and Garden at Intwood Hall is however sensitive. New overhead powerlines would not affect the openness of the NSBLPZ as such, but would interfere with key views to Norwich. Susceptibility is therefore assessed as Medium-Low.	**Medium-Low** • Pylons in this area have effectively become a dominant element of the landscape. Considering the effect that the existing pylons have already had on the landscape the susceptibility to further overhead powerlines is reduced. The Registered Park and Garden at Intwood Hall is however sensitive. New overhead powerlines would not affect the openness of the NSBLPZ as such, but would interfere with key views to Norwich. Susceptibility is therefore assessed as Medium-Low. • New overhead powerlines would have a further cumulative effect on character.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Medium** • The Thurlton Tributary Farmland with Parklands are sensitive due to the remoteness and peacefulness which exists through much of the area. The presence of historic estates increases the sensitivity of the area. Views to the Broads and to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • The existing 132kV lines have had an effect on the character of the area and there is limited capacity to absorb further change.	**High** • The Thurlton Tributary Farmland with Parklands are sensitive due to the remoteness and peacefulness which exists through much of the area. The presence of historic estates increases the sensitivity of the area. Views to the Broads and to church towers are sensitive to this particular form of development, as are the undeveloped skylines. • The existing 132kV lines have had an effect on the character of the area which indicates sensitivity to this form of development. • A new 400kV line would create a confused wirescape. Pylons would become a dominant element of the landscape which would indicate a fundamental change in character.

LT D: Settled Plateau Farmland

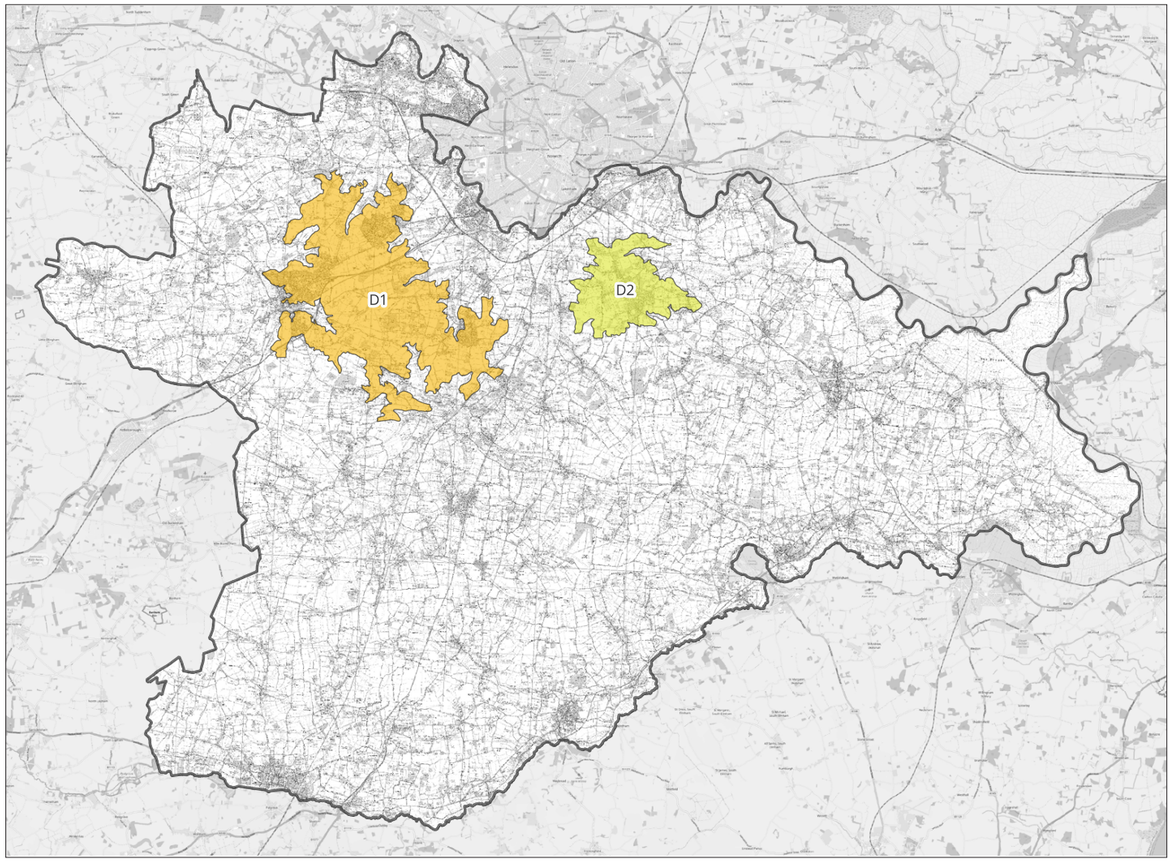
There are two areas of the Settled Plateau Farmland Landscape Type, one to the east and one to the west of the Tas Valley around the settlements of Wymondham and Poringland respectively. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • Large expanse of flat landform. Medium to large-scale fields. • Views on the plateau can be contained by hedges, while other areas are more open. Visual qualities influence the sense of scale. • Loss of hedges has created a larger scale landscape.	**Medium-Low** • Larger-scale landscapes are considered less sensitive to this form of development.	**Medium-Low** • Larger-scale landscapes are considered less sensitive to this form of development.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**LCA D1: Medium-Low** **LCA D2: Medium-High** • The simple flat landform of D1 is less sensitive to this type of development. • The elevated, prominent, domed landform of D2 is more sensitive to development. Pylons would appear intrusive on the high ground.	**LCA D1: Medium-Low** **LCA D2: High** • The simple flat landform of D1 is less sensitive to this type of development. • The elevated, prominent, domed landform of D2 is more sensitive to development. Pylons would appear intrusive on the high ground.
Settlement pattern and human influence • Historically somewhat sparsely settled but with some dispersed settlement including green-side settlement. • The modern day settlement pattern includes the town of Wymondham and a number of large villages. • Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development. • Wymondham and Mulbarton retain a historic character despite more recent peripheral development, whereas Poringland and Hethersett have a much more modern character (characterised by post-war bungalow development). • Former airfield at Hethel (now site of motor works).	**Medium** • Settlement pattern has somewhat altered with the expansion of settlements. More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11. • Balance of settlement and countryside indicates medium susceptibility. • Powerlines could detract from historic features including vernacular buildings. • Powerlines would introduce an increased sense of human influence.	**Medium-High** • Settlement pattern has somewhat altered with the expansion of settlements. More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11. • Powerlines could detract from historic features including vernacular buildings. • Powerlines of this scale would introduce a strong sense of human influence.

LT D: Settled Plateau Farmland - susceptibility to Overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Perceptual aspects • A number of large settlements are present and there is therefore little sense of remoteness. • The A11 cuts across the Wymondham Settled Plateau Farmlands and introduces a source of noise, movement and modernity. • Whilst this is a settled landscape the villages are set within a rural landscape and there is a sense of countryside.	**Medium** • Pylons would tend to compromise perceptions of rurality.	**Medium-High** • Pylons of this size are less relatable to existing elements and would have a more profound effect on perceptions of rurality.
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**LCA D1: Medium** **LCA D2: Medium-High** • Reasonably good scenic character including some characteristic views indicates moderate susceptibility. • The prominent nature of the Poringland plateau makes it sensitive to views from adjoining landscape character areas, so the susceptibility of this area is increased to Medium-High.	**LCA D1: Medium** **LCA D2: Medium-High** • The visual character is considered more sensitive to development of this scale.
Skylines • Strong open horizons – the archetypal 'Norfolk' landscape. • Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.	**Medium-High** • D2 features prominent skylines, but the presence of a mast reduces susceptibility to some extent. • Existing pylons are present on the edges of D1 and D2. • Strong open horizons are an important part of the character of the region, which increases sensitivity.	**Medium-High** • D2 features prominent skylines, but the presence of a mast reduces susceptibility some extent. • Existing pylons are present on the edges of D1 and D2. • Strong open horizons are an important part of the character of the region, which increases sensitivity.

LT D: Settled Plateau Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Intactness • The landscape has clearly experienced considerable change through the expansion of settlements. • Poringland extends across the central part of D2 and is a relatively modern settlement. • Within D1, the settlements of Wymondham, Hethersett and Mulbarton have extended into the countryside, and the area is bisected by the A11. Earlier patterns have also been disrupted by the introduction of a WW2 airfield. The settlements are nonetheless separated by substantial areas of countryside.	**Medium** • Overhead powerlines would introduce modern features which would affect the intactness of the countryside. The area already includes some development, so susceptibility is assessed as medium.	**Medium** • Overhead powerlines would introduce modern features which would affect the intactness of the countryside. The area already includes some development, so susceptibility is assessed as medium.

LT D: Settled Plateau Farmland - susceptibility to overhead powerlines

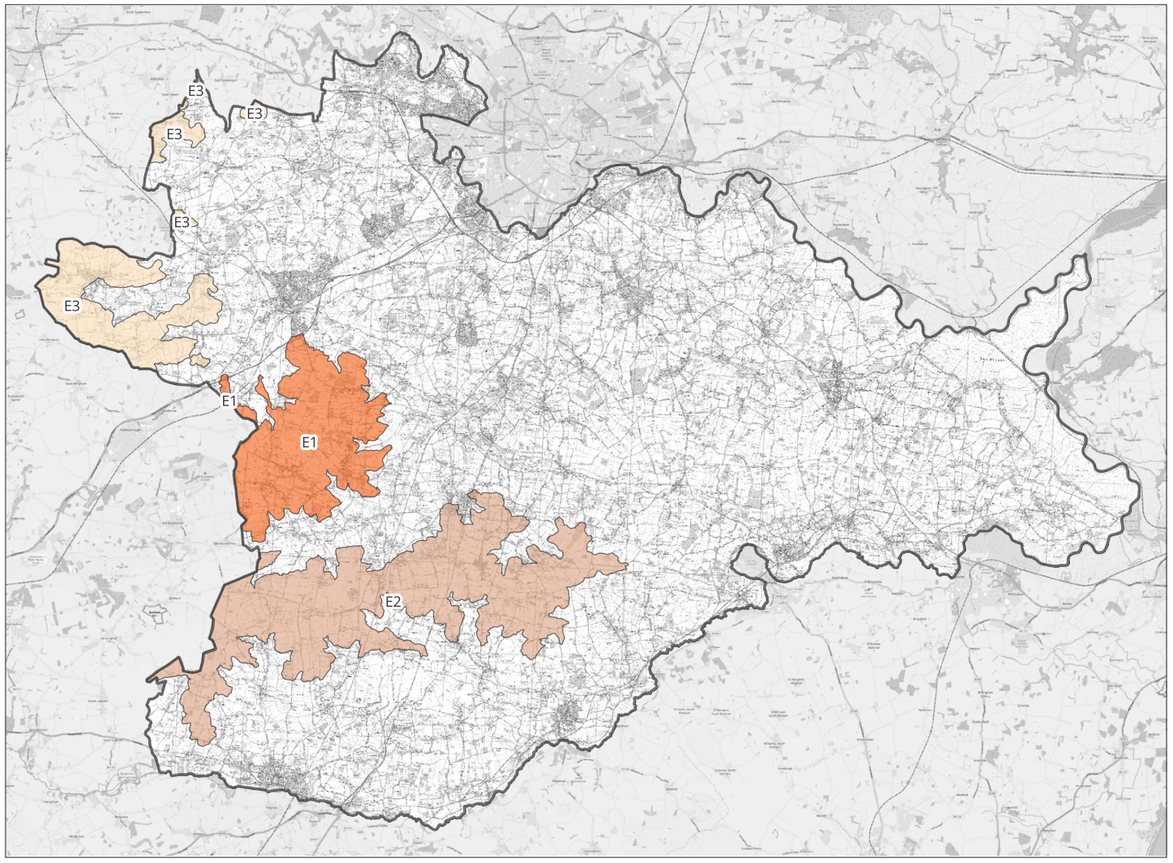
Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA D1: **Wymondham Settled Plateau Farmland**	**Medium** • Pylons would detract from the representative 'Norfolk' views which are present within this area. • Considering the scale of the landscape and the presence of a certain amount of settlement already the susceptibility is generally Medium. Sensitivity would be higher where there are views to Norwich or to Wymondham Church.	**Medium-High** • Pylons of this size would appear particularly intrusive within the representative 'Norfolk' views. Views to landmark features such as Wymondham Church are particularly sensitive to this form of development, as are the undeveloped skylines. • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. Where 400kV powerlines are present in the landscape this has already caused a considerable change in character. The susceptibility of the key characteristics to this type of development is therefore judged as Medium-High.
LCA D2: **Poringland Settled Plateau Farmland**	**Medium** • Pylons would detract from the strong open horizons which are present within this area. • Considering the scale of the landscape and the presence of a certain amount of settlement already the susceptibility is generally Medium. Sensitivity would be higher where there are views to Norwich or to Wymondham Church.	**High** • Pylons of this size would severly detract from the strong open horizons which are present within this area. Long views from the plateau edge are particularly sensitive to this form of development, as are the undeveloped skylines. • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. The visibility of the existing mast indicates high sensitivity to this form of development.

LT E: Plateau Farmland

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.

Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields



The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • A generally open character creates a medium to large scale landscape.	**Medium-Low** • Larger-scale landscapes are considered less sensitive to this form of development.	**Medium-Low** • Larger-scale landscapes are considered less sensitive to this form of development.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Low** • The simple flat landform is less sensitive to this type of development.	**Low** • The simple flat landform is less sensitive to this type of development.
Settlement pattern and human influence • Dispersed settlement pattern. Common-edge settlement, hamlets and small nucleated villages. Many small halls, often isolated, with moats. No large parklands. • Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development. • Linear settlements occur along roads with some vernacular buildings intermixed with more modern development. • Disused airfields. • Occasional tall structures including wind turbines.	**Medium-High** • A rural settlement pattern with relatively few modern elements is sensitive to development. • Powerlines could detract from historic features including vernacular buildings. • Powerlines would introduce an increased sense of human influence.	**High** • A rural settlement pattern with relatively few modern elements is sensitive to development. • Powerlines could detract from historic features including vernacular buildings. • Powerlines of this scale would introduce a strong sense of human influence.
Perceptual aspects • A peaceful rural character created by the absence of main roads and development. • Quiet rural lanes dissect the landscape. • The A140 cuts north-south through part of E2.	**Medium-High** • The rural qualities of the plateau farmlands would be compromised by overhead transmission lines.	**Medium-High** • The rural qualities of the plateau farmlands would be compromised by overhead transmission lines.
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas	**Medium-High** • Characteristic views indicate higher susceptibility, particularly in relation to pylons. • Visual connections with adjacent landscapes, including some long views, indicates higher susceptibility.	**Medium-High** • Characteristic views indicate higher susceptibility, particularly in relation to pylons. • Visual connections with adjacent landscapes, including some long views, indicates higher susceptibility.

LT E: Plateau Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Skylines • The flatness of the plateau creates a strong sense of openness with vast skies and dramatic horizons. • Expansive skies are a defining feature with distant views and farm buildings are visible in the open landscape. • 360 degree horizon in places.	**Medium-High** • Views across arable farmland to distant horizons are an important part of the character of the region, which increases sensitivity. • Pylons would be seen against the sky, which also increases sensitivity. • Existing pylons lower local susceptibility in parts of E3 and E2.	**High** • Views across arable farmland to distant horizons are an important part of the character of the region, which increases sensitivity. • Pylons would be seen against the sky, which also increases sensitivity. • Existing pylons lower local susceptibility in parts of E3 and E2.
Intactness • The landscape has experienced ongoing change including enclosure in the C19 and rationalisation in the C20. Some elements of the landscape however can be traced back to the medieval era and there is some sense of historic continuity. Modern elements are relatively few. • Though there have clearly been changes in land management, including the amalgamation of fields, the landscape retains a strong rural character.	**Medium-High** • The landscape is sensitive due to the strong rural and tranquil character across most of the area, the long views to adjacent landscapes, and the representative 'Norfolk' views across arable farmland. Views to landmark features are sensitive to this particular form of development, as are the undeveloped skylines. • Electricity pylons are lower than wind turbines or masts, but extend across great distances. Where 132kV powerlines are present in the landscape this has already caused a localised change in character. The susceptibility to this type of development is therefore judged as Medium-High.	**High** • The landscape is sensitive due to the strong rural and tranquil character across most of the area, the long views to adjacent landscapes, and the representative 'Norfolk' views across arable farmland. Views to landmark features are particularly sensitive to this form of development, as are the undeveloped skylines. • Overhead powerlines exert an overt human influence, and pylons of this size are not relatable to existing landscape features. Where 400kV powerlines are present in the landscape this has already caused a considerable change in character. The susceptibility to this type of development is therefore judged as High.

LT E: Plateau Farmland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA E1: **Ashwellthorpe Plateau Farmland**	**Medium-High** • The Ashwellthorpe Plateau Farmlands are sensitive due to the peaceful rural character within this area. Panoramic views and undeveloped skylines are sensitive to this form of development. Whilst there are views to Tacolneston Mast this is not comparable with overhead powerlines which introduce multiple new structures to the landscape. • The area has an undisturbed rural character which is sensitive to this form of development.	**High** • The Ashwellthorpe Plateau Farmlands are sensitive due to the peaceful rural character within this area. Panoramic views and undeveloped skylines are sensitive to this form of development. Whilst there are views to Tacolneston Mast this is not comparable with overhead powerlines which introduce multiple new structures to the landscape. • The area has an undisturbed rural character which is sensitive to this form of development.
LCA E2: **Great Moulton Plateau Farmland**	**Medium-High** • The Great Moulton Plateau Farmlands are sensitive due to the rural character within this area. Expansive skies are a defining feature of the area and pylons would be seen as intrusive elements on the skyline. The standardised design of pylons would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Timber-framed houses, moats and commons create a sense of time-depth which is vulnerable to this form of development.	**High** • The Great Moulton Plateau Farmlands are sensitive due to the rural character within this area. Expansive skies are a defining feature of the area and pylons would be seen as intrusive elements on the skyline. The standardised design of pylons would have a negative effect on the sense of place and would also introduce overt human influence to a rural landscape. Timber-framed houses, moats and commons create a sense of time-depth which is vulnerable to this form of development.
LCA E3: **Hingham-Mattishall Plateau Farmland**	**Medium-High** • The Hingham-Mattishall Plateau Farmland is sensitive due to the rural character of this area. Extensive views to and from the plateau increase sensitivity to this form of development. Views to churches are sensitive to this particular form of development. • The existing overhead powerlines have already had a considerable influence on character in the Mattishall part of the area. The susceptibility to 132kV overhead powerlines is therefore assessed as Medium-High.	**High** • The Hingham-Mattishall Plateau Farmland is sensitive due to the rural character of this area. Extensive views to and from the plateau increase sensitivity to this form of development. Views to churches are sensitive to this particular form of development. • The existing overhead powerlines have already had a considerable influence on character in the Mattishall part of the area. The susceptibility to 400kV overhead powerlines is therefore assessed as High.

LT F: Valley Urban Fringe

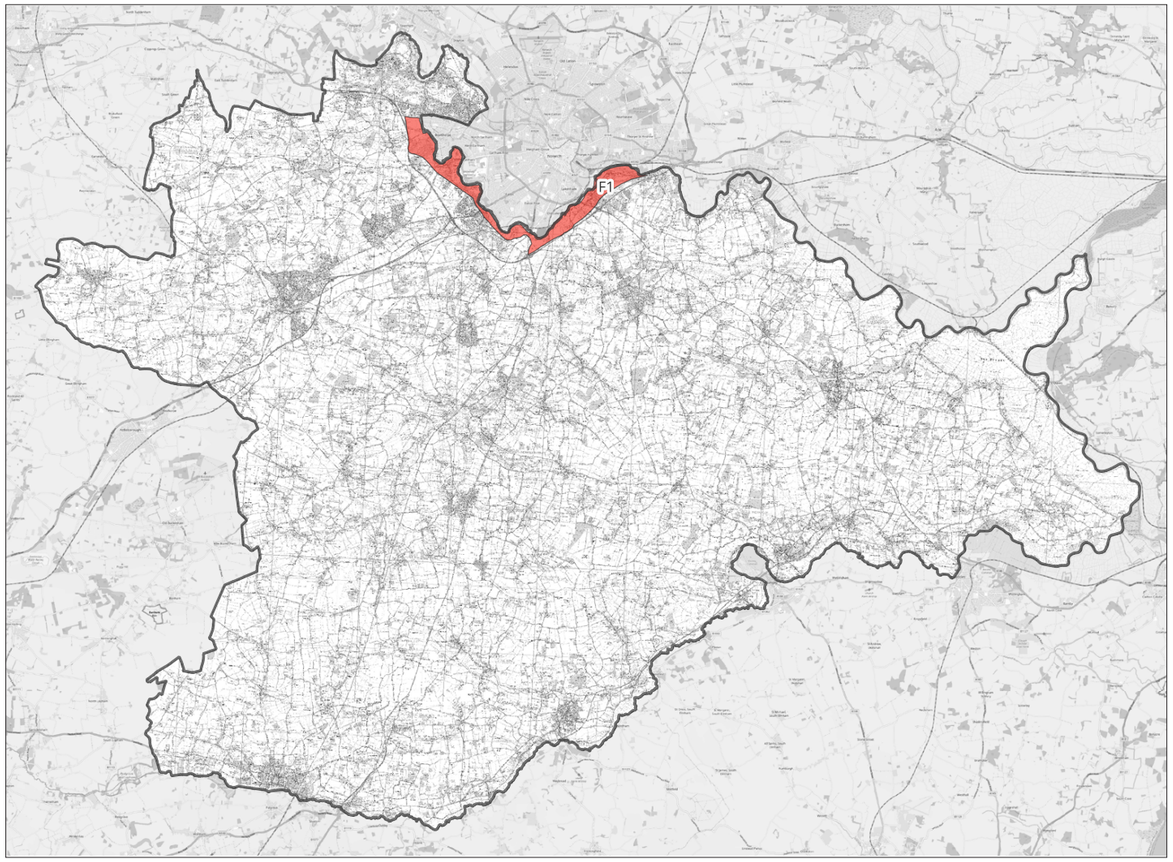
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • Distinctive broad meandering valley form with wide flat floodplain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.	**Medium-High** • The relatively small scale of the landscape means that it has a higher sensitivity to this form of development. 26m pylons are likely to be the tallest element within the landscape.	**High** • Pylons of this size would appear out of scale and would overwhelm the valley. The pylons would become the dominant element within the landscape.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**Medium-High** • Complex and often sinuous landform of the river valleys contrasts with the straightness of the overhead power lines. • Shallow valleys likely to be overwhelmed by pylons.	**High** • Complex and often sinuous landform of the river valleys contrasts with the straightness of the overhead power lines. • Shallow valleys likely to be overwhelmed by pylons.
Settlement pattern and human influence • Highly influenced by Norwich urban fringe along parts of the upper valley sides. • A number of large institutional buildings in or adjacent to the valley. • Green buffer and comprehensible development edge to the City of Norwich. • Floodplain has remained undeveloped.	**Medium-Low** • The valley largely functions as a green buffer, but there is some development at Colney, Cringleford and Trowse Newton. • The urban influence in the area reduces its susceptibility to change.	**Medium** • The valley largely functions as a green buffer, but there is some development at Colney, Cringleford and Trowse Newton. • The urban influence in the area reduces its susceptibility to change. • Powerlines of this scale would create a strong sense of human influence.
Perceptual aspects • Noise of traffic on the Norwich Southern Bypass disturbs the tranquillity of the valley. Overall, despite these urban influences, the valley is mostly quiet and secluded.	**Medium-Low** • Existing urban influence indicates lower susceptibility.	**Medium-Low** • Existing urban influence indicates lower susceptibility.
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium** • Large parts of F1 lie within the Norwich View Cones which are identified in the Development Management Policies. Pylons would not obstruct views, but would detract from the composition of the views. • Overhead transmission lines would be visually prominent. • Susceptibility is reduced by the presence of existing development.	**Medium** • Large parts of F1 lie within the Norwich View Cones which are identified in the Development Management Policies. Pylons would not obstruct views, but would detract from the composition of the views. • Overhead transmission lines would be visually prominent. • Susceptibility is reduced by the presence of existing development.

LT F: Valley Urban Fringe - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Skylines • The valley crests form a skyline in views from the valley floor. • Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded skyline. • Pylons are present in part of the valley.	**Medium** • Skylines vary within the area. Many parts of the valley are contained and do not feature prominent skylines. Other parts of the valley feature more open views towards wooded skylines and county hall. • Valley crests are sensitive, especially to this form of development. • The presence of existing pylons (and other forms of development) reduces the susceptibility.	**Medium** • Skylines vary within the area. Many parts of the valley are contained and do not feature prominent skylines. Other parts of the valley feature more open views towards wooded skylines and county hall. • Valley crests are sensitive, especially to this form of development. • The presence of existing pylons (and other forms of development) reduces the susceptibility.
Intactness • The floodplain features former meadows and parkland, but nature conservation and recreation are increasingly important. • The land uses have evolved and there is a weak sense of historical continuity. • The intactness is to some extent disturbed by past mineral workings, which have made a lasting impression on the landscape. • The intactness of the valley is also influenced by the development of railways and later road bridges.	**Medium** • Skylines vary within the area. Many parts of the valley are contained and do not feature prominent skylines. Other parts of the valley feature more open views towards wooded skylines and county hall. • Overhead powerlines would have a large effect on skylines. • Skylines are not a defining feature of the area, so susceptibility is assessed as Medium.	**Medium** • Skylines vary within the area. Many parts of the valley are contained and do not feature prominent skylines. Other parts of the valley feature more open views towards wooded skylines and county hall. • Overhead powerlines would have a large effect on skylines. • Skylines are not a defining feature of the area, so susceptibility is assessed as Medium.

LT F: Valley Urban Fringe - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA F1: **Yare Valley Urban Fringe**	**Medium-Low** • The key susceptibilities relate to the shallow valley landform which would be dominated by structures of this size. • The straight geometry of overhead powerlines is also incompatible with the sinuous valley landform. • The character of the valley is already influenced by overhead powerlines, so the susceptibility is assessed as Medium-Low.	**Medium-Low** • The key susceptibilities relate to the shallow valley landform which would be overwhelmed by structures of this size. • The straight geometry of overhead powerlines is also incompatible with the sinuous valley landform. • The character of the valley is already influenced by overhead powerlines, so the susceptibility is assessed as Medium-Low.

LT G: Fringe Farmland

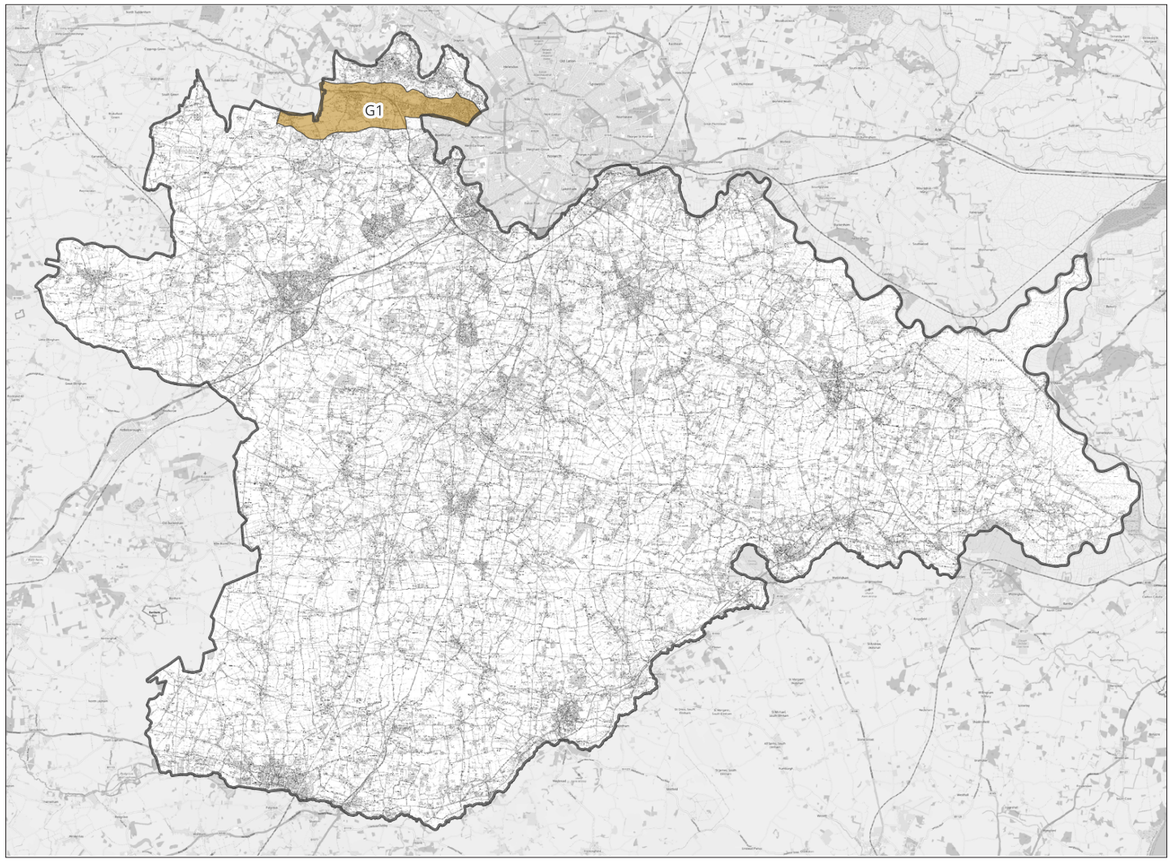
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Scale • The scale of this landscape varies according to the land cover pattern and level of built development.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**High** • The ridgeline and undulating topography is sensitive. • Pylons would sit awkwardly in relation to the topography, and structures of this size would appear dominant.	**High** • The ridgeline and undulating topography is sensitive. • Pylons would sit awkwardly in relation to the topography and structures of this size would overwhelm the existing topography.
Settlement pattern and human influence • Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton. • Relatively developed character. • Retail warehouses and supermarkets on edge of town.	**Medium-Low** • Significant levels of settlement and existing pylons indicate lower susceptibility. • Pylons would nonetheless introduce additional human influence to the area.	**Medium** • Significant levels of settlement and existing pylons indicate lower susceptibility. • Pylons would nonetheless introduce additional human influence to the area. • Powerlines of this scale would create a strong sense of human influence.
Perceptual aspects • Not a remote or tranquil landscape. Recent construction and land use activities have had significant effect upon the rural character. • The Norwich Southern Bypass introduces a corridor of noise and movement. Other roads of the area retain a strong rural character.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**High** • The ridge is a locally prominent feature which is sensitive to change. • Pylons would sit awkwardly in relation to the topography, and structures of this size would appear dominant. • Views to and from the adjacent valley landscapes increase sensitivity.	**High** • The ridge is a locally prominent feature which is sensitive to change. • Pylons would sit awkwardly in relation to the topography, and structures of this size would overwhelm the existing landform. • Views to and from the adjacent valley landscapes increase sensitivity.

LT G: Fringe Farmland - susceptibility to overhead powerlines

Landscape attribute	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
Skylines • Skyline varies, sometimes formed by distant views to adjacent landscapes but often interrupted by development and shelterbelts.	**Low** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • G1 already features a 132kV line and the susceptibility is therefore considered to be low.	**Medium** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • Pylons of this size would be out of scale with existing landscape features and would be seen against the sky, which increases sensitivity. A 400kV line would also cause visual confusion.
Intactness • This Landscape Type has seen considerable land use change and there is a fragmented pattern of land uses. • Changing demands upon the land mean that the historical landscape pattern is weakly expressed. • Areas of more intact rural landscape do however occur away from urban edge.	**Medium** • The area has a weak sense of historical continuity and is influenced by its proximity to Norwich. • Overhead powerlines would nonetheless introduce a strong sense of human influence. • Vegetation clearance beneath lines would also tend to affect the intactness of individual elements such as hedges and woodlands, and of the landscape as a whole.	**Medium** • The area has a weak sense of historical continuity and is influenced by its proximity to Norwich. • Overhead powerlines would nonetheless introduce a strong sense of human influence. • Vegetation clearance beneath lines would also tend to affect the intactness of individual elements such as hedges and woodlands, and of the landscape as a whole.

LT G: Fringe Farmland - susceptibility to overhead powerlines

Overall susceptibility	132kV lines, utilising pylons within a nominal height of 26m	400kV, utilising pylons with a nominal height of 50m
LCA G1: **Easton Fringe Farmland**	**Medium-Low** • The key susceptibilities relate to the ridge landform which would be dominated by structures of this size. • The ridge forms an important part of the skyline in views from adjacent landscapes and is therefore sensitive. • The character of the Easton Fringe Farmland is influenced by an existing 132kV line, so the susceptibility is assessed as Medium-Low.	**Medium-High** • The key susceptibilities relate to the ridge landform which would be overwhelmed by structures of this size. • The ridge forms an important part of the skyline in views from adjacent landscapes and is therefore sensitive. • Pylons of this size would be out of scale with existing landscape features and would be seen against the sky, which increases sensitivity. A 400kV line would also cause visual confusion with the existing 132kV line.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.1
Landscape Susceptibility Analysis
Solar PV development

November 2025

thelandscapepartnership

LT A: Rural River Valleys

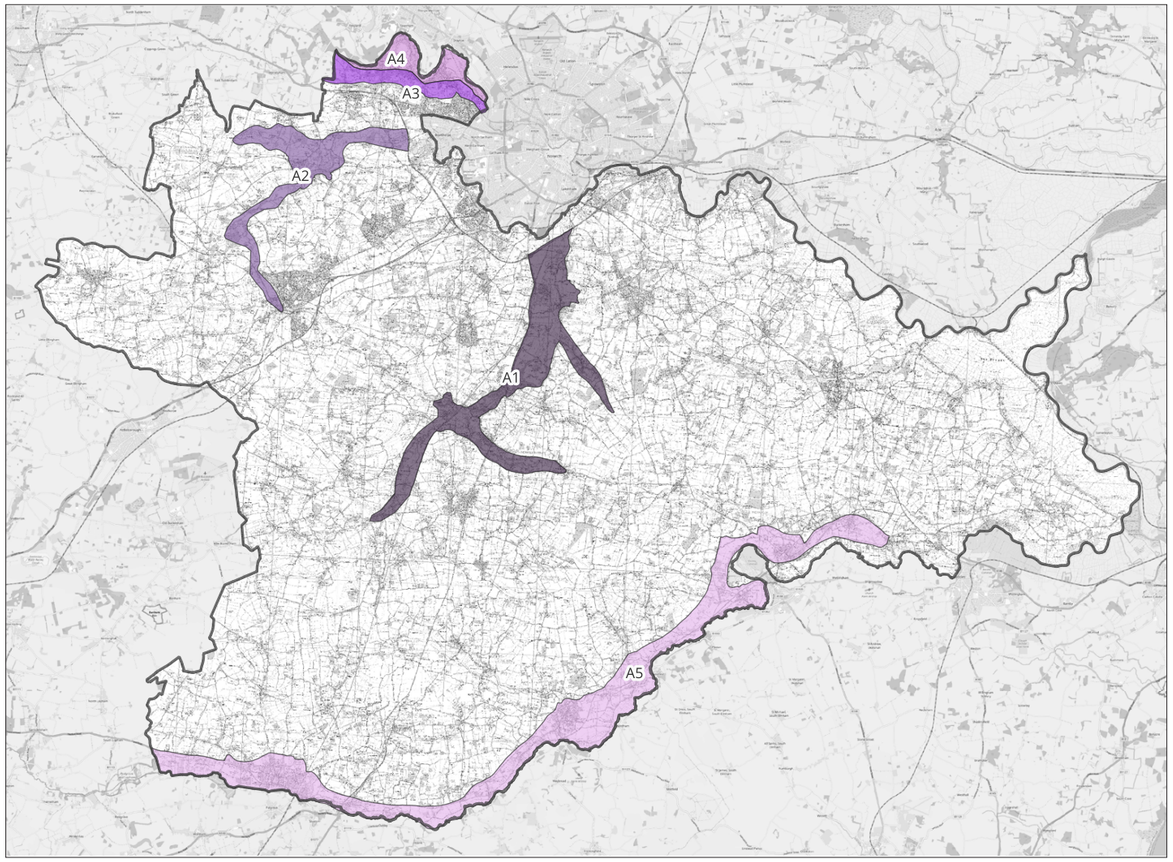
The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.



The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley

LT A: Rural River Valleys - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
Scale • The South Norfolk river valleys (except for the Waveney) are small in scale, with intricate topography. The Waveney is a broad shallow valley with simpler topography.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • Small-scale landscapes are considered more sensitive. • Solar PV would sit uncomfortably within the small-scale landscape of the South Norfolk river valleys.	**LCA A1, A2, A3, A4: High** **LCA A5: Medium** • It is very unlikely that development of this scale could be accommodated within the small-scale valleys.	**LCA A1, A2, A3, A4: High** **LCA A5: Medium** • It is very unlikely that development of this scale could be accommodated within the small-scale valleys.	**LCA A1, A2, A3, A4: High** **LCA A5: Medium** • It is very unlikely that development of this scale could be accommodated within the small-scale valleys.
Sense of enclosure • A semi-enclosed landscape with some long views within the valleys but restricted views out. Areas of more intimate character on the valley floor. • Some river valleys less enclosed than others, the Waveney for example is a wide valley which has a more open character.	**Medium** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development. • Enclosure varies with some open meadow landscapes, but judged as moderate overall.	**Medium-High** • Larger schemes are less likely to be contained by existing vegetation so susceptibility is higher.	**Medium-High** • Larger schemes are less likely to be contained by existing vegetation so susceptibility is higher.	**Medium-High** • Larger schemes are less likely to be contained by existing vegetation so susceptibility is higher.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**High** • Valley sides have high susceptibility to Solar PV arrays as they are likely to be visible and would be difficult to screen. • The sinuous landforms of the river valleys are not generally compatible with solar arrays.	**High** • Valley sides have high susceptibility to Solar PV arrays as they are likely to be visible and would be difficult to screen. • The sinuous landforms of the river valleys are not generally compatible with solar arrays.	**High** • Valley sides have high susceptibility to Solar PV arrays as they are likely to be visible and would be difficult to screen. • The sinuous landforms of the river valleys are not generally compatible with solar arrays.	**High** • Valley sides have high susceptibility to Solar PV arrays as they are likely to be visible and would be difficult to screen. • The sinuous landforms of the river valleys are not generally compatible with solar arrays.

LT A: Rural River Valleys - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
Field pattern **A1- Tas** • Meadows and fens, some surviving unenclosed land e.g. at Shotesham and Flordon. • 19th century enclosure at Tasburgh along with earlier enclosures. **A2 – Yare Tiffey** • Narrow floodplain meadows. Some C19 enclosure of meadows. • Meadows defined by dykes. • Small scale field pattern within floodplain. **A3 – Tud** • Narrow floodplain meadows. • Rationalised early enclosures on valley-side. **A4 – Wensum** • Small organic and regular enclosures bound by dykes in the vicinity of Costessey. • Large, regular enclosures on valley-side. **A5 – Waveney** • 19th century enclosure awards, with some earlier enclosure. • Fields defined by dykes rather than hedges. • Mixture of organic field patterns and regular field patterns reflecting history of enclosure.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character.

LT A: Rural River Valleys - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
Landcover • Distinctive land cover: small-scale field pattern and prevalence of grazed pastures on the valley floor, with mix of arable and pasture on the valley sides, creating a complex landcover pattern. • Characteristic ecological assemblages – reeds and marsh, wet meadows/ pastures, woodland plus areas of heathland. High ecological value recognised in designations (SAC/SSSIs). • Willow pollards and lines of poplar flank ditches and watercourses. • Some areas of active mineral working and open water associated with mineral extraction sites, for example in A3: Tud and A4: Wensum valleys. • The Tas Valley features two historic parks, an iron age hillfort at Tasburgh, and a Roman colony at Venta Icenorum.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be incompatible with this type of development.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be incompatible with this type of development.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be incompatible with this type of development.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be incompatible with this type of development.
Settlement pattern and human influence • Valleys have historically been a focus for settlement and the valleys contain some historic villages. • The floodplain however tends not to be settled, except for occasional mills. • Settlements predominantly small and nucleated of strong vernacular character. Isolated farms are present on the edges of the floodplain. • The Waveney Valley is generally rural but the area around Diss is more urbanised.	**Medium-High** • Frequent small villages and narrow country lanes create a complex settlement pattern which is susceptible to change. • Solar PV arrays could detract from historic features such as church towers or villages.	**High** • Frequent small villages and narrow country lanes create a complex settlement pattern which is susceptible to change. • Solar PV arrays could detract from historic features such as church towers or villages and would dilute the strong vernacular character.	**High** • Frequent small villages and narrow country lanes create a complex settlement pattern which is susceptible to change. • Solar PV arrays could detract from historic features such as church towers or villages and would dilute the strong vernacular character.	**High** • Frequent small villages and narrow country lanes create a complex settlement pattern which is susceptible to change. • Solar PV arrays could detract from historic features such as church towers or villages and would dilute the strong vernacular character.
Perceptual aspects • The river valleys are typically settled, but for the most part this consists of small rural villages, often with historic character recognised through Conservation Area designations, connected by minor roads. • The generally quiet character and low density of settlement contribute to the perception of an intimate, tranquil rural landscape within the River Valleys. • Tranquillity is reduced in the Waveney Valley by the A1066 and the A143. • Tranquillity is also reduced in the middle section of the Yare Valley by the A47.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the river valleys. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the river valleys. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the river valleys. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA A1, A2, A3, A4: Medium-High** **LCA A5: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the river valleys. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.

LT A: Rural River Valleys - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**Medium-High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. This scenic quality increases susceptibility to development. • Views from the Waveney Valley into The Broads increases its sensitivity.	**High** • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valleys, so the susceptibility is judged to be higher. • Views from the Waveney Valley into The Broads increases its sensitivity.	**High** • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valleys, so the susceptibility is judged to be higher. • Views from the Waveney Valley into The Broads increases its sensitivity.	**High** • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valleys, so the susceptibility is judged to be higher. • Views from the Waveney Valley into The Broads increases its sensitivity.
Skylines • The valley crests form a skyline in views from the valley floor marking the transition to the adjacent landscape type. • In A5: Waveney Valley- a series of churches on the ridgeline form a prominent landmark. • Skyline is usually undeveloped creating a rural context. • Woodland along the valley crest is a key feature of A3: Tud River Valley.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as valley crests forming skylines, and churches on the ridgeline.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as valley crests forming skylines, and churches on the ridgeline.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as valley crests forming skylines, and churches on the ridgeline.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as valley crests forming skylines, and churches on the ridgeline.

LT A: Rural River Valleys - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
Intactness • Ditches, fens, meadows, riparian vegetation and vernacular buildings create a sense of place. • The Tas Valley has an intact character. Small villages are present just above the floodplain. The character is somewhat influenced by nearby pylons, railway and A-road. • The Yare and Tiffey Valleys have an intact rural character with meadows, wet woodland, and historic parkland. Small villages are also present just above the floodplain. A tranquil character away from the A47, and a strong sense of place. • The Tud Valley is largely undeveloped and the historic pattern is still legible, however the A47 cuts through the pre-existing landscape pattern and weakens the sense of character. The eastern portion of the valley is found within an increasingly urban context. The land use here has changed with the introduction of a golf course at Costessey Park, and paddocks. • The Wensum Valley is partially disturbed by flooded mineral workings in the base of the valley. The valley is largely undeveloped. • The Waveney Valley is undeveloped and largely rural except around Diss. Pattern of meadows, fens and carrs remains intact throughout most of the area. Tranquillity is reduced by the A143, but there is a relatively strong sense of place.	**Medium-High** • Whilst the landscapes are settled Solar PV is different in character from the exiting development, which is rural in nature. • Intact rural landscapes are highly sensitive to development including Solar PV. • The strong sense of place is vulnerable to dilution from Solar PV (which consists of generic features).	**High** • Intact rural landscapes are highly sensitive to development including Solar PV. • The strong sense of place is vulnerable to dilution from Solar PV (which consists of generic features). • Development of this scale would affect the intactness of the river valley landscapes.	**High** • Development of this scale would have a profound effect on the intactness of the river valleys.	**High** • Development of this scale would have a profound effect on the intactness of the river valleys.

LT A: Rural River Valleys - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
LCA A1: Tas Rural River Valley	**Medium-High** • The existing characteristics of the Tas Rural River Valley are considered to be sensitive to development of this type. The undeveloped floodplain is sensitive to development of all types, while placing solar panels on the valley-side would increase their prominence, which would represent poor design.	**High** • The existing characteristics of the Tas Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tas Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Tas Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tas Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Tas Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tas Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.
LCA A2: Yare/Tiffey Rural River Valley	**Medium-High** • The existing characteristics of the Yare/ Tiffey Rural River Valley are considered to be sensitive to development of this type. The undeveloped floodplain is sensitive to development of all types, while placing solar panels on the valley-side would increase their prominence, which would represent poor design.	**High** • The existing characteristics of the Yare/ Tiffey Rural River Valley are considered highly sensitive to development of this scale. The small valleys have little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Yare/Tiffey Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Yare/ Tiffey Rural River Valley are considered highly sensitive to development of this scale. The small valleys have little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Yare/Tiffey Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Yare/ Tiffey Rural River Valley are considered highly sensitive to development of this scale. The small valleys have little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Yare/Tiffey Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.
LCA A3: Tud Rural River Valley	**Medium-High** • The existing characteristics of the Tud Rural River Valley are considered to be sensitive to development of this type. The undeveloped floodplain is sensitive to development of all types, while placing solar panels on the valley-side would increase their prominence, which would represent poor design.	**High** • The existing characteristics of the Tud Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tud Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Tud Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tud Rural River Valley. The sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Tud Rural River Valley are considered highly sensitive to development of this scale. The narrow and intimate valley has little space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Tud Rural River Valley. The sense of place is vulnerable to Solar PV, which is composed of generic elements.

LT A: Rural River Valleys - susceptibility to Solar PV development

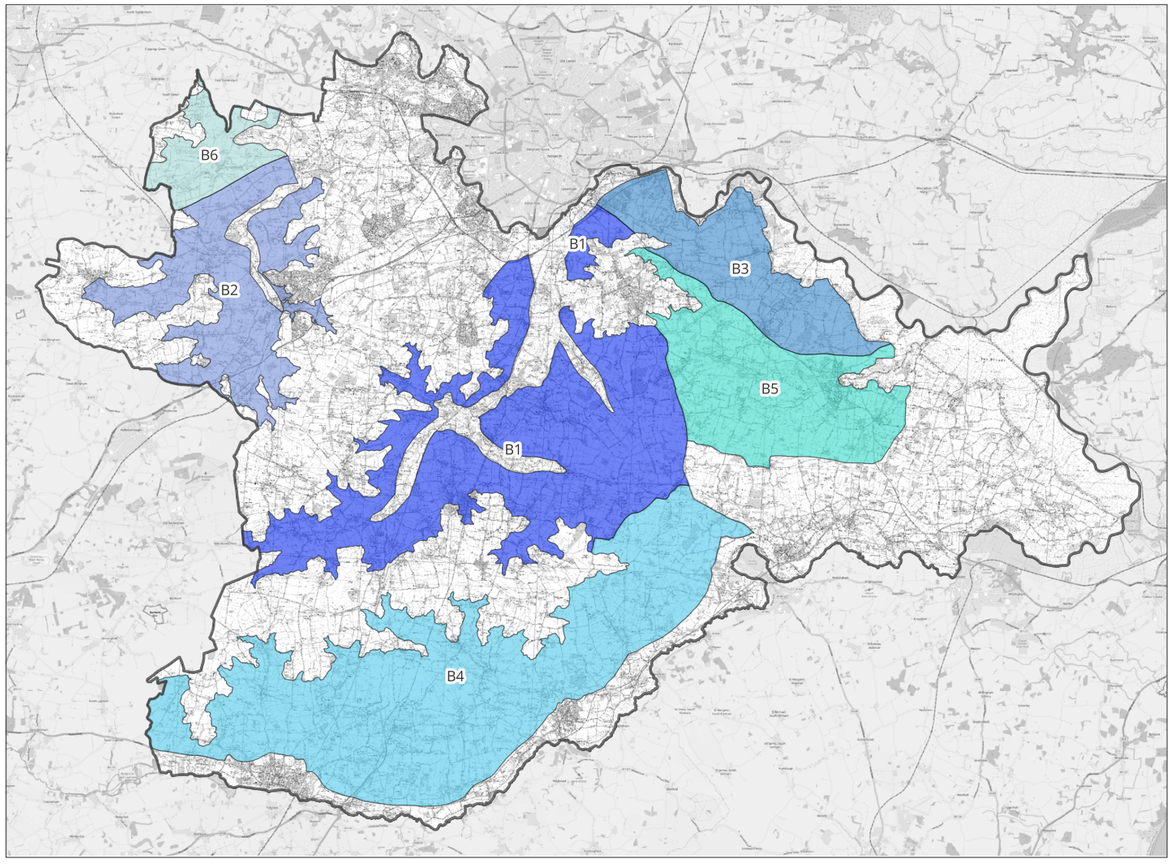
Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large-scale Solar PV development (over 50MW)
LCA A4: **Wensum Rural River Valley**	**Medium-High** • The existing characteristics of the Wensum Rural River Valley are considered to be sensitive to development of this type. The undeveloped floodplain is sensitive to development of all types, while placing solar panels on the valley-side would increase their prominence, which would represent poor design.	**High** • The existing characteristics of the Wensum Rural River Valley are considered highly sensitive to development of this scale. The valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Wensum Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Wensum Rural River Valley are considered highly sensitive to development of this scale. The valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Wensum Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Wensum Rural River Valley are considered highly sensitive to development of this scale. The valley has limited space to accommodate development, and the organic landform is unsuited to solar arrays. Development of this scale would fundamentally alter the characteristics of the Wensum Rural River Valley. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.
LCA A5: **Waveney Rural River Valley**	**Medium-High** • The existing characteristics of the Waveney Rural River Valley are considered to be sensitive to development of this type. The undeveloped floodplain is sensitive to development of all types, while placing solar panels on the valley-side would increase their prominence, which would represent poor design.	**High** • The existing characteristics of the Waveney Rural River Valley are considered highly sensitive to development of this scale. The Waveney Valley is characterised by floodplain meadows and fens, and development of this scale would alter its character at a fundamental level. Priority habitats are incompatible with Solar PV. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Waveney Rural River Valley are considered highly sensitive to development of this scale. The Waveney Valley is characterised by floodplain meadows and fens, and development of this scale would alter its character at a fundamental level. Priority habitats are incompatible with Solar PV. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.	**High** • The existing characteristics of the Waveney Rural River Valley are considered highly sensitive to development of this scale. The Waveney Valley is characterised by floodplain meadows and fens, and development of this scale would alter its character at a fundamental level. Priority habitats are incompatible with Solar PV. The strong sense of place is vulnerable to Solar PV, which is composed of generic elements.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views. • Contrasting sense of enclosure from small scale and enclosed in the wooded valleys to wider, more open areas across large arable fields on higher ground.	**Medium-Low** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places.	**Medium-Low** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places.	**Medium** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places. In addition, the presence of villages, narrow lanes, halls and farmsteads introduces human scale elements which increase susceptibility to larger developments.	**Medium** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places. In addition, the presence of villages, narrow lanes, halls and farmsteads introduces human scale elements which increase susceptibility to larger developments
Sense of enclosure • Woodland blocks impart a semi-wooded, semi-enclosed character to much of the area. • Valley landforms offers opportunity for longer views.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium-High** • Semi-enclosed landscape is moderately sensitive to development. • Developments of this scale are less likely to be enclosed by vegetation, so susceptibility is higher.	**Medium-High** • Semi-enclosed landscape is moderately sensitive to development. • Developments of this scale are less likely to be enclosed by vegetation, so susceptibility is higher.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.

LT B: Tributary Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Field pattern **B1 - Tas Tributary Farmland** • Early rectilinear field patterns across much of the area. • Planned enclosures of former greens and heaths prior to the C18 creating semi-regular field pattern. • Common arable fields in Forncett St Mary visible on tithe map. • Late enclosure of fens, for example at Hingham • Some unenclosed meadows/fen. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B2 – Tiffey** • Mix of field patterns. Some irregular, presumably early enclosures. • Late enclosures at Spooner Row and Barnham Broom. • Medieval deer parks at Kimberley and Oxehaghe. • Small area of unenclosed meadow at Coston. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B3 – Rockland** • Mix of organic field patterns, suggesting early enclosure, and rectilinear field patterns, suggesting late enclosure. • Late enclosures of marshland and heathland in Kirby Bedon and Surlingham. • Sinuous field boundaries in Ashby St Mary suggest enclosure from common field. **B4 – Waveney Tributary Farmland** • Early rectilinear field patterns e.g. at Alburgh and Denton. • Ancient, irregular enclosures across much of the area. • Sinuous enclosures from open fields in Denton. • Considerable hedgerow loss. **B5 – Chet** • Early rectilinear field systems e.g. at Seething. Medieval open fields possibly based on earlier field system. • Late enclosure of Yelverton Heath.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved.

LT B: Tributary Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Landcover • Varied pattern from small scale, intricate networks of fields/hedgerows in tributary valleys and around settlements to large, open fields on higher ground. • An intricate network of narrow, winding lanes often bounded by ditches. • Elusive tributaries, evident but usually hidden within the landscape by topography or trees. • Medium to large-scale arable fields enclosed by sparse hedges with hedgerow trees. Permanent pasture and woodland found within valleys. • Remnant parkland which sometimes relates to former deer parks, plus areas of common land. • High proportion of important assemblages protected as SSSIs including woodland and wetland habitat.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development.	**Medium-High** • Arable farmland is a resource in its own right and there is therefore higher susceptibility to this scale of development. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover.	**Medium-High** • Arable farmland is a resource in its own right and there is therefore higher susceptibility to this scale of development. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover.
Settlement pattern and human influence • Dispersed settlement pattern of small villages, hamlets, farmsteads and manors distributed across the landscape. Occasional large agricultural buildings e.g. poultry sheds • Compact villages sheltered within small valleys. • Mixed architectural character comprising modern bungalow development and vernacular architecture with stepped gable ends and other vernacular characteristics. Local building materials such as brick and flint. • Isolated churches. Locally distinctive round towered churches e.g. St Michael's Aslacton • The Chet Tributary Farmland contains the small town of Loddon.	**LCA B1, B3, B4, B5: Medium-High** **LCA B2: Medium** • The historic settlement pattern is still evident with only modest recent expansion. • The existing dispersed settlement pattern is susceptible to change. • Within B2 the A11 introduces a modern element which reduces local susceptibility. • Existing pylons introduce more human influence in places, which reduces the local susceptibility.	**LCA B1, B3, B4, B5: Medium-High** **LCA B2: Medium** • The historic settlement pattern is still evident with only modest recent expansion. • The existing dispersed settlement pattern is susceptible to change. • Within B2 the A11 introduces a modern element which reduces local susceptibility. • Existing pylons introduce more human influence in places, which reduces the local susceptibility.	**LCA B1, B3, B4, B5: High** **LCA B2: Medium-High** • The historic settlement pattern is still evident with only modest recent expansion. • The existing dispersed settlement pattern is susceptible to change. • Within B2 the A11 introduces a modern element which reduces local susceptibility. • Existing pylons introduce more human influence in places, which reduces the local susceptibility.	**LCA B1, B3, B4, B5: High** **LCA B2: Medium-High** • The historic settlement pattern is still evident with only modest recent expansion. • The existing dispersed settlement pattern is susceptible to change. • Within B2 the A11 introduces a modern element which reduces local susceptibility. • Existing pylons introduce more human influence in places, which reduces the local susceptibility.

LT B: Tributary Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Perceptual aspects • For the most part the landscape is peaceful, rural and tranquil. • Roads introduce a local source of movement within the landscape.	**LCA B1, B3, B4, B5: Medium-High** **B2: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the tributary farmland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment. • Within B2 the A11 introduces a source of noise and movement which reduces susceptibility.	**LCA B1, B3, B4, B5: Medium-High** **B2: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the tributary farmland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment. • Within B2 the A11 introduces a source of noise and movement which reduces susceptibility.	**LCA B1, B3, B4, B5: Medium-High** **B2: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the tributary farmland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment. • Within B2 the A11 introduces a source of noise and movement which reduces susceptibility.	**LCA B1, B3, B4, B5: Medium-High** **B2: Medium** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the tributary farmland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment. • Within B2 the A11 introduces a source of noise and movement which reduces susceptibility.
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The landscape is less sensitive to solar PV than to other forms of development as solar PV consists of low elements.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.
Skylines • The skyline varies across the landscape type from clear to interrupted by woodland blocks and undulations in landform. • In the enclosed tributary valleys the skyline can include prominent valley crests.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as prominent valley crests.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as prominent valley crests.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as prominent valley crests.	**Varies** • This form of development is low in height meaning it is less likely to affect skylines. • There are however local sensitivities such as prominent valley crests.

LT B: Tributary Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Intactness • Some roads have been modernised and there has been some modest expansion of settlements. Changing agricultural practices have led to a simplification of the landscape pattern and the loss of some landscape features. The historic pattern is nonetheless legible, and there are relatively few modern elements. The rural character of the area is intact, and there is a moderately strong sense of place.	**Varying from Medium to Medium-High** • The introduction of Solar PV would have a negative effect on the intact rural landscape. This type of development would fragment the existing pattern of rural land uses. • Solar PV also consists of standard components which would tend to dilute the sense of place. Whilst planting could be locally appropriate the development itself would not contribute to local identity. • Within B2 the A11 introduces a modern element which reduces the intactness of the landscape.	**Varying from Medium to Medium-High** • The introduction of Solar PV would have a negative effect on the intact rural landscape. This type of development would fragment the existing pattern of rural land uses. • Solar PV also consists of standard components which would tend to dilute the sense of place. Whilst planting could be locally appropriate the development itself would not contribute to local identity. • Within B2 the A11 introduces a modern element which reduces the intactness of the landscape.	**Varying from Medium-High to High** • Development of this scale would have a more profound effect on sense of place by introducing standard elements across a wide area. • The existing rural character would also be more fundamentally altered by this scale of development.	**Varying from Medium-High to High** • Development of this scale would have a more profound effect on sense of place by introducing standard elements across a wide area. • The existing rural character would also be more fundamentally altered by this scale of development.

LT B: Tributary Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large solar PV development (over 50MW)
LCA B1: Tas Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Tas Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the predominantly open character of the landscape. The farmed character of the Tas Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tas Tributary Farmlands are susceptible to this type of development, especially where there are views to heritage assets such as Venta Icenorum, or to Norwich.	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Tas Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the predominantly open character of the landscape. The farmed character of the Tas Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tas Tributary Farmlands are susceptible to this type of development, especially where there are views to heritage assets such as Venta Icenorum, or to Norwich.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Tas Tributary Farmlands. • Whilst it might be possible to screen solar panels with planting development of this scale would have an extensive effect on the landscape, and mitigation planting is also likely to alter the predominantly open character of the landscape. The Tas Tributary Farmlands display a rural, farmed character. The changes to land use and to the visual experience of the landscape would alter its fundamental character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Tas Tributary Farmlands. • Whilst it might be possible to screen solar panels with planting development of this scale would have an extensive effect on the landscape, and mitigation planting is also likely to alter the predominantly open character of the landscape. The Tas Tributary Farmlands display a rural, farmed character. The changes to land use and to the visual experience of the landscape would alter its fundamental character, so susceptibility is assessed as Medium-High.
LCA B2: Tiffey Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Tiffey Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the characteristic framed and long-range views. The farmed character of the Tiffey Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tiffey Tributary Farmlands are susceptible to this type of development, especially where there are views to local landmarks including Wymondham Abbey and Wicklewood Windmill.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Tiffey Tributary Farmlands. Whilst it might be possible to screen panels with planting this is likely to affect the characteristic framed and long-range views. The farmed character of the Tiffey Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tiffey Tributary Farmlands are susceptible to this type of development, especially where there are views to local landmarks including Wymondham Abbey and Wicklewood Windmill.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Tiffey Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the characteristic framed and long-range views. The farmed character of the Tiffey Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tiffey Tributary Farmlands are susceptible to this type of development, especially where there are views to local landmarks including Wymondham Abbey and Wicklewood Windmill. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Tiffey Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the characteristic framed and long-range views. The farmed character of the Tiffey Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Tiffey Tributary Farmlands are susceptible to this type of development, especially where there are views to local landmarks including Wymondham Abbey and Wicklewood Windmill. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.

LT B: Tributary Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large solar PV development (over 50MW)
LCA B3: Rockland Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Rockland Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the visual characteristics of the landscape. The farmed character of the Rockland Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Rockland Tributary Farmlands are susceptible to this type of development, especially where there are views to the Yare Valley or to isolated churches.	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Rockland Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the visual characteristics of the landscape. The farmed character of the Rockland Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Rockland Tributary Farmlands are susceptible to this type of development, especially where there are views to the Yare Valley or to isolated churches.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Rockland Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the visual characteristics of the landscape. The farmed character of the Rockland Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Rockland Tributary Farmlands are susceptible to this type of development, especially where there are views to the Yare Valley or to isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently shelving landscape of the Rockland Tributary Farmlands. • Whilst it might be possible to screen panels with planting this is likely to affect the visual characteristics of the landscape. The farmed character of the Rockland Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Rockland Tributary Farmlands are susceptible to this type of development, especially where there are views to the Yare Valley or to isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.
LCA B4: Waveney Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Waveney Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Waveney Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features including round-towered and isolated churches.	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Waveney Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Waveney Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features including round-towered and isolated churches.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Waveney Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Waveney Tributary Farmlands are susceptible to this type of development, especially where there are views to The Broads or to landmark features such as round-towered or isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Waveney Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Waveney Tributary Farmlands are susceptible to this type of development, especially where there are views to The Broads or to landmark features such as round-towered or isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.

LT B: Tributary Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large solar PV development (over 50MW)
LCA B5: Chet Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently sloping landscape of the Chet Tributary Farmlands. • The rural, farmed character of the Chet Tributary Farmlands is sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Chet Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features such as round-towered and isolated churches.	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently sloping landscape of the Chet Tributary Farmlands. • The rural, farmed character of the Chet Tributary Farmlands is sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Chet Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features such as round-towered and isolated churches.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently sloping landscape of the Chet Tributary Farmlands. • The rural, farmed character of the Chet Tributary Farmlands is sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Chet Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features such as round-towered and isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently sloping landscape of the Chet Tributary Farmlands. • The rural, farmed character of the Chet Tributary Farmlands is sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Chet Tributary Farmlands are susceptible to this type of development, especially where there are views to the Broads or to landmark features such as round-towered and isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.
LCA B6: Yare Tributary Farmland	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Yare Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Yare Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Yare Tributary Farmlands are susceptible to this type of development, especially where there are views to landmark features such as round-towered and isolated churches.	**Medium** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Yare Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Yare Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Yare Tributary Farmlands are susceptible to this type of development, especially where there are views to landmark features such as round-towered and isolated churches.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Yare Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Yare Tributary Farmlands are susceptible to this type of development, especially where there are views to landmark features such as round-towered or isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.	**Medium-High** • Solar PV is lower than other forms of development, but could still be visible within the gently undulating landscape of the Waveney Tributary Farmlands. • Whilst it might be possible to screen panels with planting this would alter the open character of the landscape. The farmed character of the Yare Tributary Farmlands is also sensitive to change, irrespective of the proposed mitigation. The key characteristics of the Yare Tributary Farmlands are susceptible to this type of development, especially where there are views to landmark features such as round-towered or isolated churches. • Development of this scale would have a more fundamental effect on character, so susceptibility is assessed as Medium-High.

LT C: Tributary Farmland with Parkland

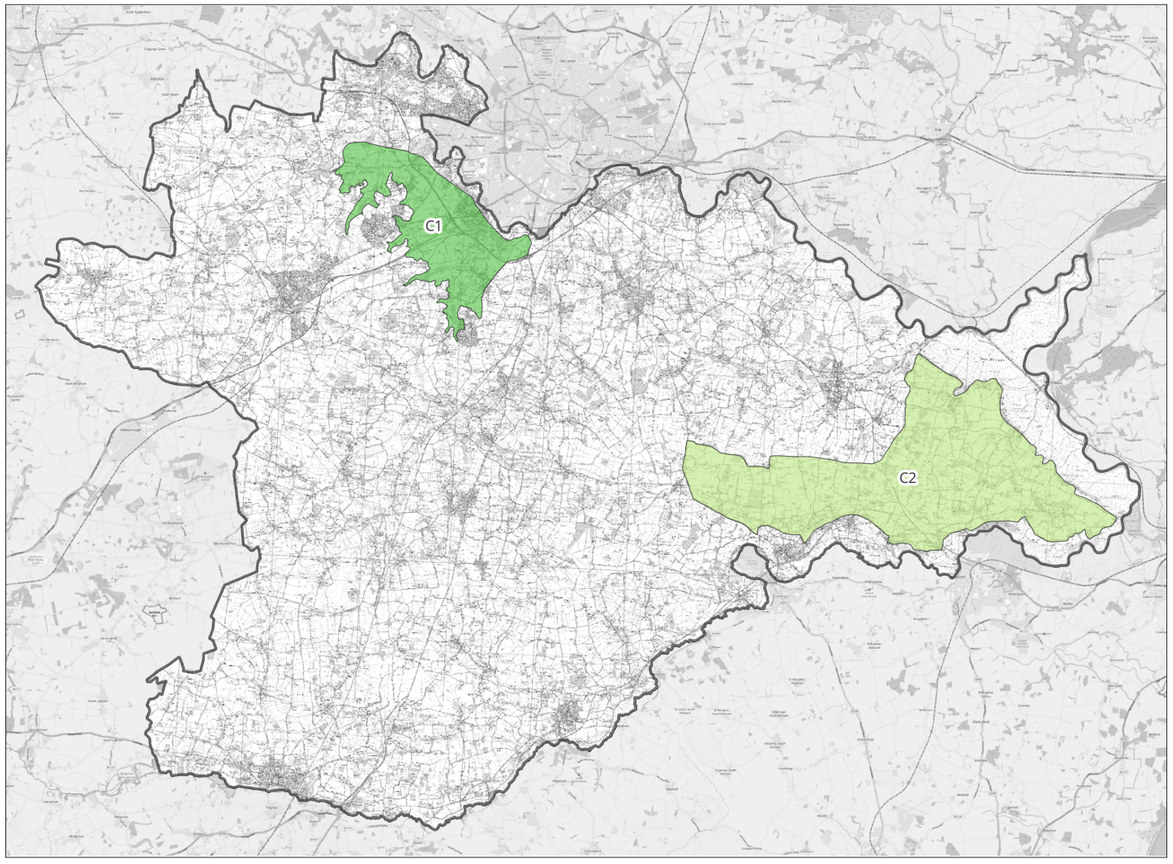
The Tributary Farmland with Parkland Landscape Type occurs in two discrete places, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • Transitional landscape occupying the midground between the upland plateau and the main river valley landscapes, providing varied opportunities for open and framed views. • Larger scale fields contrast with the more intimate valleys and smaller-scale pastoral areas and villages.	**Medium** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places. In addition, the presence of villages, narrow lanes, halls and farmsteads introduces human scale elements which increase susceptibility to larger developments.	**Medium** • Fields are generally of a medium to large size which reduces susceptibility to large scale developments such as solar PV. However there is variation in both size and shape resulting in an intricate, small-scale landscape pattern in places. In addition, the presence of villages, narrow lanes, halls and farmsteads introduces human scale elements which increase susceptibility to larger developments.	**Medium-High** • A development of this scale would be difficult to accommodate in the gently undulating landscape and is likely to be dominating in terms of scale when contrasted with the existing elements of the landscape.	**Medium-High** • A development of this scale would be difficult to accommodate in the gently undulating landscape and is likely to be dominating in terms of scale when contrasted with the existing elements of the landscape.
Sense of enclosure • Open arable landscape is interrupted by areas of woodland. • Areas of woodland associated with estates provide greater enclosure.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.	**Medium** • Semi-enclosed landscape is moderately sensitive to development.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.	**Medium** • The varied landform results in localised areas of higher and lower susceptibility to low developments such as Solar AD. Susceptibility varies according to the degree of slope and the potential screening of the landform. The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.

LT C: Tributary Farmland with Parkland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Field pattern **C1 – Yare** • Irregular enclosures. • Late enclosure e.g. at Little Melton. • Parks. • Unenclosed land at Swardeston Common. **C2 - Thurlton** • Ancient irregular enclosures. • Considerable field amalgamation.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • Solar arrays can be accommodated within existing field patterns so susceptibility to this type of development is assessed as Medium-Low.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • Solar arrays can be accommodated within existing field patterns so susceptibility to this type of development is assessed as Medium-Low.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • Solar arrays can be accommodated within existing field patterns so susceptibility to this type of development is assessed as Medium-Low.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved. • Solar arrays can be accommodated within existing field patterns so susceptibility to this type of development is assessed as Medium-Low.
Landcover • Presence of large parkland estates particularly associated with the tributary valleys. Estate railings, prominent gatehouses, parkland belts, tree-lined avenues and areas of pasture reveal the presence of parkland within the wider arable landscape. • Peaceful arable farmland with small ancient woodlands and scattered coverts with medium to large-scale fields of wheat, barley, oilseed rape and sugarbeet surrounded by sparse hedges and hedgerow trees. • An intricate network of small rural roads. • Becks.	**Varying from Medium to High** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development. • Parklands are likely to feature important old grasslands.	**Varying from Medium to High** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, and parklands display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development. • Parklands are likely to feature important old grasslands.	**Varying from Medium-High to High** • Pre-C18 enclosures, commons, ancient woodland, and parklands display a strong time depth which increases local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development. • Parklands are likely to feature important old grasslands. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover.	**Varying from Medium-High to High** • Pre-C18 enclosures, commons, ancient woodland, and parklands display a strong time depth which increases local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with Solar PV development. • Parklands are likely to feature important old grasslands. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover
Settlement pattern and human influence • Dispersed but evenly distributed settlement with a pattern of farmsteads and small villages. • Sparse settlement pattern across C2. C1 Yare Tributary Farmland somewhat more settled with larger village of Cringleford as well as Norfolk & Norwich Hospital and A47. • Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped gables and brick and flint. • Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in larger villages.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The sparse settlement pattern of C2 is susceptible to change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change.	**LCA C1: Medium** **LCA C2: Medium-High** • The sparse settlement pattern of C2 is susceptible to change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change. Development of this scale would introduce further human influence. • Solar PV would dilute the vernacular character (where this is present).	**LCA C1: Medium** **LCA C2: Medium-High** • The sparse settlement pattern of C2 is susceptible to change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change. Development of this scale would introduce further human influence. • Solar PV would dilute the vernacular character (where this is present).	**LCA C1: Medium** **LCA C2: Medium-High** • The sparse settlement pattern of C2 is susceptible to change. • C1 is more settled and has overt human influence from pylons and the A47 which reduces the susceptibility to change. Development of this scale would introduce further human influence. • Solar PV would dilute the vernacular character (where this is present).

LT C: Tributary Farmland with Parkland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Perceptual aspects • Tamed arable farmland. • C2 is a peaceful rural landscape. C1 is adversely influenced by the Norwich Southern Bypass and the A11. • Pylons and the A47 negate any sense of remoteness within C1. There is however a sense of remoteness within C2, particularly adjacent to The Broads.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the Tributary Farmland with Parkland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the Tributary Farmland with Parkland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the Tributary Farmland with Parkland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The sense of rural tranquillity increases susceptibility to all development types, including Solar PV. • Development would adversely influence the rural qualities of the Tributary Farmland with Parkland. • Noise from inverters/transformers would have an adverse effect on the peaceful rural environment.
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**Medium** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The landscape is less sensitive to solar PV than to other forms of development as solar PV consists of low elements.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.	**Medium-High** • Development of this scale is more likely to be noticeable within the landscape which indicates a higher susceptibility to this scale of development.

LT C: Tributary Farmland with Parkland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Skylines • In places interrupted by woodland, pylons and posts. • Views to parkland edges and woodland. • Intermittent long views to development at the City of Norwich and Norwich Southern Bypass (from C1).	**Low** • This form of development is low in height meaning it is less likely to affect skylines.	**Low** • This form of development is low in height meaning it is less likely to affect skylines.	**Low** • This form of development is low in height meaning it is less likely to affect skylines.	**Low** • This form of development is low in height meaning it is less likely to affect skylines.
Intactness • Intactness varies. Some areas have experienced considerable change with the introduction of the Norwich Southern Bypass and the expansion of settlements such as Cringleford, and the introduction of pylons and other development. • Elsewhere, there is a much stronger and more intact rural character.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The introduction of Solar PV would have a negative effect on the intact rural landscape. This type of development would fragment the existing pattern of rural land uses. • Solar PV also consists of standard components which would tend to dilute the local sense of place. Whilst planting could be locally appropriate the features of the development itself are generic, and would dilute local identity.	**LCA C1: Medium-Low** **LCA C2: Medium-High** • The introduction of Solar PV would have a negative effect on the intact rural landscape. This type of development would fragment the existing pattern of rural land uses. • Solar PV also consists of standard components which would tend to dilute the local sense of place. Whilst planting could be locally appropriate the features of the development itself are generic, and would dilute local identity.	**LCA C1: Medium** **LCA C2: High** • Development of this scale would have a more profound effect on the land use pattern and the perception of character, so the susceptibility to this type of change is higher.	**LCA C1: Medium** **LCA C2: High** • Development of this scale would have a more profound effect on the land use pattern and the perception of character, so the susceptibility to this type of change is higher.

LT C: Tributary Farmland with Parkland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
LCA C1: **Yare Tributary Farmland with Parkland**	**Medium** • Solar PV is lower than other forms of development so is less likely to affect important views. Other characteristics of the landscape would however be affected by this type of development, even if it was possible to screen it. • Solar PV is not compatible with the aims of the Landscape Zone, Key Views, or the Undeveloped Approaches. • Susceptibility is generally medium, but would be higher within the Landscape Protection Zone, Key Views, and the Undeveloped Approaches.	**Medium** • Solar PV is lower than other forms of development so is less likely to affect important views. Other characteristics of the landscape would however be affected by this type of development, even if it was possible to screen it. • Solar PV is not compatible with the aims of the Landscape Zone, Key Views, or the Undeveloped Approaches. • Susceptibility is generally medium, but would be higher within the Landscape Protection Zone, Key Views, and the Undeveloped Approaches.	**Medium-High** • Development of this scale would have an extensive effect on the key characteristics of the area. Development of this scale would have a detrimental effect on the remaining rural areas within this character area. It is unlikely the Yare Tributary Farmland with Parkland LCA could accommodate a development of this size whilst protecting the setting of Norwich. There is on the other hand human influence from the A47 and existing pylons which reduces the susceptibility of the area.	**Medium-High** • Development of this scale would have an extensive effect on the key characteristics of the area. Development of this scale would have a detrimental effect on the remaining rural areas within this character area. It is unlikely the Yare Tributary Farmland with Parkland LCA could accommodate a development of this size whilst protecting the setting of Norwich. There is on the other hand human influence from the A47 and existing pylons which reduces the susceptibility of the area.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Medium** • Solar PV is lower than other forms of development so is less likely to affect important views. Other characteristics of the landscape would however be affected by this type of development, even if it was possible to screen it. • Susceptibility is generally medium, but would be higher where there are views to historic parks, church towers or The Broads.	**Medium** • Solar PV is lower than other forms of development so is less likely to affect important views. Other characteristics of the landscape would however be affected by this type of development, even if it was possible to screen it. • Susceptibility is generally medium, but would be higher where there are views to historic parks, church towers or The Broads.	**Medium-High** • Development of this scale would have an extensive effect on the key characteristics of the area, and would compromise the sense of remoteness and peacefulness which is present. Development of this scale would alter the farmed character of the Thurlton Tributary Farmland with Parkland. Solar arrays would introduce overt human influence to a rural landscape. • Development of this scale would have a more fundamental effect on the key characteristics of the area, so susceptibility is assessed as Medium-High.	**Medium-High** • Development of this scale would have an extensive effect on the key characteristics of the area, and would compromise the sense of remoteness and peacefulness which is present. Development of this scale would alter the farmed character of the Thurlton Tributary Farmland with Parkland. Solar arrays would introduce overt human influence to a rural landscape. • Development of this scale would have a more fundamental effect on the key characteristics of the area, so susceptibility is assessed as Medium-High.

LT D: Settled Plateau Farmland

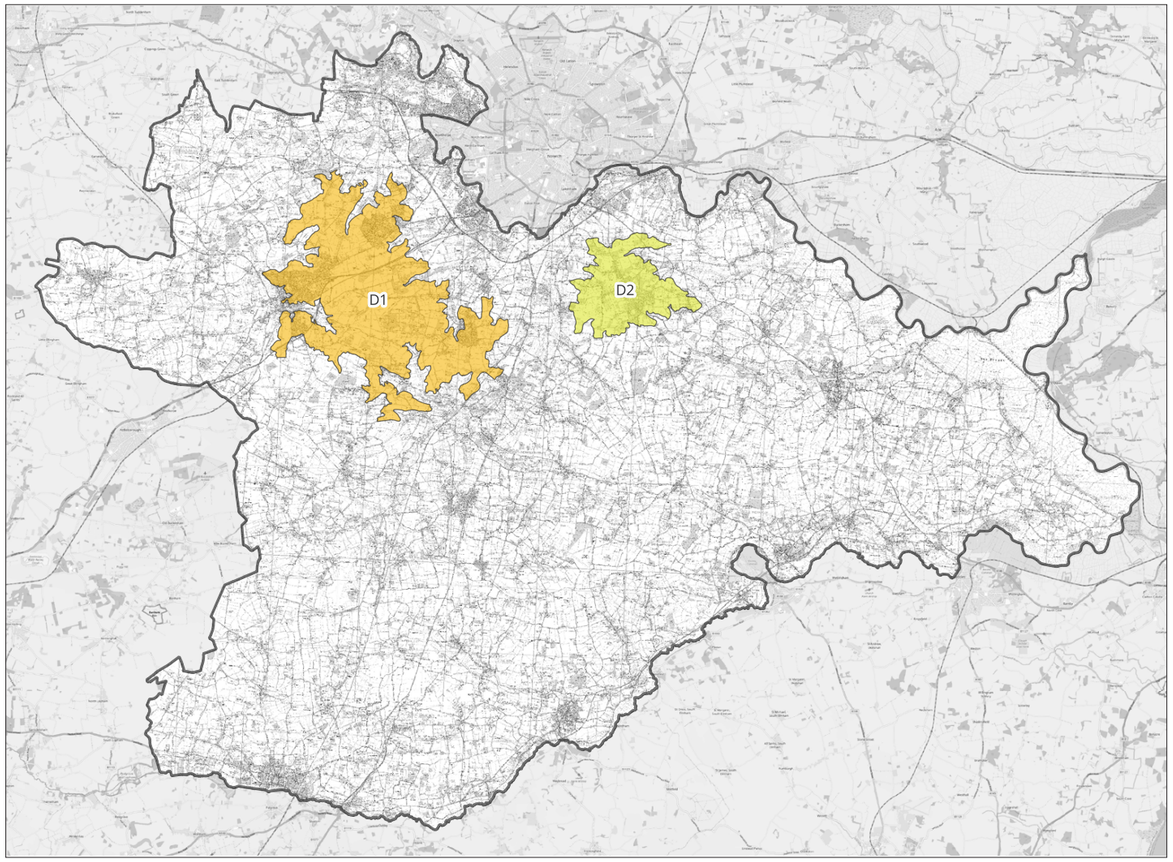
There are two areas of Settled Plateau Farmland, one to the east of the Tas Valley around Poringland, and one to the west of Tas Valley around Wymondham. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • Large expanse of flat landform. Medium to large-scale fields. • Views on the plateau can be contained by hedges, while other areas are more open. Visual qualities influence the sense of scale. • Loss of hedges has created a larger scale landscape.	**Medium-Low** • Larger scale landscapes are considered less sensitive to this form of development.	**Medium-Low** • Larger scale landscapes are considered less sensitive to this form of development.	**Medium-Low** • Larger scale landscapes are considered less sensitive to this form of development.	**Medium-Low** • Larger scale landscapes are considered less sensitive to this form of development.
Sense of enclosure • Generally open landscape. Poor hedgerows accentuate the openness of the landscape. • Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements. • Wooded character in parts provides enclosure, particularly around settlements.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development, including Solar PV.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation but this could in itself foreshorten views and alter the characteristic sense of openness.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation but this could in itself foreshorten views and alter the characteristic sense of openness.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation but this could in itself foreshorten views and alter the characteristic sense of openness.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**Medium-Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however would be highly sensitive to this form of development which would potentially be exposed and difficult to screen.	**Medium-Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however would be highly sensitive to this form of development which would potentially be exposed and difficult to screen.	**Medium-Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however would be highly sensitive to this form of development which would potentially be exposed and difficult to screen.	**Medium-Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however would be highly sensitive to this form of development which would potentially be exposed and difficult to screen.

LT D: Settled Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Field pattern **D1 - Wymondham** • Early irregular enclosures at Bracon Ash and Mulbarton. • Irregular field pattern in Ketteringham. • Late enclosure of greens e.g. High Green, Melton and High Green, Wreningham. • Park at Ketteringham. • Field pattern obliterated by airfield at Hethel. **D2 – Poringland** • Late enclosure of former heath (shared between settlements). • Former park at Bixley Hall.	**Medium-Low** • A mix of different field patterns.	**Medium-Low** • A mix of different field patterns.	**Medium-Low** • A mix of different field patterns.	**Medium-Low** • A mix of different field patterns.
Landcover • Large arable fields characterised by swathes of cereals, oilseed rape and sugarbeet. • Some evidence of historic landscape features including moats, historic parkland and farm ponds. • Woodland blocks tend to be associated with halls/remnant parkland.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum. • Arable farmland is a resource in its own right and there is therefore some susceptibility to development of this type and scale.	**Medium** • Arable farmland is a resource in its own right and there is therefore some susceptibility to development of this type and scale.	**Medium-High** • Arable farmland is a resource in its own right and there is therefore higher susceptibility to this scale of development. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover.	**High** • Arable farmland is a resource in its own right and there is therefore higher susceptibility to this scale of development. • Landcover is more sensitive to this scale of development as it would be more extensive and could alter the perceptions of typical landcover.
Settlement pattern and human influence • Historically somewhat sparsely settled but with some dispersed settlement including green-side settlement. • The modern day settlement pattern includes the town of Wymondham and a number of large villages. • Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development. • Wymondham and Mulbarton retain a historic character despite more recent peripheral development, whereas Poringland and Hethersett have a much more modern character (characterised by post-war bungalow development). • Former airfield at Hethel (now site of motor works).	**Medium-Low** • Settlement pattern has somewhat altered with the expansion of settlements. More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11. • There is opportunity for small-scale solar PV linked to the more modern peripheral development of towns.	**Medium** • Development of this scale would have affect the existing land use pattern and increase the sense of human influence, so susceptibility is higher.	**Medium** • Development of this scale would have a large effect on the existing land use pattern and would increase the sense of human influence, so susceptibility is higher.	**Medium** • Development of this scale would have a large effect on the existing land use pattern and would increase the sense of human influence, so susceptibility is higher.

LT D: Settled Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Perceptual aspects • A number of large settlements are present and there is therefore little sense of remoteness. • The A11 cuts across the Wymondham Settled Plateau Farmlands and introduces a source of noise, movement and modernity. • Whilst this is a settled landscape the villages are set within a rural landscape and there is a sense of countryside.	**Medium** • The remaining areas of countryside are sensitive to development. • Away from the A11 there is a greater sense of tranquillity. Tranquil areas are somewhat sensitive to Solar PV which would introduce some low-level noise.	**Medium** • The remaining areas of countryside are sensitive to development. • Away from the A11 there is a greater sense of tranquillity. Tranquil areas are somewhat sensitive to Solar PV which would introduce some low-level noise.	**Medium-High** • Development of this scale would have a more profound effect on the rural characteristics of the landscape.	**Medium-High** • Development of this scale would have a more profound effect on the rural characteristics of the landscape.
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**Medium** • Prominent plateau edges are highly sensitive due to views from adjacent areas. • The interior of the plateau is less sensitive but nonetheless features archetypal views across arable farmland to distant horizons. • Existing farm buildings are different in nature from Solar PV as they are part of the rural landscape. • Solar arrays would represent new and contrasting features, which suggests higher susceptibility. There is some potential to mitigate Solar PV developments, but this can still lead to the loss of long-distance views. Overall then susceptibility to this type of development is judged as Medium.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Settled Plateau Farmlands. • Solar panels can be screened with hedges, but this is likely to lead to a loss of the characteristic sense of openness.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Settled Plateau Farmlands. • Solar panels can be screened with hedges, but this is likely to lead to a loss of the characteristic sense of openness.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Settled Plateau Farmlands. • Solar panels can be screened with hedges, but this is likely to lead to a loss of the characteristic sense of openness.

LT D: Settled Plateau Farmland - susceptibility to Solar PV development

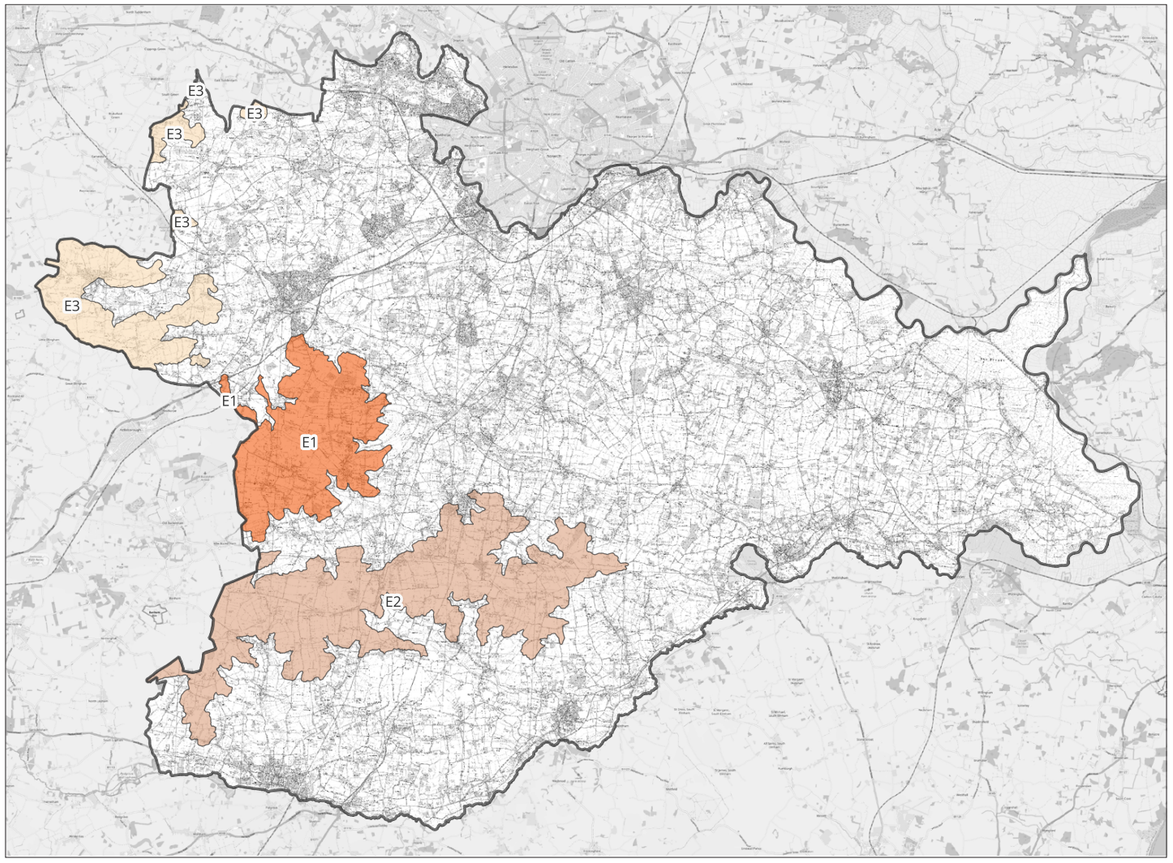
Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Skylines • Strong open horizons – the archetypal 'Norfolk' landscape. • Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Medium** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons. • A development of this scale is more likely to affect the characteristic open horizons.
Intactness • The landscape has clearly experienced considerable change through the expansion of settlements. • Poringland extends across the central part of D2 and is a relatively modern settlement. • Within D1, the settlements of Wymondham, Hethersett and Mulbarton have extended into the countryside, and the area is bisected by the A11. Earlier patterns have also been disrupted by the introduction of a WW2 airfield. The settlements are nonetheless separated by substantial areas of countryside.	**Medium-Low** • Development is nucleated and there is a clear distinction between urban areas and the countryside. • There is some potential to accommodate field scale solar PV linked to the more modern peripheral development of towns. • Development which fragments the remaining countryside would be detrimental.	**Medium-High** • Development of this scale would inevitably have a detrimental effect on the intactness of the remaining countryside.	**Medium-High** • Development of this scale would inevitably have a detrimental effect on the intactness of the remaining countryside.	**Medium-High** • Development of this scale would inevitably have a detrimental effect on the intactness of the remaining countryside.

LT D: Settled Plateau Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
LCA D1: Wymondham Settled Plateau Farmland	**Medium** • Solar PV is lower than other forms of development, so is less likely to affect important views. Other characteristics of the landscape would however be affected, even if it was possible to screen the development. Mitigation planting would itself affect the characteristic openness of the Wymondham Settled Plateau Farmlands. The gaps between settlements are also sensitive to erosion from this type of development.	**Medium** • Solar PV is lower than other forms of development, so is less likely to affect important views. Other characteristics of the landscape would however be affected, even if it was possible to screen the development. Mitigation planting would itself affect the characteristic openness of the Wymondham Settled Plateau Farmlands. The gaps between settlements are also sensitive to erosion from this type of development.	**Medium-High** • A development of this scale would affect the gaps between settlements and would alter the land use pattern. The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Development of this scale would alter the characteristics of the Wymondham Settled Plateau Farmlands.	**Medium-High** • A development of this scale would affect the gaps between settlements and would alter the land use pattern. The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Development of this scale would alter the characteristics of the Wymondham Settled Plateau Farmlands.
LCA D2: Poringland Settled Plateau Farmland	**Medium** • Solar PV is lower than other forms of development, so is less likely to affect important views. Other characteristics of the landscape would however be affected, even if it is possible to screen the development. Mitigation planting is likely to affect the characteristic openness of the Poringland Settled Plateau Farmlands.	**Medium** • Solar PV is lower than other forms of development, so is less likely to affect important views. Other characteristics of the landscape would however be affected, even if it is possible to screen the development. Mitigation planting is likely to affect the characteristic openness of the Poringland Settled Plateau Farmlands.	**Medium-High** • A development of this scale would alter the land use pattern within the area. The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Development of this scale would alter the characteristics of the Poringland Settled Plateau Farmland.	**Medium-High** • A development of this scale would alter the land use pattern within the area. The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Development of this scale would alter the characteristics of the Poringland Settled Plateau Farmland.

LT E: Plateau Farmland

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.



Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields

The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • A generally open character creates a medium to large scale landscape.	**Medium-Low** • Fields are generally of a medium to large size which reduces sensitive to larger scale developments such as solar farms.	**Medium-Low** • Fields are generally of a medium to large size which reduces sensitive to larger scale developments such as solar farms.	**Medium-Low** • Fields are generally of a medium to large size which reduces sensitive to larger scale developments such as solar farms.	**Medium-Low** • Fields are generally of a medium to large size which reduces sensitive to larger scale developments such as solar farms
Sense of enclosure • Sense of openness and exposure due to the elevation and scarcity of enclosing elements. • The flatness of the plateau creates a strong sense of openness with large skies and distant horizons.	**Medium-High** • The generally open character and lack of screening elements increases susceptibility to any new development. Hedges and woodlands do though provide some localised enclosure.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation, but this could in itself foreshorten views and alter the characteristic sense of openness.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation, but this could in itself foreshorten views and alter the characteristic sense of openness.	**High** • Development of this scale is likely to be visible. Solar PV has potential for mitigation, but this could in itself foreshorten views and alter the characteristic sense of openness.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Medium-Low** • The large flat landform is considered less-sensitive to Solar PV.	**Medium-Low** • The large flat landform is considered less-sensitive to Solar PV.	**Medium-Low** • The large flat landform is considered less-sensitive to Solar PV.	**Medium-Low** • The large flat landform is considered less-sensitive to Solar PV.
Field pattern **E1 – Ashwellthorpe Plateau Farmland** • Ancient rectilinear enclosures in Bunwell • Ancient irregular enclosures at Fundenhall • Late enclosure of large commons (shared between settlements). • Fields on poor drained plateau bound by ditches. **E2 – Great Moulton** • Ancient rectilinear field patterns in Burston, Tibenham, Great Moulton and Hardwick. • Irregular field patterns, presumably early enclosures. • Large heath at western edge of area enclosed in C18. • Some remaining unenclosed land e.g. Wacton Common. • Field pattern eroded by airfields and hedgerow loss. **E3 – Hingham - Mattishall** • Later enclosure of commons and warren signified by rectilinear field pattern e.g at Deopham Green. • Irregular field patterns at Hingham an Wicklewood. • Late enclosure of Welborne Common (C18)	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape.	**Medium-Low** • Whilst there are likely to be some early field systems these are somewhat poorly preserved in the modern landscape.

LT E: Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Landcover • Large fields of arable monoculture with characteristic swathes of wheat, barley, oilseed rape and sugar beet. • Mature hedgerow oaks are features in the agricultural landscape. However hedgerows have been severely degraded or lost, leading to a much simplified landscape. • Generally an early enclosed landscape, but with significant areas of common/ heath, many of which were enclosed in the C19. Some remaining commons. • Mixed field patterns relating to the history of enclosure.	**Medium** • Rural landcover pattern is sensitive to extensive developments such as Solar PV.	**Medium-High** • Predominantly arable farmland is sensitive to development of this scale, which would alter its character. • Development would have an effect on arable farmland as a resource in its own right.	**Medium-High** • Predominantly arable farmland is sensitive to development of this scale, which would alter its character. • Development of this scale would have a considerable effect on arable farmland as a resource in its own right.	**Medium-High** • Predominantly arable farmland is sensitive to development of this scale, which would alter its character. • Development of this scale would have a considerable effect on arable farmland as a resource in its own right.
Settlement pattern and human influence • Dispersed settlement pattern. Common-edge settlement, hamlets and small nucleated villages. Many small halls, often isolated, with moats. No large parklands. • Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development. • Linear settlements occur along roads with some vernacular buildings intermixed with more modern development. • Disused airfields. • Occasional tall structures including wind turbines.	**Medium-High** • A rural settlement pattern with relatively few modern elements is sensitive to development. • Solar PV could detract from historic features including vernacular buildings.	**Medium-High** • A rural settlement pattern with relatively few modern elements is sensitive to development. • Solar PV could detract from historic features including vernacular buildings.	**High** • A rural settlement pattern with relatively few modern elements is highly sensitive to development of this scale. • Solar PV could detract from historic features including vernacular buildings. • Solar PV on this scale would have a large effect on the land use pattern, and introduce a much greater sense of human influence.	**High** • A rural settlement pattern with relatively few modern elements is highly sensitive to development of this scale. • Solar PV could detract from historic features including vernacular buildings. • Solar PV on this scale would have a large effect on the land use pattern, and introduce a much greater sense of human influence.
Perceptual aspects • A peaceful rural character created by the absence of main roads and development. • Quiet rural lanes dissect the landscape. • The A140 cuts north-south through part of E2.	**Medium-High** • The large areas of quiet rural farmland provide a sense of remoteness and tranquillity, which increases susceptibility to all forms of development. • The rural character of this area is sensitive to the urbanising influence of Solar PV. • Tranquil character is somewhat sensitive to Solar PV which would introduce some low-level noise.	**Medium-High** • The large areas of quiet rural farmland provide a sense of remoteness and tranquillity, which increases susceptibility to all forms of development. • The rural character of this area is sensitive to the urbanising influence of Solar PV. • Tranquil character is somewhat sensitive to Solar PV which would introduce some low-level noise.	**High** • Development of this scale would have a more profound effect on the perceptions of rurality etc.	**High** • Development of this scale would have a more profound effect on the perceptions of rurality etc.

LT E: Plateau Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas	**Medium** • Solar PV consist of low elements, but these may still be enough to foreshorten views within the plateau landscape. • In terms of views there is scope to locate small-scale Solar PV in flat areas away from the plateau edge. • Unlikely to be visible from adjacent landscapes. • Care should be taken to avoid interrupting views to historic features.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Plateau Farmlands. • Solar panels can be screened with hedges, but this is likely to lead to a loss of the characteristic sense of visual openness.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Plateau Farmlands. • Solar panels can be screened with hedges, but likely to lead to a loss of the characteristic sense of visual openness.	**Medium-High** • Development of this scale is likely to have a more profound effect on the visual characteristics of the Plateau Farmlands. • Solar panels can be screened with hedges, but likely to lead to a loss of the characteristic sense of visual openness.
Skylines • The flatness of the plateau creates a strong sense of openness with vast skies and dramatic horizons. • Expansive skies are a defining feature with distant views and farm buildings are visible in the open landscape. • 360 degree horizon in places.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Low** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons.	**Medium** • This form of development is low in height meaning it is less likely to affect skylines. • Mitigation planting could however affect the characteristic open horizons. • A development of this scale is more likely to affect the characteristic open horizons.
Intactness • The landscape has experienced ongoing change including enclosure in the C19 and rationalisation in the C20. Some elements of the landscape however can be traced back to the medieval era and there is some sense of historic continuity. Modern elements are relatively few. • Though there have clearly been changes in land management, including the amalgamation of fields, the landscape retains a strong rural character.	**Medium-High** • Intact rural landscape is sensitive to development of this type and scale.	**Medium-High** • Intact rural landscape is sensitive to development of this type and scale.	**High** • Development of this scale would have a profound effect on the intact rural character of the area.	**High** • Development of this scale would have a profound effect on the intact rural character of the area.

LT E: Plateau Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
LCA E1: Ashwellthorpe Plateau Farmland	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. The mast at Tacolneston introduces some overt human influence, but the area otherwise has a peaceful, rural character which is susceptible to change.	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. The mast at Tacolneston introduces some overt human influence, but the area otherwise has a peaceful, rural character which is susceptible to change.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. • Development of this scale would have a more profound effect on the peaceful, rural character of the area.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. • Development of this scale would have a more profound effect on the peaceful, rural character of the area.
LCA E2: Great Moulton Plateau Farmland	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. Timber-framed buildings and moats increase the sense of time-depth, which increases sensitivity.	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. Timber-framed buildings and moats increase the sense of time-depth, which increases sensitivity. The sparse rural settlement pattern is susceptible to change.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. Timber-framed buildings and moats increase the sense of time-depth, which increases sensitivity. The sparse rural settlement pattern would be compromised by development of this scale.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the extensive arable farmland which is a characteristic feature of the area. Timber-framed buildings and moats increase the sense of time-depth, which increases sensitivity. The sparse rural settlement pattern would be compromised by development of this scale.
LCA E3: Hingham-Mattishall Plateau Farmland	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the arable farmland which is a characteristic feature of the area. The rural character of the landscape is susceptible to change. Extensive views to and from the plateau increase sensitivity.	**Medium** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the arable farmland which is a characteristic feature of the area. The rural character of the landscape is susceptible to change. Extensive views to and from the plateau increase sensitivity.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the arable farmland which is a characteristic feature of the area. A development of this scale would have a large effect on the rural character of the area. Extensive views to and from the plateau increase sensitivity.	**Medium-High** • The flat plateau landform offers the potential to screen solar panels, however mitigation planting is likely to alter the characteristic sense of openness within this landscape. Solar PV would have a direct effect on the arable farmland which is a characteristic feature of the area. A development of this scale would have a large effect on the rural character of the area. Extensive views to and from the plateau increase sensitivity.

LT F: Valley Urban Fringe

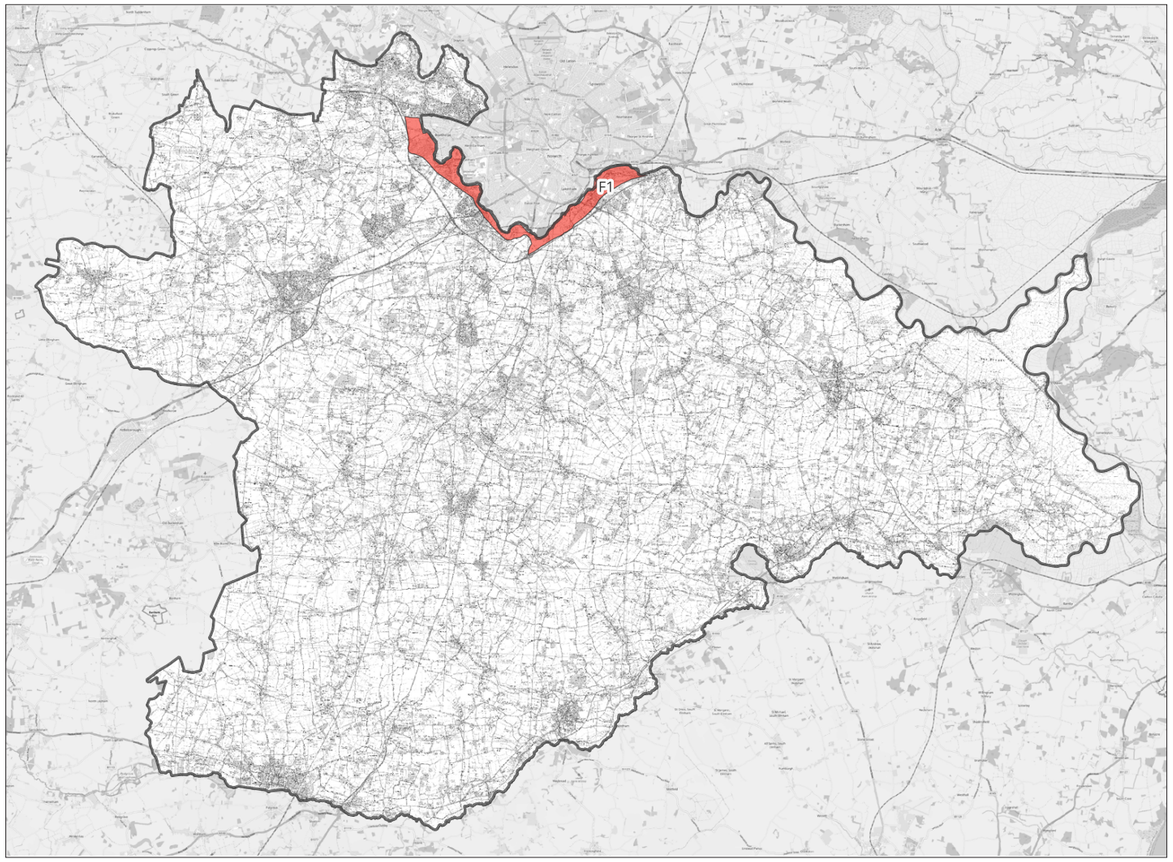
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • Distinctive broad meandering valley form with wide flat floodplain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley meet the main valley.	**Medium** • The Yare Valley Urban Fringe is a relatively small scale, semi-enclosed and contained landscape. • The relatively small scale landscape is moderately sensitive to development of this scale.	**Medium** • The Yare Valley Urban Fringe is a relatively small scale, semi-enclosed and contained landscape. • The relatively small scale landscape is moderately sensitive to development of this scale.	**Medium-High** • The Yare Valley Urban Fringe is a relatively small scale, semi-enclosed and contained landscape. • The relatively small scale valley could not accommodate development of this scale without fundamentally altering the characteristics of the valley.	**Medium-High** • The Yare Valley Urban Fringe is a relatively small scale, semi-enclosed and contained landscape. • The relatively small scale valley could not accommodate development of this scale without fundamentally altering the characteristics of the valley.
Sense of enclosure • A sense of containment. • Wide, fairly flat floodplain with enclosing valley sides. • Trees and woodland also contribute to enclosure in places.	**Medium** • Landform provides containment, but there is some openness within the valley itself. • Trees and woodland also contribute to enclosure in places. • Semi-enclosed landscape with medium susceptibility.	**Medium-High** • More extensive schemes are less likely to be contained by existing vegetation so susceptibility is higher.	**Medium-High** • More extensive schemes are less likely to be contained by existing vegetation so susceptibility is higher.	**Medium-High** • More extensive schemes are less likely to be contained by existing vegetation so susceptibility is higher.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**Varying from Medium to Medium-High** • Meandering valley features some sinuous landform which lies at the higher end of the sensitivity spectrum. • Valley floor is flat and has lower sensitivity. • Valley-sides are considered to have higher sensitivity as panels would be difficult to screen.	**Varying from Medium to Medium-High** • Meandering valley features some sinuous landform which lies at the higher end of the sensitivity spectrum. • Valley floor is flat and has lower sensitivity. • Valley-sides are considered to have higher sensitivity as panels would be difficult to screen.	**Varying from Medium to Medium-High** • Meandering valley features some sinuous landform which lies at the higher end of the sensitivity spectrum. • Valley floor is flat and has lower sensitivity. • Valley-sides are considered to have higher sensitivity as panels would be difficult to screen.	**Varying from Medium to Medium-High** • Meandering valley features some sinuous landform which lies at the higher end of the sensitivity spectrum. • Valley floor is flat and has lower sensitivity. • Valley-sides are considered to have higher sensitivity as panels would be difficult to screen.
Field pattern • The field pattern largely consists of irregular flood meadows divided by dykes. • The valley sides feature irregular and regular enclosures, as well as parkland.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.	**Varying from Medium to Medium-High** • Small-scale fields are considered to have higher sensitivity. Fields are typically enclosed by dikes which means there are no hedges to provide enclosure. Solar arrays would appear stark, while the introduction of hedges would be out of character. The fields on the valley side are however bound by hedges.

LT F: Valley Urban Fringe - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Landcover • Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland. Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded appearance. • Glacial gravel deposits, which have been and continue to be exploited resulting in remnant flooded gravel workings along the valley floor. • Natural character. Nature reserves such as Whitlingham Marsh. The river itself is a chalk river. • Presence of recreational landscapes including the country park at Whitlingham and playing fields at UEA. • Inaccessible valley floor with relatively few river crossings.	**Varying from Medium to Medium-High** • The floodplain features meadows and pastures, riparian woodland, marsh, the University of East Anglia Broad and flooded mineral workings at Bawburgh. These habitats form an interlinked chain which is sensitive to development. • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be incompatible with this form of development.	**Varying from Medium to Medium-High** • The floodplain features meadows and pastures, riparian woodland, marsh, the University of East Anglia Broad and flooded mineral workings at Bawburgh. These habitats form an interlinked chain which is sensitive to development. • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be incompatible with this form of development.	**Varying from Medium to Medium-High** • The floodplain features meadows and pastures, riparian woodland, marsh, the University of East Anglia Broad and flooded mineral workings at Bawburgh. These habitats form an interlinked chain which is sensitive to development. • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be incompatible with this form of development.	**Medium-High** • The floodplain features meadows and pastures, riparian woodland, marsh, the University of East Anglia Broad and flooded mineral workings at Bawburgh. These habitats form an interlinked chain which is sensitive to development. • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be incompatible with this form of development. • Development of this scale would alter the typical landcover within the valley.
Settlement pattern and human influence • Highly influenced by Norwich urban fringe along parts of the upper valley sides. • A number of large institutional buildings in or adjacent to the valley. • Green buffer and comprehensible development edge to the City of Norwich. • Floodplain has remained undeveloped.	**Medium-Low** • The valley largely functions as a green buffer, but there is some development at Colney, Cringleford and Trowse Newton. • The urban influence in the area reduces its susceptibility to change.	**Medium-Low** • Development of this scale is likely to weaken the perception of the Yare Valley as a green buffer.	**Medium** • Development of this scale would have a large effect on the land use pattern, and would compromise the perception of the Yare Valley as a green buffer.	**Medium** • Development of this scale would have a large effect on the land use pattern, and would compromise the perception of the Yare Valley as a green buffer.
Perceptual aspects • Noise of traffic on the Norwich Southern Bypass disturbs the tranquillity of the valley. Overall, despite these urban influences, the valley is mostly quiet and secluded.	**Medium-Low** • Little sense of tranquillity or remoteness. • Proximity to urban area is apparent. • Lighting from urban area. • Potentially introduces noise and lighting however existing conditions indicate lower susceptibility.	**Medium-Low** • Little sense of tranquillity or remoteness. • Proximity to urban area is apparent. • Lighting from urban area. • Potentially introduces noise and lighting however existing conditions indicate lower susceptibility.	**Medium-Low** • Little sense of tranquillity or remoteness. • Proximity to urban area is apparent. • Lighting from urban area. • Potentially introduces noise and lighting however existing conditions indicate lower susceptibility.	**Medium-Low** • Little sense of tranquillity or remoteness. • Proximity to urban area is apparent. • Lighting from urban area. • Potentially introduces noise and lighting however existing conditions indicate lower susceptibility.

LT F: Valley Urban Fringe - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium** • Important views across valley to Norwich are susceptible to change. • Solar panels are typically fairly low so are unlikely to completely obscure views. They can however change the visual characteristics of the area.	**Medium-High** • Important views across valley to Norwich are susceptible to change. • Solar panels are typically fairly low so are unlikely to completely obscure views. • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valley, so the susceptibility is judged to be higher.	**Medium-High** • Important views across valley to Norwich are susceptible to change. • Solar panels are typically fairly low so are unlikely to completely obscure views. • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valley, so the susceptibility is judged to be higher.	**Medium-High** • Important views across valley to Norwich are susceptible to change. • Solar panels are typically fairly low so are unlikely to completely obscure views. • Development of this scale would be more difficult to accommodate without compromising the visual characteristics of the valley, so the susceptibility is judged to be higher.
Skylines • The valley crests form a skyline in views from the valley floor. • Mixed woodland blocks and shelter blocks occur on the valley sides creating a well-wooded skyline.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Generally low susceptibility, but valley crests are sensitive to development.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Generally low susceptibility, but valley crests are sensitive to development.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Generally low susceptibility, but valley crests are sensitive to development.	**Low** • This form of development is limited in height meaning it is less likely to affect skylines. • Generally low susceptibility, but valley crests are sensitive to development.
Intactness • The floodplain features former meadows and parkland, but nature conservation and recreation are increasingly important. • The land uses have evolved and there is a weak sense of historical continuity. • The intactness is to some extent disturbed by past mineral workings, which have made a lasting impression on the landscape. • The intactness of the valley is also influenced by the development of railways and later road bridges.	**Medium** • The land uses have evolved and there is a weak sense of historical continuity. • The floodplain is largely undeveloped and features a coherent pattern of land uses which is vulnerable to fragmentation. • The susceptibility is therefore assessed as Medium.	**Medium** • The land uses have evolved and there is a weak sense of historical continuity. • The floodplain is largely undeveloped and features a coherent pattern of land uses which is vulnerable to fragmentation. • The susceptibility is therefore assessed as Medium.	**Medium** • The land uses have evolved and there is a weak sense of historical continuity. • The floodplain is largely undeveloped and features a coherent pattern of land uses which is vulnerable to fragmentation. • The susceptibility is therefore assessed as Medium.	**Medium** • The land uses have evolved and there is a weak sense of historical continuity. • The floodplain is largely undeveloped and features a coherent pattern of land uses which is vulnerable to fragmentation. • The susceptibility is therefore assessed as Medium.

LT F: Valley Urban Fringe - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
LCA F1: **Yare Valley Urban Fringe**	**Medium** • The undeveloped floodplain is sensitive to development of all types. The valley sides are also considered to be sensitive to Solar PV panels as they would be difficult to screen. • There is some settlement and human influence within the valley and the overall susceptibility in relation to this scale of development is assessed as Medium.	**Medium** • The undeveloped floodplain is sensitive to development of all types. The valley sides are also considered to be sensitive to Solar PV panels as they would be difficult to screen. • There is some settlement and human influence within the valley and the overall susceptibility in relation to this scale of development is assessed as Medium.	**Medium-High** • The undeveloped floodplain is sensitive to development of all types. The valley sides are also considered to be sensitive to Solar PV panels as they would be difficult to screen. • The floodplain features a coherent pattern of land uses which would be vulnerable to fragmentation. • This scale of development would alter the characteristics of the landscape.	**Medium-High** • The undeveloped floodplain is sensitive to development of all types. The valley sides are also considered to be sensitive to Solar PV panels as they would be difficult to screen. • The floodplain features a coherent pattern of land uses which would be vulnerable to fragmentation. • This scale of development would alter the characteristics of the landscape.

LT G: Fringe Farmland

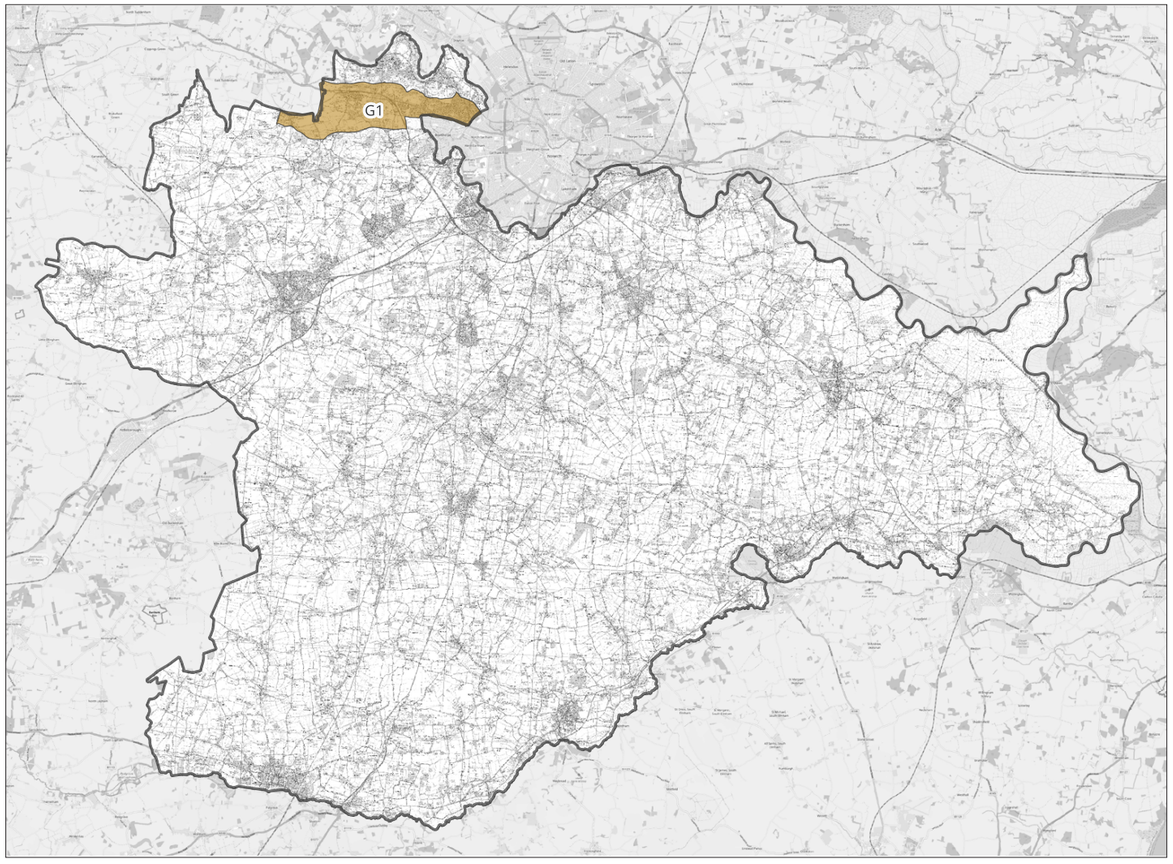
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Scale • The scale of this landscape varies according to the land cover pattern and level of built development.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.	**Varies** • The more developed and wooded parts of the area create a small-scale landscape. • The more open parts of the area have an intermediate scale with medium susceptibility.
Sense of enclosure • This landscape can feel exposed in places as a consequence of the elevated ridge topography and relatively low– level of woodland.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • Areas of localised enclosure would have lower susceptibility. • The more open and exposed areas have high susceptibility.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development • Areas of localised enclosure would have lower susceptibility. • The more open and exposed areas have high susceptibility.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • Areas of localised enclosure would have lower susceptibility. • The more open and exposed areas have high susceptibility.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • Areas of localised enclosure would have lower susceptibility. • The more open and exposed areas have high susceptibility.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**Medium-High** • Ridge landform is sensitive to all types of development including Solar PV.	**Medium-HIgh** • Ridge landform is sensitive to all types of development including Solar PV.	**Medium-High** • Ridge landform is sensitive to all types of development including Solar PV.	**Medium-High** • Ridge landform is sensitive to all types of development including Solar PV.
Field pattern • Field pattern is obscured by land use change across part of the area. • More rural parts of the area show a mix of regular and irregular field patterns which relates to the history of enclosure.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields.

LT G: Fringe Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Landcover • Defined predominantly by farmland with urban and urban fringe development. A degraded farmland context. • History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas. • Urban fringe uses including a park and ride scheme, retail warehouses, a golf course and the Royal Norfolk Showground. • Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.	**Varies** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity.	**Varies** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity.	**Varies** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity. • Development of this scale would alter the existing landcover pattern.	**Medium-High** • Development of this scale would alter the typical landcover. • Development of this scale would have a more profound effect on landccover so the susceptibility is higher.
Settlement pattern and human influence • Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton. • Relatively developed character. • Retail warehouses and supermarkets on edge of town.	**Varies from Low to Medium** • The relatively developed character of much of the area indicates lower susceptibility. • The south-western part of the area however retains a rural settlement pattern.	**Varies from Low to Medium** • The relatively developed character of much of the area indicates lower susceptibility. • The south-western part of the area however retains a rural settlement pattern.	**Varies from Medium to Medium-High** • Development of this scale would create additional human influence and could compromise the remaining rural areas.	**Varies from Medium to Medium-High** • Development of this scale would create additional human influence and could compromise the remaining rural areas.
Perceptual aspects • Not a remote or tranquil landscape. Recent construction and land use activities have had significant effect upon the rural character. • The Norwich Southern Bypass introduces a corridor of noise and movement. Other roads of the area retain a strong rural character.	**Varies from Low to Medium** • Existing noise and disturbance indicate a fairly low susceptibility to change.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.

LT G: Fringe Farmland - susceptibility to Solar PV development

Landscape attribute	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**Medium-High** • The ridge is a locally prominent feature which is sensitive to development of all types. • Solar PV would potentially appear stark in this location. • Views to and from the adjacent valley landscapes increase sensitivity.	**Medium-High** • The ridge is a locally prominent feature which is sensitive to development of all types. • Solar PV would potentially appear stark in this location. • Views to and from the adjacent valley landscapes increase sensitivity.	**Medium-High** • The ridge is a locally prominent feature which is sensitive to development of all types. • Solar PV would potentially appear stark in this location. • Views to and from the adjacent valley landscapes increase sensitivity.	**Medium-High** • The ridge is a locally prominent feature which is sensitive to development of all types. • Solar PV would potentially appear stark in this location. • Views to and from the adjacent valley landscapes increase sensitivity.
Skylines • Skyline varies, sometimes formed by distant views to adjacent landscapes but often interrupted by development and shelterbelts.	**Low** • This form of development is low and is unlikely to affect the skyline. • Panels or mitigation planting could interrupt views to distant horizons.	**Low** • This form of development is low and is unlikely to affect the skyline. • Panels or mitigation planting could interrupt views to distant horizons.	**Medium-Low** • This form of development is low and is unlikely to affect the skyline. • Development of this scale is more likely to interrupt views to distant horizons.	**Medium** • This form of development is low and is unlikely to affect the skyline. • Development of this scale is more likely to interrupt views to distant horizons.
Intactness • This Landscape Type has seen considerable land use change and there is a fragmented pattern of land uses. • Changing demands upon the land mean that the historical landscape pattern is weakly expressed. • Areas of more intact rural landscape do however occur away from urban edge.	**Medium-Low** • The fragmented landscape pattern has a lower susceptibility to change. • Solar PV consists of standard components which would tend to dilute the local sense of place.	**Medium-Low** • The fragmented landscape pattern has a lower susceptibility to change. • Solar PV consists of standard components which would tend to dilute the local sense of place.	**Medium** • Development of this scale would have a more profound effect on the land use pattern and the perception of character, so the susceptibility to this type of change is higher. • Solar PV consists of standard components which would tend to dilute the local sense of place.	**Medium** • Development of this scale would have a more profound effect on the land use pattern and the perception of character, so the susceptibility to this type of change is higher. • Solar PV consists of standard components which would tend to dilute the local sense of place.

LT G: Fringe Farmland - susceptibility to Solar PV development

Overall susceptibility	Small-scale Solar PV development (up to 5MW)	Medium-scale Solar PV development (5MW – 15MW)	Large-scale Solar PV development (15MW – 50MW)	Very large Solar PV development (over 50MW)
LCA G1: Easton Fringe Farmland	**Medium** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. Visual connections with adjacent landscapes increase sensitivity. • There is some potential for small-scale Solar PV developments if they are appropriately sited. The overall susceptibility to this scale of development is assessed as Medium.	**Medium** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides moderate enclosure. Visual connections with adjacent landscapes increase sensitivity. • There is some potential for mediuml-scale Solar PV developments if they are appropriately sited. The overall susceptibility to this scale of development is assessed as Medium.	**Medium-High** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides some enclosure. Visual connections with adjacent landscapes increase sensitivity. • Development of this scale is more likely to be visible, and the susceptibility is therefore higher. Solar PV would potentially appear stark in this location.	**Medium-High** • The key susceptibilities relate to the ridge landform. This is however a gentle ridge landform and there is some tree and woodland cover which provides some enclosure. Visual connections with adjacent landscapes increase sensitivity. • Development of this scale is more likely to be visible, and the susceptibility is therefore higher. Solar PV would potentially appear stark in this location.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.6
Landscape Susceptibility Analysis
Substations

November 2025

thelandscapepartnership

LT A: Rural River Valleys

The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

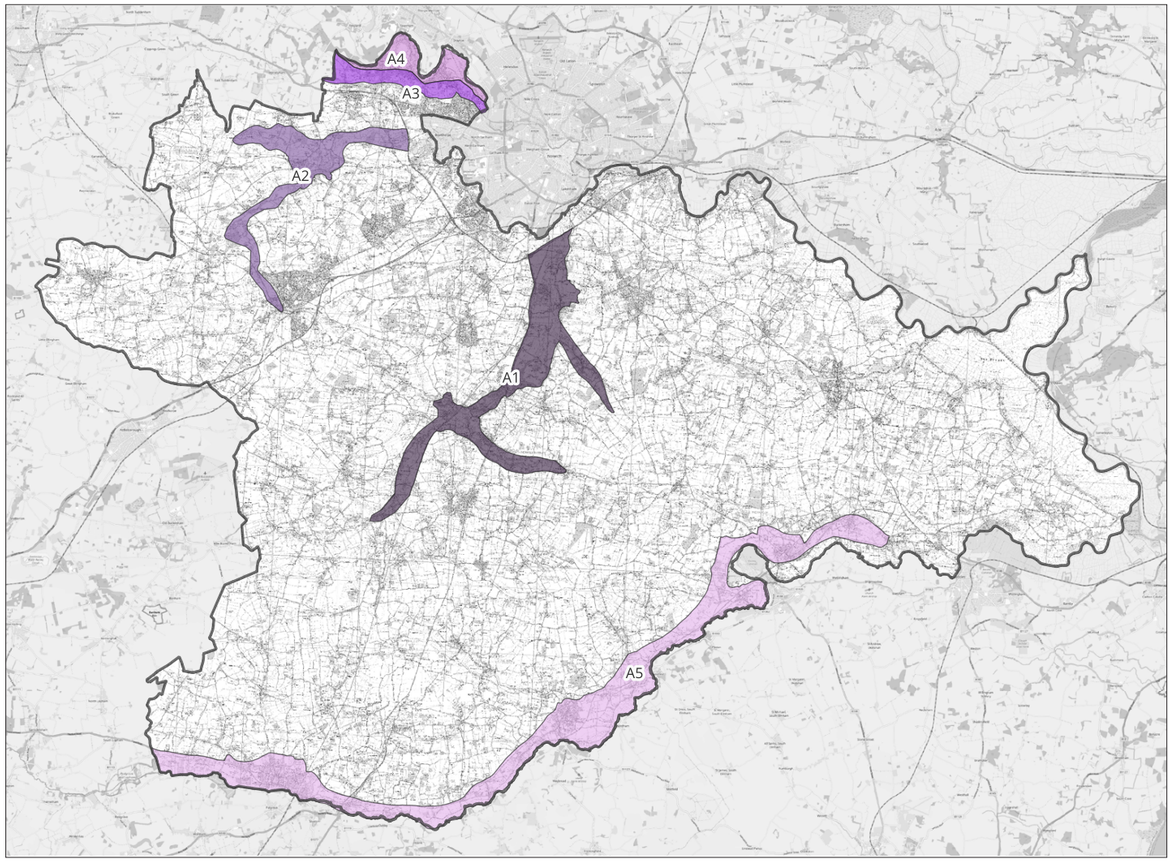
The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.

The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley



LT A: Rural River Valleys - susceptibility to Substations

Landscape attribute	Substation
Sense of enclosure • A semi-enclosed landscape with some long views within the valleys but restricted views out. Areas of more intimate character on the valley floor. • Some river valleys less enclosed than others, the Waveney for example is a wide valley which has a more open character.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**High** • The valleys of South Norfolk are typically shallow-sided. • Valley sides have high susceptibility to a substation, which would typically require a flat surface. Development on a valley-side would also be difficult to screen. • The valley floor is typically undeveloped and would therefore be sensitive to development, which would be out of character.
Landcover • Distinctive land cover: small-scale field pattern and prevalence of grazed pastures on the valley floor, with mix of arable and pasture on the valley sides, creating a complex landcover pattern. • Characteristic ecological assemblages – reeds and marsh, wet meadows/ pastures, woodland plus areas of heathland. High ecological value recognised in designations (SAC/SSSIs). • Willow pollards and lines of poplar flank ditches and watercourses. • Some areas of active mineral working and open water associated with mineral extraction sites, for example in A3: Tud and A4: Wensum valleys. • The Tas Valley features two historic parks, an iron age hillfort at Tasburgh, and a Roman colony at Venta Icenorum.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development. • The river valleys contain rare and valuable land cover elements such as fens and meadows which would be unsuitable for development. The majority of the land within the rural river valleys however is not priority habitat, so developments could potentially avoid this ecological constraint.

LT A: Rural River Valleys - susceptibility to Substations

Landscape attribute	Substation
Settlement pattern and human influence • Valleys have historically been a focus for settlement and the valleys contain some historic villages. • The floodplain however tends not to be settled, except for occasional mills. • Settlements predominantly small and nucleated of strong vernacular character. Isolated farms are present on the edges of the floodplain. • The Waveney Valley is generally rural but the area around Diss is more urbanised.	**High** • Frequent small villages and narrow country lanes create a complex settlement pattern which has a higher susceptibility to development. • A substation would be incompatible with the general settlement pattern and would dilute the strong vernacular character.
Perceptual aspects • The river valleys are typically settled, but for the most part this consists of small rural villages, often with historic character recognised through Conservation Area designations, connected by minor roads. • The generally quiet character and low density of settlement contribute to the perception of an intimate, tranquil rural landscape within the River Valleys. • Tranquillity is reduced in the Waveney Valley by the A1066 and the A143. • Tranquillity is also reduced in the middle section of the Yare Valley by the A47.	**Medium-High** • A substation would have a negative effect on the rural qualities of the river valleys. • A substation would have a negative effect on tranquillity.
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**Medium-High** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. This scenic quality increases susceptibility to development.

LT A: Rural River Valleys - susceptibility to Substations

Landscape attribute	Substation
Skylines • The valley crests form a skyline in views from the valley floor marking the transition to the adjacent landscape type. • In A5: Waveney Valley- a series of churches on the ridgeline form a prominent landmark. • Skyline is usually undeveloped creating a rural context. • Woodland along the valley crest is a key feature of A3: Tud River Valley.	**Medium** • The skylines are susceptible to substations, which are likely to include taller elements. • Valley crests and skylines with churches on the ridgeline have high susceptibility to change.
Intactness • Ditches, fens, meadows, riparian vegetation and vernacular buildings create a sense of place. • The Tas Valley has an intact character. Small villages are present just above the floodplain. The character is somewhat influenced by nearby pylons, railway and A-road. • The Yare and Tiffey Valleys have an intact rural character with meadows, wet woodland, and historic parkland. Small villages are also present just above the floodplain. A tranquil character away from the A47, and a strong sense of place. • The Tud Valley is largely undeveloped and the historic pattern is still legible, however the A47 cuts through the pre-existing landscape pattern and weakens the sense of character. The eastern portion of the valley is found within an increasingly urban context. The land use here has changed with the introduction of a golf course at Costessey Park, and paddocks. • The Wensum Valley is partially disturbed by flooded mineral workings in the base of the valley. The valley is largely undeveloped. • The Waveney Valley is undeveloped and largely rural except around Diss. Pattern of meadows, fens and carrs remains intact throughout most of the area. Tranquillity is reduced by the A143, but there is a relatively strong sense of place.	**High** • A substation would introduce a new and discordant use. • A substation consists of standard, utilitarian elements which are unlikely to contribute to the distinctiveness of the river valleys.

LT A: Rural River Valleys - susceptibility to Substations

Overall susceptibility	Substation
LCA A1: **Tas Rural River Valley**	**High** • The strong sense of place is vulnerable to generic forms of development, including substations, and the sense of tranquillity would also be negatively affected by this type of development. The high scenic quality and undisturbed nature of the Tas Valley both indicate high sensitivity. A substation would represent a large-scale industrial development which would be incompatible with the existing characteristics of the landscape. The susceptibility to this form of development is therefore assessed as High.
LCA A2: **Yare/Tiffey Rural River Valley**	**High** • The strong sense of place is vulnerable to generic forms of development, including substations, and the sense of tranquillity would also be negatively affected by this type of development. The high scenic quality and undisturbed nature of the Yare/Tiffey Valley both indicate high sensitivity. A substation would represent a large-scale industrial development which would be incompatible with the existing characteristics of the landscape. The susceptibility to this form of development is therefore assessed as High.
LCA A3: **Tud Rural River Valley**	**High** • The existing characteristics of the Tud Valley are considered to be highly sensitive to a substation, which would represent a new, contrasting and urbanising element within the landscape. The narrow valley is very unlikely to be able to accommodate a substation, which requires a level platform. The sense of place is vulnerable to generic forms of development, including substations, and the sense of tranquillity would also be negatively affected by this type of development.

LT A: Rural River Valleys - susceptibility to Substations

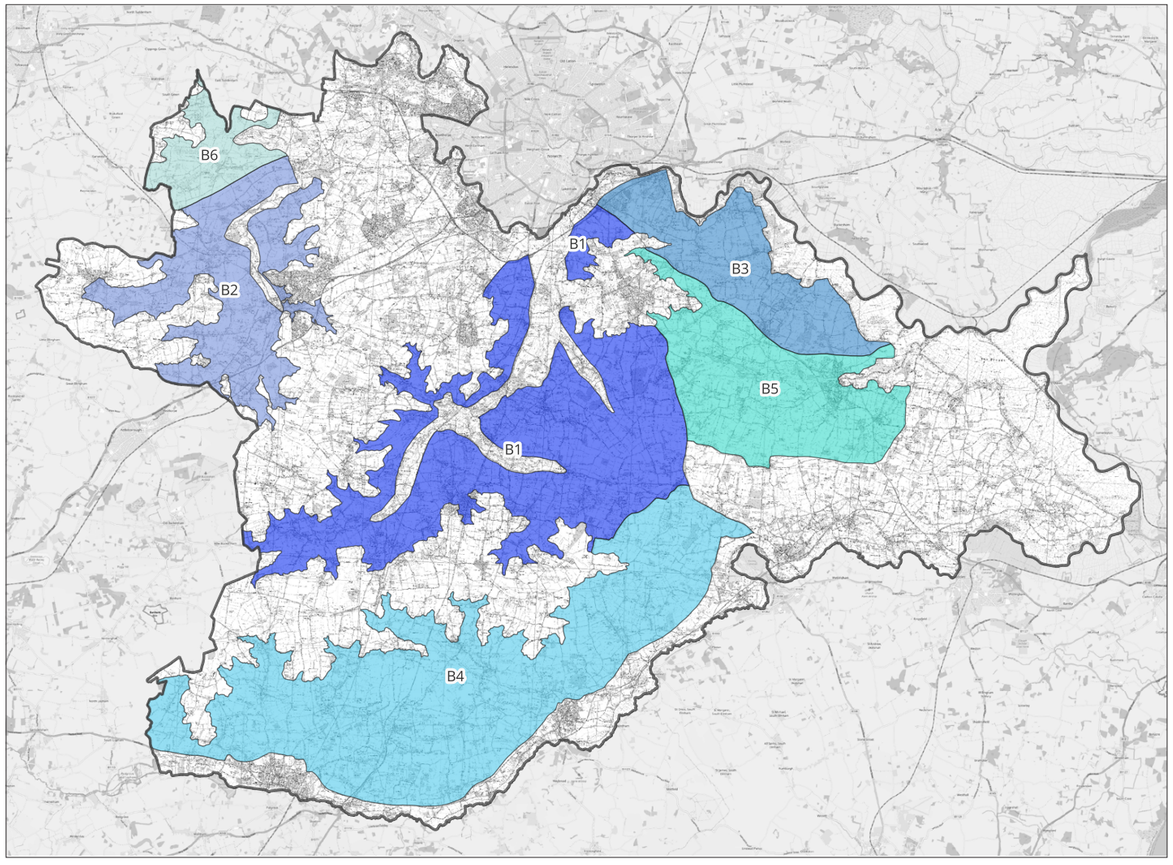
Overall susceptibility	Substation
LCA A4: **Wensum Rural River Valley**	**High** • The strong sense of place is vulnerable to generic forms of development, including substations, and the sense of tranquillity would also be negatively affected by this type of development. The high scenic quality of the Wensum Valley indicates high sensitivity. A substation would represent a large-scale industrial development which would be incompatible with the existing characteristics of the landscape. The susceptibility to this form of development is therefore assessed as High.
LCA A5: **Waveney Rural River Valley**	**High** • The existing characteristics of the Waveney Valley are considered to be highly sensitive to a substation, which would represent a new, contrasting and urbanising element within the landscape. The strong sense of place is vulnerable to generic forms of development, including substations. The high scenic quality of the Waveney Valley indicates high sensitivity.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to Substations

Landscape attribute	Substation
Sense of enclosure • Woodland blocks impart a semi-wooded, semi-enclosed character to much of the area. • Valley landforms offers opportunity for longer views.	**Medium** • Semi-enclosed character is moderately sensitive to development.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to substations as they typically require a level platform.
Landcover • Varied pattern from small scale, intricate networks of fields/hedgerows in tributary valleys and around settlements to large, open fields on higher ground. • An intricate network of narrow, winding lanes often bounded by ditches. • Elusive tributaries, evident but usually hidden within the landscape by topography or trees. • Medium to large-scale arable fields enclosed by sparse hedges with hedgerow trees. Permanent pasture and woodland found within valleys. • Remnant parkland which sometimes relates to former deer parks, plus areas of common land. • High proportion of important assemblages protected as SSSIs including woodland and wetland habitat.	**Medium** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.

LT B: Tributary Farmland - susceptibility to Substations

Landscape attribute	Substation
Settlement pattern and human influence • Dispersed settlement pattern of small villages, hamlets, farmsteads and manors distributed across the landscape. Occasional large agricultural buildings e.g. poultry sheds • Compact villages sheltered within small valleys. • Mixed architectural character comprising modern bungalow development and vernacular architecture with stepped gable ends and other vernacular characteristics. Local building materials such as brick and flint. • Isolated churches. Locally distinctive round towered churches e.g. St Michael's Aslacton • The Chet Tributary Farmland contains the small town of Loddon.	**Medium** • The landscape does include some modern elements and has a mixed architectural character, so the settlement pattern is considered to be moderately sensitive. • Presence of historic features increases susceptibility to this form of development.
Perceptual aspects • For the most part the landscape is peaceful, rural and tranquil. • Roads introduce a local source of movement within the landscape.	**Medium** • Large substations do not have any intrinsic link with the countryside and would therefore have a negative effect on the rural qualities of the area. • Substations are likely to have a negative effect on tranquillity. • Sensitive design e.g. use of infrared cameras, could avoid the need for lighting.

LT B: Tributary Farmland - susceptibility to Substations

Landscape attribute	Substation
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Substations include some taller elements which would take many years to screen.
Skylines • The skyline varies across the landscape type from clear to interrupted by woodland blocks and undulations in landform. • In the enclosed tributary valleys the skyline can include prominent valley crests.	**Medium** • Undeveloped skylines, though not generally prominent or distinctive. • Prominent valley crests are sensitive to development. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility.
Intactness • Some roads have been modernised and there has been some modest expansion of settlements. Changing agricultural practices have led to a simplification of the landscape pattern and the loss of some landscape features. The historic pattern is nonetheless legible, and there are relatively few modern elements. The rural character of the area is intact, and there is a moderately strong sense of place.	**Medium-High** • The intact rural character is sensitive to the urbanising influence of a substation which would be incompatible with the existing landscape pattern.

LT B: Tributary Farmland - susceptibility to Substations

Overall susceptibility	Substation
LCA B1: **Tas Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, and the tranquil qualities of the landscape would also be negatively affected by this type of development. Open and framed views across arable farmland are sensitive to this type of development. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High. • The existing Norwich Main substation is contained within LCA B1, and there is lower susceptibility adjacent to the existing substation.
LCA B2: **Tiffey Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, and the tranquil qualities of the landscape would also be negatively affected by this type of development. Framed and long-range views across arable farmland are sensitive to this type of development. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High.
LCA B3: **Rockland Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, and the tranquil qualities of the landscape would also be negatively affected by this type of development. Views are sensitive to this type of development, especially where there are views to the Yare Valley or to round-towered or isolated churches. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High.

LT B: Tributary Farmland - susceptibility to Substations

Overall susceptibility	Substation
LCA B4: **Waveney Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, while the peaceful rural qualities of the landscape would also be negatively affected by this type of development. Views are sensitive to this type of development, especially where there are views to landmark features such as isolated churches. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High.
LCA B5: **Chet Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, and the peaceful rural qualities of the landscape would also be negatively affected by this type of development. Views are sensitive to this type of development, especially where there are views to The Broads to landmark features. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High.
LCA B6: **Yare Tributary Farmland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place, and the peaceful rural qualities of the landscape would also be negatively affected by this type of development. Views are sensitive to this type of development, especially where there are views to landmark features such as round-towered or isolated churches. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape. Susceptibility is therefore judged as Medium-High.

LT C: Tributary Farmland with Parkland

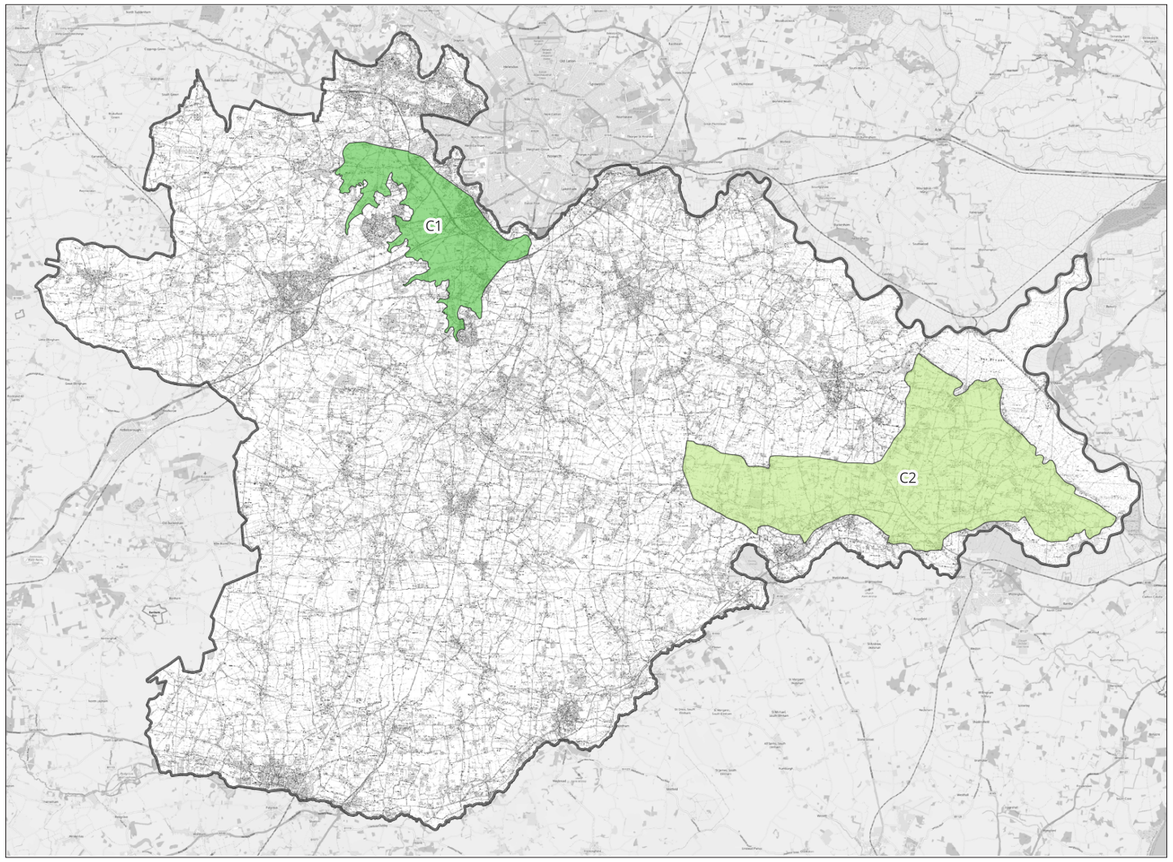
The Tributary Farmland with Parkland Landscape Type occupies two discrete areas of landscape, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to Substations

Landscape attribute	Substations
Sense of enclosure • Open arable landscape is interrupted by areas of woodland. • Areas of woodland associated with estates provide greater enclosure.	**Medium** • Semi-enclosed character is moderately susceptible to development.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The area consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. • Steeper slopes would however be more sensitive to substations as this form of development typically requires a level platform.
Landcover • Presence of large parkland estates particularly associated with the tributary valleys. Estate railings, prominent gatehouses, parkland belts, tree-lined avenues and areas of pasture reveal the presence of parkland within the wider arable landscape. • Peaceful arable farmland with small ancient woodlands and scattered coverts with medium to large-scale fields of wheat, barley, oilseed rape and sugarbeet surrounded by sparse hedges and hedgerow trees. • An intricate network of small rural roads. • Becks.	**Varying from Medium to High** • The dominant arable/pasture landcover lies in the middle of the susceptibility spectrum. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.

LT C: Tributary Farmland with Parkland - susceptibility to Substations

Landscape attribute	Substations
Settlement pattern and human influence • Dispersed but evenly distributed settlement with a pattern of farmsteads and small villages. • Sparse settlement pattern across C2. C1 Yare Tributary Farmland somewhat more settled with larger village of Cringleford as well as Norfolk & Norwich Hospital and A47. • Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped gables and brick and flint. • Vernacular architectural character, predominantly of rural buildings and estate dwellings. More modern dwellings are found in larger villages.	**LCA C1: Medium** **LCA C2: Medium-High** • C1 Yare Tributary Farmland forms part of the Norwich Southern Bypass Landscape Protection Zone so is sensitive to development which urbanises the setting of the road and views to Norwich. • C2 has a sparse rural settlement pattern which is sensitive to this type of development. • Presence of historic features increases susceptibility to this form of development.
Perceptual aspects • Tamed arable farmland. • C2 is a peaceful rural landscape. C1 is adversely influenced by the Norwich Southern Bypass and the A11. • Pylons and the A47 negate any sense of remoteness within C1. There is however a sense of remoteness within C2, particularly adjacent to The Broads. .	**C1: Low** **C2: Medium-High** • The lack of remoteness or tranquillity within C1 reduces susceptibility. • A substation would have a negative effect on the rural qualities and sense of remoteness within C2. • Substations are likely to have a negative effect on tranquillity. • Sensitive design e.g. the use of infrared cameras, could avoid the need for lighting.

LT C: Tributary Farmland with Parkland - susceptibility to Substations

Landscape attribute	Substations
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**LCA C1: Medium** **LCA C2: Medium-High** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • Scenic qualities are reduced in C1 by the presence of pylons. • Substations include some taller elements which would take many years to screen.
Skylines • In places interrupted by woodland, pylons and posts. • Views to parkland edges and woodland. • Intermittent long views to development at the City of Norwich and Norwich Southern Bypass (from C1).	**C1: Low** **C2: Medium-Low** • Existing skylines in C1 are already influenced by pylons, and the susceptibility is considered to be low. • Skylines in C2 have some influence from existing pylons.

LT C: Tributary Farmland with Parkland - susceptibility to Substations

Landscape attribute	Substations
Intactness • Intactness varies. Some areas have experienced considerable change with the introduction of the Norwich Southern Bypass and the expansion of settlements such as Cringleford, and the introduction of pylons and other development. • Elsewhere, there is a much stronger and more intact rural character.	**LCA C1: Medium** **LCA C2: High** • The remaining open rural land within C1 is sensitive to further development and fragmentation. • The stronger character of C2 has increased susceptibility to all forms of development. • Substations consist of standardised, utilitarian elements which are unlikely to contribute to local distinctiveness.

LT C: Tributary Farmland with Parkland - susceptibility to Substations

Overall susceptibility	Substations
LCA C1: **Yare Tributary Farmland with Parkland**	**Medium-High** • Existing development has introduced noise and disturbance which reduces the sensitivity of this area to further development. The remaining areas of countryside are nonetheless susceptible to development. A susbtation would represent a large-scale industrial development which would have a stong urbanising effect on the landscape. Whilst it might be possible to reduce the effect with substantial blocks of planting the LPA cannot secure this through the NSIP process. Substations are difficult to accommodate on the gently sloping valley-sides and are incompatible with the aims of the NSBLPZ. Susceptibility is therefore assessed as Medium-High.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Medium-High** • Generic forms of development such as substations would dilute the sense of place within the Thurlton Tributary Farmland with Parklands, and the remoteness and peacefulness would also be negatively affected by this type of development. Open and framed views across farmland are sensitive to this type of development. A substation would represent a large-scale industrial development which would compromise the existing characteristics of the landscape and susceptibility is therefore assessed as Medium-High.

LT D: Settled Plateau Farmland

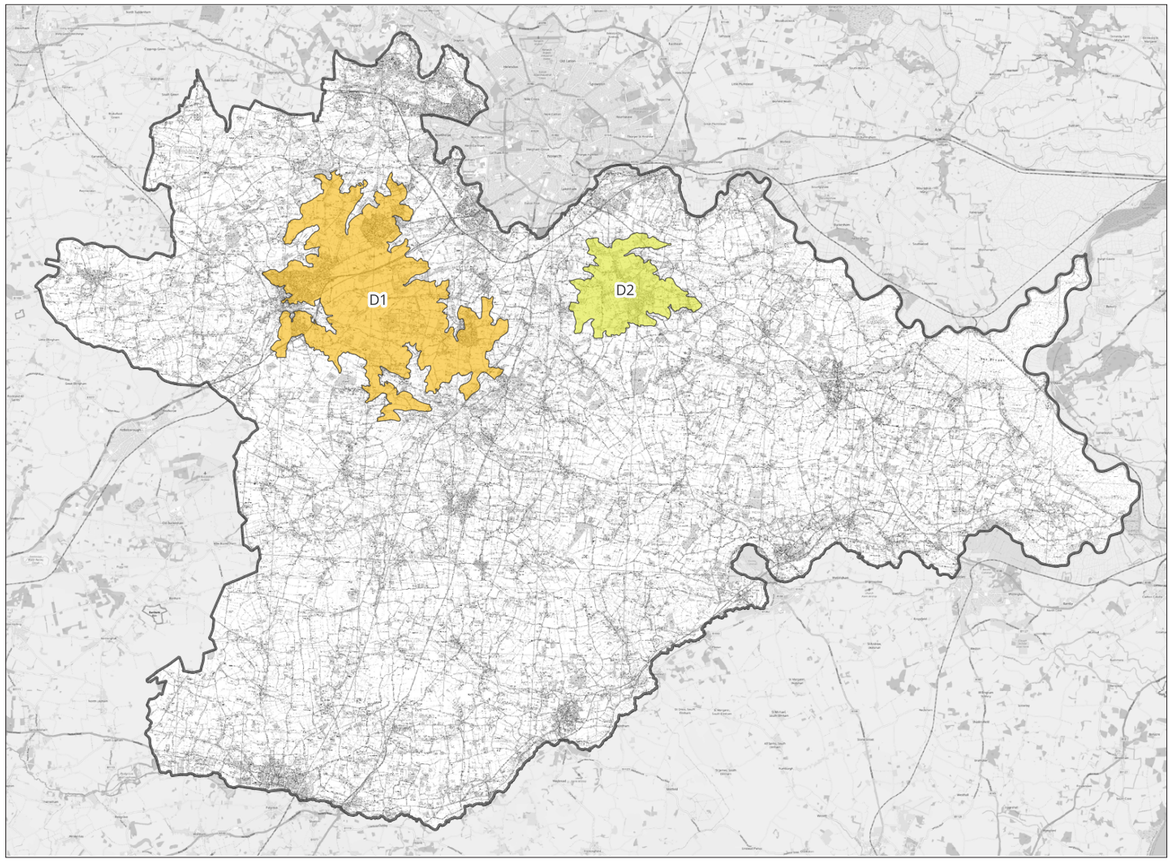
There are two areas of the Settled Plateau Farmland Landscape Type, one to the east and one to the west of the Tas Valley around the settlements of Wymondham and Poringland respectively. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to Substations

Landscape attribute	Substations
Sense of enclosure • Generally open landscape. Poor hedgerows accentuate the openness of the landscape. • Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements. • Wooded character in parts provides enclosure, particularly around settlements.	**High** • Poor hedges provide weak enclosure which increases the susceptibility to development, including substations.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**Varies from Low to High** • The simple flat landform is less sensitive to development. • The plateau edges however would be sensitive to development, which would be exposed and difficult to screen.
Landcover • Large arable fields characterised by swathes of cereals, oilseed rape and sugarbeet. • Some evidence of historic landscape features including moats, historic parkland and farm ponds. • Woodland blocks tend to be associated with halls/remnant parkland	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.

LT D: Settled Plateau Farmland - susceptibility to Substations

Landscape attribute	Substations
Settlement pattern and human influence • Historically somewhat sparsely settled but with some dispersed settlement including green-side settlement. • The modern day settlement pattern includes the town of Wymondham and a number of large villages. • Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development. • Wymondham and Mulbarton retain a historic character despite more recent peripheral development, whereas Poringland and Hethersett have a much more modern character (characterised by post-war bungalow development). • Former airfield at Hethel (now site of motor works).	**Medium-Low** • Settlement pattern has somewhat altered with the expansion of settlements. More developed character is apparent in the vicinity of Wymondham, Hethersett and the A11. • More settled parts of the area have a lower susceptibility to development.
Perceptual aspects • A number of large settlements are present and there is therefore little sense of remoteness. • The A11 cuts across the Wymondham Settled Plateau Farmlands and introduces a source of noise, movement and modernity. • Whilst this is a settled landscape the villages are set within a rural landscape and there is a sense of countryside.	**Medium** • The remaining areas of countryside are sensitive to urbanisation. • A substation would detract from the rural qualities where these are present. • Away from the A11 there is a higher level of tranquillity which is somewhat sensitive to this form of development.

LT D: Settled Plateau Farmland - susceptibility to Substations

Landscape attribute	Substations
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**Varies from Medium to High** • The prominent nature of D2 makes it sensitive to views from adjoining landscape character areas. • The edge of D1 is potentially sensitive to views from adjoining landscapes. The interior of the plateau may be less sensitive to a substation, particularly where there is strong enclosure from existing woodland.
Skylines • Strong open horizons – the archetypal 'Norfolk' landscape. • Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.	**Medium** • The long views to open horizons are sensitive to taller forms of development including AD plants. • Mitigation planting could also affect the characteristic open horizons.

LT D: Settled Plateau Farmland - susceptibility to Substations

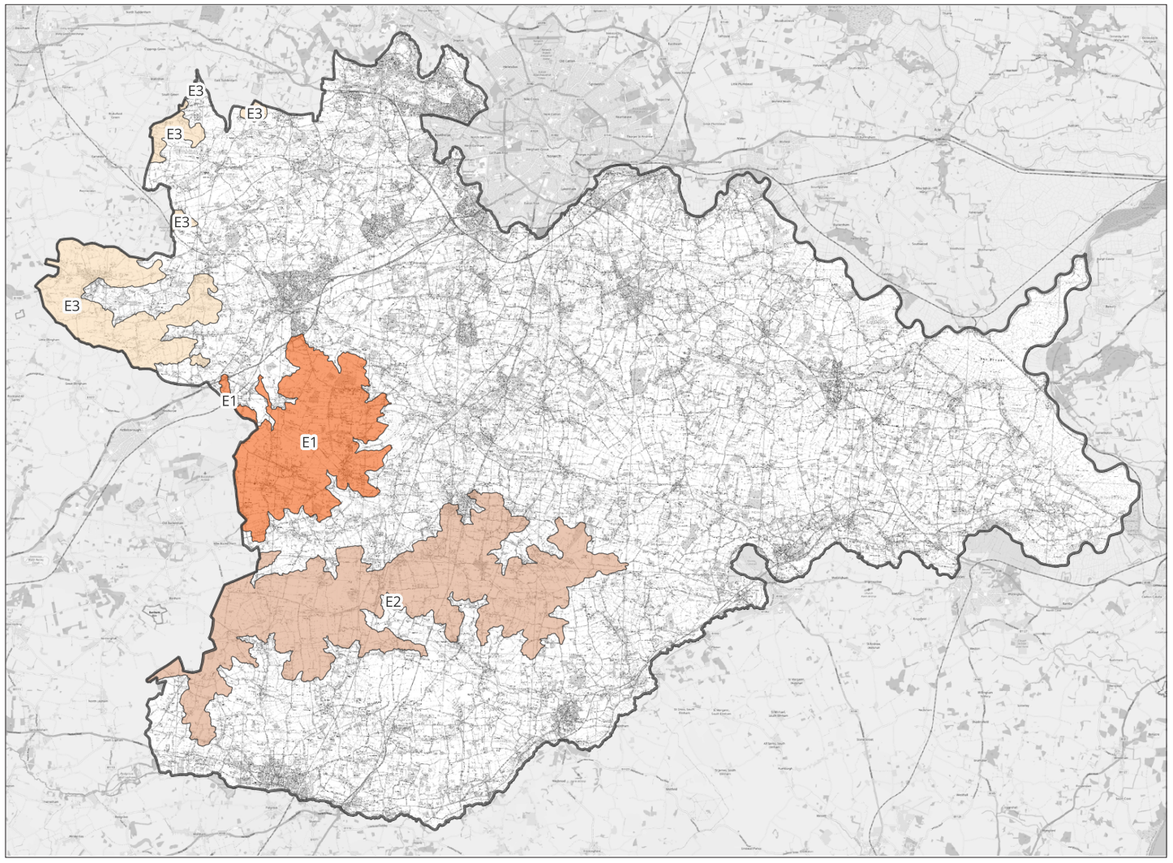
Overall susceptibility	Substations
LCA D1: **Wymondham Settled Plateau Farmland**	**Varying from Medium to Medium-High** • Considering the scale of the landscape and the presence of a certain amount of settlement already the susceptibility is generally Medium. The plateau edges are however more sensitive especially where there are views to adjacent areas. Views to Wymondham Church or to Norwich are particularly sensitive and the gaps between settlements are vulnerable to erosion. • Whilst there is already some development within this area a substation would nonetheless represent a new, contrasting element within the landscape. Generic forms of development such as substations would dilute the sense of place, and more tranquil parts of the area would be negatively affected by this type of development. Representative 'Norfolk' views are sensitive to this type of development.
LCA D2: **Poringland Settled Plateau Farmland**	**Varying from Medium to Medium-High** • Considering the scale of the landscape and the presence of a certain amount of settlement already the susceptibility is generally Medium. The plateau edges are however more sensitive especially where there are views to adjacent areas. Views to Norwich and the Tas Valley are particularly sensitive. • Whilst there is already some development within this area a substation would nonetheless represent a new, contrasting element within the landscape. Generic forms of development such as substations would dilute the sense of place, and more tranquil parts of the area would be negatively affected by this type of development.

LT E: Plateau Farmland - susceptibility to Substations

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.

Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields



The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to Substations

Landscape attribute	Substations
Sense of enclosure • Sense of openness and exposure due to the elevation and scarcity of enclosing elements. • The flatness of the plateau creates a strong sense of openness with large skies and distant horizons.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development, including substations.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Varies from Low to High** • The simple flat landform is less sensitive to this type of development. • The plateau edges however are potentially sensitive to substations.
Landcover • Large fields of arable monoculture with characteristic swathes of wheat, barley, oilseed rape and sugar beet. • Mature hedgerow oaks are features in the agricultural landscape. However hedgerows have been severely degraded or lost, leading to a much simplified landscape. • Generally an early enclosed landscape, but with significant areas of common/ heath, many of which were enclosed in the C19. Some remaining commons. • Mixed field patterns relating to the history of enclosure.	**Medium** • Relatively simple landcover of arable farmland lies in the middle of the susceptibility spectrum.
Settlement pattern and human influence • Dispersed settlement pattern. Common-edge settlement, hamlets and small nucleated villages. Many small halls, often isolated, with moats. No large parklands. • Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development. • Linear settlements occur along roads with some vernacular buildings intermixed with more modern development. • Disused airfields. • Occasional tall structures including wind turbines.	**Medium-High** • Strong sense of historical settlement pattern indicates higher susceptibility to development.

LT E: Plateau Farmland - susceptibility to Substations

Landscape attribute	Substations
Perceptual aspects • A peaceful rural character created by the absence of main roads and development. • Quiet rural lanes dissect the landscape. • The A140 cuts north-south through part of E2.	**Medium-High** • Peaceful rural character is sensitive to the introduction of a substation. • Sense of tranquillity is somewhat sensitive to this form of development.
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas.	**Medium-High** • Visual connections with adjacent landscapes, including some long views, indicates higher susceptibility. • A substation includes taller elements which would take many years to screen.
Skylines • The flatness of the plateau creates a strong sense of openness with vast skies and dramatic horizons. • Expansive skies are a defining feature with distant views and farm buildings are visible in the open landscape. • 360 degree horizon in places.	**Medium** • The long views to open horizons are sensitive to taller forms of development including Substations. • Mitigation planting could also affect the characteristic open horizons.
Intactness • The landscape has experienced ongoing change including enclosure in the C19 and rationalisation in the C20. Some elements of the landscape however can be traced back to the medieval era and there is some sense of historic continuity. Modern elements are relatively few. • Though there have clearly been changes in land management, including the amalgamation of fields, the landscape retains a strong rural character.	**Medium-High** • A substation would contrast with the rural character of the area. • Moderately strong sense of place. • A substation would consist of standardised, utilitarian elements which are unlikely to contribute to local distinctiveness. The susceptibility to this form of development is therefore assessed as Medium-High.

LT E: Plateau Farmland - susceptibility to Substations

Overall susceptibility	Substations
LCA E1: **Ashwellthorpe Plateau Farmland**	**Medium-High** • The existing characteristics are considered to be sensitive to a substation, which would represent a new, contrasting and urbanising element within the landscape. Generic forms of development such as substations would dilute the sense of place, and the peaceful rural qualities of the landscape would also be negatively affected. Susceptibility is therefore assessed as Medium-High.
LCA E2: **Great Moulton Plateau Farmland**	**Medium-High** • The existing characteristics are considered to be sensitive to a substation, which would represent a new, contrasting and urbanising element within the landscape. Generic forms of development such as substations would dilute the sense of place, and the peaceful rural qualities of the landscape would also be negatively affected by this type of development. Susceptibility is therefore assessed as Medium-High.
LCA E3: **Hingham-Mattishall Plateau Farmland**	**Medium-High** • The existing characteristics are considered to be sensitive to a substation, which would represent a new, contrasting and urbanising element within the landscape. Generic forms of development such as substations would dilute the sense of place, and the peaceful rural qualities of the landscape would also be negatively affected by this type of development. Susceptibility is therefore assessed as Medium-High.

LT F: Valley Urban Fringe

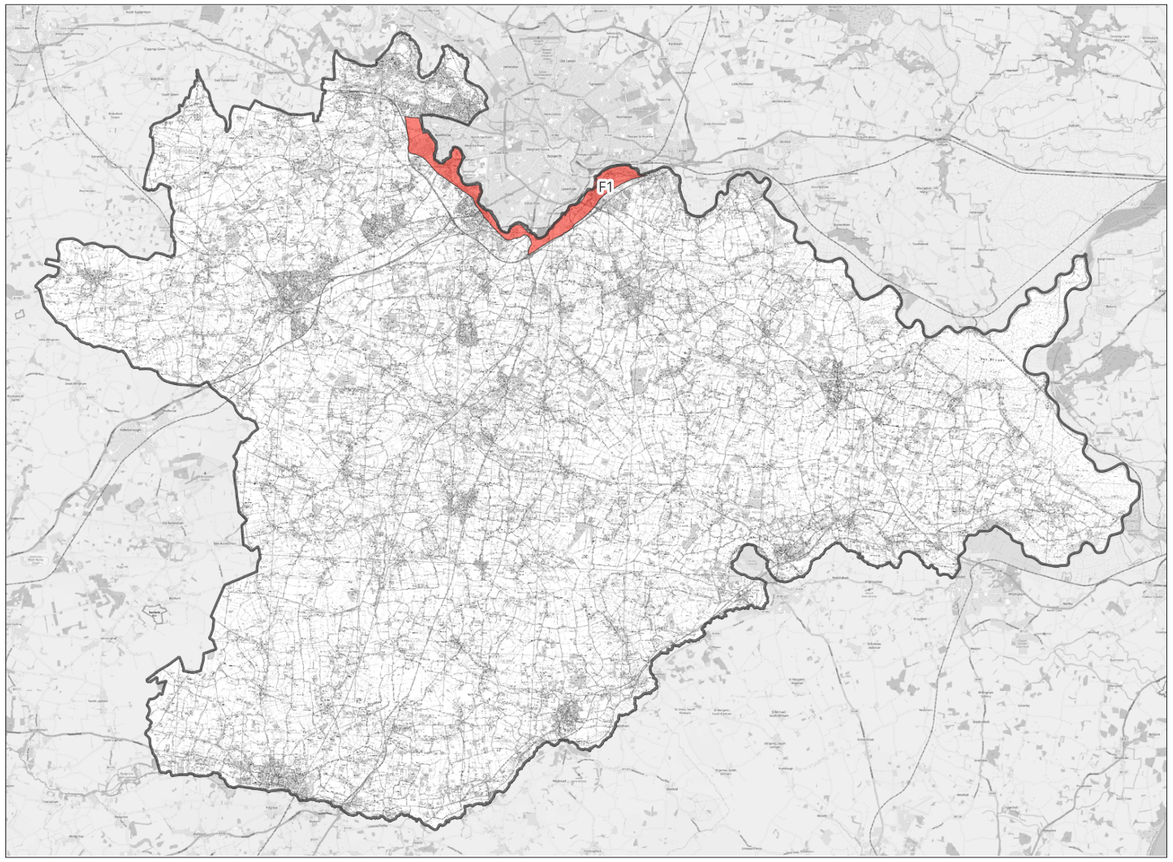
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to Substations

Landscape attribute	Substations
Sense of enclosure • A sense of containment. • Wide, fairly flat floodplain with enclosing valley sides. • Trees and woodland also contribute to enclosure in places.	**Medium** • Semi-enclosed landscape with medium susceptibility. • Localised enclosure by trees and woodland may reduce susceptibility to development in certain locations.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**High** • Valley floor is flat, but subject to flooding constraint. • Valley sides have high susceptibility to substations, which would typically require a level platform. Development on a valley-side would also be difficult to screen.
Landcover • Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland. Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded appearance. • Glacial gravel deposits, which have been and continue to be exploited resulting in remnant flooded gravel workings along the valley floor. • Natural character. Nature reserves such as Whitlingham Marsh. The river itself is a chalk river. • Presence of recreational landscapes including the country park at Whitlingham and playing fields at UEA. • Inaccessible valley floor with relatively few river crossings.	**Varying from Medium to Medium-High** • Semi-natural habitats within floodplain have higher susceptibility. • The valley contains rare and valuable habitats such as marsh which would be unsuitable for development. • Valley sides however are less sensitive in terms of landcover.
Settlement pattern and human influence • Highly influenced by Norwich urban fringe along parts of the upper valley sides. • A number of large institutional buildings in or adjacent to the valley. • Green buffer and comprehensible development edge to the City of Norwich. • Floodplain has remained undeveloped.	**Medium** • Floodplain is sensitive to development, which would be out of character. Valleysides do feature development however development of this scale is likely to weaken the perception of the Yare Valley as a green buffer.

LT F: Valley Urban Fringe - susceptibility to Substations

Landscape attribute	Substations
Perceptual aspects • Noise of traffic on the Norwich Southern Bypass disturbs the tranquillity of the valley. Overall, despite these urban influences, the valley is mostly quiet and secluded.	**Medium-Low** • Potentially introduces additional noise and lighting however existing conditions indicates lower susceptibility.
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium-High** • Substations include substantial structures which could potentially block or interfere with views to Norwich. Mitigation planting could also block views.
Skylines • The valley crests form a skyline in views from the valley floor. • Mixed woodland blocks and shelter belts occur on the valley sides creating a well-wooded skyline.	**Low** • The well wooded skylines means that development is unlikely to be visible on the skyline. • Existing pylons are present in places. Where pylons are present this reduces the local susceptibility. • Generally low susceptibility, but valley crests are sensitive to development.

LT F: Valley Urban Fringe - susceptibility to Substations

Overall susceptibility	Substations
LCA F1: **Yare Valley Urban Fringe**	**Medium-High** • A susbtation would represent a large-scale industrial development which would have a stong urbanising effect on the landscape. Whilst it might be possible to reduce the effect with substantial blocks of planting the LPA cannot secure this through the NSIP process. Substations are difficult to accommodate on the gently sloping valley-sides and are incompatible with the aims of the NSBLPZ. Susceptibility is therefore assessed as Medium-High.

LT G: Fringe Farmland

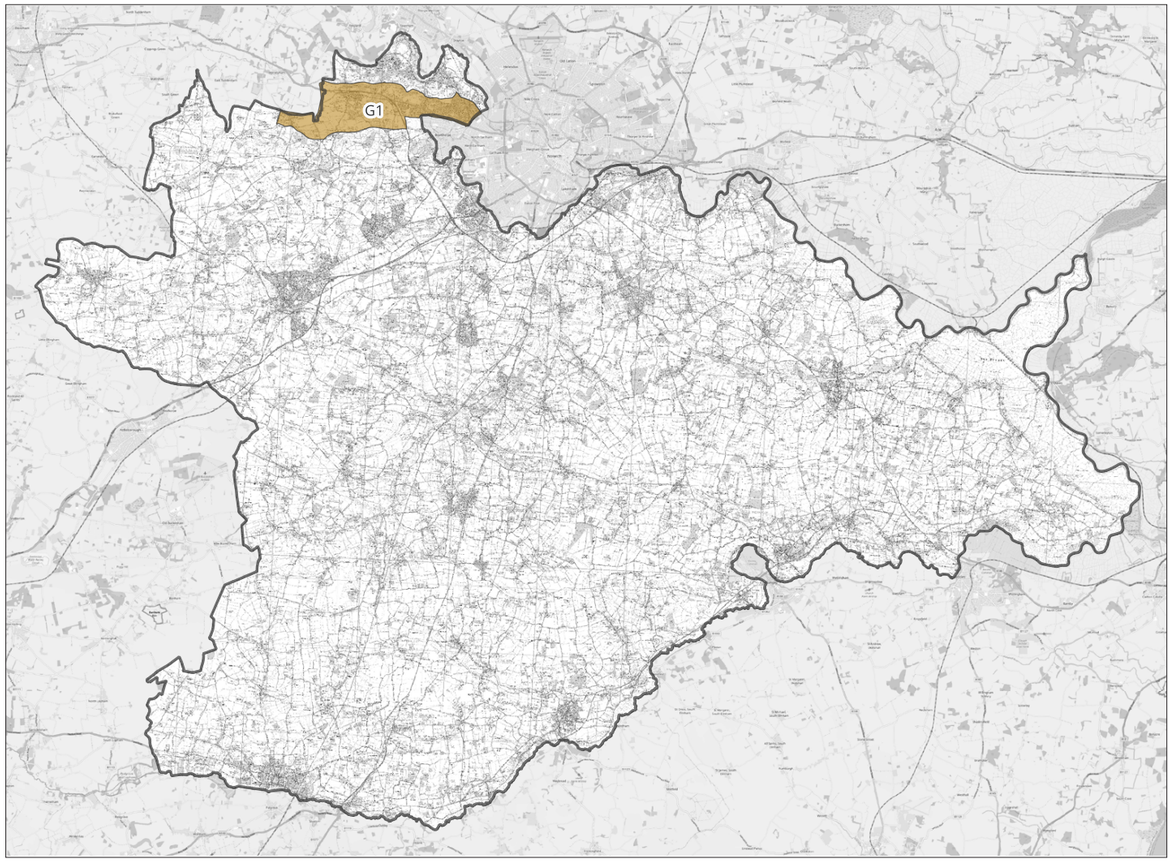
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to Substations

Landscape attribute	Substations
Sense of enclosure • This landscape can feel exposed in places as a consequence of the elevated ridge topography and relatively low–level of woodland.	**Varies** • The degree of openness and enclosure vaires according to the landcover pattern and level of built development. • The more open and exposed areas have high susceptibility.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**High** • The ridge and undulating landform is sensitive. • A substation would sit awkwardly in relation to the topography and would potentially appear as a stark addition to the landscape.
Landcover • Defined predominantly by farmland with urban and urban fringe development. A degraded farmland context. • History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas. • Urban fringe uses including a park and ride scheme, retail warehouses, a golf course and the Royal Norfolk Showground. • Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.	**Varies** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity.
Settlement pattern and human influence • Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton. • Relatively developed character. • Retail warehouses and supermarkets on edge of town.	**Medium-Low** • Significant levels of settlement indicate lower susceptibility. • Development of this scale would nonetheless be substantial and would introduce additional human influence to the landscape.

LT G: Fringe Farmland - susceptibility to Substations

Landscape attribute	Substations
Perceptual aspects • Not a remote or tranquil landscape. Recent construction and land use activities have had significant effect upon the rural character. • The Norwich Southern Bypass introduces a corridor of noise and movement. Other roads of the area retain a strong rural character.	**Medium-Low** • Existing noise and disturbance indicate a fairly low susceptibility to change.
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**High** • The existing visual characteristics are more susceptible to this scale of development. • The ridge is sensitive to this form of development, which would appear stark. • Views to and from the adjacent valley landscapes increase sensitivity.
Skylines • Skyline varies, sometimes formed by distant views to adjacent landscapes but often interrupted by development and shelterbelts.	**Medium-Low** • More developed parts of the area do not feature important or characteristic skylines and are less susceptible to change. • The ridge however forms an important part of the skyline in views from adjacent landscapes. • The presence of pylons reduces the susceptibility of the skyline.

LT G: Fringe Farmland - susceptibility to Substations

Overall susceptibility	Substations
LCA G1: **Easton Fringe Farmland**	**Medium-High** • The ridge is a locally prominent feature which is sensitive to development of all types. Views from adjacent landscapes increase sensitivity. • Whilst there is already some development within this area a substation would nonetheless represent a new, contrasting element within the landscape. • A substation would have a substantial presence within the landscape and would potentially appear stark in this location. • The overall susceptibility is therefore assessed as Medium-High.

Landscape Susceptibility in relation to Energy Generation, Storage and Transmission

for

South Norfolk Council

Appendix 3.5
Landscape Susceptibility Analysis
Underground cable routes

November 2025

thelandscapepartnership

LT A: Rural River Valleys

The Rural River Valley Landscape Type is very important in giving spatial definition to and creating variety within the South Norfolk Landscape.

Five rural river valleys have been identified within South Norfolk. These are: the broad valley of the River Waveney in the south of the district, the narrower valleys of the Tud and Wensum, west of Norwich, the meandering upper reaches of the River Yare/Tiffey south west of Norwich, and the distinctive Tas Valley to the south of Norwich.

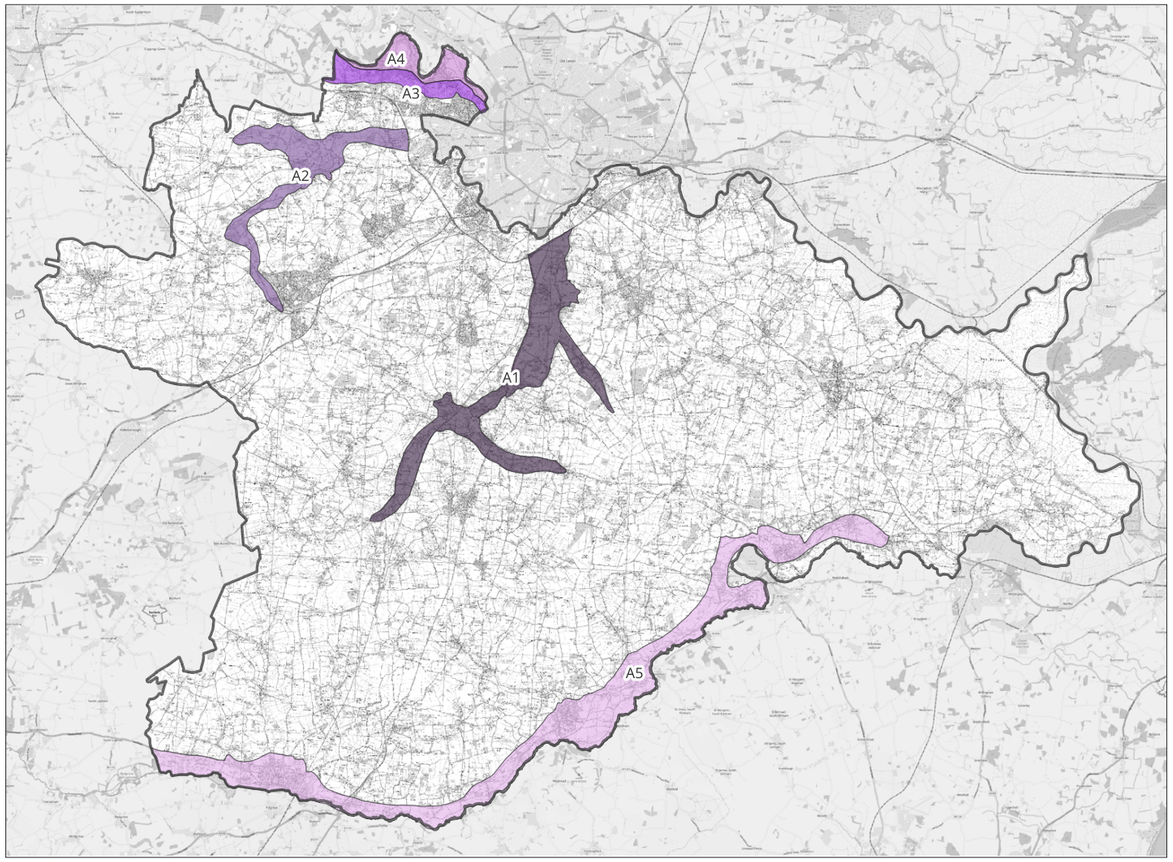
The boundary of this landscape type is defined primarily by topography and corresponds with the upper crest of the valley side, which generally occurs below the 30m AOD contour. Occasionally, the perceived boundary has been affected by cultural features which have transgressed this natural boundary to either extend or reduce the influence of the valley-form character, for example in the valley of the Waveney where the settlements have grown up as an integral part of the valley landscape, although now extend beyond the natural valley line.

Key characteristics

- Distinct valley landform created by glacial and fluvial activity, with wide flat valley floodplains, which create important divisions within the district landscape.
- Semi-enclosed landscape with long views within the valley but restricted views from the valley, creating occasional areas of more intimate character.
- Perceived presence of a river that is often not actually visible within the landscape but which at close-range is seen to be attractive, of significant size and distinct character.
- Willow pollards and lines of poplar flanking ditches and watercourses on the valley floor, plus reeds and marsh in areas.
- Attractive river crossings including fords and old bridges approached by sunken lanes.
- Areas of pastoral floodplain predominantly grazed by cattle, set within the arable landscape that occupies the valley sides.
- Historic quality to areas within the valley landscape due to the presence of visual reminders of the valleys' settled past, particularly the earthworks at Venta Icenorum, watermills, historic river crossings and round-towered churches.
- Settlements predominantly small and nucleated of strong vernacular character with scattered farmsteads on the valley floor or linear settlements at the valley side crest, with a few large towns of 'market town' quality distinct to the Waveney.
- Characteristic vernacular architecture particularly including red brick and Dutch gable ends, windmills, weather-boarded watermills and round towered churches.
- Presence of characteristic ecological assemblages, uncommon or unfound elsewhere in the district, including wetland vegetation, heathland and wet meadows/ pastures.

The individual character areas within this type are listed below:

- A1: Tas Rural River Valley
- A2: Yare/Tiffey Rural River Valley
- A3: Tud Rural River Valley
- A4: Wensum Rural River Valley
- A5: Waveney Rural River Valley



LT A: Rural River Valleys - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • A semi-enclosed landscape with some long views within the valleys but restricted views out. Areas of more intimate character on the valley floor. • Some river valleys less enclosed than others, the Waveney for example is a wide valley which has a more open character.	**Medium-Low** • Trees are commonly found on the edge of the floodplain, and there are further trees within the floodplains themselves. Meadows however can be more open as they are enclosed traditionally by ditches rather than hedges.
Landform • Distinct valley landform created by glacial and fluvial activity with distinct floodplain and shallow valley sides.	**Medium** • The valleys of South Norfolk are typically shallow-sided. • Valley sides are considered to be sensitive to the disruption which would be caused by the installation of an underground cable route on account of their complexity and potential visibility. Effects on landform would be temporary, so the susceptibility is assessed as Medium.
Landcover • Distinctive land cover: small-scale field pattern and prevalence of grazed pastures on the valley floor, with mix of arable and pasture on the valley sides, creating a complex landcover pattern. • Characteristic ecological assemblages – reeds and marsh, wet meadows/ pastures, woodland plus areas of heathland. High ecological value recognised in designations (SAC/SSSIs). • Willow pollards and lines of poplar flank ditches and watercourses. • Some areas of active mineral working and open water associated with mineral extraction sites, for example in A3: Tud and A4: Wensum valleys. • The Tas Valley features two historic parks, an iron age hillfort at Tasburgh, and a Roman colony at Venta Icenorum.	**Medium-High** • River valleys have greater habitat diversity than the broader arable landscapes that typically surround them, including larger amounts of pasture. Woodlands can be found within the floodplain and on the valleysides. A diversity of natural landcover elements increases susceptibility to development, including underground cable routes. • Landcover is particularly sensitive to underground cable routes due the physical disturbance of the trenches. A cable route could be more disruptive ecologically than overhead lines where there are sensitive habitats.

LT A: Rural River Valleys - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Field pattern **A1- Tas** • Meadows and fens, some surviving unenclosed land e.g. at Shotesham and Flordon. • 19th century enclosure at Tasburgh along with earlier enclosures. **A2 – Yare Tiffey** • Narrow floodplain meadows. Some C19 enclosure of meadows. • Meadows defined by dykes. • Small scale field pattern within floodplain. **A3 – Tud** • Narrow floodplain meadows. • Rationalised early enclosures on valley-side. • Large park at Costessey Park. **A4 – Wensum** • Large area of unenclosed land shown on first edition OS Map. • Small organic and regular enclosures bound by dykes in the vicinity of Costessey. • Large, regular enclosures on valley-side. **A5 – Waveney** • 19th century enclosure awards, with some earlier enclosure. • Fields defined by dykes rather than hedges. • Mixture of organic field patterns and regular field patterns reflecting history of enclosure.	**Medium-High** • Small-scale fields are considered to have higher sensitivity. Enclosure by dikes potentially complicates the installation of an underground cable route. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.
Visual characteristics • Views within the valleys vary from long range and open to some more enclosed, confined views. • Views frequently include landmark features. • Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys. There are some views into the valleys from the surrounding higher land. • Key views from Waveney Valley into The Broads	**Medium** • The contrast between open, large-scale arable farmland and the smaller-scale, more varied and more wooded river valleys has a scenic quality. • Vernacular buildings, woodlands, hedgerows, meadows and parkland trees and lakes also contribute to scenic quality, and the landform creates scenic views. • Although landscape can be reinstated there is still some susceptibility to the disturbance which would be caused during the installation of an underground cable route.

LT A: Rural River Valleys - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA A1: **Tas Rural River Valley**	**Medium-High** • The key characteristics of the Tas Valley are less sensitive to underground cable routes than to other forms of development. There are however some particular sensitivities which relate to ecological habitats and the flow of water, and the interaction of an underground cable route with existing dikes. Considering the sensitive habitats which are present within the valley the overall susceptibility is assessed as Medium-High.
LCA A2: **Yare/Tiffey Rural River Valley**	**Medium-High** • The key characteristics of the Yare/Tiffey Valley are less sensitive to underground cable routes than to other forms of development. There are however some particular sensitivities which relate to ecological habitats and the flow of water, and the interaction of an underground cable route with existing dikes. Considering the sensitive habitats which are present within the valley the overall susceptibility is assessed as Medium-High.
LCA A3: **Tud Rural River Valley**	**Medium-High** • The key characteristics of the Tud Valley are less sensitive to underground cable routes than to other forms of development. There are however some particular sensitivities which relate to ecological habitats such as grazing marsh and fen. Considering the sensitive habitats which are present within the valley the overall susceptibility is assessed as Medium-High.
LCA A4: **Wensum Rural River Valley**	**Medium-High** • The Wensum Valley features a network of sensitive habitats in the valley-floor and the river itself is an important chalk river which is designated as a SSSI. Considering the sensitive habitats which are present susceptibility is assessed as Medium-High.

LT A: Rural River Valleys - susceptibility to underground cable routes

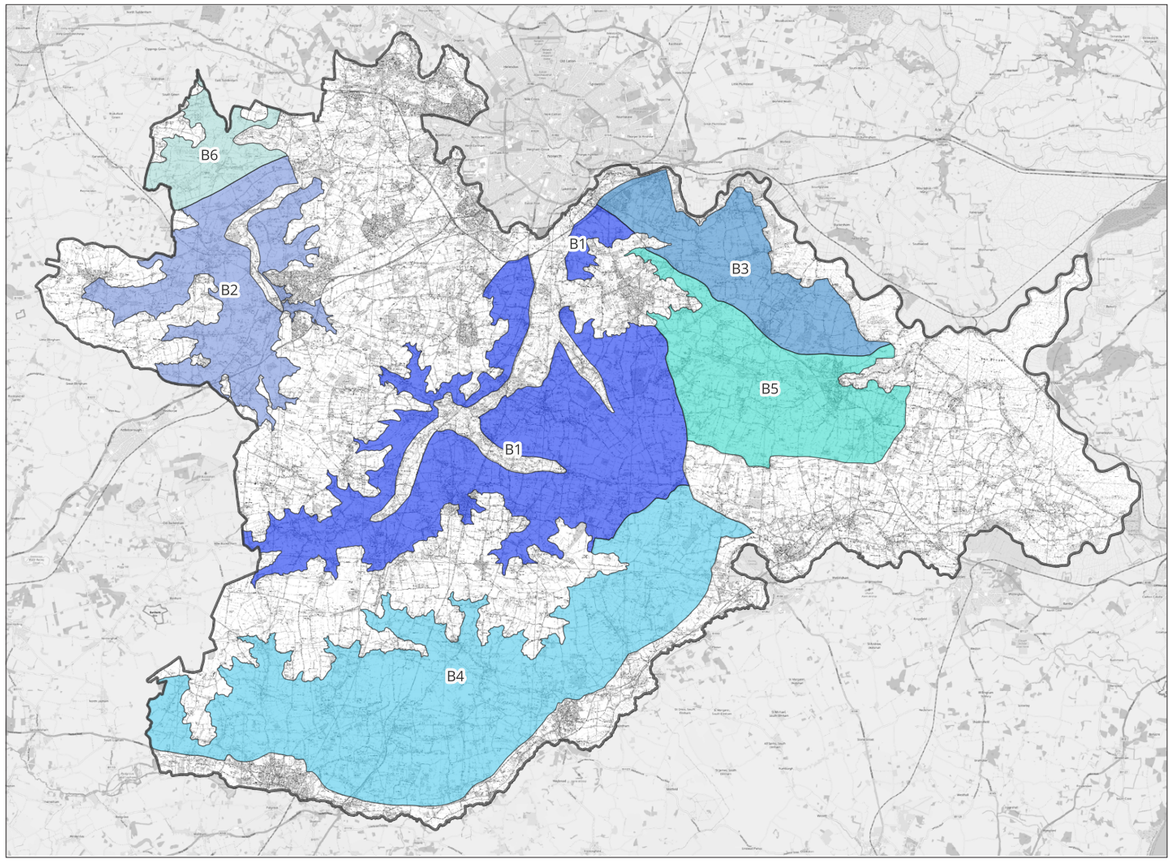
Overall susceptibility	Underground cable routes
LCA A5: **Waveney Rural River Valley**	**Medium-High** • A network of sensitive habitats extends along most of the valley, except for the area around Diss. Considering the sensitive habitats which are present susceptibility is assessed as Medium-High.

LT B: Tributary Farmland

The tributary farmland occupies a large extent of the South Norfolk landscape occurring across the whole of the district. It is a broad transitional landscape type defined by the plateau uplands and river valleys, lying between 20m and 50m AOD.

Key characteristics

- Shelving and gently undulating landform created by small tributary valleys, with tributary rivers cutting through the glacial till to create a landscape of restrained variety.
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes providing opportunities for long and framed views.
- Tamed and peaceful farmland with scattered small farm woodlands creating a quiet rural landscape.
- Dispersed but evenly distributed settlement pattern of small, nucleated villages and small farmsteads, occasionally with large agricultural sheds.
- An intricate network of narrow, winding rural lanes often bounded by banks or ditches with a sense of impenetrability.
- Tributaries elusive- evident but usually hidden within the landscape by topography or trees.
- Medium to large-scale arable farmland of cereals and sugarbeet and occasional fields of sunflowers or other crops with sparse and/or overgrown hedgerows and hedgerow trees.
- Remnant parkland, which sometimes relates to former deer parks, plus areas of common land.
- Mixed architectural character comprising modern bungalow development and traditional vernacular architecture with gable ends (predominantly stepped) and other vernacular influences such as brick and flint and isolated churches.
- High proportion of important ecological assemblages protected as SSSIs including woodland, and wetland habitats.



The individual character areas within this type are listed below:

- B1: Tas Tributary Farmland
- B2: Tiffey Tributary Farmland
- B3: Rockland Tributary Farmland
- B4: Waveney Tributary Farmland
- B5: Chet Tributary Farmland
- B6: Yare Tributary Farmland

LT B: Tributary Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • Woodland blocks impart a semi-wooded, semi-enclosed character to much of the area. • Valley landforms offers opportunity for longer views.	**Medium** • Semi-enclosed character is moderately sensitive to development.
Landform • Varied landform from flat to gently undulating, sloping towards tributary valleys. • Minor stream valleys cut through the glacial till to create a landscape of restrained variety.	**Medium** • The area generally consists of gently undulating landscape which lies in the middle of the susceptibility spectrum.
Landcover • Varied pattern from small scale, intricate networks of fields/hedgerows in tributary valleys and around settlements to large, open fields on higher ground. • An intricate network of narrow, winding lanes often bounded by ditches. • Elusive tributaries, evident but usually hidden within the landscape by topography or trees. • Medium to large-scale arable fields enclosed by sparse hedges with hedgerow trees. Permanent pasture and woodland found within valleys. • Remnant parkland which sometimes relates to former deer parks, plus areas of common land. • High proportion of important assemblages protected as SSSIs including woodland and wetland habitat.	**Medium** • Arable landcover can be reinstated, but there is some susceptibility in terms of disturbance to soils. • Pre-C18 enclosures, commons, ancient woodland, parklands and vernacular buildings display a stronger time depth and historical continuity and increase local susceptibility. • Areas of naturalistic landcover such as ancient woodland, species-rich grassland or fens are incompatible with development. Most of the land however does not consist of priority habitats so the ecological constraint could be avoided.

LT B: Tributary Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Field pattern **B1 - Tas Tributary Farmland** • Early rectilinear field patterns across much of the area. • Planned enclosures of former greens and heaths prior to the C18 creating semi-regular field pattern. • Common arable fields in Forncett St Mary visible on tithe map. • Late enclosure of fens, for example at Hingham • Some unenclosed meadows/fen. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B2 – Tiffey** • Mix of field patterns. Some irregular, presumably early enclosures. • Late enclosures at Spooner Row and Barnham Broom. • Medieval deer parks at Kimberley and Oxehaghe. • Small area of unenclosed meadow at Coston. • Widespread hedgerow loss means that most fields are now classified as 20th century enclosures. **B3 – Rockland** • Mix of organic field patterns, suggesting early enclosure, and rectilinear field patterns, suggesting late enclosure. • Late enclosures of marshland and heathland in Kirby Bedon and Surlingham. • Sinuous field boundaries in Ashby St Mary suggest enclosure from common field. **B4 – Waveney Tributary Farmland** • Early rectilinear field patterns e.g. at Alburgh and Denton. • Ancient, irregular enclosures across much of the area. • Sinuous enclosures from open fields in Denton. • Considerable hedgerow loss. **B5 – Chet** • Early rectilinear field systems e.g. at Seething. Medieval open fields possibly based on earlier field system.	**Low** • The majority of the fields are now classified as 20th century enclosures and are not considered particularly sensitive. • Field patterns can be reinstated. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.

LT B: Tributary Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Visual characteristics • Transitional landscape occupying the mid ground between the plateaux and the main river valleys, providing opportunities for long and framed views. • Within these landscapes views are across arable fields to sloping valley sides and down to small-scale wooded tributary valleys. • Framed and open, long-ranging views across the countryside. • Large agricultural buildings can be visually prominent. • Pylons and poles interrupt the landscape wherever they are present, notably towards the northern part of the district. • Important views to landmarks such as Wymondham Abbey and Wicklewood Windmill that provide a sense of place. • Elements of vernacular interest that include round-towered churches. • Generally undeveloped skylines. • Strong visual influence of the adjoining Broads in character areas B3 and B5. • Visual influence of Norwich in character areas B1 and B3.	**Medium-Low** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The landscape is less sensitive in visual terms to underground cable routes than to other forms of development as the visual characteristics of the landscape can be largely restored.

LT B: Tributary Farmland - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA B1: **Tas Tributary Farmland**	**Low** • The key characteristics of the Tas Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats and temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA B2: **Tiffey Tributary Farmland**	**Low** • The key characteristics of the Tiffey Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats and temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA B3: **Rockland Tributary Farmland**	**Low** • The key characteristics of the Rockland Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats and temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.

LT B: Tributary Farmland - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA B4: **Waveney Tributary Farmland**	**Low** • The key characteristics of the Waveney Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats and temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA B5: **Chet Tributary Farmland**	**Low** • The key characteristics of the Chet Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats and temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA B6: **Yare Tributary Farmland**	**Medium-Low** • The key characteristics of the Yare Tributary Farmlands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to ecological habitats such as lowland fen, and to temporary disturbance during the installation phase. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Medium-Low.

LT C: Tributary Farmland with Parkland

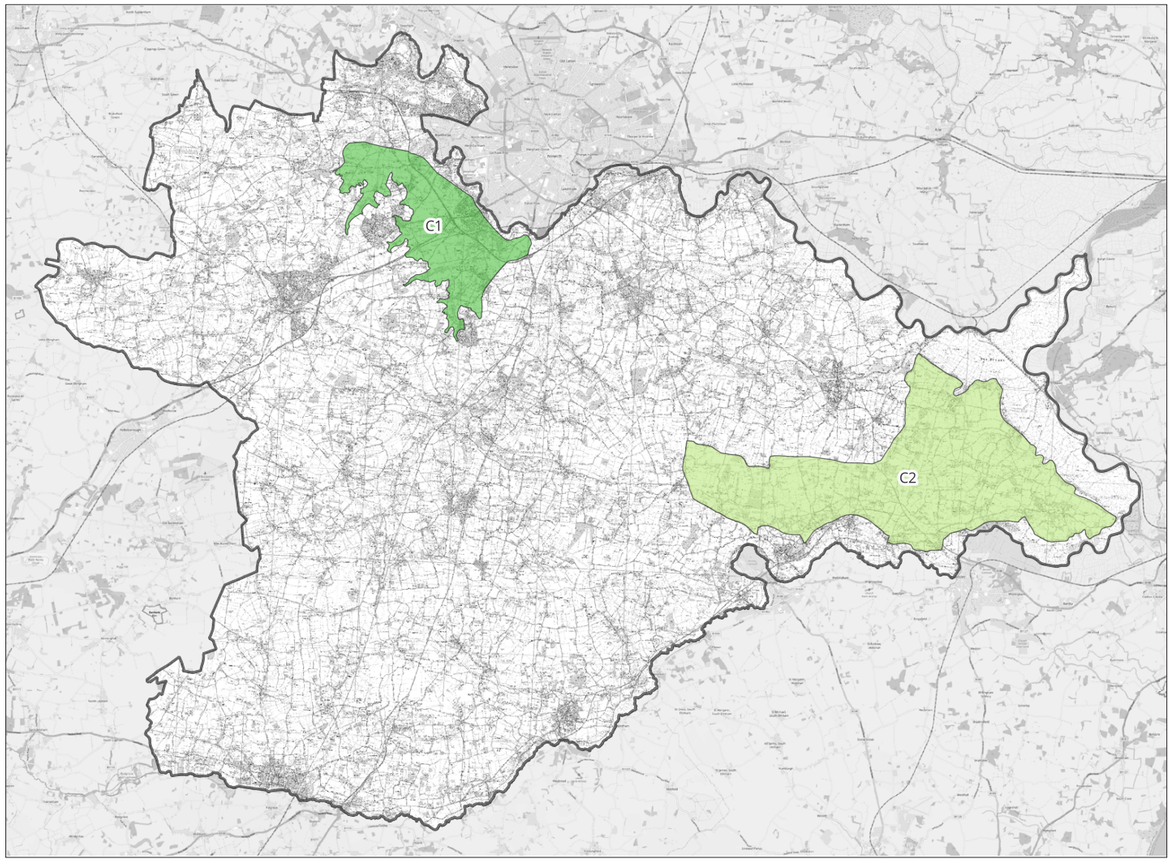
The Tributary Farmland with Parkland Landscape Type occupies two discrete areas of landscape, one in the east and one towards the north of the district. It shares many of the characteristics of the Tributary Farmland Landscape Type. This type differs due to the presence of parklands which create a very distinctive character throughout much of the area.

Key characteristics

- Gently undulating landform created by the presence of small tributary stream valleys which cut through the glacial till landscape providing a sense of restrained variety
- Transitional landscape occupying the mid ground between the upland plateaux and the main river valley landscapes, providing varied opportunities for long and framed views
- Presence of large parkland estates particularly associated directly with the tributary valleys. Estate railings, prominent gatehouses, boundary fences and tree-lined avenues with areas of pastoral farmland and horse grazing reveal the presence of the wooded parkland in the wider arable landscape.
- Context of tamed and peaceful arable farmland with scattered small farm woodlands, including ancient woodland, and medium to large-scale fields of sugarbeet and cereal surrounded by sparse hedges and hedgerow trees.
- Small fields of more unusual crops such as sunflowers and asparagus bounded by banks of coppiced willow.
- Dispersed but evenly distributed settlement pattern of small farmsteads and small, nucleated villages.
- An intricate network of small rural roads often bounded by banks or ditches with a sense of impenetrability.
- Tributaries visually elusive and often physically inaccessible- rarely evident because they are hidden within the landscape by topography or trees, particularly where they are associated with the parkland which prevents public access to them.
- Mixed architectural character comprising modern development and traditional vernacular architecture, including stepped and Dutch gable ends and brick and flint.
- Isolated flint round towered churches particularly evident.
- Characteristic large detached halls and manor houses, usually constructed of brick and of high architectural quality, associated with the parkland estates. These are frequently screened by woodland, except at close range.

The individual character areas within this type are listed below:

- C1: Yare Tributary Farmland with Parkland
- C2: Thurlton Tributary Farmland with Parkland



LT C: Tributary Farmland with Parkland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • Open arable landscape is interrupted by areas of woodland. • Areas of woodland associated with estates provide greater enclosure.	**Medium** • Semi-enclosed character is moderately sensitive to development. Although cables would be buried there would be visible effects during the installation phase.
Landform • Gently undulating landform created by the presence of small tributary stream valleys which cut through the landscape providing a sense of restrained variety.	**Medium** • The area consists of gently undulating landscape which lies in the middle of the susceptibility spectrum. Although cables would be buried there would be visible effects during the installation phase.
Landcover • Presence of large parkland estates particularly associated with the tributary valleys. Estate railings, prominent gatehouses, parkland belts, tree-lined avenues and areas of pasture reveal the presence of parkland within the wider arable landscape. • Peaceful arable farmland with small ancient woodlands and scattered coverts with medium to large-scale fields of wheat, barley, oilseed rape and sugarbeet surrounded by sparse hedges and hedgerow trees. • An intricate network of small rural roads. • Becks.	**Varying from Medium to High** • Arable landcover can be reinstated, but there is some susceptibility in terms of disturbance to soils. • Parkland landscapes have a high susceptibility to underground cable routes, especially where there is unimproved grassland.
Field pattern **C1 – Yare** • Irregular enclosures. • Late enclosure e.g. at Little Melton. • Parks. • Unenclosed land at Swardeston Common. **C2 - Thurlton** • Ancient irregular enclosures. • Considerable field amalgamation.	**Low** • The majority of the fields are now classified as 20th century enclosures and are not considered particularly sensitive. • Field patterns can be reinstated. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.

LT C: Tributary Farmland with Parkland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Visual characteristics • Views to wide open horizons and long views across denuded hedgerow boundaries and arable farmland from higher areas. • Prominent views to historic features such as isolated and round-towered churches. • Views framed and broken by woodland blocks and estate parkland with large manor buildings. • Intermittent, long views into The Broads from C2. • Views to Norwich in particular from the southern bypass which bisects C1. • Characteristic large halls though frequently screened by woodland. • Isolated round towered flint churches particularly evident. • Mixed architectural character comprising modern development and vernacular architecture.	**Medium-Low** • The combination of historic vernacular buildings, wooded horizons, hedgerows and hedgerow oaks counterbalanced by extensive gently undulating, arable farmland creates a moderate to high scenic quality. • The landscape is less sensitive in visual terms to underground cable routes than to other forms of development as the visual characteristics of the landscape can be largely restored.

LT C: Tributary Farmland with Parkland - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA C1: **Yare Tributary Farmland with Parkland**	**Medium-Low** • The key characteristics of the Yare Tributary Farmland with Parklands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to temporary visual disturbance, lowland fens, a Registered Park and Garden at Intwood Hall and common land at Swardeston Common.
LCA C2: **Thurlton Tributary Farmland with Parkland**	**Medium** • The key characteristics of the Thurlton Tributary Farmland with Parklands are less sensitive to underground cable routes than to other forms of development. There are however some sensitivities which relate to historic parklands, ancient woodlands, and temporary visual disturbance. The presence of historic parklands and ancient woodlands increases the sensitivity of this landscape character area, and would necessitate careful design.

LT D: Settled Plateau Farmland

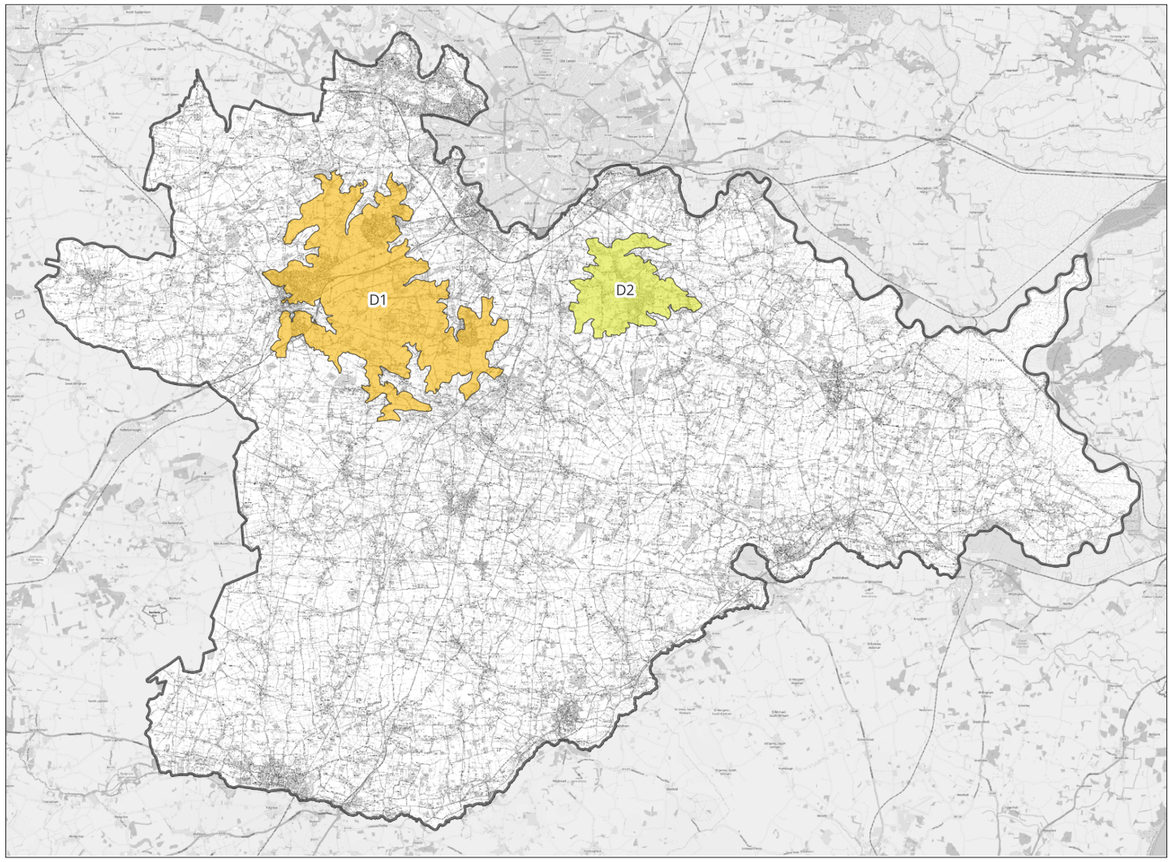
There are two areas of the Settled Plateau Farmland Landscape Type, one to the east and one to the west of the Tas Valley around the settlements of Wymondham and Poringland respectively. The Settled Plateau Farmlands have been defined by virtue of their elevation, topography and settlement pattern. The boundaries of these areas are largely represented by the 40 and 50m AOD contours. However, small and fragmented areas above the 40m contour have not been classified as Settled Plateau Farmland.

Key characteristics

- Distinct flat to gently rising elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture principally characteristic swathes of cereal, oilseed rape and sugarbeet.
- Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements.
- Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. Elements of plateau interior not visible except from other plateau areas or where tall intrusive elements are present.
- Mature remnant oak hedgerow trees are features in the agricultural landscape however hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Illusion of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape.
- Presence of large communications masts which interrupt of the sense of openness yet provide distinct landmarks.
- Settled landscape mostly comprising large edge-of-plateau towns and large villages with other smaller nucleated settlements dispersed across the plateau.
- Some evidence of historical features within the landscape including isolated churches (some of which are round-towered), moats, historic parkland and some farm ponds.
- Some vernacular buildings particularly in historic market towns, particularly including use of bricks, timber framing and stepped gable ends, but contrasted with settlements of modern bungalow development.

The individual character areas within this type are listed below:

- D1: Wymondham Settled Plateau Farmland
- D2: Poringland Settled Plateau Farmland



LT D: Settled Plateau Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • Generally open landscape. Poor hedgerows accentuate the openness of the landscape. • Variety of spatial experiences due to the elevation and contrast between the openness of the arable fields and intimacy of the settlements. • Wooded character in parts provides enclosure, particularly around settlements.	**Medium-High** • Poor hedges provide weak enclosure which increases the susceptibility to development, including underground cable routes.
Landform • Distinct flat to gently rolling, elevated landform as a result of the simple underlying geology. • The area centred on Poringland has the greatest variation, rising up to a gentle 'dome' at 75m AOD which is one of the most elevated areas in the district. • The boundaries of these areas are largely represented by the 40 and 50m AOD contours – the plateau edges are highly visible from adjacent landscapes.	**Medium-Low** • The simple flat landform is less sensitive to development. • The plateau edges however are more sensitive to development, including underground cable routes.
Landcover • Large arable fields characterised by swathes of cereals, oilseed rape and sugarbeet. • Some evidence of historic landscape features including moats, historic parkland and farm ponds. • Woodland blocks tend to be associated with halls/remnant parkland	**Medium** • Arable landcover can be reinstated, but there is some susceptibility in terms of disturbance to soils. • Other elements showing greater time-depth increase susceptibility. • It is assumed that effects on sensitive landcovers such as priority habitats could be avoided through careful design.
Field pattern **D1 - Wymondham** • Early irregular enclosures at Bracon Ash and Mulbarton. • Irregular field pattern in Ketteringham. • Late enclosure of greens e.g. High Green, Melton and High Green, Wreningham. • Park at Ketteringham. • Field pattern obliterated by airfield at Hethel. **D2 - Poringland** • Late enclosure of former heath (shared between settlements) • Former park at Bixley Hall	**Low** • Widespread hedgerow loss has reduced the susceptibility of the field pattern. • Field patterns can be reinstated. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.

LT D: Settled Plateau Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Visual characteristics • Strong open horizons – the archetypal 'Norfolk' Landscape. • Illusions of wooded horizons due to the presence of significant areas of mixed woodland blocks, some intact hedgerows and the visual merging of hedgerow trees and woodlands in the landscape. • Views to large communication masts, settlement on the plateau edge and areas of parkland and woodland blocks. • Long views of the district from the plateau edges, including views to Norwich, and internalised plateau views. • D2 plateau is very prominent in views from the surrounding landscape. • Mast at Poringland has high visibility but also serves as a landmark. • A number of large-scale farm buildings including grain towers and silos that punctuated the horizon (particularly near Silfield).	**Medium-Low** • The landscape is less sensitive in visual terms to underground cable routes than to other forms of development as the visual properties of the landscape can be largely restored. • Plateau edges are more sensitive, though effects would be temporary.

LT D: Settled Plateau Farmland - susceptibility to underground cable routes

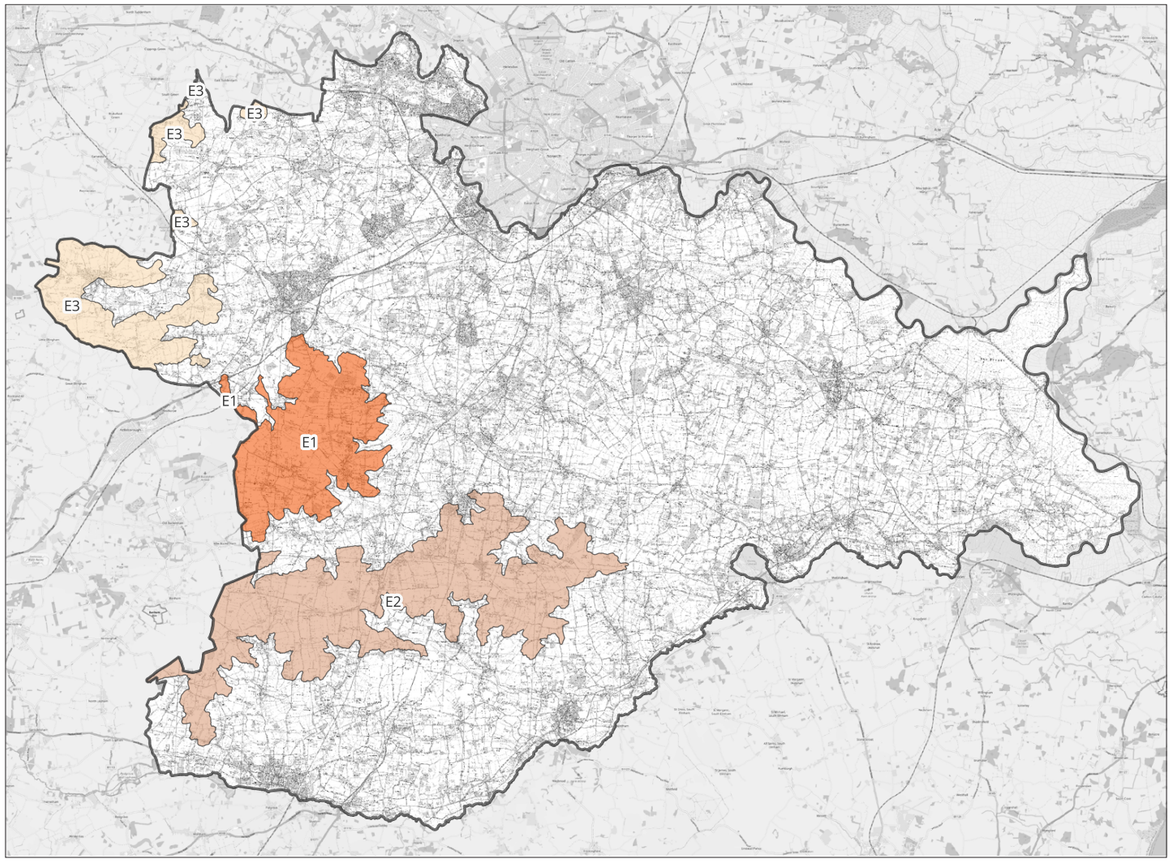
Overall susceptibility	Underground cable routes
LCA D1: **Wymondham Settled Plateau Farmland**	**Low** • The key characteristics of the Wymondham Settled Plateau Farmlands are less sensitive to underground cable routes than to other forms of development. The openness of the landscape would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA D2: **Poringland Settled Plateau Farmland**	**Low** • The key characteristics of the Poringland Settled Plateau Farmlands are less sensitive to underground cable routes than to other forms of development. The openness of the landscape would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.

LT E: Plateau Farmland

The Plateau Farmland Landscape Type occurs in the western part of the district in three principal areas, all of which continue beyond the South Norfolk boundary into the adjoining Breckland District. The Plateau Farmlands are defined by their elevation and all are primarily delineated by the 50m contour. However, it should be noted that not all areas above the 50m contour line have been classified as Plateau Farmland due to differing land use patterns.

Key characteristics

- Distinct flat and elevated landform as a result of the simplistic underlying Glacial Till geology.
- Large fields of arable monoculture with characteristic swathes of cereal, oilseed rape and sugarbeet monoculture.
- Sense of openness and exposure due to the elevation and scarcity of enclosing elements.
- Long views of the district from the plateau edges and shorter internalised plateau views. Inner plateau largely invisible from other areas.
- Mature remnant oak hedgerow trees are features in the agricultural landscape. However, hedgerows have been severely degraded or lost leading to fragmentation within the landscape.
- Straight plateau-top roads characteristically lined with attractive wide grass verges and ditches.
- Wooded horizons as a result of visual merging of hedgerow trees and woodlands in the landscape, which integrate settlements into the landscape.
- Presence of tall structures including masts and poles which disturb the rural scene interrupting the sense of openness.
- Sparsely settled landscape mostly comprising larger edge-of-plateau settlements, small nucleated and long linear settlements.
- Presence of historic features within the landscape including isolated church, moats, and farm ponds.
- Some vernacular buildings particularly including the use of brick and Dutch gable ends, but intermixed with more modern bungalow development.
- Disused air fields



The individual character areas within this type are listed below:

- E1: Ashwellthorpe Plateau Farmland
- E2: Great Moulton Plateau Farmland
- E3: Hingham-Mattishall Plateau Farmland

LT E: Plateau Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • Sense of openness and exposure due to the elevation and scarcity of enclosing elements. • The flatness of the plateau creates a strong sense of openness with large skies and distant horizons.	**Medium-Low** • Poor hedges provide weak enclosure which increases the susceptibility to development. • The visual effects of cable routes are temporary, so susceptibility is lower than for other forms of development.
Landform • Distinct flat and elevated plateau landform. • Defined by the elevation and primarily delineated by the 50m contour.	**Medium-Low** • The simple flat landform is less sensitive to development. • The plateau edges however are more sensitive to development, including underground cable routes.
Landcover • Large fields of arable monoculture with characteristic swathes of wheat, barley, oilseed rape and sugar beet. • Mature hedgerow oaks are features in the agricultural landscape. However hedgerows have been severely degraded or lost, leading to a much simplified landscape. • Generally an early enclosed landscape, but with significant areas of common/ heath, many of which were enclosed in the C19. Some remaining commons. • Mixed field patterns relating to the history of enclosure.	**Medium-Low** • Arable landcover can be reinstated, but there is some susceptibility in terms of disturbance to soils. • Other elements showing greater time-depth increase susceptibility. • It is assumed that effects on sensitive landcovers e.g. remaining commons could be avoided through careful design.

LT E: Plateau Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Field pattern **E1 – Ashwellthorpe Plateau Farmland** • Ancient rectilinear enclosures in Bunwell • Ancient irregular enclosures at Fundenhall • Late enclosure of large commons (shared between settlements). • Fields on poor drained plateau bound by ditches. **E2 – Great Moulton** • Ancient rectilinear field patterns in Burston, Tibenham, Great Moulton and Hardwick. • Irregular field patterns, presumably early enclosures. • Large heath at western edge of area enclosed in C18. • Some remaining unenclosed land e.g. Wacton Common. • Field pattern eroded by airfields and hedgerow loss. **E3 – Hingham - Mattishall** • Later enclosure of commons and warren signified by rectilinear field pattern e.g at Deopham Green. • Irregular field patterns at Hingham an Wicklewood. • Late enclosure of Welborne Common (C18)	**Low** • Widespread hedgerow loss has reduced the susceptibility of the field pattern. • Field patterns can be reinstated. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.
Visual characteristics • Long views of the district from the plateau edges take in a wide panorama of South Norfolk and these are some of the best in the district. • Shorter internalised plateau views are to farm buildings and isolated churches. • From higher areas of plateau and from the plateau edge there are views to adjacent landscapes including to churches in adjoining areas	**Medium-Low** • The landscape is less sensitive in visual terms to underground cable routes than to other forms of development as the visual characteristics of the landscape can be largely restored. • Plateau edges are more sensitive, though it is acknowledged that effects would be temporary.

LT E: Plateau Farmland - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA E1: **Ashwellthorpe Plateau Farmland**	**Low** • The key characteristics of the Ashwellthorpe Plateau Farmlands are less sensitive to underground cable routes than to other forms of development. The openness of the landscape would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA E2: **Great Moulton Plateau Farmland**	**Low** • The key characteristics of the Great Moulton Plateau Farmlands are less sensitive to underground cable routes than to other forms of development. The openness of the landscape would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.
LCA E3: **Hingham-Mattishall Plateau Farmland**	**Low** • The key characteristics of the Hingham-Mattishall Plateau Farmlands are less sensitive to underground cable routes than to other forms of development. The openness of the landscape would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.

LT F: Valley Urban Fringe

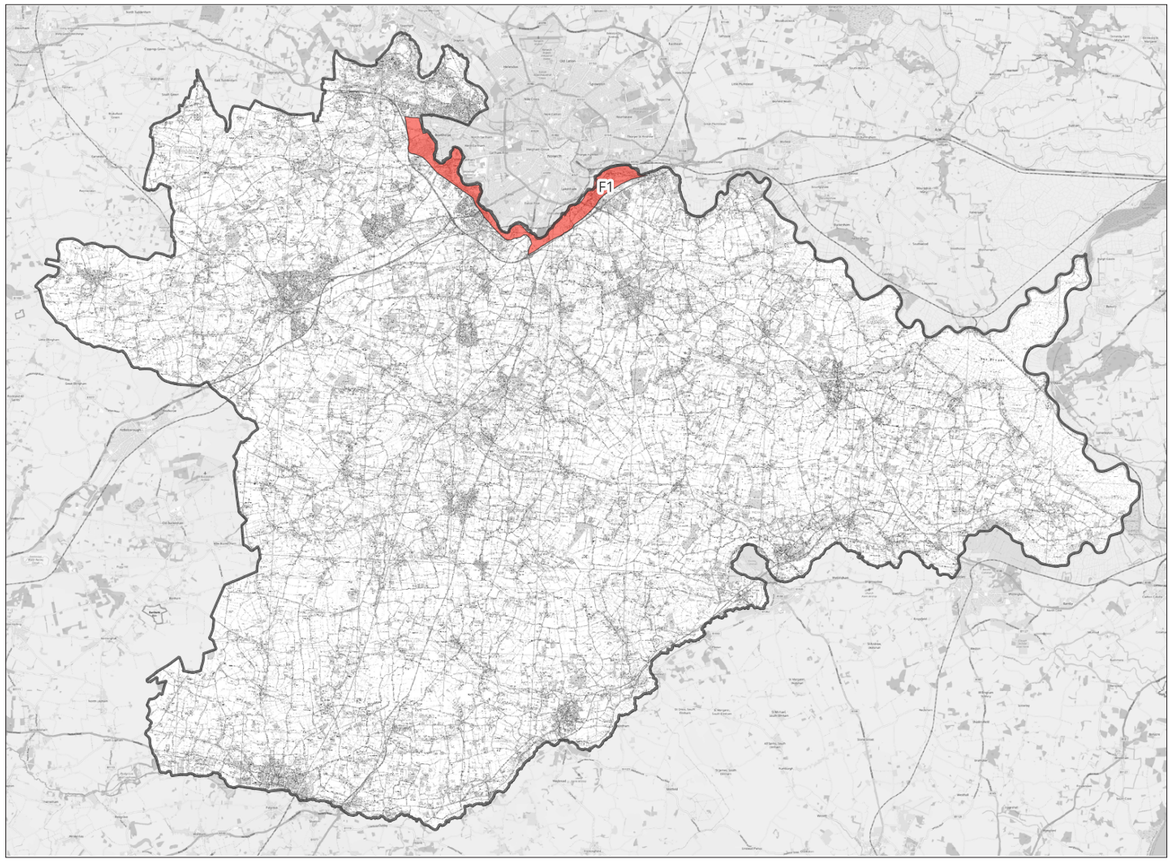
The Valley Urban Fringe Landscape Type is found in only one area: the Yare Valley which is found near the perimeter of the City of Norwich. In South Norfolk District, it is represented by a narrow band, with a large proportion of the landscape type extending beyond the district boundary into the area within the jurisdiction of Norwich City Council. The crest of the slope at about 30m AOD represents the boundary of this landscape type; as it is at this point that the character changes to a valley landform, focused on the River Yare.

Key characteristics

- Distinctive broad meandering valley form with wide flat flood plain and enclosing valley sides, occasionally opening up where tributary valleys such as the Tas valley link to the Yare valley.
- Glacial gravel deposits, which have been exploited resulting in remnant flooded gravel workings along the valley floor.
- Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland creating a well wooded appearance.
- Inaccessible valley floor with relatively few river crossings.
- Evidence of early human activity, for example the henge at Arminghall and presence of numerous Scheduled Ancient Monuments.
- Few distinctive vernacular buildings mainly due to the relative lack of prewar settlement within the valley.
- Distinct absence of settlement within the valley, apart from discrete areas nestled around river crossings, although influenced by Norwich urban fringe along parts of the upper valley sides.
- Impenetrability resulting in a sense of remoteness and solitude- remarkable given the closeness of a major city.
- Large institutional buildings occasionally visible from the valley.

There is one Landscape Character Area within this type:

- F1: Yare Valley Urban Fringe



LT F: Valley Urban Fringe - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • A sense of containment. • Wide, fairly flat floodplain with enclosing valley sides. • Trees and woodland also contribute to enclosure in places.	**Medium** • Semi-enclosed landscape with medium susceptibility.
Landform • Wide, fairly flat floodplain with enclosing valley sides. • The sides of the valley are fairly steep in places.	**Medium** • Valley sides are considered to be sensitive to the disruption which would be caused by the installation of an underground cable route on account of their complexity and potential visibility. Effects on landform would be temporary, so the susceptibility is assessed as Medium.
Landcover • Large river flanked by characteristic wetland vegetation, including reeds and fringing alder/willow woodland. Mixed woodlands and shelterbelts occur on the valley sides creating a well-wooded appearance. • Glacial gravel deposits, which have been and continue to be exploited resulting in remnant flooded gravel workings along the valley floor. • Natural character. Nature reserves such as Whitlingham Marsh. The river itself is a chalk river. • Presence of recreational landscapes including the country park at Whitlingham and playing fields at UEA. • Inaccessible valley floor with relatively few river crossings.	**Medium-High** • The valley features an assemblage of meadows, open water, marsh and riparian woodland. A diversity of natural landcover elements increases susceptibility to development, including underground cable routes. • Landcover is particularly sensitive to underground cable routes due to the physical disturbance of the trenches. A cable route could be more disruptive ecologically than overhead lines where there are sensitive habitats.

LT F: Valley Urban Fringe - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
	Medium-High • Small-scale fields are considered to have higher sensitivity. Enclosure by dikes potentially complicates the installation of an underground cable route. • Important hedgerows (where they are present) would require special construction techniques such as Horizontal Directional Drilling.
Visual characteristics • Views are variable with open and enclosed views within the valley with large institutional buildings occasionally visible. • Views across the valley towards the City of Norwich. Valley performs an important visual function in creating a setting to the city. • Some enclosure from valley sides and vegetation.	**Medium-Low** • Although landscape can be reinstated there is still some susceptibility to the disturbance which would be caused during the installation of an underground cable route.

LT F: Valley Urban Fringe - susceptibility to underground cable routes

Overall susceptibility	Underground cable routes
LCA F1: **Yare Valley Urban Fringe**	**Medium-High** • The existing human influence tends to suggest lower susceptibility, however there are likely to be important riparian habitats which are sensitive to this form of development. • Trees within the cable route are likely to be lost and this potentially leaves a long-term effect on the landscape. • A linked series of priority habitats extends along the valley and the susceptibility to this form of development is therefore assessed as Medium-High.

LT G: Fringe Farmland

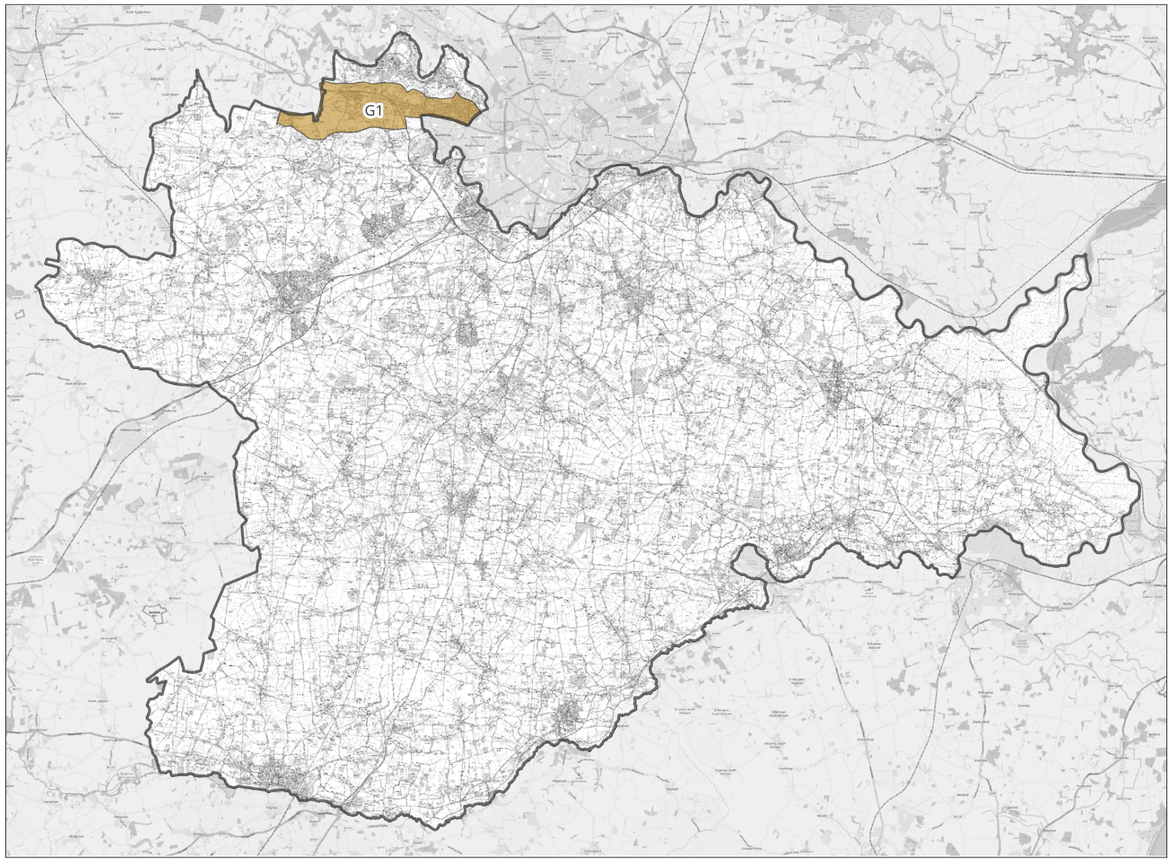
Fringe Farmland is located in one area, found to the west of Norwich, occupying a broad linear strip adjacent to the Norwich Southern Bypass. The boundary of this area is distinguished by the woodlands at the periphery of the Tud valley to the north of the area and the rural river valley of the Yare Rural River Valley to the south. It is defined as a distinctive landscape as a result of its relatively developed character and eroded farmland context.

Key characteristics

- Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline;
- History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas.
- Use of the area for urban fringe uses including a park and ride scheme (under construction), retail warehouses, a golf course and the Royal Norfolk Showground.
- Significant level of settlement including the Norwich suburb of New Costessey and the smaller linear settlement of Easton.
- Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.
- Absence of large wooded areas.
- Norwich Southern Bypass is a major feature of the area.

There is one Landscape Character Area within this type:

- G1: Easton Fringe Farmland



LT G: Fringe Farmland - susceptibility to underground cable routes

Landscape attribute	Underground cable routes
Sense of enclosure • This landscape can feel exposed in places as a consequence of the elevated ridge topography and relatively low–level of woodland.	**Medium** • The degree of openness and enclosure varies. • A cable route could cause considerable temporary disturbance on the exposed ridge.
Landform • Gentle ridge of land marking the dividing line between two valley landscapes and creating an impression of exposure along the ridgeline. • Undulating landscape with a distinct ridge top.	**Medium** • The ridge is considered to be sensitive to the disruption which would be caused by the installation of an underground cable route. • Effects on landform would be temporary, so the susceptibility is assessed as Medium.
Landcover • Defined predominantly by farmland with urban and urban fringe development. A degraded farmland context. • History of mineral extraction, particularly sand and gravel workings, resulting in scarred and reclaimed areas. • Urban fringe uses including a park and ride scheme, retail warehouses, a golf course and the Royal Norfolk Showground. • Rural farmland origins and context including both arable and pastoral farmland and retaining a peaceful rural quality.	**Varies** • More developed areas including the urban fringe have a lower sensitivity. • The more rural parts of the area have moderate sensitivity.

LT G: Fringe Farmland - susceptibility to Underground cable routes

Landscape attribute	Underground cable routes
Field pattern • Field pattern is obscured by land use change across part of the area. • More rural parts of the area show a mix of regular and irregular field patterns which relates to the history of enclosure.	**Medium** • Mix of irregular and regular enclosures. Medium to small-scale fields.
Visual characteristics • There are views from the ridge into the adjacent valley landscapes of the Tud and the valley of the rural Yare with its flooded gravel workings. • The ridge is a locally prominent feature of the landscape and is visible from the valleys of the Yare and Tud and the surrounding tributary valley landscape.	**Medium-Low** • Although the landscape can be reinstated there is some sensitivity to the disturbance which would be caused during installation.

LT G: Fringe Farmland - susceptibility to Underground cable routes

Overall susceptibility	Underground cable routes
LCA G1: **Easton Fringe Farmland**	**Low** • The key characteristics of the Easton Fringe Farmland are less sensitive to underground cable routes than to other forms of development. The ridge topography would increase visibility during the installation phase, however this would be a temporary effect. It is assumed that effects on important hedgerows or habitats could be avoided through careful design. Susceptibility is therefore assessed as Low.

Local Impact Report Appendix C

List of Major TCPA's for Cumulative Consideration

2018/0112: Land West of A140, Long Stratton

Land West of the A140: Hybrid Application on 40.8 hectares of land to the west of the A140 seeking outline planning permission for 387 no. dwellings and 1.5 hectares of Class B1 employment land, associated infrastructure and public open space. 1.5ogether with application for full planning permission for a western relief road (including a roundabout access at the north to the A140 and a priority junction access to Swan Lane at the south) and with phase 1 housing consisting of 213 no. dwellings, associated infrastructure and public open space. Approved with Conditions

2021/1034: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the second phase (Phase 2) of the development comprising the construction of Units 5-7 (Use Classes B2/B8) and ancillary development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Units 5-7 only), Condition 9 (Units 5-7 only) and Condition 23 (Units 5-7 only) of the outline planning permission. Approved with Conditions

2021/1035: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the third phase (Phase 3) of the development comprising the construction of Unit 2 - builders merchant (Use Class B8 plus ancillary trade counter) and associated development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Unit 2 only), Condition 9 (Unit 2 only) and Condition 23 (Unit 2 only) of the outline planning permission. Approved with Conditions

2021/1036: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the fourth phase (Phase 4) of the development comprising the construction of Units 8-10 (Use Classes B2/B8) and associated development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Units 8-10 only), Condition 9 (Units 8-10 only) and Condition 23 (Units 8-10 only) of the outline planning permission. Approved with Conditions

2021/1037: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the fifth phase (Phase 5) of the development comprising the construction of Units 3-4 (Use Classes B2/B8) and associated development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Units 3-4 only), Condition 9 (Units 3-4 only) and Condition 23 (Units 3-4 only) of the outline planning permission. Approved with Conditions

2021/1038: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the sixth phase (Phase 6) of the development comprising the construction of Units 9-14 (Use Class B1) and associated development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Units 9-14 only), Condition 9 (Units 9-14 only) and Condition 23 (Units 9-14 only) of the outline planning permission. Pending Consideration

2021/1039: Land West of Ipswich Road, Keswick

Reserved matters for the details of appearance, layout, scale and landscaping of the seventh phase (Phase 7) of the development comprising the construction of Units 15-20 (Use Class B1) and associated development of the scheme granted outline consent under application reference 2017/2794. In addition, discharge of Condition 8 (Units 15-20 only), Condition 9 (Units 15-20 only) and Condition 23 (Units 15-20 only) of the outline planning permission. Pending Consideration

2021/2495: Land North and South of brick Kiln Lane, Swainsthorpe.

Installation of a solar farm comprising ground mounted solar panels, access tracks; inverter/transformers, substation; storage, spare parts and welfare cabins, underground cables and conduits, perimeter fence; CCTV equipment, temporary new site entrance and access track, temporary construction compounds, and associated infrastructure and planting scheme. Application is accompanied by an environmental statement. Approved with Conditions.

2021/2645: Land North of Stoke Lane, Dunston

The installation and operation of a Battery Energy Storage System to provide standby emergency electricity for National Grid in times of high electricity demand or when renewable energy projects are unable to fulfil demand. This would be for the installation of 130MW of modular battery units with ancillary equipment, including

power conversion units, 132kV transformer compound, metering cabinet, switch room, DNO control room and welfare container. Approved with Conditions.

2021/2782: Land East of Shelfanger Road and West of Heywood Road Diss

The erection of up to 179 dwellings, 0.64ha of land for the future extension of Diss Cemetery, a new road linking Shelfanger Road and Heywood Road/Burston Road, public open space and associated infrastructure and landscaping. Approved with Conditions

2021/2784: Land South West of Alan Avenue, Newton Flotman

Construction of 31 new dwellings (Class C3) with associated landscaping, drainage and highway works. Approved with Conditions

2022/0867: Land East of Main Road, Swardeston

Construction and operation of Energy Balancing Infrastructure (EBI) comprising energy storage technology, to form up to two areas of modular or containerised structures. To include containerised or modular battery array, transformers and inverter area, switchgear and control room building(s), connection of EBI plant to the Hornsea Three Onshore Converter Station (ONCS), required access and internal roads, drainage systems, perimeter and internal fences, and required external lighting and lightning pylons. Development is located within the Hornsea Three ONCS area as consented by the Hornsea Project Three Offshore Wind Farm Development Consent Order (DCO) in December 2020. The application is accompanied by an environmental statement. Approved with Conditions.

2022/1344: Land East of Vinces Road, Diss

Residential development with associated access, landscaping, surface water attenuation and parking. Approved with Conditions

2022/1975: Land South of Rowden Way, Roydon

Residential development with associated access and parking. Approved with Conditions

2022/1976: Land West of Denmark Lane, Roydon

Residential development with associated access, parking, landscaping and associated infrastructure. Approved with Conditions

2022/2148: Land North of Caistor Lane, Caistor St Edmunds

Hybrid Application: Part 1. Detailed proposals for a 25.5 hectare country park together with associated infrastructure. Part 2. Outline proposals with all matters reserved, except for access, for a residential development of up to 178no. dwellings, serviced site for a new 420 place primary school, serviced site for a new community building, Step 7 FA Standard football pitch and a package of improvements to Caistor Lane. Development Management Committee authorised approval subject to s106

2022/2350: Ipswich Road, Dunston

Installation of underground electrical connection and communication cables between Bloy's Grove Solar Farm and Norwich Main Substation, with Temporary Construction Compound and associated infrastructure. Application is accompanied by an environmental statement. Approved with Conditions

2023/0617: Land North of Hickling Lane, Swainsthorpe

Construction and operation of a battery storage facility, underground cabling, fencing, drainage infrastructure, landscape planting and site access road on land to the north of Hickling Lane and up towards the Norwich National Grid Substation. Approved with Conditions

2023/0655: Land rear of ForFarmers Industrial Estate, Mill Road, Burston

Installation of solar PV systems. Approved with Conditions

2023/0908: Land at the junction of Gowthorpe Lane and Main Road, Swardeston

Development of 43 new dwellings and associated external works. Pending Consideration

2023/1055: Land off Marsh Lane, Bracon Ash

Ground mounted solar array and ancillary equipment. Approved with Conditions.

2023/3574: Electricity Substation Park Road, Diss

Installation of a solar farm comprising ground mounted solar panels; access tracks; string inverters; transformers; electrical connection compound; storage containers; underground cables and conduits; perimeter fence; temporary construction compound; and associated infrastructure and planting scheme (part of cabling in South Norfolk District only). Approved with Conditions

2023/3857: Land West of The Fields, Tacolneston

Development of 21 dwellings, garaging, open space, vehicular and pedestrian access, drainage and other associated works and infrastructure. Pending Consideration

2023/3858: Land at Norwich Main Substation, Dunston

Underground point of connection cables (for battery storage development) located beneath non-operational land within the Norwich National Grid Main Substation. Approved with Conditions

2024/1245: Phase 1 and West of A140, Norwich Road, Long Stratton

Variation of condition 7 of 2018/0112 - amendments to house types and corresponding changes to layout and landscaping (phase 1 only). Approved with Conditions

2024/1336: Norwich Main Substation, Dunston

Extension of the existing Norwich Main 400 kV Substation to the west and includes associated temporary access roads. Works include:

Extension of the existing substation platform to the west by approximately 250m x 188m. Extension of main and reserve busbar to accommodate addition of customer bays. New bus sections. Bus couplers and circuit breakers. Infrastructure works for customer connections. Extension of substation perimeter to accommodate the new infrastructure and the delivery of a minimum of 10% biodiversity net gain, linked with the proposed Landscape Mitigation Strategy. Approved with Conditions

2024/1734: Land East of Main Road, Swardeston

Variation of conditions of permission 2022/0867 (Construction and operation of Energy Balancing Infrastructure (EBI) comprising energy storage technology, to form

up to two areas of modular or containerised structures. To include containerised or modular battery array, transformers and inverter area, switchgear and control room building(s), connection of EBI plant to the Hornsea Three Onshore Converter Station (ONCS), required access and internal roads, drainage systems, perimeter and internal fences, and required external lighting and lightning pylons. Development is located within the Hornsea Three ONCS area as consented by the Hornsea Project Three Offshore Wind Farm Development Consent Order (DCO) in December 2020. The application is accompanied by an environmental statement.)- Condition 2 - Approved Plans, Condition 4 - Construction Traffic Management Plan, Condition 6 - Drainage Strategy, Condition 7 - Code of Construction Practice, Condition 9 - Soft Landscape works, Condition 10 - Ecological Mitigation, Condition 11 - Tree Protection. Pending Consideration

2024/2152: The Feather Mills, Park Road, Diss

Variation of conditions 2 (approved plans and documents), 27 (reconfiguration of electric vehicle charging points) & 28 (drawings of off-site highway works) of consented planning permission 2022/2424 (which gave permission for the demolition of existing buildings on site; redevelopment of site to provide a retail foodstore (Class E) and associated car park, access, servicing and landscaping; and, the creation of new access road off Park Road to serve foodstore and land to the west). Date of decision: 10 April 2024. Approved with Conditions

2024/2476: Land West of Hall Road, Windfarthing

Outline planning permission for 21 dwellings with all matters reserved. Approved with Conditions

2024/3750: Hall Farm, Land North of Hickling Lane, Swainsthorpe

The development of a 400MW Energy Storage System, including a 132-400kV substation and associated infrastructure. Approved with conditions

2024/3786: Land North and South of Brick Kiln Lane, Swainsthorpe

Variation of conditions 1 (time period of permission), 2 (approved plans), 3 (decommissioning) 7 and 8 (site access) of 2021/2495. Approved with Conditions

2024/3817: Land to the North of Station Road, Tivetshalll St Margaret

Solar photovoltaic (PV) farm development with ancillary infrastructure, security fencing and access. Approved with conditions

2024/3858: Land north of Hickling Lane, Swainsthorpe

Variation of conditions 2, 3, 4, 5, 6, 9, 10, 11, 12, 13 & 15 of 2023/0617 - (2) Revised plans, (3) Access Design, (4) HGV Parking, (5) On-site Parking for Construction Workers, (6) Construction Traffic Management Plan (CTMP), (9) Landscaping Plan, (10) (Landscape & Ecological Management Plan (LEMP) , (11) Lighting, (12) Arboricultural Impact Assessment, (13) Archaeology & (15) FRA & SWDS. Pending Consideration

2025/0004: Land West of Mil Road Windfarthing

20 no. dwellings, public open space provision, 2 new vehicular accesses off Mill Road / The Street and associated site works. Pending Consideration

2025/0806: Land West of Wymondham Road, Bracon Ash

The installation of a Battery Energy Storage System (BESS) including associated infrastructure and landscaping. Pending Consideration.

2025/1061: Land East of School Road, Bressingham

Outline planning application, with all matters reserved (except means of access), for up to 39 dwellings, including land for the provision of a school car park, open space, landscaping, drainage, and associated infrastructure works. Development Management Committee authorised approval subject to S106.

2025/1150: Land North of Church Road, Aslacton

Outline planning application with all matters reserved (except access) for the erection of up to 36 dwellings, including amenity space, landscaping and all associated infrastructure. Development Management Committee authorised approval subject to S106 and Nutrient Neutrality resolution.

2025/1152: Land North of Hill Farm, Wacton Road, Forncett St Peter

The installation of a Battery Energy Storage System (BESS) including associated infrastructure and landscaping. Pending Consideration

2025/1543: Park Road, Diss

Erection of 3 storey, 66 bed care home for older people with associated landscaping, car parking and access. Pending Consideration

2025/1689: Land North of the junction of Market Lane and Carr Lane, Great Moulton

Erection of a Battery Energy Storage System (BESS) and associated infrastructure including access, drainage, landscaping and other incidental works.

Pending Consideration

2025/2275: Land East of Mulbarton Road, Keswick

Construction and operation of a Battery Energy Storage System (BESS) and associated infrastructure including battery container units, medium voltage stations, 400/132/33kV substation, 2 No. 33kV customer substation, DNO control room, storage and welfare containers, fire water pumphouse, water storage tank, CCTV cameras, fencing, security gates, access tracks, landscaping and attenuation pond. Pending Consideration

2025/2789: Land East of Norwich Road, Tacolneston

15 No. residential dwellings with access road, open space, landscaping, drainage basin and other associated infrastructure. Pending Consideration

2025/2930: Land off St Mary’s Road, Long Stratton

Development of 45 affordable residential dwellings together with associated public open space, landscaping, highways and engineering works. Pending Consideration

2025/2952: Roadside Nurseries, Main Road, Swardeston

Demolition of former nursery buildings and application for full planning permission for the erection of 30 No. dwellings and associated infrastructure. Pending Consideration

2025/3957: Land South of Swan Lane, Tharston

Outline application (with all matters reserved except for vehicular access) for the construction of up to 103 dwellings together with new vehicular accesses, parking, public open space, play space, attenuation basins and enhanced landscaping.
Pending Consideration

Local Impact Report Appendix D

Comments on Draft DCO Requirements

1. General Comments

1.1 The Council has reviewed the proposed requirements in line with National Planning Policy Framework (NPPF), which stipulates that planning conditions should be minimal and meet three tests: necessary, relevant to planning and the development, and enforceable, precise and reasonable.

1.2 The Council has significant expertise in discharging requirements for major infrastructure projects including:

1.2.1 Hornsea Three Offshore Wind Farm (2020);

1.2.2 Norfolk Boreas Offshore Wind Farm (2021);

1.2.3 Norfolk Vanguard Offshore Wind Farm (2022);

1.2.4 Sheringham Shoal & Dudgeon Extensions (2024);

1.2.5 A47/A11 Thickthorn Junction (2022);

1.2.6 A47 North Tuddenham to Easton (2022);

1.2.7 A47 Blofield to North Burlingham (2022).

1.3 The Council has a good track-record of discharging requirements. There have been no appeals or delays attributable to the Council in respect of any of the projects referred to above. The Council has worked proactively with the applicant in each case, reaching an agreed position within agreed timeframes. This collaborative approach has consistently ensured a solution that satisfied the applicants, the Council and all relevant consultees.

1.4 The key issues:-

1.4.1 Future Governance Changes: Norfolk (and Suffolk and Essex) is part of the accelerated Local Government Review, meaning the current two-tier system will likely be replaced by unitary authorities before requirements are discharged. Wording must be future-proofed;

1.4.2 Discharge Authority: The Council recommends that the Local Planning Authority be designated as the discharge authority for all planning-related matters.

1.5 Inconsistent use of ‘days’ and ‘business days’ for timescales creates confusion; suggest that terminology is standardised.

1.6 To assist developers, the DCO should include a clear definition of what constitutes a “very minor amendment” (e.g., a simple wording change to a management plan) that can be agreed without triggering a full discharge process. Under the current National Grid drafting, even minor changes require formal resubmission, which is unnecessarily burdensome.

1.7 Missing Requirements

1.7.1 The present Requirements do not seem to cover the following matters, despite the fact that the Council considers these necessary:-

1.7.1.1 Implementation and Maintenance of Landscaping;

1.7.1.2 Drainage Strategy in particularly surface water and foul drainage if necessary;

1.7.1.3 Skills and Employment Plan;

1.7.1.4 Fencing and Means of Enclosure (permanent and temporary e.g. construction lay down areas and satellite construction compound in the Council’s administrative area);

1.7.1.5 Traffic and Highway Access (permanent and temporary);

1.7.1.6 Contaminated Land and Groundwater Management;

1.7.1.7 Noise Control Measures;

1.7.1.8 Control of Critical Light Emissions.

2. Article 5 - Limits of Deviation

2.1 South Norfolk Council wishes to raise concerns regarding the proposed Limits of Deviation under Article 5 of the DCO. These concerns relate to ecological and landscape impacts arising from changes incorporated into the DCO submission following the targeted consultation in March 2025.

2.2 While some deviations pose minimal ecological risk, others present significant issues, particularly in relation to irreplaceable habitats, veteran trees and areas of cultural and conservation importance. The flexibility afforded by Article 5 must not enable works that result in unacceptable ecological harm.

2.3 In particular:

2.3.1 Norfolk 2 (Pylons 30–33 and relocation of Pylon 39): There is potential direct impact on a veteran oak tree of approximately 522cm circumference next to Pylon 33;

2.3.2 Norfolk 3 (Pylons 48 & 49 moved 60m west):

2.3.2.1 Direct impact on a large area of veteran trees, considered irreplaceable habitat and potentially ancient woodland;

2.3.2.2 A veteran bee tree lies within the DCO limits; Requirements must include explicit wording to protect veteran trees and ancient woodland.

2.3.2.3 Repositioning of the haul road into a previously cleared woodland is highly concerning and unacceptable. This area has re-matured and exhibits ex-ancient woodland characteristics. It was previously avoided in the 2024 consultation due to its classification as A3 Woodland, denoting significant cultural, conservation and heritage value. This option would result in the loss of irreplaceable habitat;

2.3.3 The limits of deviation (LOD) should be drafted to avoid the impacts set out above and must avoid the area.

2.4 The Council requests that the Examining Authority:

2.4.1 Restrict the Limits of Deviation to avoid areas of irreplaceable habitat, including veteran trees and ancient woodland;

2.4.2 Amend the Requirements to include:

2.4.2.1 Explicit protection for veteran trees and ancient woodland.

2.4.2.2 A prohibition on works within A3 Woodland or areas exhibiting ex-ancient woodland characteristics.

2.4.3 Secure a Habitat Protection Plan by Requirement to ensure compliance with biodiversity policy and mitigation commitments.

2.5 The Council has concerns about the current scope of Article 5 where it enables deviations that would result in the loss of irreplaceable habitats. These impacts are contrary to national policy and cannot be adequately mitigated. Robust restrictions and requirements must be included in the DCO to protect these sensitive ecological assets.

3. Specific and targeted comments in respect of the DCO Requirements

3.1 Schedule 3

3.2 Requirement 3 – Stages of authorised development

3.2.1 It is unclear why a phasing plan cannot be required prior to commencement. This would provide clarity and certainty for stakeholders. As currently drafted, Requirement 3(1) and (2) appear potentially contradictory, as activities defined as 'pre-commencement' may themselves constitute development. To avoid ambiguity, the sequence should be revised so that (1) precedes (2), ensuring the phasing plan is agreed before any works begin.

3.3 Requirement 4 – Construction Management Plans

3.3.1 There is a need for additional consultees. For example, only Natural England is listed in Requirement 4(1) as a consultee for landscape and ecology. Additional consultees should include:

3.3.1.1 Environment Agency;

3.3.1.2 Local Highway Authority;

3.3.1.3 National Highways (where strategic networks are affected).

3.3.2 Construction Traffic Management Plans, for example, must be agreed with the Highway Authority and National Highways.

3.4 Requirement 5 – Archaeology

3.4.1 For Norfolk this Requirement falls under the remit of the Historic Environment Service currently the responsibility of the County and which has engaged with National Grid.

3.5 Requirement 6 – Design and layout plans (elevations)

3.5.1 The phrase 'general accordance' is unacceptable. In the absence of anything more than illustrative or approximate details, any details submitted as part of the discharge of Requirements must either be in accordance with specific proposals or subject to further approval. The council have asked to be provided with the details of the construction laydown areas and satellite construction compounds. If those details were to be provided, the Council would accept 'in general' accordance with to allow for de minimis variations.

3.5.2 The Council considers Schedule 3, paragraph 1(3), which allows for amendments approved in writing by the relevant discharging authority, should be more tightly drafted. While the requirement for the authorised development to be carried out "in general accordance with" approved plans or documents provides some flexibility, this cannot be construed as permitting material changes. The phrase "in general accordance with" should be restricted to de minimis variations only i.e. those that do not alter the substance or intent of the approved scheme. The current wording would undermine the certainty and integrity of the consent process, effectively enabling significant departures without proper scrutiny or procedural safeguards.

3.5.3 This narrow reading is reinforced by Requirement 6, which governs design and layout plans (elevations). Requirement 6(1) mandates that the authorised development must be carried out "in general accordance" with the approved design and layout plans, while Requirement 6(2) appears to clarify that any departure resulting in materially new or materially different environmental effects would fall outside this flexibility. Accordingly, the interpretation provision should not be used to justify changes that go beyond minor, non-material adjustments, as doing so would conflict with the express limitation in Requirement 6(2).

3.6 Requirement 7 – Construction hours

3.6.1 Current wording allows work on Bank Holidays and Sundays, which is inconsistent with other DCOs. Standard practice is:

3.6.1.1 Monday–Friday: 07:00–19:00

3.6.1.2 Saturday: 07:00–13:00

3.6.1.3 No working on Sundays or Bank Holidays

3.7 Other NSIPs with similar urgency (e.g. Hornsea, Equinor and RWE) have managed delivery without resorting to routine Sunday and Bank Holiday working. If work needs to be carried out outside approved hours, National Grid can apply for prior consent for construction works under section 61 Environmental Protection Act 1990. It allows National Grid to apply to the local authority for prior consent to carry out works that might otherwise cause a statutory nuisance under Part III of the Act. This has been an effective way of managing works needed on Sundays and Bank Holidays in the DCO projects referred to above whilst managing amenity impacts. The requirement should be worded so as to limit the hours but to allow of exceptions where EPA consent is granted.

3.8 National urgency does not override the principle of reasonable mitigation for local impacts. The National Policy Statement and standard DCO practice require minimising adverse impacts on local amenity. Continuous working would go beyond that which was assessed in the Environmental Statement, introducing unassessed harm as set out in paragraphs 8.4 and 10.3.3 of this representation.

3.9 Requirement 8 - Retention and removal of trees, woodland and hedgerows

3.9.1 Plans showing trees for retention or removal are already submitted for approval as part of requirement 4. It is unclear why this Requirement is needed against that background and context.

3.10 Requirement 9 - Reinstatement planting plan

3.10.1 The Heading to, and the text of Requirement itself should not contain the word "reinstatement" because it should encompass planting plans that may or may not include reinstatement.

3.10.2 Requirement 9(4) – term "earliest opportunity" creates ambiguity about in whose opinion the earliest opportunity may be. It should be defined as the "next planting season" for clarity.

3.10.3 Requirement 9(7) - A 10-year replacement period is required to allow establishment, consistent with other DCOs and planning consents. This was agreed under Hornsea following evidence on Norfolk's climate and planting challenges, as a result of the uniquely dry and sandy ground conditions in Norfolk.

3.11 Requirement 10 - Reinstatement schemes

3.11.1 The Council doesn't understand why a period of 21 months is provided for. It could be a typo and National Grid meant to refer to 12 months, so this should be clarified.

4. Schedule 4

4.1 Deemed discharge provisions

4.1.1 The Council objects to the inclusion of Schedule 4, Requirement 1(2) within the draft DCO, which introduces a mechanism to allow certain requirements to be treated as approved if the relevant authority does not respond within a specified timeframe.

4.1.2 The principle of deemed discharge is addressed in the Town and Country Planning (Development Management Procedure) (England) Order 2015 (DMPO). While deemed discharge is permitted for some

planning conditions, Article 30(2) of the DMPO expressly excludes conditions relating to matters of significant complexity and risk, including:

4.1.2.1 Environmental Impact Assessment (EIA) development;

4.1.2.2 Highway safety;

4.1.2.3 Contaminated land;

4.1.2.4 Environmental protection measures, such as biodiversity, heritage assets and flood risk.

4.1.3 The rationale for these exemptions is clear i.e. that such conditions require detailed technical assessment and cannot be left to automatic approval without scrutiny.

4.1.4 Many requirements within the DCO i.e. particularly those relating to ecology, heritage, landscape and construction impacts are analogous to the exempted conditions under the DMPO. These requirements involve:

4.1.4.1 Protection of irreplaceable habitats (e.g. ancient woodland and veteran trees);

4.1.4.2 Safeguarding heritage assets and cultural landscapes;

4.1.4.3 Managing complex environmental mitigation measures.

4.1.5 Allowing deemed discharge for these requirements would undermine the precautionary approach embedded in National Policy Statement EN-5, as well as statutory duties under the Planning Act 2008 and Environmental Impact Assessment Regulations.

4.1.6 The Council requests that the Examining Authority amends the provision to exclude all requirements relating to environmental, ecological, heritage and other high-risk matters, consistent with the DMPO 2015 exemptions.

4.1.7 By analogy with the DMPO 2015, deemed discharge is inappropriate for requirements involving complex and sensitive issues. Active

approval by the relevant authority is essential to ensure compliance with national policy and to prevent significant harm to the environment and communities.

4.2 Importance of Precise Wording

4.2.1 It is critical to recognise that the National Grid team responsible for pre-application and examination will not manage post-consent implementation. Instead, a separate team will rely entirely on the wording of the DCO consent. Contractors appointed post-consent often seek changes to agreed management plans (e.g. working hours) due to unforeseen issues or programme constraints. This underscores the need for clear, robust and practical drafting at the outset.

4.3 Timeframes for Discharge

4.3.1 The proposed 28-day period for discharge is, in the Council's view, unrealistic and unworkable. This is a major issue for the council. Faced with that unrealistic timeframe, the Council may be put in a position where it has no option but to refuse an application for discharge. The Council requires a minimum of 8 weeks/56 days to discharge requirements.

4.3.2 It is unclear in places whether this means calendar days or working days and whether bank holidays are excluded. This must be explicit.

4.3.3 The Council's requirement to allow 8 weeks to discharge a requirement is reasonable when compared to the current statutory timeframes for discharge of conditions under the Town and Country Planning Act (TCPA) are:

4.3.3.1 8 weeks for most applications;

4.3.3.2 16 weeks for EIA developments.

4.3.4 As to the periods of consultation: Prescribed consultees typically require 21 days for initial consultation with further consultation often necessary. Complex applications often necessitate further consultation, particularly where specialist input is required (e.g. environmental health, ecology, heritage). A five-day window in Schedule 4, Requirement 2, paragraphs (2) and (3) does not allow sufficient time for:

4.3.4.1 Reviewing technical documentation.

4.3.4.2 Liaising with internal specialists.

4.3.4.3 Identifying gaps or requesting additional information.

4.3.5 The requirement should be amended to allow a minimum of 21 days for initial review, with flexibility for further consultation where necessary. This ensures:

4.3.5.1 Proper scrutiny of proposals;

4.3.5.2 Compliance with statutory consultation norms;

4.3.5.3 Avoidance of rushed or incomplete assessments that could compromise decision.

4.3.6 The concern of National Grid that longer timeframes will lead to delays is unfounded. The Council's experience demonstrates proactive engagement with developers, enabling projects to remain on track. For example, RWE is ahead of programme due to effective collaboration with the Norfolk Council's.

4.3.7 The Council considers it is necessary to adopt the Vanguard DCO Procedure for discharge of Requirements for this DCO to ensure a proven, workable practical approach is adopted:-

"Applications made under requirement

1.*—(1) Where an application has been made to a discharging authority for any agreement or approval required pursuant to requirements 13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33 and 34 in Part 3 of Schedule 1 (requirements) of this Order:*

(a) the undertaker must give the discharging authority sufficient information to identify the requirement(s) to which the application relates;

(b) the undertaker must provide such particulars, and the request be accompanied by such plans and drawings, as are reasonably considered necessary to deal with the application.

(2) The discharging authority must give notice to the undertaker of its decision on the application before the end of the decision period.

(3) For the purposes of sub-paragraph (2), the decision period is—

(a) where no further information is requested under paragraph 2 (further information), 8 weeks from the day immediately following that on which the application is received by the discharging authority;

(b) where further information is requested under paragraph 2 (further information), 8 weeks from the day immediately following that on which further information has been supplied by the undertaker under paragraph 2; or

(c) such longer period as may be agreed by the undertaker and the discharging authority in writing before the end of the period in sub-paragraph (a) or (b).

Further information

***2**.—(1) In relation to any application to which this Schedule applies, the discharging authority has the right to request such further information from the undertaker as is necessary to enable it to consider the application.*

(2) If the discharging authority considers such further information to be necessary and the requirement does not specify that consultation with a requirement consultee is required, it must, as soon as reasonably practicable and within 20 business days of receipt of the application, notify the undertaker in writing specifying the further information required.

(3) If the requirement specifies that consultation with a requirement consultee is required, the discharging authority must issue the consultation to the requirement consultee within 10 business days of receipt of the application, and must notify the undertaker in writing specifying any further information requested by the requirement

consultee within 10 business days of receipt of such a request and in any event within 42 days of receipt of the application.

(4) If the discharging authority does not give such notification as specified in sub-paragraph (2) or (3) it is deemed to have sufficient information to consider the application and is not thereafter entitled to request further information without the prior agreement of the undertaker."

4.4 Fees

4.4.1 The proposed fixed fee of £145 is outdated. As of April 2025, the national fee for discharge of conditions is £298. Fees should align with the national fee schedule and refund provisions should reflect national practice.

5. Recommendations in respect of Requirements

5.1 Minimum discharge period: No less than 8 weeks, consistent with TCPA discharge of conditions timescales;

5.2 Clarify timeframes: Specify whether periods are calendar or working days and exclude bank holidays;

5.3 Remove deemed consent provisions in Schedule 4;

5.4 Align fees with the national schedule and refund provisions with national practice;

5.5 Ensure flexibility in consultation and response times to reflect statutory consultees' involvement.

CONCLUSION

6. South Norfolk District Council appreciates the opportunity to provide this Relevant Representation and remains committed to engaging constructively throughout the examination process.

7. The Council respectfully requests that the Examining Authority gives full consideration to the matters raised, particularly those relating to environmental protection, local impacts, and compliance with statutory requirements.

8. We look forward to continued dialogue to ensure that the proposed development delivers its objectives while safeguarding the interests of our communities and the environment.

Local Impact Report Appendix E

Consultation Responses from South Norfolk District Council

South Norfolk Council
Horizon Centre
Peachman Way
Broadland Business Park
Norwich NR7 0WF

Simon Pepper
Senior Project Manager, National Grid.

By email: [redacted]@nationalgrid.com

16 June 2022

Planning Act 2008: East Anglia GREEN Project

South Norfolk Council's Response to informal public consultation between 21 April and 16 June to the non-statutory pre-application consultation undertaken by National Grid Electricity Transmission for the proposed National East Anglia GREEN National Infrastructure Project (NSIP).

This is the response from South Norfolk Council of **Objection** to the proposed project.

Introduction and overview of the project

East Anglia Green Energy Enablement (GREEN) - National Grid owns and manages the high voltage electricity network in England and Wales connecting homes and businesses to the energy they need. Since being built in the 1960s, the network in East Anglia has been sufficient to meet local needs. The Council recognises the need for increased capacity to the existing electricity transmission networks across the Eastern Region in order to cope with the additional electricity being generated from offshore windfarms. The Council equally appreciates that the Government has set a commitment to reach net zero greenhouse gas emissions by 2050 and an ambition to connect 40 GW of offshore wind by 2030.

The proposals are for a new 400kV electricity overhead transmission line in East Anglia running from Norwich (National Grid's Norwich Main substation) to Tilbury in Essex. They will also need to carry out some work at existing substations along the proposed route and build a new substation in the Tendring district to connect new offshore wind projects close to the coast.

The reinforcement in South Norfolk will consist of new overhead lines supported by steel lattice pylons of 50metres in height with a distance of 350metres between the pylons. The Council recognises that at this stage the preferred route is large and does not show the precise route of the new overhead lines and supporting pylons.

Summary of our Position

The Cabinet gave consideration to the GREEN proposal at its meeting on Monday, 13 June 2022. The debate can be viewed online here: https://www.youtube.com/channel/UCZciRgwo84-iPyRImsTCIng

In essence, the Council completely understands and acknowledges the need to increase capacity to the electricity network so that energy generated offshore can reach residential and industrial consumers towards London and the Midlands. It also recognises the national challenge of planning positively for a post-carbon work and achieving net zero by 2050, together with the ongoing energy security

However, the imperative of getting electricity to market should not be at the expense of the open landscapes, heritage assets, wildlife sites, economy and wider environmental life of our district.

As submitted, it is considered that the East Anglia GREEN project would have a significant detrimental impact on the environment of South Norfolk. The Council is not satisfied that the project in its present form with its proposed overhead lines and lattice pylons is the most appropriate solution to National Grid's need for increased capacity.

We are concerned that the proposal has been made which has not obviously been compared with other routes including offshore or immediately adjacent to existing routes.

Neither have any mitigations been enumerated including partial burying in the most sensitive locations, avoidance of listed buildings, pylon design. It is not clear how potential impacts on businesses and associated tourism activity has been taken into account. Of great concern is the realisation that the important Market Town of Diss would be surrounded on three sides by intrusive pylons and pass through the Roydon Fen.

Further, there have been insufficient attempts to engage with local people, businesses and interested bodies and that is to be regretted and corrected. In particular we would like to note that for this informal public consultation, holding just one Public Information event in Mulbarton is inadequate given: the length of the route; the number of parishes affected by the proposed project; that National Grid agreed with the Council which Parish Councils should be consulted as part of the process and it would appear that these parishes were not informed either in a timely manner or at all.

Whilst the principle of getting electricity to market is accepted absolutely, the case for this proposal has not been made at all.

Significantly more work alongside associated consultation & engagement will be required including a comparison of route options and detailed line configuration along the routes and assessments made on a monetary and non-monetary basis will be necessary. Only when this is available, should the project progress to the next step.

South Norfolk Council stands by to facilitate the proper engagement with all interested parties and is ready to allow both proposers and objectors to make their case in a constructive and respectful manner.

Alternative Solutions

The Council's considers that an **Offshore approach** should be given further consideration by National Grid and this would be our preferred solution.

In the event that the need for onshore route can be demonstrated by National Grid, then the Council considers that the whole of the route should, from a landscape and visual impact, be placed underground. We maintain this position notwithstanding the National advice regarding undergrounding in regards to only sensitive nationally designated landscapes.

If that is not possible, then a more detailed consideration of the impact on the designated ecological sites; landscape sensitivities and the numerous heritage assets should be made. It should be noted that South Norfolk has more listed buildings than any other Council area in Norfolk and due consideration needs to be had to the route in that regard

We would expect the rationale and relative scoring of the various route and configuration options should be fully explained and quantified within the EIA and the submission.

In view of the above and in the absence of a fuller understanding to why a strategic offshore approach to deliver the network reinforcement objectives of this project to cope with the additional electricity being generated from the offshore windfarms that South Norfolk and the other Norfolk Authorities are already having to host in terms of cable routes and substations, the Council **objects** to the proposed development at this time.

Main Technical Issues/considerations

Should the National Grid sustain its approach, matters would be tested at the Examination via the DCO process. To assist, the Council has set out below some of the matters that the SOS will need to robustly consider.

Given the information provided by the developer is limited due to the stage the project is at, the following are the main issues the Council would like to raise in this response and wishes to reserve the right to raise other issues as the project moves forward to the Statutory public consultation April – June 2023.

Impact on Heritage Assets

The EIA should include a Heritage Impact Assessment. The Council's Senior Heritage and Design Officer has given preliminary consideration to the route and potential impacts on high graded listed buildings and noted the following listed buildings are likely to be impacted by the proposal, this list is not exhaustive and does not prejudice the consideration of other heritage assets:

Gowthorpe Manor grade II*

Kenningham Hall is a small farmhouse and there is an archaeological site of the old village to the west of it.

Flordon Hall – the impact of seeing a line of pylons in the backdrop of this hall in views from Long Lane (or even having pylons in the foreground as that is in the route) is likely to have a considerable harm to the setting of this grade II* listed building.

Mergate Hall is quite well screened to the south by vegetation but immediately to the south of it the views are quite expansive, again the proposal would be likely to have a considerable impact on the setting of this grade II* listed building.

There are some very important listed buildings in Tacolneston including the grade I church, grade II* Tacolneston Old Hall and The Manor House – late C16th and one of the most important buildings in the district. The proposed development is likely to have a considerable harm to these listed buildings.

There are a number of listed buildings along Low Road/Forncett St Mary to the east – but a without further details it is difficult to assess the impact in terms of harms.

Both the above settlements are Conservation Areas.

Winfarthing Church and Shelfhanger Church, both grade I, which may be affected.

The Council would also raise that there are many Grade II listed buildings which also could be affected depending on where the route is placed and these have not been included in this list.

Impact on Ecology

The Council's Ecologist has commented as follows:

The Preferred Corridor has been designed to avoid national and internationally important designated sites although it will pass close to several sites including Shelfanger Meadows SSSI, Aslacton Parish Land SSSI, Forncett Meadows SSSI and Flordon Common SSSI, which is a component site of the Norfolk Valley Fens Special Area of Conservation. The potential for Likely Significant Effects on Flordon Common SAC has been identified by National Grid and they anticipate that as a result of embedded design measures no Likely Significant Effects would be expected and a No Significant Effects Report (NSER) would be adequate. Consideration will need to be given to the People over Wind Judgement with regards to what constitutes 'embedded design measures' compared to 'mitigation measures'.

In accordance with EN-1 (Overarching National Policy Statement for Energy) the project will need to demonstrate how opportunities to conserve and enhance biodiversity interests have been incorporated within the scheme. This will necessitate consideration of County Wildlife Sites (including Long Lane Wood CWS, Flordon Meadows West CWS, Flordon Meadows East CWS, Baye's Meadow CWS, Hapton Common CWS, Brock's Watering CWS, Brick Kiln Lane, Bunwell Hills CWS, and Carleton Rad Fen CWS which lay within/adjacent to the proposed path and Roadside Nature Reserves as Routeing Constraints within the Routing and Siting Study Report (April 2022). Consideration should also be given to the siting of proposed access roads and laydown/storage areas and associated visibility displays to minimise impacts on vegetation (hedges/trees/scrub), and hedges identified as important under the Hedgerow Regulations 1997. Any SuDS associated with the substation should be designed in line with sustainable-drainage-systems.pdf (rspb.org.uk).

The Risk and Opportunity mapping exercise should also explore existing GI assets and use this to identify where new connections could be made for example, through extra tree and hedge planting beyond that needed to mitigation, to maximise gains. Consideration should also be given to how management could be used to enhance existing assets and contribute to the local Nature Recovery Network. Biosecurity protocols will need to be followed to avoid the spread of invasive non-native species.

National Grid have committed to delivering a 10% Net Gain target the natural environment | National Grid Group and we would encourage them to commit to maximising this were possible e.g. through using no top soil and planting hedges with trees. BNG reporting should use the latest version of the Defra Metric (currently 3.1) and reporting should comply with best practice guidance e.g. BS8683:2021. Management plans will need to be prepared to ensure BNG targets are achieved and maintained for the lifespan of the scheme.

The final route should be informed by the results of up-to-date ecological surveys undertaken in accordance to industry standards. All species data should be shared with the relevant Norfolk Biodiversity Information Service at the earliest opportunity.

Impact on Landscape

A full Landscape and Visual Impact Assessment should be part of the EIA, undertaken in accordance with the accepted industry guidance.

The key landscape and visual impacts will result from the overhead lines and pylons and the Council consider that they would have a significant detrimental impact on the landscape character and visual amenities of this part of South Norfolk.

Existing hedgerows - Assessments should be made in reference to the Hedgerows Regulations, including that of each hedge as to its 'importance' as defined by criteria set out in the Regulations; in addition to species composition and condition, these also include other ecological considerations and historical and archaeological factors too. Our local plan policy DM4.8 presumes in favour of retention of important hedgerows unless the need for, and benefits of, a development clearly outweigh their loss. The Council is concerned at the potential loss of landscape features such as ancient woodlands, hedgerows and trees.

Waveney Valley which is in landscape terms is an unspoiled tranquil landscape is more sensitive to infrastructure, if an onshore route is demonstrated then this part of the route should be underground.

Due regard should be given to South Norfolk Landscape Character Assessments when producing the Landscape Visual Impact Assessment for the EIA. The Landscape Character Assessments are comprehensive, detailed studies of the landscape and environment. In 2001 Land Use Consultants undertook a Landscape Character Assessment of the South Norfolk district.

This work was updated and reviewed by Chris Blandford Associates in 2012 to provide evidence to support the emerging new Local Plan. The Chris Blandford Associates 'South Norfolk Local Landscape Designations Review' work should be read in conjunction with the 2001 Landscape Character Assessment.

The Council will expect National Grid to fully consider cumulative landscape impact of the project, including the existing pylons and infrastructure in the area. Equally, justification for not using the 'new type 35m' pylons rather than the 50m lattice pylons.

Noise and Pollution

The key noise and pollution considerations are the impacts of the construction of and the operation of the proposal on the amenities on local residents.

In view of the above, with regards to specified works to be undertaken issues relating to Control of Noise, Air Quality, Artificial Light, Waste Management, Pollution Prevention, Contamination Assessment and Mitigation and Working Hours should be submitted as part of a detailed construction management plan. The Council wishes to be assured that issues relating to hours of construction, siting of any standby generators, good practise procedures, prior notification of constructional noise, floodlighting, movement and storage of waste materials, public safety, dust control, emissions are addressed. Equally a Health Impact Assessment to form part of the EIA, which specifically addresses electronic magnetic radiation.

Economic Development and skills

National Grid are requested to produce a Skills and Employment Strategy to deliver training, skills and employment opportunities to the local economy. It is essential to South Norfolk that the economic benefits are maximised for the communities that are hosting the project which will have a significant impact on their environment.

Economic Impacts – existing businesses

The Council considers the proposal will have a potential detrimental impact on a number of established businesses in the district.

Two examples are cited below. However, we would expect full consideration by National Grid of all businesses on the route.

The proposal site passes across the Bressingham Steam Museum. It is invidious to single-out a particular business but the effect on this enterprise illustrates the complexity of the issues: It operates a steam museum as a visitor attraction. The associated garden centre is a popular retail destination and it abuts a sensitive County Wildlife site. Any plan will need to mitigate the effects on this and similar businesses along the route.

Tibenham Airfield lies on the route and this project will affect the operation of that commercial airfield.

Bringing Power into Norfolk

The proposals as set out by National Grid, do not bring any direct or immediate benefit to Norfolk in terms of bringing clean energy to existing, planned development. Norfolk has significant planned housing and employment growth and therefore National Grid should give consideration to how Norfolk could potentially benefit from the project and the offshore windfarms it is hosting.

Community Benefits

The Council is aware that other developers have and are proposing to provide Community Funds for the benefit of those communities affected by NSIP's. It is requested that National Grid equally commit to providing a Community Benefit Fund to seek localised benefits to South Norfolk communities to offset the significant impacts the project will create.

Yours faithfully

Assistant Director

Planning

South Norfolk Council

South Norfolk Council
Horizon Centre
Peachman Way
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Norwich NR7 0WF

Simon Pepper
Senior Project Manager, National Grid.

By email: [redacted]@nationalgrid.com

12 August 2023

Planning Act 2008: Norwich to Tilbury Project

South Norfolk Council's Response to the second Non-Statutory Consultation between 27 June and 21 August 2023 undertaken by National Grid Electricity Transmission (NGET) for the proposed Norwich to Tilbury (NT) National Infrastructure Project (NSIP).

This is the response from South Norfolk Council who maintains its **Objection** to the proposed project.

These comments build upon the formal response the Council made to the first non-statutory consultation, as such the concerns raised in our previous comments still stand.

Consultation Process

Before we turn to the substance of our response to the Non-Statutory Consultation, we wish to reiterate this Council's disappointment with the consultation process itself. We wrote to you outlining our concerns on 6 July 2023. We will not repeat the detail of that letter save to say that, in respect of the process

- The short timescales following the announcement of the consultation and the limited number of public engagement events made it difficult for local residents and organisations like Parish Councils to participate.
- The timing of the consultation during the summer holiday period has made it difficult for organisations like Parish Councils to response in a formal manner as many do not meet in July and August. Extending the consultation period to September would have enabled more contributions of a better quality to have been made
- As we will detail below, there has been real optionality to the consultation or information justifying the NG route. Specifically, information allowing alternatives has not been provided to allow the public to assess whether the offshore route could be

practicable or information relating to complete or partial burying around sensitive landscapes.
- And whole limbs of consultation have been omitted including, for example, potential pylon designs and the visual impact of those.

Consultation should provide sufficient information for interested parties to assess various options at a formative stage and give the opportunity for evidence-based responses. Sadly, this process has been marred by a lack of detail and a rushed timescale in the summer months that have prejudiced the ability of interested parties to make their case.

Introductory Context

Norwich to Tilbury (NT) National Grid owns and manages the high voltage electricity network in England and Wales connecting homes and businesses to the energy they need. Since being built in the 1960s, the network in East Anglia has been sufficient to meet local needs. We recognise that that the sources of electricity are now more diverse and distributed than before with the need for burst capacity when the sun shines or the wind blows hard. We understand that new demand from new homes and electric vehicles amongst other things require additional capacity. The world has changed and the grid needs to change with it.

South Norfolk Council recognises the need for increased capacity to the existing electricity transmission networks across the Eastern Region in order to cope with the additional new energy generation from offshore windfarms, nuclear power and interconnection with other countries and particularly the significant amount of energy generation above current capacity connecting into Norwich Main and Necton.

The Council equally appreciates that the Government has set a commitment to reach net zero greenhouse gas emissions by 2050 and an ambition to connect 50 GW of offshore wind by 2030.

Just because we understand the need to change doesn't mean that we should just accept a single choice. Whilst the energy will pass through our territory to other areas, we are impacted by proposals for which we receive little benefit. Attenuating the visual and landscape impact on our district is a material consideration and one that has received inadequate consideration in the development of the proposals.

Overview of the project

The proposals are for a new 400kV electricity overhead transmission line in East Anglia running from Norwich (National Grid's Norwich Main substation) to Tilbury in Essex. They will also need to carry out some work at existing substations along the proposed route and build a

new substation in the Tendring district to connect new offshore wind projects close to the coast.

The reinforcement in South Norfolk will consist of new overhead lines supported by a standard steel lattice pylons of 50metres in height with a distance of 350metres between the pylons. It will start at Norwich Main substation, running to the west of the district, crossing the River Waveney into Suffolk.

The current consultation does not change the proposed project from that previously commented upon, it is essentially the same preferred route corridor, subject to some limited localised refinements. The change following the first non-statutory consultation for South Norfolk:

West of Roydon and immediately south of the A1066, the alignment would diverge from the preferred draft corridor presented in 2022. The alignment will now turn to the east of Wortham Ling – referred to as East of Wortham Ling.

Summary of our Position

Whilst recognising the potential importance of the Norwich to Tilbury (NT) project, in meeting the need to increase capacity to the electricity network, the Council maintains our objection to the proposed project as it stands, as agreed by South Norfolk's Cabinet at its meeting on Monday, 13 June 2022, when we considered the first non-statutory consultation.

As submitted, noting the changes from the 2022 preferred route corridor, the project presented still proposes standard lattice pylons through South Norfolk. It is considered therefore, that the Norwich to Tilbury (NT) would continue to have a significant detrimental impact on the environment of South Norfolk. The Council maintains its stance that we are not satisfied that the project in its present form with its proposed overhead lines and standard lattice pylons is the most appropriate solution to National Grid's need for increased capacity. The imperative of getting electricity to market should not be at the expense of the open landscapes, heritage assets, wildlife sites, economy and wider environmental life of our district.

The concerns the Council has to the project is supported by the Leaders of the Norfolk Councils as set out in their letter dated 17 July 2023, which is attached to this response.

This second non-statutory consultation again does not have any mitigations been enumerated including undergrounding in the most sensitive locations, avoidance of listed buildings, pylon design. Of great concern, which remains, is the realisation that the important Market Town of Diss would be surrounded on three sides by intrusive pylons and pass through the Waveney River Valley.

It is unacceptable that the proposals would 'fence-in' the historic market town of Diss in such an intrusive manner. A consultation that does not flesh-out the detail of the potential pylon designs and the visual appearance in relation to Diss (and indeed other sensitive landscapes) leaves interested parties incapable of assessing the proposals fully and responding accordingly

Furthermore, as the Council has previously raised the timing of the consultation over the summer makes it difficult for our residents, business and Parish Council's to engage and submit formal comments with their views regarding the project, which will have a significant impact upon them. Despite the Council's request to extend the consultation, National Grid have not extended the consultation period.

Whilst the principle of getting electricity to market is accepted absolutely, the case for this proposal has still not been made at all.

Significantly more work alongside associated consultation, and engagement will be required including a comparison of route options and detailed line configuration along the routes and assessments made on a monetary and non-monetary basis will be necessary. Only when this is available, should the project progress to the next step. To this end it is not clear why a completely new route has been chosen over one which more closely aligns to the existing route.

South Norfolk Council stands by to facilitate the proper engagement with all interested parties and is ready to allow both proposers and objectors to make their case in a constructive and respectful manner.

Alternative Solutions

Offshore

The Council still considers that a coordinated, **Offshore approach** should be given further consideration by National Grid and this would be our preferred solution, to minimise onshore infrastructure.

National Grid have stated that:

At this consultation we have published our Strategic Options Backcheck and Review (SOBR), which re-examines the work we undertook in 2022. The SOBR concludes that our work and decisions made in 2022 to discount the offshore option remain valid.

Adding further to support their decision:

We have considered offshore options, including a connection between the existing substation at Norwich and the existing Tilbury substation -approximately 220 km.

This is proven technology but there are particular challenges in this instance:

Capacity of HVDC is one third that of an overhead line.
High-voltage alternating current (HVAC)and High-voltage direct current (HVDC) conversion.
Not without impacts and cost.
Thames estuary

Capital cost would be £895million for current proposal and approx.£4billion for simplest offshore design

As the cost of all connections ultimately goes onto the electricity bills of domestic and business consumers, the UK government, and our regulator Ofgem require us to develop proposals which represent value for money to consumers. An offshore connection would have a third of the capacity of an overhead line – to carry the same amount of power generation, three offshore links would be needed as well associated infrastructure such as converter stations near the existing substations at Norwich Main substation and Tilbury. Offshore connections can be more expensive and our evaluations found that subsea options would not represent the best value or most effective way to deliver the electricity needed.

In view of this, we concluded that the onshore option best meets the obligations set out under our Licence and by Ofgem to be economic and efficient.

The Council has reviewed the Backcheck and Review report and the section dedicated to the offshore option, however, we consider a more detailed assessment should be provided by National Grid, that clearly and plainly sets out for residents and business, to why an offshore option cannot be pursued.

It is noteworthy that the consultation features offshore proposals between Sizewell and Kent so it is unconvincing to simply assert that offshoring as far as Sizewell or Bradwell is impractical. More justification is required.

Put simply, insufficient technical or financial information has been provided to allow interested parties to assess whether the challenges of offshoring could be sufficient to overcome the disbenefits to our District.

Undergrounding – in whole or part

The Council understands that current or emerging planning policy frameworks for electricity does not support full undergrounding, however the new draft policy does support undergrounding in sensitive areas outside nationally designated landscapes. Clearly, notwithstanding the above our preference would be for the route to be full underground.

National Grid have stated:

With regards to undergrounding, we also have to consider the national policy statements. EN-5 is the National Policy Statement (NPS) which covers developing new electricity networks infrastructure and it states that the government expects overhead lines will often be appropriate. The NPS does recognise that there will be cases where this is not so, for example, at particularly sensitive locations, where potential adverse landscape and visual impacts of an overhead line may make it unacceptable in planning terms, taking account of the specific local environment and context. Our proposals for the draft indicative route alignment includes additional areas of undergrounding compared to what we presented in 2022, following consultation feedback, and we welcome suggestions for locations of potential further undergrounding as part of this current consultation. All suggestions received as part of the consultation period will be considered carefully.

The Council has previously suggested undergrounding at the Waveney River Valley, where the route passes from Norfolk to Suffolk, but this has been discounted. We still remain of the view that there is a strong case for undergrounding where the line crosses the Waveney Valley including County Wildlife sites at Roydon Fen and Wortham Ling due to its sensitive landscape and this would be supported by the new draft policy.

The Council also requests that a summary document is produced showing why underground cabling is not possible, giving examples of the cost of underground and overhead for the South Norfolk part of the route for the benefit of our residents and business.

The Council maintains its stance that we are not satisfied that the project in its present form is the most appropriate solution to National Grid's need for increased capacity due to the significant detrimental impact on our open landscapes, heritage assets, wildlife sites, economy and wider environmental life of our district.

In view of the above and still in the absence of a fuller justification regarding why a strategic offshore approach to deliver the network reinforcement objectives of this project are not forthcoming the Council maintains its **objection** to the proposed development at this time.

Main Technical Issues/considerations

Should National Grid sustain its approach, matters would be tested at the Examination via the DCO process. To assist, the Council has set out below some of the matters that the SOS will need to robustly consider.

Given the stage the project is at, the technical information is still limited, the following are the main issues the Council would like to raise and wishes to reserve the right to raise other issues as the project moves forward to the Statutory public consultation. Equally, the below comments should be taken together with the formal comments the Council provided under the first non-statutory consultation.

Impact on Heritage Assets

The Council's Senior Heritage and Design Officer has given further preliminary consideration to the route and potential impacts on Heritage Assets:

The National Grid has produced an EIA technical Note on the approach to the Heritage section and he is in agreement with the methodology outlined for carrying out the heritage assessment to assess impact on heritage assets.

There are some concerns raised by the information supplied with the current public consultation showing the proposed cable route and location of pylons and the likely impact on designated heritage assets, and he therefore has some additional comments to make, however these are made with the understanding that the EIA Heritage Impact Assessment has yet to be produced.

Proximity of pylon tower to Kenningham Hall Farm Grade II listed

https://historicengland.org.uk/listing/the-list/list-entry/1373056?section=official-list-entry

The farm although set back from the road to the north, has approaches to the west and east along Brick Kiln Lane and the farm outbuildings are clearly visible within their rural context when approaching from the east. With the height of the pylon and its close proximity to the Lane, the pylon tower will have a dominating presence and he would suggest should be better positioned away from the road and these views, i.e. further to the south or further north if staying in this location.

Impact of wires and pylons on Flordon Hall – Grade II*

This concern has been previously raised. The hall being grade II* and is therefore of particular importance and more than special importance. There are good views of the hall from Long Lane to the east of the E plan house which faces East, and the pylons and wires will be clearly visible and have an intrusive presence when seen within the backdrop of this setting. This will harm and detract from the preserved historic setting of the hall within open countryside and will likely result in a higher degree of harm.

Proximity of pylon tower and cables to Heywood Manor – Grade II

https://historicengland.org.uk/listing/the-list/list-entry/1049736

This house dates back to C17 and also has a moat so a long established isolated manorial site within open countryside. Although grade II it is historically of quite high significance and the isolated rural setting contributes to that significance. The approach to the house is from the northwest – and includes crossing a bridge over the moat. A pylon and the wires are in close proximity to the listed building and with the height of the pylon it is likely to have quite a

dominating and very visible/detracting impact on the setting of the listed building resulting in a likely higher degree of harm.

The Council wishes to continue to be engaged with National Grid to ensure that an onshore proposal, minimises its impact on our heritage assets, of which South Norfolk has a significant number of and refined routing will be expected.

Impact on Ecology

The Council's Ecologist has commented as follows and are in addition to her previous comments:

The Biodiversity Chapter of the Environmental Impact Assessment (EIA) must be completed in line with industry guidelines and completed by suitably qualified and experienced ecologists.

Ecological Surveys

The application must be supported by **up-to-date** desktop and ecological surveys. Surveys of the route and suitable buffer must be completed by suitably experienced/licensed ecologist in line with best practice guidance. The surveys will be expected to inform the proposed route including any micro siting, and mitigation/compensation and enhancements. A **full UKHab survey** for the project is expected.

Consideration should be given to the location and extent of **INNS** (invasive non-native species) and any required biosecurity measures.

There are concerns about impacts on **badgers** in the Norwich Sub Station area due to cumulative impacts with other developments. Although not undertaken for previous projects

there has been a substantial increase in development in this area. It is requested that **bait marking** studies for badgers are requested to provide a detailed understanding of the potential impacts on badgers and to ensure that mitigation/compensation measures and enhancements are suitable.

Designated Sites

The alignment avoids national and internationally important designated sites although, as previously noted, it will pass close to several statutory and non-statutory designated sites. Indirect impacts, including those to breeding/wintering and migratory birds, will need to be considered, in combination with the existing overhead line. Evidence needs to be provided regarding the Zones of Influence which need to consider the ecology of the receptors.

Impacts during site preparation, construction, and operation should be considered.

Habitats/Irreplaceable habitats

It would be anticipated that micro siting will be required to avoid, for example, irreplaceable habitats areas/features of ecological interest (e.g. veteran/ancient trees). This will need to be informed by detailed UK habitat surveys and arboricultural surveys submitted as part of the examination. The Ancient Woodland Inventory (AWI) is a suitable tool for identifying ancient woodland greater than 2ha. A field survey is required to identify potential ancient woodland less than 2ha that is not recorded on the AWI.

Impacts from the development

Impacts during site preparation, construction, and operation should be considered.

Where associated infrastructure requires security lighting consideration will need to be given to impacts on the nocturnal environment and measures to minimize impacts put in place. These measures should adhere to best practice guidance.

Protected Species Licensing

Letters of No Impediment (LONI) and countersigned Impact Assessment Conservation Payment Certificate (IACPC) and Natural England's red line map will need to be submitted as part of the DCO. Please note that protected species surveys will need to be relevant and recent at the point of full license submission (updated surveys may be required).

Consultations re Pink Footed Geese

We would advise the applicant to engage in early discussions with Natural England with regards to Pink Footed Geese as there are ongoing discussions associated with Hornsea Three, and Sheringham Shoal/Dudgeon Wind Farm Extension Projects. Avian collision risk/electrocutions should be considered. The RSPB should also be consulted. Norfolk

Wildlife Trust, the Royal Society for the Protection of Bird (RSPB) should also be involved in any pre-application discussions.

Biodiversity Net Gain

Biodiversity Net Gain (BNG) ensures development contributes to the recovery of nature. From November 2025 Nationally Significant Infrastructure Projects will be required, under the Environment Act 2022, to deliver BNG (subject to consultation).

Should the Development Consent Order application be submitted prior to November 2025 it is requested that the application utilizes the statutory metric to demonstrate how the proposal will deliver, secure, and manage biodiversity net gains in line with legislative requirements (i.e. at least 10% for at least 30 years). The application will also need to demonstrate how it has avoided, mitigated and compensated for impacts. If irreplaceable habitats are impacted biodiversity net gain cannot be achieved.

Consideration will need to be given to existing/proposed schemes within the Norwich Main substation area to ensure that bigger, better, and more joined up green and blue habitats are created. Where BNG is offset justification should be provided and any offsetting should ideally occur within the Parish and District. Consideration should also be given to the Local Nature Recovery Strategy should this be published in time. South Norfolk Council is also commissioning a Biodiversity Baseline Study which should be considered.

The DCO application should be supported by a Biodiversity Gain Plan, a copy of the statutory metric (Excel) and condition assessment sheets. The BNG shall be informed by a full Habitat Survey undertaken by appropriately qualified and experienced ecologists.

Biodiversity Enhancements: Planning Policy

In addition to habitat creation/enhancement delivered as part of Biodiversity Net Gain, the proposal will also be expected to deliver biodiversity enhancements (such as creation of reptile habitat, hibernacula, and log piles) in line with national and local planning policies (DM 1.4 and 4.4 of the South Norfolk DPD). Enhancement should prioritize protected species and species of principal importance.

Habitat compensation and enhancement should use locally sourced native species. Consideration could also be given to natural regeneration where appropriate e.g. next to deciduous woodland and restoration of ghost pond

Impact on Landscape

The Councils Landscape Architect has commented as follows and should be taken together with the previous comments made:

Further to its previous objection, the Council remains concerned by the potential visual and landscape effects of the proposals. Whilst the proposed pylons' locations are now indicated, we are unable to comment in detail until the full implications of the siting can be understood; this will require availability of information such as a full Landscape and Visual Impact Assessment. Furthermore, the implications of construction-related access, structures and activities, and future maintenance access and operations need to be fully assessed.

The Council is also concerned about potential direct and indirect implications for existing trees and hedgerows. It is to be noted that, whilst trees and woodlands that are subject to protection and restrictions by tree preservation orders, conservation areas, and the Hedgerows Regulations will not be the only ones that are of note and/or worthy of detailed consideration. Full regard must also be given to any consequential management implications (such as operational clearances) for existing habitats – especially trees and woodlands - within the vicinity of the route should it be implemented.

As set out above, the Waveney River Valley which is in landscape terms is an unspoiled tranquil landscape is more sensitive to infrastructure, if an onshore route is demonstrated then this part of the route should be underground.

Environmental protection

The Council's Environmental Management officer has commented as follows:

Contaminated land

The application should be accompanied by a Phase 1 desk study which details all potentially contaminated site which will be impacted by the project. All site which are identified should be investigated with a suitably designed site investigation, including chemical analysis of representative soil and water samples.

The results should be assessed as to their impact on identified vulnerable receptors. If a potential risk is identified, then a detailed quantitative risk assessment should be undertaken to assess the risk to the identified receptors. All assessments should be undertaken in accordance with 'Land Contamination Risk Management'.

Air Quality

An air quality assessment should be undertaken to determine the impact of the development on the ambient air quality. The assessment should include the cumulative impact from all large-scale developments being undertaken in the area where works will be undertaken.

Electromagnetic Frequency Radiation

A detailed assessment on the electromagnetic radiation produced, and its impact on the public, by the proposed project should be undertaken and submitted. This should also include the cumulative impact of the existing cable pylons and the proposed pylons.

Noise, Vibration, Dust and Light

A detailed assessment will be required to be provided which will provide specific details of the works. These are to include but not be limited to:

- Noise
    - Provide detail of the proposed working hours.
    - Identify all potential vulnerable receptors which could be impacted by the proposed works.
    - The types of vehicles, machinery, and operations to be undertaken and their related noise impact.
    - The calculated noise impact which the identified vulnerable receptors would be subjected to.
    - Provide details of specific noise mitigation measures which are required to prevent noise nuisance.
    - Provided details of the adopted complaints process and how it will be implemented.
    - The agreement that any works considered to be required to be undertaken outside of the stated working hours will be agree via a Section 61 agreement.
    - Details of how any emergency works will be undertaken and who will be contacted.
    - The assessment should be undertaken in accordance with BS 5228 Part 1.
    - The compounds should be assessed for their noise impact. Given the length of time which the compounds are potentially in place they should be assessed under BS4142.
    - An additional assessment should be undertaken regarding operational noise generated by any infrastructure which will be constructed as part of the proposal. This should be assessed using BS4142
- Vibration
    - Provide detail of the proposed working hours.
    - Identify all potential vulnerable receptors which could be impacted by the proposed works.
    - The types of vehicles, machinery, and operations to be undertaken and their related vibration impact.
    - The calculated vibration impact which the identified vulnerable receptors would be subjected to.
    - Provide details of specific vibration mitigation measures which are required to prevent noise nuisance.

    - Provided details of the adopted complaints process and how it will be implemented.
    - The agreement that any works considered to be required to be undertaken outside of the stated working hours will be agree via a Section 61 agreement.
    - Details of how any emergency works will be undertaken and who will be contacted.
    - The assessments should include all works including the compounds as well as the locations of the pylons.
    - The assessment should be undertaken in accordance with BS 5228 Part 2.
- Dust
    - A detailed assessment should be undertaken regarding all the works to be undertaken and their potential to produce dust.
    - Provided details of all vulnerable receptors.
    - Provide details of mitigation measures to be enacted to limit the impact on all receptors.
    - The assessment should be undertaken in accordance with the Institute of Air Quality Management Guidance document: Guidance on the assessment of dust from demolition and construction V1.1.
- Light
    - All proposed lighting should be assessed in a report which provides details of all lighting which is proposed to be installed. This is to include the compounds and locations of the pylons and any other locations where lighting is proposed.
    - The report should include details of how the lighting will be installed to minimise light nuisance on identified vulnerable receptors.
    - The report should be undertaken in accordance with the Institute of Lighting Professionals Guidance: The Reduction of Obtrusive Light 01/21.

Economic Development and skills

National Grid are requested to produce a Skills and Employment Strategy to deliver training, skills and employment opportunities to the local economy. It is essential to South Norfolk that the economic benefits are maximised for the communities that are hosting the project which will have a significant impact on their environment.

Economic Impacts – existing businesses

The Council continues to have concerns that the proposal will have a detrimental impact on established businesses in the district.

We previously raised concerns regarding Bressingham Steam Museum and gardens. It is noted that the route has been realigned, to reduce the impact on this business and visitor attraction, The Council expects National Grid to have continued engagement with the Bressingham Steam Museum to resolve any outstanding issues.

The Council has is increasingly becoming concerned at the potential serious implications this proposed development would have on a number of airfields. Directly affected are Tibenham Airfield and Priory Farm, however there could be also implications for other airfields within the locality too.

The proposed pylon route sits to the west of the two airfields Tibenham and Priory Farm and the existing pylons sit to the east, resulting in the airfields being sandwiched between overhead lines and lattice pylons. The addition of the proposed pylons, the Council understands, will effectively prevent aircraft taking off, safely, thereby resulting in those two airfields not being able to function. The loss of these local businesses and facilities is an unacceptable consequence of National Grid's proposals.

Tourism and visitors

South Norfolk with its Market Towns of Diss, Harleston, Loddon and Wymondham; numerous Heritage assets including Saxon and Norman Churches; the Waveney Valley; Boudicca Way; museums; walking and cycling routes for example, provides a rich tourism/visitor offer. National Grid therefore need to fully assess the impacts of the project infrastructure would have the known features, both directly and indirectly.

The Council would wish to reserve its right to comment further once the route becomes clearer at the Statutory consultation stage.

In addition to Tibenham and Priory Farm, there are other airfields at Seething and Old Buckenham for which additional consideration should be given.

Bringing Power into Norfolk

The Council would wish to reiterate that the proposals as set out by National Grid, do not bring any direct or immediate benefit to Norfolk in terms of bringing clean energy to existing, planned development. Norfolk has significant planned housing and employment growth and therefore National Grid should give consideration to how Norfolk could potentially benefit from the project and the offshore windfarms it is hosting.

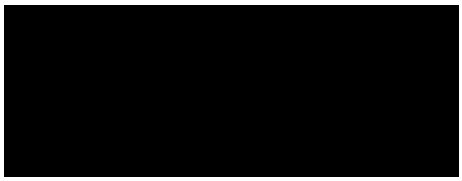
Community Benefits

The Council requests that National Grid commit to providing a Community Benefit Options (mindful of the emerging requirements in the anticipated community benefit guidance subject to recent consultation). The Council is happy to discuss potential coordination with other projects and would wish to seek localised benefits to South Norfolk communities to offset the significant impacts the project will create.

Cancellation of Norfolk Boreas

During the life of this consultation, the very substantial Norfolk Boreas offshore wind farm array promoted by Vattenfall has been shelved. This Council's view is that the hiatus caused by this delay provides an opportunity for National Grid to reflect on the points raised above in a more measured manner, unpressurised by time constraints, and to revisit the proposals with a more open mind as to the various potential options and consult more widely, with sufficient information and at a time of year when it is possible to engage with interested parties more effectively.

Yours sincerely



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26 April 2024

Planning Act 2008: Norwich to Tilbury Project

South Norfolk Council's Response to the Statutory Consultation, under Section 42 of the Planning Act, between 10 April and 26 July 2024 undertaken by National Grid Electricity Transmission (NGET) for the proposed Norwich to Tilbury (NT) Nationally Significant Infrastructure Project (NSIP).

This is the response from South Norfolk Council who maintains its Objection to the proposed project.

Introduction

The Council has previously responded to National Grid on two non-statutory consultations in June 2022 and August 2023, the concerns raised in our previous comments still stand and this response adds to those comments.

South Norfolk Council recognises the need for increased capacity to the existing electricity transmission networks across the Eastern Region in order to cope with the additional new energy generation from offshore windfarms, nuclear power and interconnection with other countries and particularly the significant amount of energy generation above current capacity connecting into Norwich Main and Necton.

The Council equally understands that the project would assist in meeting the UK's energy ambition to achieve net zero carbon emissions by 2050 and the Governments Clean Energy target of 20230.

However, our understanding of the need to change doesn't mean that we should accept the single option presented to us. Whilst the energy will pass through our district to other areas, we are impacted by proposals for which we receive little local benefit. The significant harmful and potentially devastating impact on our district from the proposed project as presented in this Statutory consultation is of substantial concern.

Overview of the project

The proposals are for a new 400kV electricity overhead transmission line in East Anglia running from Norwich (National Grid's Norwich Main substation) to Tilbury in Essex, approximately 184 km in overall length. Comprising of :

- 159 km of new overhead lines supported on 510 steel lattice pylons of 50m in height (some of which are gantries typically 15m in height)
- 25 km of underground cabling located through the Dedham Vale National Landscape
- 6 new Cable Sealing End compounds, each with a permanent access
- New Substation in Tendring
- Substation extension works at the existing Norwich Main, and Bramford substations wand works within the existing Tilbury substation
- Temporary works associate with the construction of the project

Alternative design at the Waveney Valley is also being considered. If this design alteration is taken forward it would result in the installation of approximately 157 km of new 400 kV overhead line.

The reinforcement in South Norfolk will consist of 30 km overhead lines supported by approximately 89 standard steel lattice pylons. It will start at Norwich Main substation, running to the west of the district, crossing the River Waveney into Suffolk.

The key differences for South Norfolk compared to the previous consultation:

- The potential for undergrounding (2km) of part of the route to the west of Diss under the River Waveney with two CSE compounds which will increase the number of CSE compounds from 6 to 8;

A series of alignment changes, such as:

- South of Norwich Main – adjusted the preferred draft alignment to avoid the battery storage facility;
- Between Swainsthorpe and Mulbarton – to avoid Bloy's Grove Solar farm and archaeological site;
- Tacolnestion - minor realignment of overhead line near South Norfolk Model Flying Club;
- Bunwell - Moved pylon RG44 and repositioning RG43 to provide better screening from existing woodland;
- Between Bunwell and Tibenham – moved further east reduce effects on woodland.

Summary of our Position

Whilst recognising the potential importance of the Norwich to Tilbury project, in meeting the need to increase capacity to the electricity network, the Council maintains our objection to the proposed project as it stands, as agreed by South Norfolk Council's Cabinet at its meeting on Monday, 13 June 2022, when we considered the first non-statutory consultation.

As submitted, noting the changes from the 2023 preferred route corridor, the project presented still proposes standard lattice pylons through South Norfolk, with the exception of a possible alternative undergrounding at the Waveney Valley. It is considered therefore, that the Norwich to Tilbury would continue to have a significant detrimental impact on the environment of South Norfolk. The Council maintains its stance that we are not satisfied that the project in its present form, with its proposed overhead lines and standard lattice pylons is the most appropriate solution to National Grid's need for increased capacity.

The Council has concerns that the findings of the recent Study (March 2024) undertaken by the Electricity Systems Operator (ESO) relating to a series of alternative transmission options across East Anglia has not been adequately considered by National Grid. Following the Independent Review commissioned by Norfolk, Suffolk and Essex County Council's which suggested that the delivery is not needed until 2035, we also have concerns regarding the timing of the proposal. In view of the above it is considered that National Grid have not adequately addresses the alternative transmission options set out in the ESO Study nor findings of the Independent Report commissioned by Norfolk County Council together with Suffolk and Essex County Council's.

As the Council has set out in its previous consultation responses, we still consider that a coordinated, **Offshore approach** would be our preferred solution, to minimise onshore infrastructure. If this is proven to be undeliverable then the Council considers that support should be given to the **Undergrounding** the whole route.

The Council considers in view of the above that a **pause** to the scheme is necessary to enable potential alternative options to be fully considered and consulted upon.

Notwithstanding the above South Norfolk Council will continue to engage with National Grid to seek to minimise the impact of the development on its communities and environment in a constructive and respectful manner.

Main Technical Issues/considerations

The Project is classified as 'EIA development' under the Infrastructure Planning (EIA) Regulations 2017. As such National Grid is required to undertake an EIA for the Project, which for an NSIP requires an EIA Scoping Report which defines and agrees the scope of the Environmental Statement with the Planning Inspectorate – the Scoping Opinion was issued in December 2022 by the Planning Inspectorate; and a Preliminary Environmental Information Report (PEIR) prepared to provide preliminary details of the environmental information and preliminary findings of the EIA undertaken.

The PEIR has been published as part of this Statutory consultation for review and comments. Below are the Council's technical comments in respect of the PEIR, which are made on a without prejudice basis to the comments set out above and the Council wishes to reserve the right to make further comments, at the formal submission stage of the Development Consent Order and in its Local Impact Report. Equally, the technical comments should be taken together with the formal comments the Council provided under the first and second non-statutory consultation.

Impact on Landscape, Trees and Hedgerows

The Council's Landscape Architect has commented as follows and this should be taken together with the previous comments made:

I have reviewed the PEIR submission in the context of my remit; the sections/chapters that appear to be most pertinent are:

- Chapter 4: Project Description
- Chapter 5: EIA Approach and method
- Chapter 13: Landscape and Visual
- Appendix 4.1 – Draft Outline Code of Construction Practice (CoCP)
- 13.1.2 of the PEIR (Volume I – main Text) notes that there are relationships between the potential landscape and visual effects and other environmental topics, namely:
    - Chapter 8: Ecology and Biodiversity
    - Chapter 10: Health and Wellbeing
    - Chapter 11: Historic Environment
    - Chapter 15: Socio-economics, Recreation and Tourism
    - Chapter 16: Traffic and Transport

Note that there is no specific chapter on arboricultural matters, but some matters relating to these are included in the Landscape and Visual Chapter.

Chapter 4: Project Description

4.8.18 and 4.8.39 outline the parameters for vegetation and clearance required. As there has yet to be a full tree survey, it would be helpful to be clear as to what is the minimum extent a survey will cover in order to provide data against which the design(s) can be assessed. It is considered essential that the tree and hedgerow survey covers the maximum potential extent of vegetation clearance and management (including the extents of haul roads and LoD (Limits of Deviation) margins.

Whilst vegetation clearance is an explicit operation, vegetation management (as outlined here) is less quantifiable, as the electrical clearances are seemingly not provided. Whilst it is understood that there will be variations along the route (for example, dependent on the distance between pylons and related curvature of the cabling) that prevent an explicit parameter, is there an anticipated generalisation against which the likely impacts can be understood?

4.8.20 proposes: Appendix 4.1: Draft Outline CoCP in Volume III include[s] a commitment that following detailed design and prior to construction all vegetation would be subject to a full tree / vegetation survey and site-specific assessment where vegetation removal may be reduced further than the generalised approach assessed in the PEIR and ES. It is not considered acceptable that the full survey is left to such a late stage. It is expected that the design be informed by the survey and the locations of notable arboricultural constraints, such as veteran trees, are understood.

It is not clear from 4.8.18 either whether existing hedgerows will be able to be retained where they pass under the overhead cabling. It is requested that this be addressed explicitly within the CoCP (and elsewhere as appropriate).

4.8.21 and 4.8.22 - At what point will the crossing protection scaffolding measures be detailed? We can envisage that there could be further vegetation loss as a consequence of these, so would expect this to be addressed by the arboricultural assessment and LVIA.

4.8.48 states*: The haul road would be typically 8 m wide to allow for a two-way running track for construction vehicles. The typical cross section of the haul road would be 21 m wide, to allow for topsoil and subsoil storage, drainage, and demarcation fencing*. The information at 4.8.57, however, does not refer to the 21m typical cross section but does mention the LoD; clarification is sought regarding this.

Why does the width need to be continuous? Could there be passing places instead, especially where there is conflict with existing hedgerows and trees?

4.8.69 states that the temporary haul roads will be retained if the landowner wants them. It is considered that this option has the potential to conflict with landscape reinstatement, especially in areas where there is no ongoing need for vegetation absence for operational reasons. It is considered that the default situation should be that any vegetation removed solely for the provision of a temporary haul road should be reinstated, unless otherwise agreed by the DCO or – subsequently - with the local planning authority.

4.9.4 The current design assumes standard steel lattice pylons which would be approximately 50 m in height (compared to approximately 30 m for the existing 132 kV pylons in the area and would be of a similar size to the existing 275 / 400 kV pylons in the area). Pylon extensions would be required in some locations to allow extra height to clear existing features and maintaining electrical clearance to the ground.

Will it be explicit where these extended pylons are to be? Does extending them enable more existing vegetation to be retained?

Table 4.7 – Decommissioning

In the event of the scheme, either all or in part, is decommissioned, the restrictions to reinstatement/replanting of trees will no longer apply. Could there, therefore, be an obligation to do this unless there are new subsequent constraints – approved development or otherwise – that preclude it. Replacement could be based on tree removal plans consented by the DCO.

Chapter 5: EIA Approach and method

No comments.

Chapter 13: Landscape and Visual

The landscape and visual impact assessment is being produced with reference to industry guidelines and recognised best practice. South Norfolk Council has been involved (as invited to do so) with the process as described within the chapter, in particular discussions about the acceptability of the viewpoints within the district.

It is noted that the chapter is a preliminary assessment of the potential effects of the Project on the Landscape and on Visual amenity. However, what is already clear is that this scheme will have negative implications for both the landscape character and visual amenity for a not inconsiderable swathe of the district.

The preliminary assessment confirms that there will be significant negative landscape effects and significant visual effects. These will be, unsurprisingly, generally linked to proximity of the receptors to the scheme.

13.8.9 notes that there will be significant negative direct and indirect landscape effects due to the proposals at construction stages experienced from all the host landscape character areas (that is, those through which the scheme passes) within a range of approximately 1km. The Waveney Valley Alternative (which would replace a section of overground cabling with an underground section) would also have significant negative landscape effects for its host landscape.

13.8.24 notes that there will be significant negative direct and indirect long-term effects due to the proposals during operation (and maintenance) experienced from all the host landscape character areas within a range of approximately 1km. 13.8.27 notes that the Waveney Valley Alternative (which would replace a section of overground cabling with an underground section) would also result in a significant negative landscape effect for its host landscape in South Norfolk.

13.8.12 notes that there will be significant negative effects on views and visual amenity along the route due to the proposals during the construction. These are likely to be most pertinent in views and experiences closer to the proposed route. 13.8.21 sets out that there will be significant negative effects from the Waveney valley Alternative too and that these are expected to be greater than for the overhead option.

13.8.28 notes that there will be significant effects on views and visual amenity during operation (and maintenance) and these are predicted to be experienced within approximately 1 km to 2 km of the Project. Significant negative effects are likely to be experienced by a range of visual receptors including residents, road users and recreational receptors. The Waveney Valley Alternative (13.8.38) would result there being some reduced visual effects in comparison to the overhead line, however some significant visual effects would prevail.

South Norfolk Council is concerned about the long-term significant landscape and visual effects that would result from this proposal.

Some observations about the Landscape and Visual chapter:

- Welcome the precautionary approach at 13.5.12 in that "*a realistic worst-case scenario is assessed"* and request that this be applied to the assessment of the implications for trees and hedgerows too.
- The information as presented considers only the Key Characteristics of the landscape character areas. It would be useful to have commentary against

the published Sensitivities and Vulnerabilities, Landscape Strategy o and Development Considerations also.

- 13.8.5 Vegetation clearance – this has already been covered in consideration of Chapter 4 (above), however the final study will need to address the landscape effects of the scheme in light of the full survey of the vegetation.
- Where landscape effects are noted to reduce "over time", it would be useful to have more definite information on these; for example, are we talking 15 years?
- It would be useful to have a direct comparison (possibly in table form) of the landscape and visual effects between the Overground and Waveney Valley Alternative Options.
- Visualisations – These are Type 4, but only up to wireframe stage is presented. Full photomontage is expected for the final ES.
- 4.9.6 sets out that the LoDs that are being sought; will the final wireframes and photomontages cover these parameters?

Appendix 4.1 – Draft Outline Code of Construction Practice (CoCP)

Draft CoCP

- Table 4.1 – Surely that, outside of a DCO, hedgerow removals would continue to come under the jurisdiction of the Hedgerows Regulations and administered by LPA.
- B8, GG15, GG16, and GG17 imply that a tree/vegetation survey will be undertaken after detailed design; as set out above, this approach is not acceptable to SNC
- It is suggested that LV06 of the draft CoCP be reworded to require that that all works to all trees should be by suitably qualified and experienced arborists (not just 'high grade' trees) in order to ensure no inadvertent damage and support best practice. Also, it is recommended not to refer to 2012 in BS, as the Standard might be revised (there was a relatively recent consultation on it, I believe).

Mitigation planting

There appear to be no proposals for this yet, but – as experience of other electricity infrastructure schemes has shown – there are potential issues and foreseeable uncertainties with providing for replacement trees as often the suitable locations are outside of the DCO, and the mechanisms for ensuring that the planting is successful are often reliant on landowner co-operation for the long term.

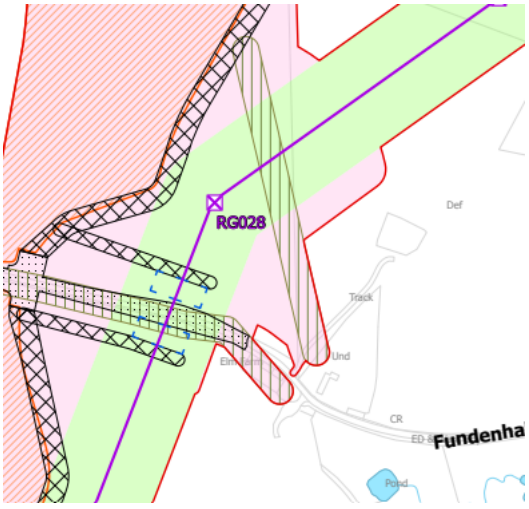
Impact on Heritage Assets and Design Comments

The Council's Senior Heritage and Design Officer has provided the following comments:

Heritage matters are dealt with in Chapter 11 of the PEIR Review. This includes archaeological remains, historic buildings – designated and non-designated. and historic landscapes. Archaeological matters will be commented on by the County Council Historic Environment Services, whereas landscapes will only be commented on if historic parklands are affected which may be designated or undesignated.

The methodology/matrix for the assessment of impact is taken from National Highways guidance which is now the standard approach for infrastructure projects that require an EIA. The PEIR review at this stage does not make the final assessment in terms of level of impact on the assets, but discounts those assets where there is considered to be no impact or negligible level of impact on significance derived from contribution by the setting to the asset and impact from proposals and these have not been taken forward for further assessment. NDHAs have been identified but the report does not yet establish level of impact.

There will be no direct physical impact on any historic buildings or parkland in the Norfolk area, therefore impact is assessed on the setting of heritage assets with advice taken from Historic England advice note 3. It is noted that construction works do in some case seem to involve construction work within curtilage of a listed building, such as Elm Farm.



The methodology is set out in paragraphs 1.5 "Methodology" in the appendix. Heritage value is contained in Table 1 p4 & 5. Buildings have been included within a

zone of theoretical visibility and 250m study area for non-designated heritage asset, and 2km for the draft order limits for designated assets, extending to 3km for the assets with highest significance such as grade I and II* churches. Buildings outside this area have been scoped out.

The assessment also excludes structures that have a restricted setting due to their nature such as mileposts for example and buildings within an urban area. Also, buildings affected by other major infrastructure and any other listed buildings or NDHAs not already scoped out where it is established that their settings do not extend to the area. Given the nature of the proposal I consider that this is acceptable within the South Norfolk area. This will however be subject to review if any other issues come forward. As a safeguard listed buildings within 2-3km that have been scoped out identified as such in appendix 11.1

Where buildings such as historic barns are close to listed buildings, but may not technically be curtilage listed due to separation by a farm track from the farmhouse and its garden (e.g. Kenningham Hall) it is good to see they are included in the setting analysis. These separate farm buildings could be considered separate NDHAs, however in terms of significance it is the grouping of associated buildings with the heritage asset which should be understood as a whole and consequently the impact on these as a group – so that can be further assessed and detailed in the EIA. Similarly, at Flordon Hall which is also likely to be significantly impacted upon the hall and separately listed farm buildings will all be assessed in terms of setting as a group.

The relationship between a farmhouse, farm buildings and surrounding farmed fields can be problematic to assess as setting in itself is not a heritage asset. There is usually a historic relationship between a farmhouse and its surrounding fields – however unless there is a clear visible connection which places experiencing the asset of the farmhouse within the visual and physical context of its fields, this is only minor contribution to the significance of the asset and I agree can be scoped out as a factor as pylons and wires would not have an impact on the historic association between the fields and the farmhouse/farm buildings.

There are potentially certain assets further afield which have a very wide setting, for example country houses with long views through surrounding parklands and beyond that parkland, and if there are any such buildings within the wider area where this is a consideration this will need to be scoped in. However, it is considered that there are none of these types of assets affected in the South Norfolk district. Keswick Hall and associated assets and parkland have been desk based assessed, but due to topology, infrastructure and mature vegetation of the intervening landscape, the

setting is not considered to extend to the draft Order Limits and are scoped out, and similarly Rainthorpe Hall.

Also, the setting of nearby churches which have large and wide setting has been assessed. It is noted that with the Church of St Remigus, which is grade I, the introduction of the powerline would result in a significant effect with no mitigation proposed, whereas the Waveney valley alternative would result in a no significant negative effect. (This also applies to grade II Grove Farmhouse.) The initial view would therefore be to support the alternative proposal as this would significantly lessen heritage impact especially to the highly significant grade I Church of St Remigus.

Potential for impact on the setting of conservation areas is also assessed. With regard to conservation a view out of the Tacolneston conservation area from Hurn Lane would be affected and so identifies view from Hurn Lane so extended to the draft Order Limits. With Winfarthing it is also noted that the setting extends to order limit with views east from the churchyard.

Regarding listed buildings identified in the assessment, it has come to light that Elm Tree Farm (which was identified as NDHA 1313 near to the draft order limit) para 3.2.533 is actually a grade II listed building (Elm Farmhouse on the list description) and was incorrectly positioned on the Historic England listing database map. This has now been corrected. https://historicengland.org.uk/listing/the-list/list-entry/1373558 . This consequently needs to be assessed as a listed building and of higher 'medium' value, and given the proximity of the pylon and mast within the setting should be considered to have a significant affect and level of impact assessed at the next state. This will need to be marked on fig 11.3 page 2 of 25.

In the non-technical summary it states the following are assessed – "archaeological remains – designated and non-designated"; "Historic Buildings – designated and non-designated" and "Historic landscapes non-designated".

I am concerned at the evaluation of non-designated heritage asset in the report and that these appear to be evaluated in terms of archaeological value and stated as having evidential or historic value whereas historic buildings are also likely to have architectural value. The significance for a number of assets includes their architectural and historic significance as buildings and should be assessed in the same manner as a listed building i.e. how setting contributes to that significance.

Such an example is the former Henstead Workhouse and Vale Hospital (1312) which is in very close proximity to the wire and pylons which will have an effect on its setting. Paragraph 3.2.465 states "The former Henstead Union Workhouse and Vale Hospital (1312) is located 240 m west of Swainsthorpe, north of Church Road and partially within the draft Order Limits. Henstead Union Workhouse was built in 1836

to house a maximum of 250 inmates. The building was constructed on a double cruciform and bricks manufactured in the Swainsthorpe brickyard were used. In 1948 it became part of the NHS as Vale Hospital, providing care for the elderly mentally ill. The hospital was closed in 1984 and the buildings converted for residential use. The site has the potential to contain low value archaeological remains of evidential value."

Wire and pylon will be in this view of the former workhouse from Church Road and will have a harmful impact upon its setting as an NDHA.

With regard to the NPS, and the section quoted in para 11.2.2, it states in para 5.9.24 'In considering the impact of a proposed development on any heritage assets, the Secretary of State should consider the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspects of the proposal'. These heritage assets would include upstanding non-designated heritage assets.

Cottage 1307 is on NDHA map/plan but not 1308 or 1309 which are buildings referred to in chapter 11.

Diss Heywood School (1311) 3.2.910 is referred to but no initial evaluation of setting with regard to significance. Having looked at google streetview and map it does not look like the setting will be affected but this could be evaluated as per listed buildings.

Ideally NDHA which are upstanding archaeology/buildings and not underground should be separated to those NDHAs which are being evaluated for their archaeological value – as they are separated in the technical summary.

It would also be useful if an appendix map showed these NDHA which are historic buildings alongside designated heritage assets rather than identifying them together with the archaeological assets as there is a difference in how they will be assessed in terms of impact. It should be much clearer on the plans which assets are being evaluated in terms of visual impact on setting rather than archaeological impact.

Impact on Ecology

The Council's Ecologist has commented as follows and in addition to her previous comments:

These comments relate to land within South Norfolk District (Section A) and potential impacts on terrestrial ecology. I will defer to the experts at the Environment Agency regarding impacts on aquatic ecology associated with rivers and streams, and the RSPB regarding ornithological impacts. I would like to note that South Norfolk District Council are involved with the Biodiversity Net Gain stakeholder Group[1]

Ecological Comments

Statutory designated sites of international importance scoped into the Habitat Regulation Assessment

1. The route has been aligned[2] to avoid direct impacts to the Norfolk Valley Fens Special Area of Conservation (SAC) although there is potential for indirect impacts from construction air pollution, and hydrological changes to Flordon Common Site of Special Scientific Interest (SSS) which is a component site of the Norfolk Valley Fens Special SAC and 0.14 km from draft order limits. These impacts will be considered as part of the Habitat Regulation Assessment (HRA).

Statutory designated sites of national importance to be considered within the Environmental Statement

2. The route has been aligned[3] to avoid direct impacts to nationally important designated sites comprising: Flordon Common Site of Special Scientific Interest (SSSI) (140m from draft DCO boundary) (a component site of the Norfolk Valley Fens SAC), Forncett Meadows SSSI (1010m from draft DCO boundary), Aslacton Parish Land SSSI (1270m from draft DCO boundary, and Shelfanger Meadows SSSI (170 m from draft DCO boundary).

[1] See para 8.2.10 of the PIER
[2] see Volume II Figures 8.1
[3] see Volume II Figures 8.1

3. Indirect impacts to these sites have been identified[4] and will be considered within the Environmental Statement. It is noted that measures required to mitigate/compensate impacts will be put in place and appropriate derogation licensees and/or SSSI assent from Natural England sought as needed[5].
4. Consideration will be given to collision risk from birdlife associated with the national site network sites (SPAs and SPA sites/candidate sites). Breeding and wintering bird surveys are being undertaken to support this assessment.
5. All mitigation/compensation measures should be proven to be effective and while mitigation will be agreed with Natural England[6] avoiding impacts should be the first consideration and the ES should clearly demonstrate how the mitigation hierarchy has been applied and informed by baseline surveys.

Statutory designated sites of local importance: direct impacts to Roydon Fen LNR contrary to EN-1 and GNLP Policy 3

6. The route[7] avoids direct impacts Dunston Common Local Nature Reserve (LNR) although there is potential for indirect impacts from construction pollution (dust)[8]. No indirect impacts are anticipated at Smockmill Common LNR.
7. Roydon Fen LNR[9], which is owed by South Norfolk District Council and managed by Suffolk Wildlife Trust, will be directly impacted by the proposal. The site is also common land. The LNR is within both the draft order limits and the Waveney Valley Alternative (WVA) draft order limits and will be subject to direct habitat loss because of drainage installation (WVA), or to facilitate third party works[10].
8. LNRs from part of the countries Green Infrastructure Network and are important for enhancing and conserving nature and ecosystem services[11]. It is not clear why direct impacts from the drainage have not been designed out and the extent of the third-party works has not been defined. Although this area has been identified for further ecological surveys it is of ecological importance and the proposal has not complied with the mitigation hierarchy and avoided impacts in the first instance. Further details are provided below (see Roydon Fen CWS).

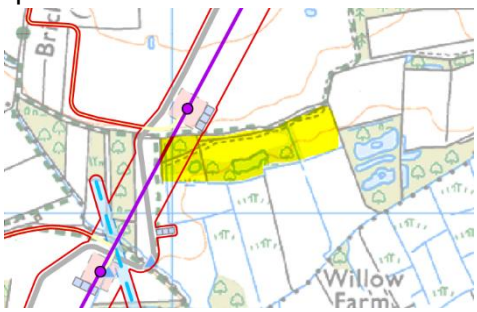
[4] See Table 8.7 of the PIER.
[5] See para 8.2.11 of the PIER
[6] See para 8.2.28 of the PIER
[7] see Volume II Figures 8.1
[8] See Table 8.7 of the PIER
[9] Local Nature Reserves are designated under Section 21 of the National Parks and Access to the Countryside Act 1949
[10] See Table 8.7 of the PIER
[11] https://www.wolverhampton.gov.uk/sites/default/files/pdf/LNRs_in_England_A_guide_to_their_selection_and_declaration_2010.pdf

9. Under normal planning situations such impacts would not be permitted. Policy 3 of the Greater Norwich Local Plan states that proposals should avoid harm to designated and non-designated assets of the natural environment, following the hierarchy of seeking firstly to avoid impacts, mitigate for impact…or as a last resort compensate for losses. The Environmental Statement would be expected to demonstrate how the proposal complies with the mitigation hierarchy, having been informed by the baseline ecological surveys.
10. This is contrary to EN-1 which states in paragraph 4.6.1 that projects should follow the mitigation hierarchy.

Non-statutory designated Sites: direct impacts to County Wildlife Sites contrary to EN-1 and GNLP Policy 3

11. There are 44 County Wildlife Sites (CWS) within a 2km radius of the draft order limits, and the scheme will directly impact three CWS[12] in South Norfolk:
    - Norton Wood CWS (next to)
    - Brick Kiln Lane, Bunwell Hill (over)
    - Roydon Fen CWS (included within the red line)
12. It is requested that copies of the CWS citations provided as part of the examination (*see* Appendix 1*)*.
13. Norton Wood CWS 61, adjacent to the draft DCO boundary (see right). In normal planning situations we would request that a suitable buffer[13] is provided between the temporary access track and the CWS to prevent damage to the CWS and any ancient/veteran trees present (*there is an ancient oak pollard along the southern boundary*). Recent experience with other cable routes has shown that this is necessary to avoid impacts during detailed design i.e. once vehicle tracking paths have been detailed or additional works considered. In the absence of a suitable buffer there is concern that Norton Wood will be indirectly impacted.

14. The overhead lines pass over Brick Kiln Lane, Bunwell Hill CWS 2072 (see right) which is comprised of a mosaic of grasslands (mainly unimproved marshy grassland), tall-herb fen, and ponds. It is also not clear why, in line with the mitigation hierarchy and the requirements of EN-1, the power lines/pylons have not been sited to avoid impacts. There is potential for direct loss of vegetation to ensure a minimum clearance (meters) between vegetation and the power



[12] The location of the CWS in relation to the draft DCO order limits is shown in Volume II Figure 8.2).
[13] See here https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions for buffers for ancient woodland and ancient/veteran trees.

lines, but the extent of loss is not clear. Targeted NVC surveys within the draft order limits at Brick Kiln Plantation (and the wider area to include the woodland to the west), will need to be undertaken at this site and the potential impacts clearly identified as part of the ES[14]. In normal planning situations this would not be acceptable as it is contrary to the NPPF and Policy 3 of the GNLP. As noted above all CWS should be excluded from the red line and appropriately buffered.

15. **Royden Fen CWS** has been incorrectly identified as being located within Suffolk and its designation has also been missed out from several sections including Annex B and Figure 8 of the reptile report.
16. **Roydon Fen CWS (**and LNR) is located within the red line boundary for both the overhead power line and Waveney Valley Alternative options (see below). The former with regards to overhead line mitigation work area (wood pile lines) (see Figure 1) and the latter with regards to temporary attenuation drainage existing into the ditch which forms the boundary of the CWS (see Figure 2). An NVC survey (survey site 12) is planned in 2024 for the parts of the CWS impacted (see Figure A.8.1.3).
17. It is not clear what the overhead line mitigation works involve and it is requested that the temporary attenuation drainage is re-designed to avoid the CWS, and a suitable buffer (works exclusion zone) provided around the CWS. The extent of hydrological impacts on the ecological interest of the CWS is of serious concern and must be clearly considered, for each CWS, within the ES.
18. The inclusion of the CWS within the red line is contrary to EN-1 Overarching National Policy Statement for Energy which states that projects should follow the mitigation hierarchy and avoid harm. The CWS should be avoided in its entirety and a suitable buffer provided between the works area and CWS boundary.

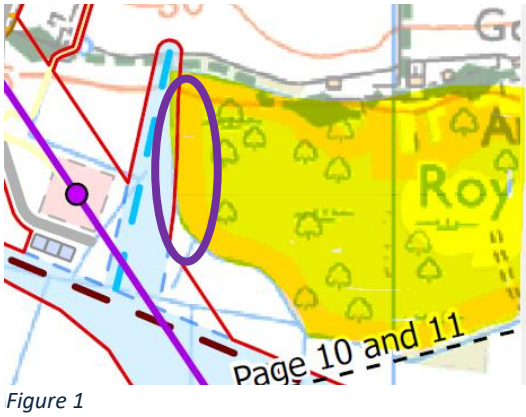


Figure 1

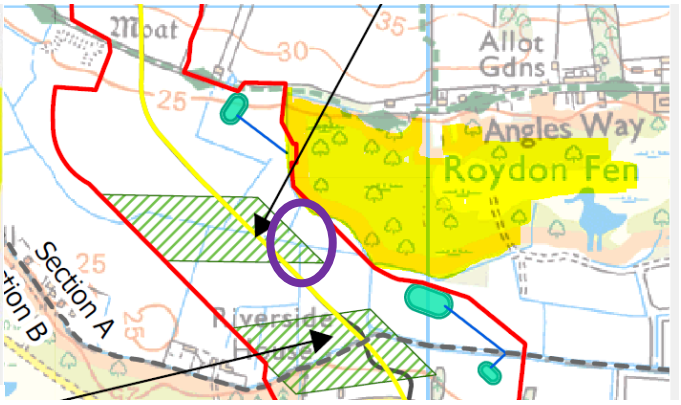


Figure 2

19. Three Roadside Nature Reserves are located within a 250m buffer, but no direct impacts are anticipated at this point.

[14] the location of planned NVC surveys is show in Figure A.8.1.3.

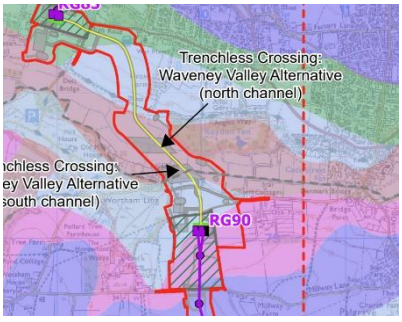
Norwich Main Substation: Concern regarding consented and future permissions impact on achieving BNG

20. Land around the Norwich Main Substation has been identified as an Environmental Area where compensation would be provided for habitat loss, and biodiversity enhancement as part of the BNG commitment. Due to its proximity to the Norwich Main Substation this area has been, and will continue to be, subject to disturbance from schemes currently consented e.g. cable routes for wind farms, the substation extension (2024/1336), solar farms and battery storage (2023/1095) connection applications, and planned in the future. The creation and restoration of habitats in this area would likely be subject to constant applications to amend schemes and it is questionable whether delivery of compensation, and BNG would realistically be achievable in this area.

Waveney Valley: Concern regarding impacts on potentially irreplaceable habitats

21. Two options are presented within the Waveney Valley, between Roydon Fen CWS and Wortham Ling. The first option - the 'Waveney Valley Overhead Lines' comprise overhead lines any pylons numbered RG084 to RG091. Third party utilities diversions and / or modifications would also be required to facilitate the construction of the Project.

22. The second option - the 'Waveney Valley Alternative' has a larger footprint[15]. The WVA comprises circa 150m of trenchless underground cabling and circa 1850 m of open cut crossing from RG85 – RG90 with two CSE compounds (with permanent access) in the location of pylon RG084[16].



23. The preliminary information identifies this as an area of fen peat soils however further ground investigations including a peat survey to establish the extent of the soil[17] are proposed in 2024. The drone-based Phase 1 habitat survey identified this as area agricultural but detailed botanical, invertebrate, reptile surveys, breeding bird surveys will be undertaken during 2024. The area – River Waveney – Little Ouse Corridor has already been identified for its wintering bird interest[18].

24. Based on the available information there is already reason to be very concerned about the ecological impacts of both the proposed overhead cable

[15] See Table 4.3 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download
[16] *details are provided on page 76 of the PIER Volume 1 Main Text[16] and Figure 4.1 see* nationalgrid.com/electricity-transmission/document/154736/download
[17] See Para 6.5.4 of the PIER Volume 1 – Main Report
[18] See Table A8.5.3

and Waveney Valley Alternative. Given presence of peat soils[19], there is **potential for irreplaceable habitats to be present.** National Grid acknowledge this within the PIER[20] and propose to compensate for any losses of irreplaceable habitat. Irreplaceable habitats cannot be compensated for because by their nature they are habitats which are very difficult - or take a very significant time- to restore, recreate or replace once destroyed, due to their: age, uniqueness, species diversity, and/or rarity[21] and under normal circumstance planning permission resulting in the loss of such habitats would be refused. While EN-1 makes provision for such loss no details as to what the bespoke compensation package looks like (no guidance is available) has been submitted as part of the PIER and will need to be set out in the ES. Any compensation needs to be provided as close to the impact as possible to minimise impacts on habitat connectivity.

25. Overall the PIER downplays the significance of the loss of irreplaceable habitats by only including irreplaceable habitats revealed by the desk top study and suggesting that mitigation (for the loss of ancient woodland) would result in a neutral- likely not significant effect[22]. The extent of irreplaceable habitat will not be known until baseline surveys have been completed and the detailed design worked up. The loss of irreplaceable habitat is a significant loss irrespective of the adequacy of any compensation provided.
26. At the present time there is insufficient information to assess potential impacts of the overhead line or undergrounding or identify whether they can be adequately mitigated or, as a last resort, compensated. Let alone achieve a biodiversity net gain. What is known is that the undergrounding scheme would have a larger footprint that that of the overhead line proposal- if irreplaceable habitats are present undergrounding would likely have a greater impact on terrestrial ecology.
27. National Grid accept that the WVA, which has a greater ecological footprint than the overhead option, would be ecologically more complex to mitigate[23]. If the WVA is taken forward National Grid will prepare a bespoke mitigation package with Natural England[24] which may include off-site compensation[25]. In line with EN1 however if irreplaceable habitats are present, it would be impossible too adequately mitigate impacts.

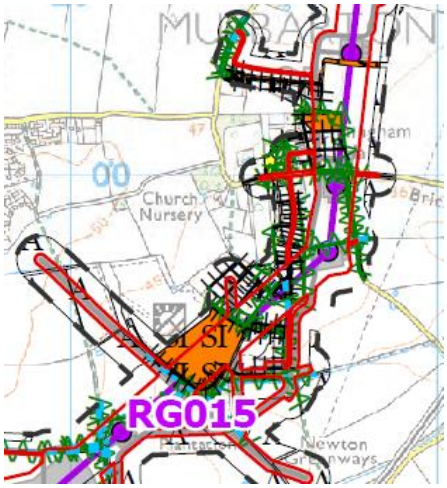
[19] Figure 6.6 - Agriculture and Soils Soilscapes Mapping Page 5 of 25 10059280-ARC-ELS-ZZ-DR-ZZ-00087 Revision A download (nationalgrid.com)
[20] see 8.7.8 of the PIER
[21] https://www.gov.uk/guidance/irreplaceable-habitats#:~:text=Irreplaceable%20habitats%20are%20habitats%20which,rarity
[22] See Table 8.11 of the PIER
[23] See 8.2.24 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download
[24] See para 6.7.9 of the PIER Volume 1 – Main Report
[25] See para 8.2.21 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download

Habitats

28. Habitats were digitally mapped between April and May 2022 and the results used to create a Phase 1 map (see Figure 8.1.1: Phase 1 habitat map, in Annex A). Ground truthing surveys have been undertaken in 2023 and will be undertaken in 2024. Habitats were also mapped using the UK Habitat Classification to facilitate BNG. National Vegetation Surveys will commence in April 2024 in 44 locations including between Roydon Fen CWS and Wortham Common SSSI (NVC survey points 12), near Snow Street (NVC 11). See Figure 8.1.3: NVC survey locations and Hedgerow Assessment locations, in Annex A)

29. The desk-based study indicates that the draft Order limits within South Norfolk does not contain any ancient woodland however not all ancient woodlands appear on Natural England's ancient woodland inventory (i.e. anything under 2 ha is unlikely to appear). Similarly, not all ancient and veteran trees are covered by Tree Preservation Orders. There is potential for both ancient woodland and ancient and/or veteran trees within the draft order limits which has not yet been identified. Any losses must be avoided.

30. Further surveys will determine whether Habitats of Principal Importance, as listed under section 41 of the Natural Environment and Rural Communities (NERC) Act (HMSO, 2006) are present within the draft Order Limits. The results of these surveys need to be presented on maps of a suitable scale i.e. the Phase 1 habitat map provided in Figure A8.1.1. (see right) is illegible, and identify impacts by district (if not parish) rather than by habitat type – compensation for losses should be provided in line with the biodiversity gain hierarchy[26] – onsite, or as close to the impact as possible. Compensation for losses at, for example, Dunston, should not be made in Diss, nor losses from South Norfolk compensated for out of district.



31. With regards to assisting with understanding - an illustration showing expected vegetation clearance requirements of the WVA should be included for clarity within the ES to supplement those provided for overhead[27] and haul road[28] vegetation clearance. The extent of vegetation loss needs to be clearly identified.

[26] See https://www.gov.uk/guidance/biodiversity-net-gain
[27] See 4.8.18 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download
[28] See 4.8.57 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download

Image 4.2 – Expected Overhead Line vegetation clearance requirements

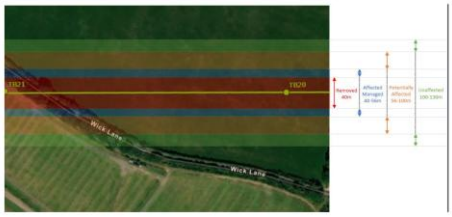
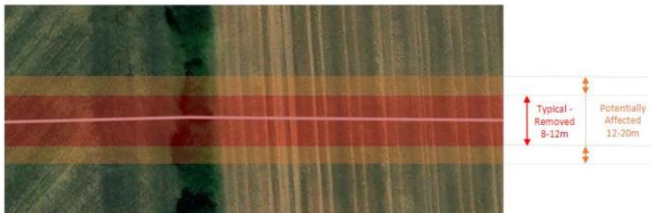


Image 4.4 - Expected haul road vegetation clearance requirements



Hedgerow Regulation Surveys

32. Surveys planned in 2024[29] include hedgerow regulations surveys but these will not cover all hedges within the draft order limit. Please can we seek clarification that all hedged directly impacted (lost) would be surveyed.

General comments on protected species potentially affected by this proposal

33. National Grid have previously consulted with Natural England on the scope of ecological surveys for wintering and breeding birds, bats, great crested newts, and the HRA[30], and study area[31]. However ecological surveys will also be required outside of the draft DCO boundary where highway works are required[32]. These should also be informed by the mitigation hierarchy and deliver biodiversity net gains.
34. Ecological surveys used to inform the PIER were undertaken between September 2022 and September 2023 during which time approximately 44% of land within the draft Order Limits has been surveyed. It is not clear what proportion of South Norfolk was surveyed.
35. The ecological section of the PIER has therefore predominantly been informed by the results of desk top studies and aerial Phase 1 habitat surveys[33]. As such the surveys of protected species and species of principal importance are incomplete. While pre-construction surveys are proposed as part of the CEMP to ensure that up to date information is available at the commencement of construction, surveys should be completed for land within the entirety of the red line and appropriate buffer, prior to the start of the detailed design.

[29] See Table 8.3 of the PIER
[30] See Table 8.1 Stakeholder Engagement of the PIER
[31] See Table 8.2 Study Area for Biodiversity receptors
[32] See 8.5.35 – 8.3.36 of the PIER
[33] See Volume III – Technical Appendices – 1 of 4

Bats

36. Most of the route has not been subject to ground level tree assessment surveys as these have only taken place, where access allows, within the permanent works and undergrounding locations. National Grid proposes to complete the bat roost surveys of trees pre-construction (post DCO consent) once the extent of tree removal is known[34]. While radio tracking surveys are proposed the trigger for such surveys is not clear, but it is understood that none are planned for South Norfolk. Appropriate licences will be obtained if roosts are lost but please can we clarify if bat boxes will also be provided for all potential roost features lost (on a 1:1 basis) and provided within the red line or as close to the impact as possible.

Badgers

37. Specific surveys for badgers have not been undertaken. The PIER has been informed by the results of the desk top study and setts recorded anecdotal during the habitat surveys undertaken between April 2023 and September 2024. In South Norfolk two setts were recorded during the habitat surveys (1 main (see right) and 1 unknown).

38. The area around, and to the south of, Norwich Main is heavily utilised by badgers. To date no bait marking surveys have been undertaken but it is requested that this are undertaken in support of the ES to better understand the impacts of this scheme on badgers in this area, which will be subject to additional impacts (on top of existing impacts of developments in this area) by the proposed scheme. The applicant is encouraged to liaise with Orstead and Vattenfall, and other applicants in this area to enable impacts, and sett closures, to be avoided using appropriate buffers and minimised.

Great Crested Newts – Uncertainty regarding whether NE will grant a licence

39. The proposed scheme will be entered into the District Level Licence (DLL) scheme and a letter of comfort was received from Natural England's DLL team.[35] Please note that the scheme is not currently accepting new applications due a lack of compensation pond availability although Natural England expect the DLL scheme to be back on track by the end of this financial year. Standing advice provides for such and is of material consideration.

[34] See para 3.3.2 of Volume III – Technical Appendices – 2 of 4
[35] See Table 8.1 Stakeholder Engagement of the Preliminary Environmental Information Report Volume I.

Species of Principal Importance[36]

40. Slow worms and common frogs should be included within the list of Species of Principal Importance (see Table 8.1) of Volume I, and their presence should be assumed where suitable habitat is present. Freshwater aquatic species of principal importance will be covered in an aquatic ecology report.

Otter and Water Vole

41. Results to date have confirmed the presence of otter on the River Tas and River Waveney – and on watercourses within the draft Order Limits in South Norfolk. Specific surveys are planned for 2024[37]

42. Water voles are present on the River Waveney with surveys are planned for 2024.
43. As noted previously the proposal needs to adhere with the mitigation hierarchy. Licences would be obtained where required and it is requested the mitigation/ compensation is proposed as close to the impacts as possible.

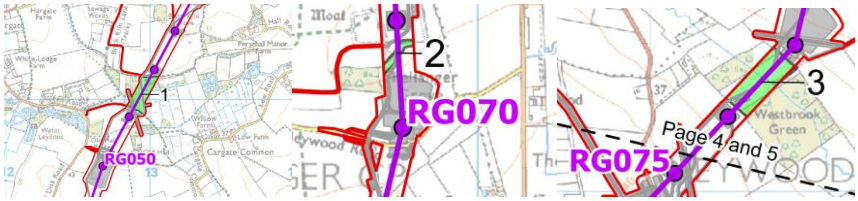
Reptiles

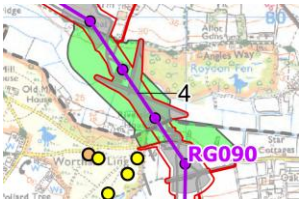
44. Potential impacts on reptiles are not known and surveys are proposed for both receptors in 2024 in the area between Roydon Fen CWS (Section A) and Wortham Ling SSSI (Section B) only. The mitigation hierarchy should be adhered to.

Terrestrial Invertebrate Report

45. The desk study revealed 39 locations that are directly affected by the draft Order Limits that may be of value to invertebrates, as illustrated on Figure A8.2.1: Terrestrial Invertebrate Survey Sites and Desk Study Records. Four Invertebrate Surveys Locations in South Norfolk (see figures below) will be surveyed in 2024

[36] Appendix 8.10: Species of Principal Importance Report
[37] Appendix 8.9: Otter and Water Vole Report





Biodiversity Net Gain

46. EN-1 states that Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.
47. In line with EN-1 National Grid are committed to delivering a minimum of 10% Biodiversity Net Gain as part of a strategic habitat enhancement and creation plan [38] although at the present time the project has identified a -6% net biodiversity loss for area habitats[39] across the whole scheme.
48. The BNG assessment is partly based on aerial surveys and is likely to change once UK Habs. surveys (for the entirety of land within the red line), and arboricultural surveys have been completed and the extent of tree loss identified. Where irreplaceable habitat is impacted biodiversity net gain cannot be achieved. It is therefore essential that all botanical and arboricultural surveys are completed as soon as possible and are used to inform the detailed design and DCO order limits to ensure that impacts to irreplaceable habitats such as veteran/ancient trees, ancient woodland are avoided.
49. The red line incorporates several water courses so consideration will also need to be given to delivering a minimum of 10% BNG for watercourse habitats.
50. The ES should be supported by a biodiversity gain statement, statutory metric and condition assessments. The Biodiversity Gain Hierarchy should be considered as part of the Environmental Statement i.e. avoidance of adverse effects on habitats of medium, high and very high distinctiveness (with mitigation provided if they cannot be avoided), the provision of compensation through: the enhancement of existing onsite habitats, creation of new onsite habitats. Offsite credits should be purchased as a last resort. The BNG hierarchy is distinct from the mitigation hierarchy, which should also be

[38] See para 8.7.25 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download
[39] See para 8.5.29 of the PIER https://www.nationalgrid.com/electricity-transmission/document/154446/download

adhered to[40]. BNG is in addition to any measures to mitigate or compensate for habitat loss and should not be considered as part of the embedded mitigation measures[41].

51. National Grid proposes to deliver BNG within in 'Environmental Areas' around the main substations (within the red line) but are currently showing a net loss of-6%. It is expect that all losses within the district to be compensated for in line with the biodiversity gain hierarchy and are wary of the plan to provide strategic compensation/enhancement if this would result in a net loss of biodiversity within the district.
52. If BNG is to be delivered offsite, the ES should demonstrate how it has considered the biodiversity gain hierarchy - with compensatory measures provided within the district in the first instance. We would encourage consideration of the Waveney Valley and the Waveney and Little Ouse Recovery Project as this would benefit the wider environment in line with EN-1[42]. Also, in line with EN-1, the application should include a statement demonstrating[43] how opportunities for delivering wider environmental net gains have been considered, and where appropriate incorporated into the proposal as part of good design.
53. In line with EN-1 it is noted that the local Nature Recovery Strategy will be considered if it is available but in the interim period the LPA has published its own guide which is currently being updated to reflect the adoption of the Greater Norwich Local Plan.
54. The Norwich main substation extension and Environmental Area proposed around Norwich Main Substation[44], [45] also forms part of a current planning application lodged with South Norfolk District Council - application reference 2024/1336 [46] (validated 01/05/2024). If the planning application is granted it will affect the provision of BNG for the DCO [47].
55. BNG should be secured as part of the Development Consent Order and maintained for at least 30 years (if not the lifetime of the project).

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[40] The Biodiversity Gain Hierarchy is distinct from the mitigation hierarchy set out in paragraph 186(a) of the National Planning Policy Framework which states that a planning application should be refused if significant harm to biodiversity resulting from the development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort,- whilst biodiversity net gain relates only to habitats, the mitigation hierarchy is applied to all aspects of ecology and potential for avoidance, minimisation, mitigation and offsetting impacts on species will also need to be considered outside of a BNG approach.

[41] See Table 4.2 of Chapter 4

[42] See 4.6.12 of https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf

[43] Using appropriate tools for measuring natural capital assets and ecosystem services

[44] see Figure 4.1: Proposed Project Design – Page 1 of 60 in Volume II

[45] This area is approximately 28.6 ha (measured using MAGIC)

[46] Available via https://info.southnorfolkandbroadland.gov.uk/online-applications/

[47] See page 14 of the 'Project Background Document' https://www.nationalgrid.com/electricity-transmission/document/154586/download

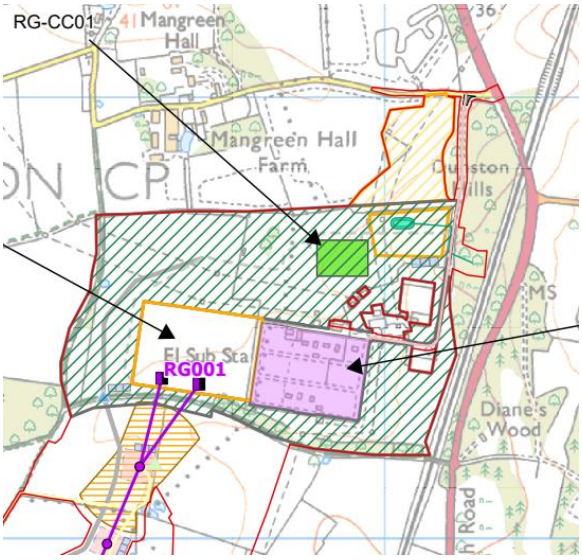

Figure 3 2024/1336 BNG proposal for the extension

Figure 4 Environmental Area around Norwich Sub Station

Draft Code of Construction Practice[48]

56. It is requested that the draft Outline Code of Construction Practice include a sensitive lighting to ensure that ecological receptors are protected at night as well as during the day. The lighting strategy should comply with the ILP and BCT's guidance note 8 Bats and Artificial Lighting.

57. In line with best practice the Ecological Clerk of Works (EcOW) should be accredited by CIEEM.
58. It is requested that a non-native species protocol and Biosecurity protocol (complaint with BS42020:2013) are included within the Code of Construction Practice.

[48] See Appendix 4.1 Draft Outline Code of Construction Practice https://www.nationalgrid.com/electricity-transmission/document/154751/download

59. Construction Exclusion Zones are welcomed but they will need to be justified, and clearly identified within the LEMP (within the CEMP) and relevant plans submitted in support of the DCO[49]. This should also include CEZ around Roydon Fen CWS, and other County Wildlife Sites and sensitive habitats.
60. The final check for nesting birds should be no more than 24 hrs in advance of works (rather than 48 hrs). CEZ for nesting birds should be detailed in the CEMP[50]. The BTO have also recently provided guidance on the bird nesting period which should inform the Environmental Statement. Harm can still occur to young birds who have left the nest but are still dependant on its parents.
61. Construction Exclusion Zones need to be clearly identified - 'a minimum buffer 'where practical' does not provide sufficient comfort as to what will be provided and where. CEZ buffer distances need to be clearly identified and mapped and used to inform the detailed design.[51]

Environmental Protection

The Council's Environmental Management Officer has commented as follows:

Working Hours (Paragraph 4.7.2**)**

Working hours will be restricted to
07:00 – 19:00 Monday to Friday (Noisy works restricted to 08:00 – 18:00)
07:00 – 13:00 Saturday (Noisy works restricted to 08:00 – 13:00)
No works on Sunday or Public/Bank Holidays. 24hr working is not acceptable as standard.
Any works proposed outside of these hours will require a Section 61 agreement.

Compounds (Paragraph 4.8.3 – 4.8.7)

A noise impact assessment (NIA) and a vibration impact assessment (VIA) will be required. Given the length of time that the compounds will be in place and be used the NIA should be undertaken in accordance with B4142. This should include an assessment of noise and vibrations relating to the construction of compound.
A lighting assessment will be required, which should be undertaken in accordance with the Institute of Lighting Professionals Guidance Note 1 on Obtrusive Light and Bats and Artificial Light.
A dust management plan should be provided.

[49] Table 5.1 'B06' https://www.nationalgrid.com/electricity-transmission/document/154751/download
[50] Table 5.1 'B08' https://www.nationalgrid.com/electricity-transmission/document/154751/download
[51] Table 5.1 'B07' https://www.nationalgrid.com/electricity-transmission/document/154751/download

Foundations (Paragraph 4.8.11 – 4.8.14)

If pilling is required, then percussive pilling is not considered to be acceptable, and other pilling types should be selected and a specific noise and vibration assessment should be undertaken in accordance with BS5228.
A dust management plan should be provided.

Pylon Assembly and Erection (Paragraph 4.8.15 – 4.8.17)

A NIA and VIA in accordance with BS5228 should be produced for each pylon location. This should include details of any proposed mitigation.

Substations (Paragraph 4.8.23)

A NIA and VIA in accordance with BS5228 should be produced for each substation location. This should include details of any proposed mitigation.
A dust management plan should be provided.

CSE Compounds (Paragraph 4.8.24 – 4.8.27)

A NIA and VIA in accordance with BS5228 should be produced for each CSE location. This should include details of any proposed mitigation.
The use of percussive piling methods is unacceptable at all times due to the potential impact on amenity of the nearby vulnerable receptors. If pilling is required then different pile types should be utilised and a specific noise and vibration assessment should be undertaken in accordance with BS5228.
A dust management plan should be provided.

Underground Cables (Paragraph 4.8.28 – 4.8.33)

A NIA and VIA in accordance with BS5228 should be produced for each underground cable location. This should include details of any proposed mitigation.
A soil management plan should be provided which details how soil will be managed during the construction.
A dust management plan should be provided.

Trenchless Installation (Paragraph 4.8.28 – 4.8.33)

A NIA and VIA in accordance with BS5228 should be produced for each trenchless installation location. This should include details of any proposed mitigation.

Haul Roads (Paragraph 4.8.46 – 4.8.50)

No information has been provided as to the noise impact of the construction of the haul road and whether the road will be compacted with vibro-rollers and what the impact of the vibrations will be ion the noise and vibration sensitive receptors. Dust

impacts should be assessed for both during construction of the haul road and during its use.

Third Party (Statutory Undertakers) Works (Paragraph 4.8.46 – 4.8.50)

A NIA and VIA in accordance with BS5228 should be produced for each Norwich Main Substation location. This should include details of any proposed mitigation.
A dust management plan should be provided.

Norwich Main Substation (Paragraph 4.9.22)

A NIA and VIA in accordance with BS5228 should be produced for each Third Party (Statutory Undertakers) Works location. This should include details of any proposed mitigation.
A lighting assessment will be required, which should be undertaken in accordance with the Institute of Lighting Professionals Guidance Note 1 on the Reduction of Obtrusive Light.
A dust management plan should be provided.

Decommissioning (Paragraph 4.8.46 – 4.8.50)

It is understood that there are currently no plans to decommission the pylons however, consideration should be given to noise, light, dust, air and light pollution as well as how the infrastructure will be recycled.

Appendix 4.1 Code of Construction Practice

4. Consents and Permissions
This should include Section 61 agreements which have to be applied to the Local Authority for.
Table 5.1
GG10. The Dust management plan will be undertaken in accordance with guidance produced by the Institute of Air Quality Management. Noise and Vibration mitigation measures should be design using BS4142 and BS5228 for compounds and general works area respectively.
GG22. The layout of each compound needs to be agreed with the LA.
GG31. All lighting will have to be designed in accordance with the Institute of Lightings Guidance Note 1 on Obtrusive light and Note 8 Bats and Artificial Light.
GG36. A copy of the contact details for the project shall be provided to the LA to be displayed on the councils website.
AQ1. Real time monitoring is the preferred monitoring system and should include PM2.5 as well as PM10 and should be cloud based with limit values and alarms set up. The cloud-based system should be made available to the LA and the local public.
NV01. All compounds must be assessed using BS 4142 not BS5228 due to the length of time which the compounds will be present.

NV02. The mitigation measures for noise and vibration should be designed on a case-by-case basis assessing and identifying each noise and vibration sensitive receptor (NVSR) and the required mitigation measures required.
NV03. Section 61 applications will only be agreed where there is a clear and necessary requirement for the works and not as a route to circumvent the required protection of the NVSR.
NV04. Vibration levels above 1mm/s are not acceptable. The project should be designed that no vibrations will be felt which will exceed this.
NV05. This would have to be placed as a prior to commencement requirement of the DCO.
NV23. Percussive pilling methods are not acceptable under any circumstances.

Appendix 7. Air Quality

No significant comments relating to the methodology or the outcomes which they have drawn. However, we do have the following comments:
7.1.2 The assessment of particulate matter should include PM2.5 as well as PM10.
7.1.4. As above.
7.1.6. As above.
7.1.11. As above.
7.2.2. Any monitoring which is undertaken shall be agreed with the local authority and shall be undertaken by MCerts automatic monitors with a cloud-based system with agreed alert levels and automatic notification of breach the set limits. The cloud-based system must be made available to the general public as well as to the developer and LA.
Additionally, a final AQ report will have to be undertaken when the course of the route has been finalised.
7.3.23. It is understood that geological receptors should be removed from the assessment, but these should be listed along with all the ecological receptors. It would be expected that if the critical load is not available then a worst case estimate should be used and the ecological receptors assessed accordingly. The appropriate critical load estimates should be discussed and agreed with Natural England.

Appendix 9. Contaminated Land

No significant comments regarding the methodology or the outcomes which they have drawn. However, further information will be required when the course of the route has been finalised.
This should include the location of the works to be undertaken details of the proposed works and the proposed chemical analysis. The location of the works and the analysis to be undertaken should be agreed with the LA before it is undertaken.

14. Noise and Vibration.

Noise

The general assessment is acceptable but is considered to be basic and further assessment is considered to be necessary. The report calculates the potential noise impact from each activity but does not assess these results against the location of the noise sensitive receptors. Specifically, the report should define the specific noise that will be generated by the designated equipment, its potential impact on the vulnerable receptors and the mitigation measures required to be installed.

The noise assessments for the compounds should be undertaken against BS4142 given the length of time that the compounds will be in place.

The figures provided need to show the LOAEL levels as well as the SOAEL levels for noise. This should be accompanied by a list of all noise sensitive receptors and the predicted noise impact and the specific noise mitigation measures which are proposed.

Vibration

The figures provided need to show the LOAEL levels as well as the SOAEL levels for vibration. This should be accompanied by a list of all vibration sensitive receptors and the predicted vibration impact and the specific vibration mitigation measures which are proposed.

The report also uses the levels 12.5 mm/s which is the limit for structural damage. As this significantly exceeds the 1mm/s SOAEL for human health this level is not considered to be acceptable. All subsequent vibration assessment should use 1mm/s as the maximum permissible level.

The report also assesses the impact from percussive pilling. Percussive piling is not considered to be acceptable in this situation and alternate piling methods should be used.

14.2 Construction Traffic Noise Assessment

As well as noise impact we would expect that the assessment for construction traffic would also include an assessment of the vibrations caused by the traffic.

Economic Development and skills

It is essential to South Norfolk that the economic benefits are maximised for the communities that are hosting the project which will have a significant impact on their environment. It is considered that the impacts upon tourism and skills have not been fully assessed in the documents provided as part of the consultation, no specific data relating to South Norfolk has been provided, we note the PEIR states ‘A borough by borough breakdown of direct and indirect employment generation will not be provided’ however the Council more accurate local information should be provided.

Economic Impacts – existing businesses

The Council continues to have concerns that the proposal will have a detrimental impact on established businesses in the district.

The Council has also raised concerns at the potential serious implications this proposed development would have on a number of airfields. Directly affected are Tibenham Airfield and Priory Farm, however there could be also implications for other airfields within the locality too. The proposed pylon route sits to the west of the two airfields, Tibenham and Priory Farm, and the existing pylons sit to the east, resulting in the airfields being sandwiched between overhead lines and lattice pylons. The Council is not convinced that the Preliminary level of significance of effect in construction and operation as set out in the PEIR is Not Significant. The loss of these business and facilities would be an unacceptable consequence of the National Grid proposals.

Tourism and visitors

South Norfolk with its Market Towns of Diss, Harleston, Loddon and Wymondham; numerous Heritage assets including Saxon and Norman Churches; the Waveney Valley; Boudicca Way; museums; walking and cycling routes for example, provides a rich tourism/visitor offer. In reviewing the documentation it is not considered that National Grid have fully assessed the impacts that the project infrastructure would have on the known features, directly and indirectly.

Community Benefits

It is considered that National Grid should commit to providing a package of community benefits, to seek localised benefits to South Norfolk communities to offset the significant impacts the project will create. The Council would welcome further discussion with National Grid regarding an appropriate community benefit package.

Conclusion

South Norfolk Council maintains its objection to the proposed project.

We expect National Grid to fully take into account the comments the Council has provided and those made by our communities as part of all the pre-application consultations stages. Notwithstanding our position the Council will continue to engage with National Grid to seek to minimise the impact of the development on its communities and environment in a constructive and respectful manner.

Yours sincerely

[redacted]
Assistant Director – Planning

South Norfolk Council

South Norfolk Council
Horizon Centre
Peachman Way
Broadland Business Park
Norwich NR7

Simon Pepper
Senior Project Manager, National Grid.
By email: [redacted]@nationalgrid.com
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03 March 2025

Planning Act 2008: Norwich to Tilbury Project

South Norfolk Council's Response to the targeted Non-Statutory Consultation, between Thursday 20 January and Monday 3rd March 2025 undertaken by National Grid Electricity Transmission (NGET) for the proposed Norwich to Tilbury (NT) Nationally Significant Infrastructure Project (NSIP).

This is the response from South Norfolk Council who maintains its Objection to the proposed project.

Introduction

The Council has previously responded to National Grid on two non-statutory consultations in June 2022 and August 2023 and a Statutory Consultation in July 2024, the concerns raised in our previous comments still stand and this response is to the local targeted non-statutory consultation referred to as Norfolk 1, Norfolk 2, Norfolk 3 and Norfolk 4.

Waveney Valley Alternative

Whilst the Council appreciates that the Waveney Valley alternative of undergrounding at the Waveney Valley does not form part of this targeted consultation, South Norfolk Council wishes to express its significant disappointment at National Grid's decision to not pursue the undergrounding.

Clearly the preference of National Grid (NGET), and all four affected local authorities, was for undergrounding of this proposed pylon line through the Waveney Valley, in accordance with Paragraph 2.11.6 of NPS EN5. This position was founded on NGET's own findings, and the findings of Alison Farmer Associates, set out in https://www.suffolk.gov.uk/council-and-democracy/council-news/waveney-valley-a-valued-landscape-according-to-new-study, and as set out in responses from the

local Authorities to National Grid, regarding this project. However, for technical reasons, NGET have not been able to move forward with a scheme of undergrounding. Therefore South Norfolk Council is of the view that there is a need to mitigate and offset the impacts of the scheme through the Waveney Valley, given that it meets, in principle, the criteria of NPS EN5 para 2.11.6. We considered that a scheme of landscape enhancement, should be used to offset (at least partially) the residual adverse impacts of the overhead lines that are now confirmed as being proposed for the Waveney Valley.

Main Technical Issues/considerations

General observation

It is understood the proposed changes proposed by National Grid may or may not be taken forward as part of the Development Consent Order (DCO) depending on the results of the current targeted consultations.

The proposed changes, some of which are reported as being made for ecological/arboricultural reasons (see Appendix 1 for a summary), are not accompanied by detailed ecological or arboricultural survey data, or a detailed comparison between the two proposed alignments.

Accepting there will be an ecological, arboricultural and historical impact it is therefore not clear whether the changes would be an improvement on the earlier proposed route.

While detailed ecological/arboricultural information will be provided as part of the Environmental Statement submitted for the DCO[52] it is fundamentally important that the proposed route is informed by this data to ensure that the mitigation hierarchy is adhered to (avoid, minimise, compensate).

Norfolk 1

Changes as set out in the consultation document: *Temporary construction laydown areas around Norwich Main substation repositioned to avoid conflicting with the construction of other proposed developments in the area. Other changes to temporary works to accommodate the positioning of soil storage and associated landscaping works at Norwich Main substation*.

South Norfolk Council's comments:

[52] See para 1.2.4 of https://www.nationalgrid.com/electricity-transmission/document/157116/download

- For information the Norfolk 1 realignment conflicts with application 2024/3750 for the development of a 400MW Energy Storage System, including a 132-400kV substation and associated infrastructure at Hall Farm, Land North of Hickling Lane, Swainsthorpe Norfolk NR14 8DS. It is expected that National Grid takes this into consideration and liaises with the developer, as it is likely a decision on this application will be made by this summer.
- It is also not clear how the Environment Area around Norwich Main, which forms part of the strategy to compensate for habitat loss/deliver Biodiversity Net Gain, will be delivered.

Norfolk 2

Changes as set out in the consultation document: *Overhead line alignment near Forncett St Mary repositioned to the west of its previous location to help reduce the impacts on the site used for flying model aircraft. Two pylons (RG30 and RG33) would become angle pylons. Our proposed change would also move RG39 closer to a field boundary and adjust the alignment closer to the mid - point between properties along Northfield Road. Other haul road and bellmouth movements.*

South Norfolk Council's comments:

- Arboriculture: Documents submitted for Norfolk 2 omit reference to a veteran oak with a circumference of 522m which would be impacted (potentially lost entirely) because of the proposal. A photo and map showing the location of the veteran is provided in **Appendix 2**.

- Under normal circumstances Natural England advise[53] that development that would result in the loss or deterioration of veteran trees should be refused unless there are:
  a) wholly exceptional reasons and
  b) there is a suitable compensation strategy in place.

- The loss of veteran trees is not supported by The Council, however should National Grid decide to pursue this change the DCO will need to:
  - clearly set out why the reasons for the realignment are wholly exceptional (e.g. consideration as to the loss against reducing the impact

[53] https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions

on flying model aircraft, reducing impact on residential properties, and to follow field boundaries), and

- provide details as to what the suitable compensation strategy will be.

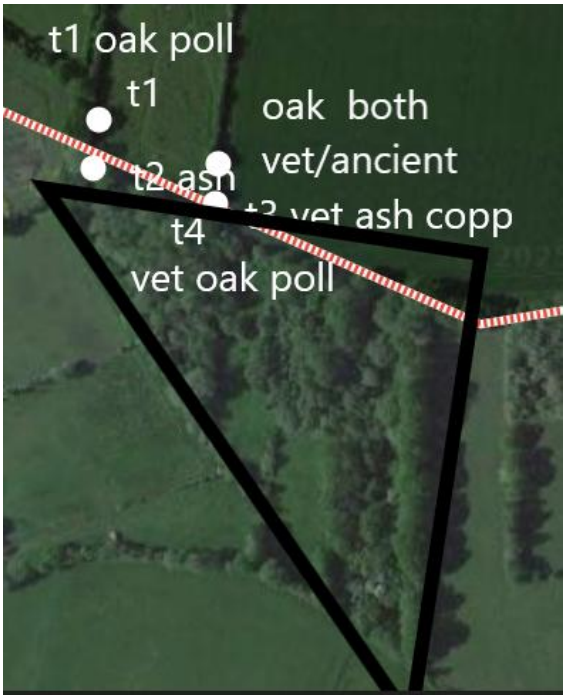
Norfolk 3

Changes as set out in the consultation document: *Overhead line alignment between Tibenham and Bunwell Hill repositioned to the west. Changes to related temporary and permanent accesses, as well as the haul road and bellmouths. Undergrounding of the existing lower voltage electricity overhead line to follow field boundaries and the haul road, minimising tree removal*

South Norfolk Council's comments:

Irreplaceable Habitat

- While we would be supportive of the proposed realignment for the purposes of avoiding one veteran tree the woodland and meadows in the area highlighted in the image to the right, contains numerous veteran/ancient trees, including very old Alder Carr coppice, pollarded Oaks, Ash and coppice Hazel (see photos in **Appendix 3**). It is also suspected that part, if not all should be classed as ancient woodland (based on several indicators including flora and age of trees). It is our specialist professional opinion that there is so much irreplaceable habitat here that the revised route would have a hugely detrimental impact, the loss/damage to so many important trees would be catastrophic, the revised route is totally unacceptable, and will result in the loss, damage and deterioration of irreplaceable trees and habitat.



- The location of the veteran (bee) tree is not shown on the plans provided so it is not clear where this tree is located. Having visited the site, the veteran bee tree remains within the DCO corridor and therefore remains at risk depending on the wording of the DCO requirements (in The Council's experience with other DCOs, tree loss has only become apparent at the detailed design stage. The requirements

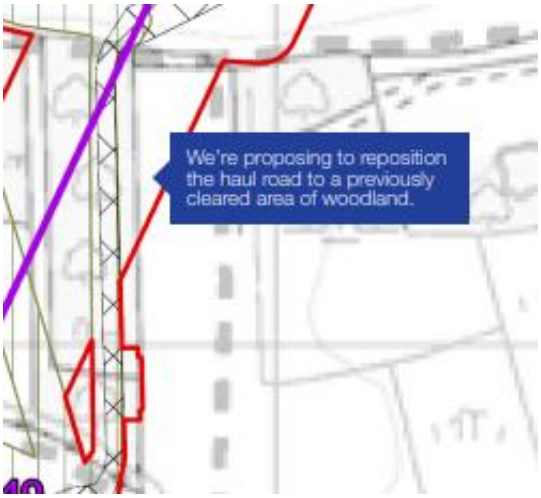
of the DCO will need to be specific about impacts on veteran/ancient trees and ancient woodland).

- There are other veteran trees in the area, but it is not clear if NGET's proposed re-alignment has been informed by an AIA. In 2023 NGET moved pylons RG046 and RG050 further east to reduce potential effect on the woodland (see **Appendix 4**) however the current proposal to move pylons RG48 and RG49 60 m west of the 2024 statutory consultation is a complete about turn.

<u>Bunwell Hill County Wildlife Site</u>

- While the realignment now avoids Bunwell Hill CWS (see right light green polygon) (photos are provided in **Appendix 5**) but the ecological and arboricultural impact of this could be substantially greater. The route selected will need to be based on detailed ecological and arboricultural data – which needs to be undertaken in advance of the detailed design.

<u>Haul Road Realignment- 'Previously Cleared Woodland'</u>

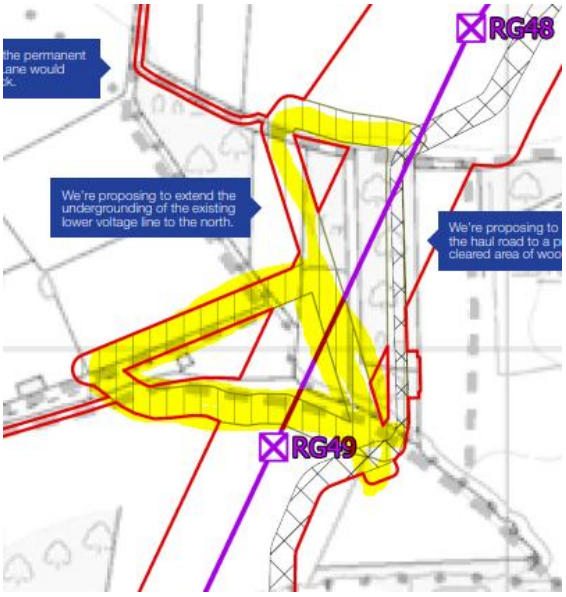


- We disagree with NGET assessment regarding the area identified as 'previously cleared' woodland.
- Looking at historic imagery (see **Appendix 6**), we would suggest that rather than a 'previously cleared area of woodland' the area was used as pasture but management ceased allowing succession. Having visited this site on 28/2/2025, this area contains several mature trees, old oak pollards and remnants of old haze coppice. It is understood that flora associated with ancient woodland is also present which needs further consideration as ancient woodland is irreplaceable. This area has significant ecological and arboricultural interest which would be destroyed if Norfolk 3 was taken forward as part of the DCO.
- The 2022 proposed route was changed to avoid this woodland after NGET's Arboricultural surveyor classed this little woodland as class 'A3' (see attached pdf) meaning it has significant cultural, conservation and historical value. NGET stated

in their 2024 proposal that the route change was to reduce the impact on this little woodland. NGET's 2025 proposal has taken an about turn regarding this area.

- Detailed botanical and arboricultural surveys of the entire area needs to be undertaken to inform the route selection for the DCO. This route will need to avoid impacts and minimise them where avoidance is not possible. Adequate bespoke compensation for the losses will be required.

Undergrounding



- As part of Norfolk 3 it is proposed to extend undergrounding of the existing lower voltage line beneath a meadow (see highlighted area right, and photos in Appendix 7).
- It is requested that whichever route selected it is selected to avoid and minimise ecological and arboricultural impacts with the reason for selection must be clearly evidenced within the DCO.
- It is requested that consideration is given to other alternatives that are sensitive the existing habitats.
- As part of the consideration the DCO will need to be clear how undergrounding would be undertaken (HDD or open cut trenching), and consider the ecological, arboricultural and historical implications of each method).

Mapping- Pylons

- Norfolk 3 alignment affects pylons between RG46 and RG52 - Pylons RG46, RG51 and RG52 are however not included on the map showing the proposed amendment so it is not clear to what extent their locations/works in these areas, are affected by the realignment. When considering alternative re-alignment the potential impacts on all pylons affected needs to be clear.

Permanent Access Track

- The DCO will need to be clear works would be required to enable Brick Kiln Lane (Road used as a public path (RUPP)) to be used as a permanent access track as there are several veteran trees along this track which could be impacted (root compaction) by increased vehicular use.

- The DCO also will need to be clear as to why the final route has been selected but this needs to be informed by a comparison of the ecological, arboricultural and historical impacts of each option.

Norfolk 4

Changes as set out in the consultation document*: We are proposing to relocate a temporary construction laydown area near Winfarthing to the south of the B1134 to avoid buried heritage assets. The proposed change would not affect the overhead alignment*

South Norfolk Council has no specific comments to make regarding these changes.

Conclusion

South Norfolk Council maintains its objection to the proposed project.

We expect National Grid to fully take into account the comments the Council has provided and those made by our communities as part of all the pre-application consultations stages. Notwithstanding our position the Council will continue to engage with National Grid to seek to minimise the impact of the development on its communities and environment in a constructive and respectful manner.

Yours sincerely

Assistant Director – Planning

Appendix 1. Details

Norfolk 1	
Supporting information: • Targeted Consultation https://www.nationalgrid.com/electricity-transmission/document/157066/download and • Environmental Implications of Change- Norfolk 1 https://www.nationalgrid.com/electricity-transmission/document/157116/download	
Summary of changes	Reason for changes
• Location of the temporary construction laydown areas on the land around Norwich Main substation and related haul roads. • Moving the temporary construction laydown areas • Changes to the temporary works to accommodate the positioning of soil storage and associated landscaping works at Norwich Main substation, • Change to haul road	• Avoid conflict with the construction of other proposed developments in the area around Norwich Main Substation

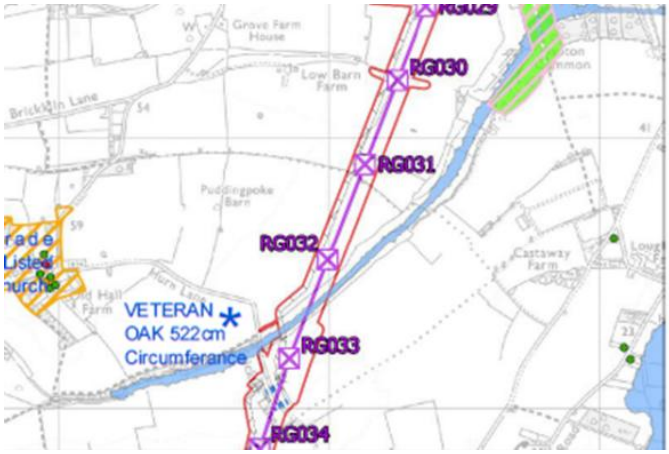
Norfolk 2	
Supporting information: • Targeted consultation https://www.nationalgrid.com/electricity-transmission/document/157071/download • Environmental Implications of Change- Norfolk 2 https://www.nationalgrid.com/electricity-transmission/document/157121/download	
Summary of changes	Reason for changes
• Move pylons near Forncett St Mary to the west of its previous location • Affects location of pylons between RG30 to RG39. RG30 and RG33 become angle pylon	• Reduce potential effects on a site used for • Flying model aircraft

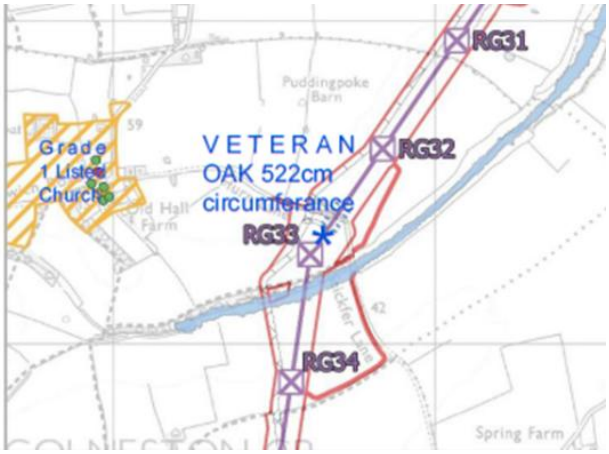
• Move the haul road and the bell mouths • The crossing at Stickfer Lane would move north-west to Hurn Lane • Crossing on Northfield Road would move west.	• Reposition the alignment more centrally between residential properties • Move pylons to field boundaries where practicable

Norfolk 3	
Supporting information: • Targeted Consultation https://www.nationalgrid.com/electricity-transmission/document/157076/download • Environmental Implications of Change Norfolk 3 https://www.nationalgrid.com/electricity-transmission/document/157126/download	
Summary of changes	Reason for changes
• Reposition a line of pylons between Tibenham and Bunwell Hill • Affect the location of the pylons between RG46 and RG52, with RG38 becoming an angle pylon • Changes to related temporary and permanent accesses- permanent access would use a longer stretch of Brick Kiln Lane • Minor amendments to the order limits • Haul road alignment amended to are or previously cleared woodland	• Avoiding a veteran tree and active Honey Bee Population • Using existing tracks for access to reduce impact on arable land • Reducing effects on an area of grassland considered • Particularly important to farm activities
Norfolk 4	
Supporting Information: • Targeted Consultation https://www.nationalgrid.com/electricity-transmission/document/157081/download	

• Environmental Implications of Change Norfolk 4 https://www.nationalgrid.com/electricity-transmission/document/157131/download	
Summary of changes	Reason for changes
• Relocate a temporary construction laydown area near Winfarthing, closer to RG58 • Minor amendments to the order limits	• Geophysics surveys in spring 2024 identified important buried heritage assets on the land to the north of the B1134

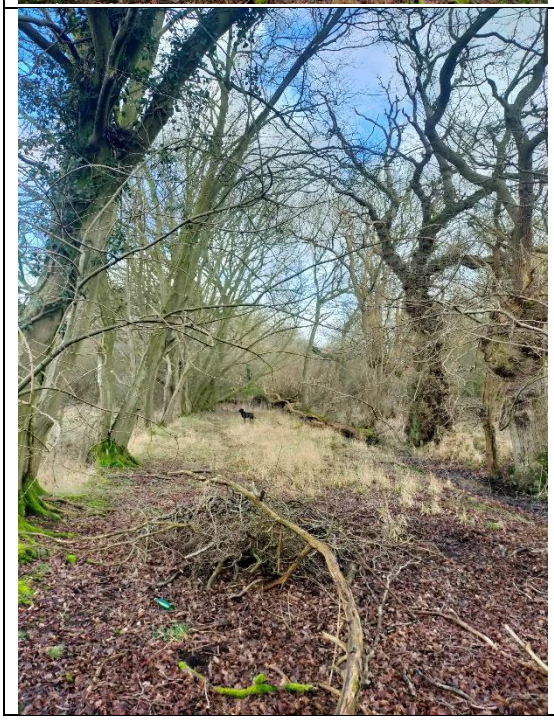
Appendix 2: Norfolk 2- Veteran tree affected by proposed realignment option





Appendix 3: Norfolk 3

Site Photos taken 28/2/2025

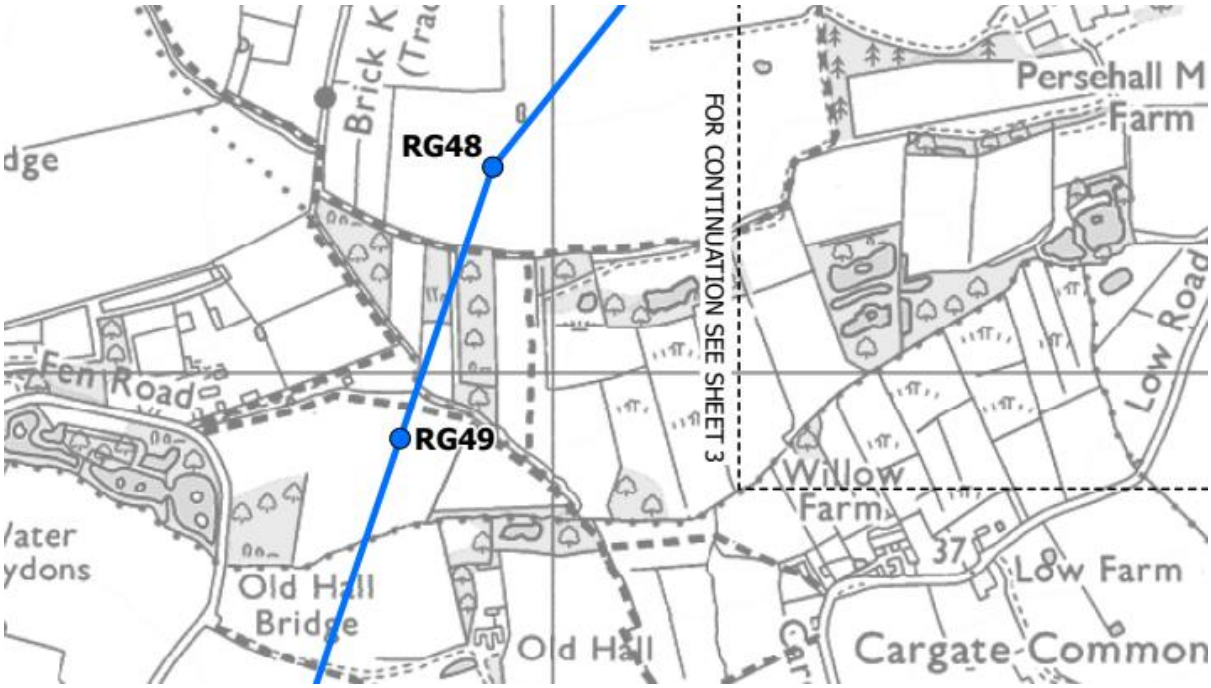
	Three large oak pollards marking field boundary – approximate location shown on plan as offsite but RPA has not been considered
	

	Old oak pollard
	Coppice stools

Appendix 4

2023 Route Consultation

https://www.nationalgrid.com/electricity-transmission/document/149236/download



2023 Non-Statutory Consultation Feedback Report April 2024

https://www.nationalgrid.com/electricity-transmission/document/155246/download

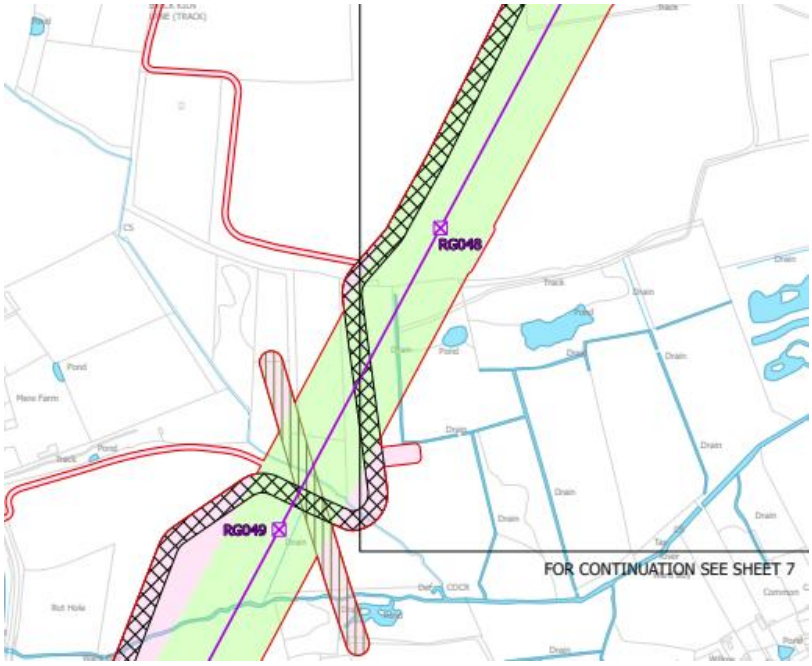
Changes That Have Been Made as a Result of Feedback Received

Table 4.18- Summary of changes identified in responses to the 2023 non-statutory consultation

Change Requested	Change Proposed
Concern about the impact on Bloy's Grove Solar Farm, suggestions to avoid archaeology site at RG012.	In the case of Bloy's Grove Solar Farm National Grid's proposals currently avoid the positioning of pylons within the proposed development area. While we do envisage some oversail, we do not consider this should interfere with the solar farm operation. We have also moved the position of RG012 (now RG013) slightly north to avoid the archaeological site identified at this location.
Suggest relocating pylon RG044 away from Hoggs Barn.	National Grid has amended the location of RG044 along the draft alignment to move it out of / to the edge of the open view to the north-west from Hoggs Barn and also repositioned RG043 to also benefit further from screening. The pylons have been moved so that they are both positioned to benefit from screening by some existing woodland though much depends on the viewing position and direction.
Suggest that an alternative project route would reduce effects on woodland including on a private nature reserve at Brick Kiln Lane, NR16 1SA- including by relocating pylons RG048 and RG049 away from small woodland.	National Grid is proposing a change between RG046 and RG050, this would move the 2023 preferred draft alignment further east and therefore further away from the woodland and private nature reserve at Brick Kiln Lane, thus overall, reducing potential effects on woodland.
Suggest that the Project is routed away from Heywood Road. Including, moving pylons RG069 to RG074 to the west to avoid residential areas and reduce visual impacts.	National Grid is proposing a change between RG070 and RG073, removing the single angle pylon at RG072 (replacing it with two angle pylons but each with smaller direction changes) and moving the 2023 preferred draft alignment further west in this area.
Suggestions to underground the section of the Project where it crosses the Waveney Valley.	National Grid continues to investigate the development of the appropriate design solution in the vicinity of the Waveney Valley via a range of investigations. Pending the outcome of those investigations the baseline remains the use of overhead lines as set out in the 2023 non-statutory consultation. However, for the 2024 statutory consultation we are proposing to also consult on a Waveney Valley Alternative which includes a section of underground cable between approximately RG084 and RG090. Whether this is ultimately taken forward (or taken forward in an amended form) will be informed by consideration of landscape and visual, ecology and heritage effects along with the findings of technical and ground investigations amongst a range of factors including feedback received. We will continue to make changes to the 2024 preferred draft alignment as we receive further feedback and as the Project develops.

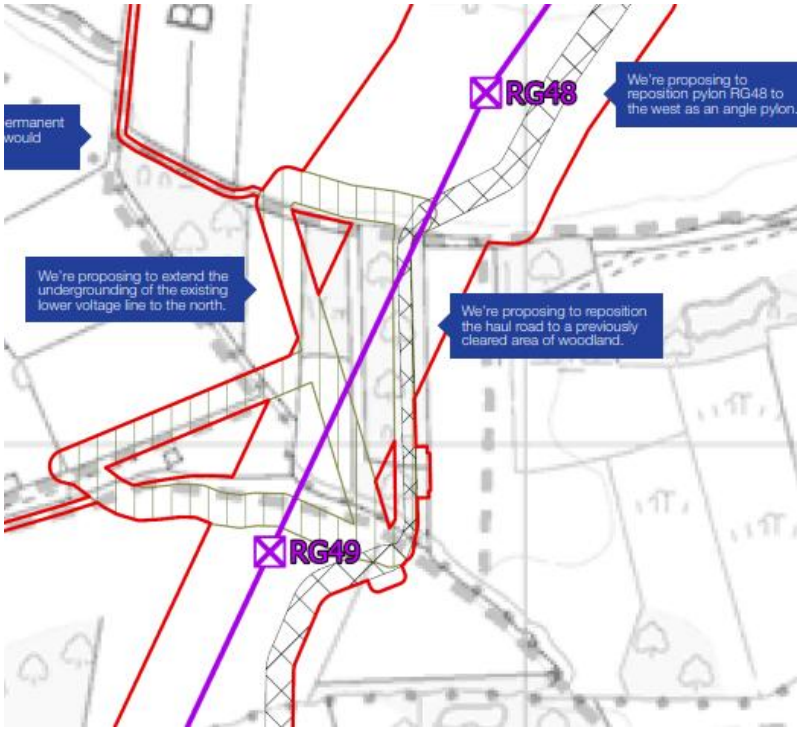
2004 S42 Statutory Consultation

https://www.nationalgrid.com/electricity-transmission/document/154326/download

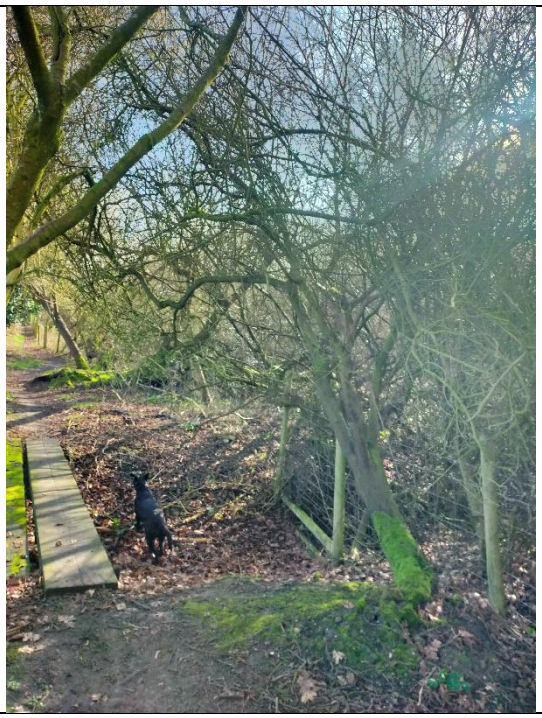
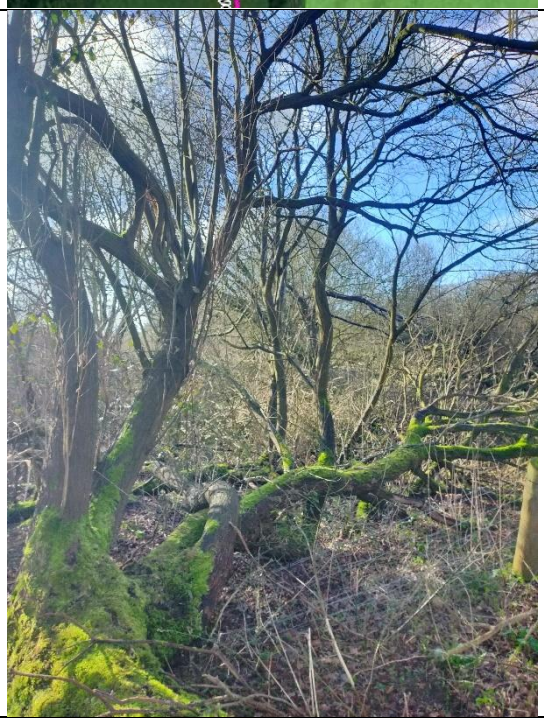


2025 Proposed realignment

https://www.nationalgrid.com/electricity-transmission/document/157076/download

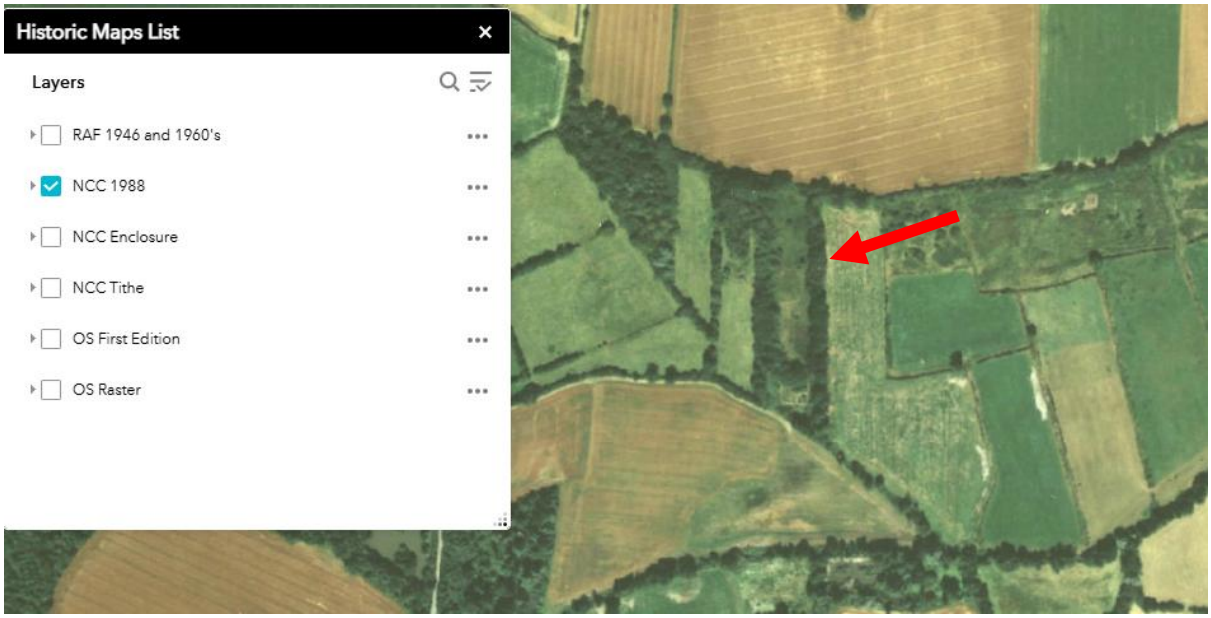


Appendix 5 Bunwell Hill CWS

Photo 1 Brick Kiln Lane, Bunwell Hill CWS. Looking east along footpath 	Photo 2. Brick Kiln Lane, Bunwell Hill CWS looking across CWS
	

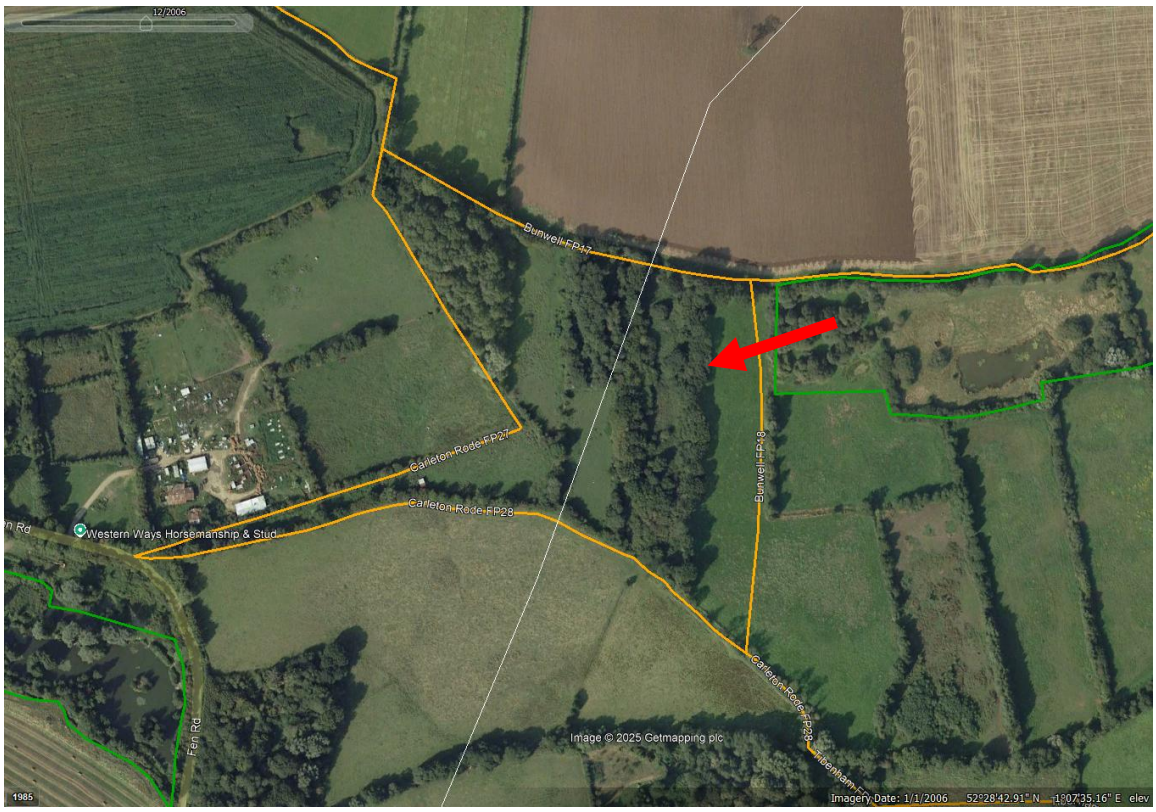
Appendix 6. ‘Recently cleared’ woodland

1946-1960s RAF Aerial



1999 (Google Earth Pro image dated 1/1/1999)

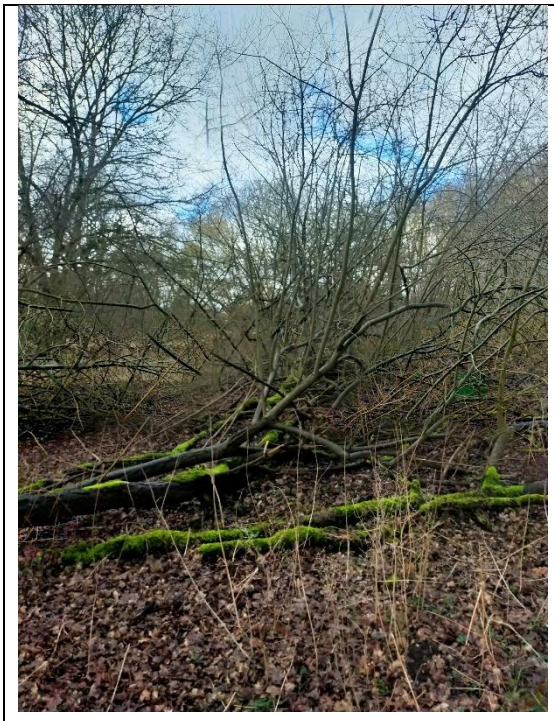
2006 (Google Earth Pro image dated 1/1/2006)



2016 (Google Earth Pro image dated 18/7/2016)

2021(Google Earth Pro image dated 07/09/2021)

‘Previously cleared’ woodland

	
	Meadow where haul road was identified in 2024.

Appendix 7. Undergrounding

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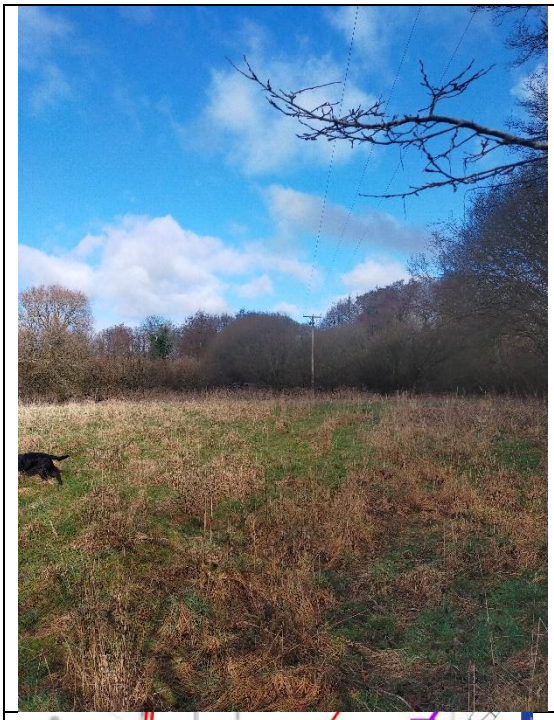
<td>  </td>
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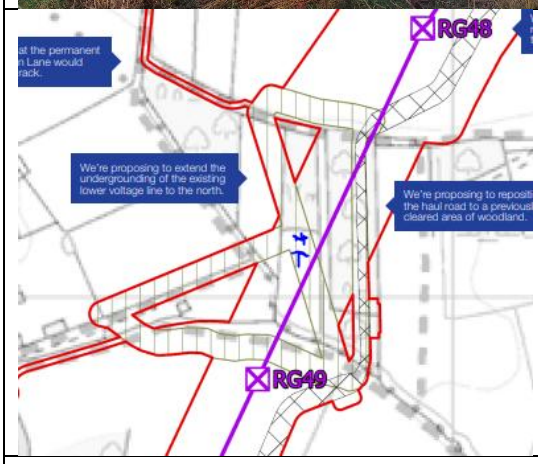
<td> 
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<td>Looking north across the meadow towards the pylon</td>
<td>Pylon along Brick Kiln Lane Footpath</td>
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Dear Sir/Madam,

Relevant Representation

On Behalf of South Norfolk District Council
Registration Number: FBFE9F003

National Grid (Norwich To Tilbury) Development Consent Order
(Application Reference: EN020027)

This representation is organised in three main Parts:

Part I: Background and context for South Norfolk District Council.
Part II : Key concerns on a topic-by-topic basis.
Part III: The Council's concerns with the Requirements.

PART 1: BACKGROUND & CONTEXT

1. Background & Context

1.1 South Norfolk District Council ("the Council") acknowledges the national importance of the Norwich to Tilbury Overhead Lines Project. However, the Council has identified substantial harms that must be weighed in the planning balance. These include heritage, landscape, ecological and amenity impacts. This letter focuses on ensuring that these harms are not exacerbated by imprecise drafting, excessive flexibility or inadequate timeframes within the Norwich to Tilbury Development Consent Order ("DCO"). The Council will engage with the applicant, National Grid on detailed drafting, but points of principle arise as set out below.

1.2 The Council wishes to make a relevant representation regarding the proposed DCO. This representation addresses two key areas:

1.2.1 The substantial harms arising from the principle of the project and site-specific impacts; and

1.2.2 The need for robust controls within the DCO to ensure those harms are not exacerbated by excessive flexibility, lack of precision or inadequate timeframes for discharge of requirements.

2. Project Overview

2.1 The Norwich to Tilbury project is a proposal by National Grid for a new 400kV electricity transmission line extending approximately 184 kilometres from Norwich Main substation in Norfolk to Tilbury in Essex.

3. Within South Norfolk District:

3.1.1 88 pylons are proposed within the district boundary.

3.1.2 The route traverses predominantly rural areas, resulting in significant effects on heritage assets, landscape character visual amenity and biodiversity.

3.1.3 Key concerns include:

3.1.3.1 Significant visual intrusion from tall pylons in open countryside;

3.1.3.2 Significant adverse impacts on multiple listed buildings and historic farmsteads;

3.1.3.3 Loss of, and significant implications for, hedgerows and trees (including veterans), with implications for ecology and local amenity;

3.1.3.4 The further matters referred to below.

3.2 While the Council acknowledges the national benefits of the project, these local harms are substantial and must be afforded significant weight in the planning balance.

4. Council Position

4.1 South Norfolk Council recognises the essential need to increase capacity within the electricity transmission network across the eastern region. This is required to accommodate significant new energy generation from offshore wind farms, nuclear power and international interconnectors, particularly the substantial volumes connecting into Norwich Main and Necton. The Council also acknowledges that the project will play a critical role in achieving the UK's target of net zero carbon emissions by 2050 and supporting the Government's Clean Energy ambition for 2030. However, the council has concerns about the specific harms the development will cause which are set out below.

5. Summary of Harms

5.1 Before considering detailed drafting, it is essential to emphasise that the applicant's planning documents identify substantial and significant harms associated with this project. These harms are by virtue of the nature of the development and its location and must be given very significant weight in the planning balance.

5.2 Key harms include:

5.2.1 Landscape and Visual Effects: Introduction of large-scale pylons and overhead lines into sensitive rural landscapes, causing permanent change to character and views.

5.2.2 Heritage Impact: Adverse effects on the setting of multiple designated heritage assets, including Grade I and Grade II* listed buildings, with harm assessed as "less than substantial" but at the mid to high end of that scale.

5.2.3 Ecological Impact: Loss and fragmentation of habitats, with potential impacts on protected species and biodiversity.

5.2.4 Agricultural Land Loss: Permanent and temporary loss of productive farmland including BMVL, affecting rural economy.

5.2.5 Residential Amenity: Noise, visual intrusion and disruption during construction and operation.

5.3 These harms are not minor or incidental. They represent a degree of harm that arises from the fundamental nature of the project and its route selection. They must be accorded very significant weight in the overall planning balance. These are addressed in more detail in Part 2. For the most part the assessment of harms in the application documents is accepted and adopted. The reason for highlighting the harms is to ensure that the very significant harms of the project are properly acknowledged and weighed in the balance.

5.4 Controls within the DCO

5.4.1 After identifying those harms, the remainder of this representation focuses on ensuring that the DCO includes clear, enforceable and precise requirements to prevent these substantial harms from being worsened by:

5.4.1.1 Excessive flexibility in management plans and mitigation measures;

5.4.1.2 Insufficient precision in drafting, which could allow interpretation that weakens controls;

5.4.1.3 Unrealistic timeframes for discharge of requirements, risking inadequate scrutiny and consultation.

5.5 Key concerns include:

5.5.1 Management plans currently provided only in outline form; full details should be secured through separate requirements with adequate parameters to ensure that which is proposed is delivered with only scope for minor inconsequential variations;

5.5.2 Proposed period for Council to discharge requirements of 28 days is wholly inadequate, is unjustified when judged against statutory norms in this and other contexts (8–16 weeks) and is particularly inadequate given the need for consultation with prescribed bodies;

5.5.3 Excessively, prescriptive deadlines (e.g., five days for consultees to identify further information) are impractical and risk poor decision-making.

5.6 The harms identified in the application documents are substantial and significant. They must be given very significant weight in the planning balance. The DCO must include robust controls to ensure these harms are not compounded by inadequate drafting or procedural weaknesses.

5.7 This Relevant Representation sets out the Council's principal concerns regarding the Project. Detailed technical analysis and any supporting evidence will be provided in the Local Impact Report at the Examination stage.

PART II: KEY CONCERNS BY TOPIC

6. Impact on Heritage Assets

List of Affected Assets and Significance of Harm

6.1 The Environmental Statement identifies moderate adverse impacts (second only to major) on several assets, which are significant in planning terms. No major adverse effects have been identified.

6.2 Under Sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990, decision-makers must give special regard to preserving listed buildings and their settings. The Council agrees that proposed development would result in less than substantial harm to the significance of the heritage assets affected.

6.3 Paragraph 212 of the National Planning Policy Framework (NPPF) requires that great weight be given to the asset's conservation, irrespective of the level of harm. Paragraph 213 NPPF further requires that this harm must be weighed against the public benefits of the proposal. In addition, paragraph 215 provides that this harm must be weighed against the public benefits of the proposal, including securing its optimum viable use. While the harm identified is less than substantial, it nevertheless should carry great weight in the decision-making process, as required by Sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990.

6.4 Assets notably impacted during construction (moderate adverse) as accepted by National Grid are:

6.4.1 Flordon Hall (Grade II*);

6.4.2 Kenningham Hall, Glebe Farmhouse, Piggery 60 yards south of Flordon Hall, Barn to Flordon Hall, Quaker's Farmhouse, Manor House, Manor Farmhouse, Old Hall, Heywood Manor, The Gables, Limetree Farmhouse, The Hermitage, Thatch End The Haven, Elm Farmhouse (all Grade II).

6.5 Assets considered to result in mid-less than substantial harm (construction phase):

6.5.1 Flordon Hall (Grade II*); Kenningham Hall, Glebe Farmhouse, Piggery 60 Yards South of Flordon Hall; Barn to Flordon Hall; Quaker's Farmhouse, Manor House, Manor Farmhouse, Old Hall, Heywood Manor, The Gables, Limetree Farmhouse, The Hermitage, Thatch End The Haven, Elm Farmhouse (all Grade II).

6.6 Assets significantly impacted during operation:

6.6.1 Flordon Hall (Grade II*);

6.6.2 Heywood Manor (Grade II).

6.7 Additionally, five assets are considered by National Grid to experience moderate adverse significance of impact during operation, which should also be treated as significant:

6.7.1 Church of All Saints, Tibbenham (Grade I);

6.7.2 Church of Remigius (Grade I);

6.7.3 Kenningham Hall, Elm Farmhouse and Manor House (Grade II).

6.8 During the operational phase, the following assets are assessed as experiencing a mid-level of less than substantial harm: Flordon Hall, Heywood Manor, Elm Farmhouse and Manor Farmhouse. In addition, numerous other designated heritage assets are identified as experiencing a low level of less than substantial harm.

6.9 It is considered that Flordon Hall should be assessed as incurring a higher level of less than substantial harm than National Grid indicate. Furthermore, the following assets are assessed by the Council as experiencing a mid-level of less than substantial harm: Church of All Saints, Tibbenham; Church of St Remigius; Kenningham Hall; and Manor House.

6.10 Church of All Saints, Tibbenham (1049992) – Grade I (Sections 3.2.369 & 3.2.370)

6.10.1 The baseline report states that the church's setting is informed by its roadside location within Tibbenham and nearby village assets. However, this underplays its prominence: the church's substantial tower is highly visible across the parish to the west, including from Manor House and Diss Road. Approaching from Mill Road, views of the tower reinforce the important status of the building within the parish. The front elevation of Manor House (1179387) appears deliberately designed with bay windows to capture views of the church across open fields.

6.10.2 While the report acknowledges that the setting extends to the order limits with views to the northwest, it fails to recognise the church's role as a landmark within the wider parish setting and the intervisibility between heritage assets, which will be significantly compromised by pylons and wires. Given the church's high grade and value, the impact should be assessed as moderate adverse significant of effect, equating to mid less than substantial harm, not "lower less than substantial" as currently stated.

6.11 Church of Remigius (1050237) Grade I (3.2.403 & 3.2.404)

6.11.1 The setting is informed by "its location on the northern edge of the Waveney Valley with views over the valley to the south." For much of its history the church was set within a rural location, and although there is urban development, the aspect to the south remains rural and well preserved. The pylons and wires will have a significant and intrusive detrimental impact on the relationship of the church with its rural hinterland to the south that is well preserved, including views of the church from the Angles Way footpath. Although the assessment states that the setting makes a moderate contribution, this has taken into account the change to the rural setting to the north as part of the setting, however the setting to the south remains preserved and therefore

continues to make a considerable contribution to the significance of the asset as the remaining well preserved element of the setting. There is moderate adverse significant of effect and therefore significant, and the level of harm should be mid less than substantial harm

6.12 Kenningham Hall (1373056) – Grade II (Section 3.2.472)

6.12.1 During the operational phase, the proximity of industrial pylons will cause a significant visual intrusion into the hall's setting, which currently makes a considerable contribution to its value. Despite some vegetation, the scale and closeness of pylons and wires will remain highly visible from all directions. The impact should not be considered moderate adverse harm and significant and thus should equate to mid less than substantial harm and not low substantial harm.

6.13 Elm Farmhouse (1373558) – Grade II (Sections 3.2.574 & 3.2.575)

6.13.1 The farmhouse's setting is defined by its agricultural and rural context, which contributes considerably to its significance. The proximity of pylons and wires will substantially alter this setting, resulting in moderate adverse significant of effect and significant , not "minor adverse" as stated. The conclusion of mid less than substantial harm is appropriate. Note: Elm Farmhouse is located west of Hapton, not East.

6.14 Manor House (1179387) – Grade II

6.14.1 Currently assessed as "minor adverse" significant of effect and therefore not significant underestimates the importance of intervisibility with Tibbenham Church. The House's front elevation, including bay windows, appears deliberately oriented to capture views of the church tower across open fields. This design intention amplifies the significance of the relationship. The impact should be moderate adverse significance of effect, equating to mid less than substantial harm.

6.15 Flordon Hall (1050698) – Grade II*

6.15.1 Flordon Hall's setting is informed by its agricultural landscape and historic farmyard. Built c.1600 by the Kemp family, its E-shaped plan facing East was a conscious design statement intended to be viewed across open farmland, particularly from Long Lane.. The Tithe Map of c1840 shows the fields between Long Lane and Hall marked with K which can be taken as being owned by the Kemps and associated with the Hall. Pylons and wires, while not blocking views, will introduce a dominant presence, undermining this design intention. Given the asset's high grade and

significance, the harm should be considered high less than substantial harm.

6.16 Summary of Heritage Harms at operational phase

6.16.1 Church of All Saints, Tibbenham: Moderate adverse significance of effect (significant); mid less than substantial harm;

6.16.2 Church of St Remigius: Moderate adverse significance of effect (significant); Mid less than substantial harm;

6.16.3 Kenningham Hall: Moderate adverse significance of effect (significant); mid less than substantial harm;

6.16.4 Elm Farmhouse: Moderate adverse significance of effect (significant); mid less than substantial harm;

6.16.5 Manor House: Moderate adverse significance of effect (significant); mid less than substantial harm;

6.16.6 Heywood Manor: Moderate adverse significance effect (significant); mid less than substantial harm;

6.16.7 Flordon Hall: Moderate adverse significance of effect (significant); High less than substantial harm;

6.16.8 Manor Farmhouse: Minor adverse significance of effect (not significant); Mid less than substantial harm.

6.17 Planning Balance

6.17.1 Moderate adverse impacts are significant and must be given substantial weight in the planning balance. Even where the magnitude of impact is categorised as low, noticeable changes to the setting justify classification as moderate adverse harm. These effects represent a meaningful level of harm to heritage assets and require robust mitigation and precise DCO requirements to ensure impacts are not worsened during detailed design.

7. Landscape and Visual

LVIA Overview

7.1 Chapter 13 of the Environmental Statement provides a comprehensive assessment of potential landscape and visual effects. Given the scale and nature of the project, it is unsurprising that the assessment concludes there will be residual significant adverse effects on landscape character and visual amenity. The Council

acknowledges that, within South Norfolk, there are no routing options that would avoid such effects.

LVIA Specific Observations

7.2 Paragraph 13.6.6 – LV02 proposes: "Pre-construction condition surveys will be undertaken during the construction period…" This appears contradictory and requires clarification.

7.3 Paragraph 13.8.1 – Reinstated habitats are proposed to be monitored for only five years. The Council requests this period be extended to 10 years, consistent with other DCOs and local planning permissions, with management continuing for the lifetime of the scheme.

Arboricultural Concerns

7.4 Document 6.13.A6 (Arboricultural Impact Assessment) confirms the loss of irreplaceable habitat, including four veteran trees, even after mitigation. This is assessed as major adverse and significant. The Council has the following concerns:

7.4.1 No list of abbreviations is provided, making interpretation difficult;

7.4.2 the Arboriculture Impacts Plan (Figure A13.6.1) does not reference all trees, thus preventing accurate cross-checking;

7.4.3 Veteran trees affected are not clearly identified in the Outline Landscape and Ecological Management Plan (OLEMP) - Document Reference 7.4;

7.4.4 There appears to have been no consideration of canopy spread or overhead constraints when designing temporary access routes with the consequent potential for more loss than currently stated;

7.4.5 Lack of explanation for need for tree removal (e.g., pylon footprint or clearance requirements);

7.4.6 No schedule explaining removal rationale or category for "removed but replanted," particularly for hedgerows and there should be a category setting this out in the AIA;

7.4.7 No evidence that arboricultural data informed scheme design or that adjustments were made to avoid harm. For example, it is unclear why the proposed route alignment cannot be modified to provide full protection for the TPO-designated veteran tree (TPO reference SN0697);

7.4.8 Temporary works areas appear excessive in places, risking unnecessary removal of trees e.g. in the vicinity of proposed pylon RG82 on page 45 of document reference 6.13.A6.F1;

7.4.9 Existing Tree Preservation Order (Stoke Holy Cross TPO 1967 No. 4) is not shown on the plans;

7.4.10 Veteran trees marked as "potentially affected" – no indication of measures to avoid impact are provided;

7.4.11 Criteria for tree retention versus removal in the final plans to be approved under requirements are unclear.

Hedgerow Assessment

7.5 Document 6.8.A3 states that hedgerow surveys were limited to those meeting certain criteria (species-rich, bluebell presence, protected lane, parish boundary). This approach may exclude hedgerows important for historic reasons (e.g. pre-enclosure field systems).

7.6 The term "protected lane" is undefined and appears to be sometimes inconsistently referred to as "Old Lane" in the summary tables.

7.7 Plans only show "potentially important hedgerows not chosen for survey" which is inadequate for Examination purposes. It is not clear why National Grid have been selective about the surveys undertaken and no justification has been provided. The Council is concerned that the full implications for important hedgerows have therefore not been assessed and that this information is essential to inform the Examination.

7.8 Outline Landscape and Ecology Management Plan (Document Reference 7.4):

7.8.1 Section 7.1.2 – it is not explained how the Arboricultural Method Statement (AMS) will be agreed. This should this be secured through a specific requirement;

7.8.2 Section 7.3 – Tree canopies may require inclusion within fenced protection areas but this is not addressed in the OLEMP or Arboricultural Impact Assessment;

7.8.3 Section 7.5.14 – Heading suggests uncertainty regarding removal of four veteran trees. Clarification is required;

7.8.4 Section 7.6.1 – Confirmation is required as to whether all "important" hedgerows have been identified – it appears to the Council that there may

be systemic omissions of particular categories (see above) and failure to identify or survey potentially important hedgerows;

7.8.5 Section 8.1.1 – General authorisation to remove vegetation identified as "potentially affected" is inappropriate because it is ambiguous, too general and leaves the interpretation for National Grid's decision resulting in a lack of clarity for enforcement purposes;

7.8.6 Section 8.2.2 – Micro-siting haul roads to avoid mature trees depends on DCO boundary flexibility; RPAs and canopies must be considered now to ensure that the haul roads and other construction infrastructure can be accommodated within the DCO limits without unnecessarily impacting RPAs and canopies and in such a way as to provide root and canopy protection;

7.8.7 Section 9.3.1 – The Council has been discussing long-term replacement of trees that cannot be replaced like for like. If reinstatement tree planting upon decommissioning is accepted, this should be included this in section 9.3 of the OLEMP;

7.8.8 Section 9.4 – Any existing hedgerows, currently in poor condition, that may have been removed should be reinstated to a high standard. The replacement hedgerow should fully address and fill all gaps resulting from its previous deterioration;

7.8.9 Section 10 – Impose a ten-year replacement period for failed planting, consistent with other DCOs (e.g. Hornsea Three Offshore Wind Farm Order 2020 – see requirement 9).

7.8.10 Section 10.2.2 – Regenerating coppice may require protection, such as fencing against deer.

7.8.11 Appendix C – Planting Schedules – Species mix appears rigid; replacement planting should reflect original species or site-specific conditions.

7.9 Although the locations of ancient woodland are listed by Project Section, there is no corresponding identification for the veteran tree specimens. This information is essential to enable the Council to properly review and provide informed comments.

8. Noise and Vibration

Noise Lack of Detailed Assessment

8.1 The Council considers that the Environmental Statement provides insufficient detail to assess potential noise and vibration impacts during both construction and operation. Although the "ABC" method is broadly acceptable, the absence of background noise monitoring means the true level of impact, particularly in rural areas with very low ambient noise, cannot be determined. This omission undermines confidence in the assessment.

Noise Concerns About Pile Design and Monitoring Requirements

8.4 The project appears to rely entirely on percussive piling, which is a major source of noise and vibration nuisance. No justification for this approach has been provided and critically, no geo-environmental or geotechnical investigations have been undertaken to confirm whether percussive piles are appropriate for site conditions. Without this information, the suitability of pile types cannot be established.

8.5 Once pile types are confirmed, the noise and vibration assessment must be revised to reflect actual construction methods. The vibration assessment should also include impacts from construction traffic, consistent with approaches adopted in other DCOs such as Hornsea 3 Offshore Wind Farm. That assessment is currently missing.

8.6 If alternative pile designs are adopted, the proposed requirement for immunity from prosecution under the Environmental Protection Act 1990 (EPA) and the Control of Pollution Act 1974 (COPA) is unnecessary. The Environmental Statement indicates that the principal contractor will undertake a repeat noise assessment following monitoring. However, this commitment is not secured within the DCO requirements, which is considered unacceptable.

8.7 The inclusion of a provision granting immunity from prosecution requires careful consideration. If such a provision were to be included, it should be strictly limited to circumstances where the undertaker has demonstrably taken all reasonable measures to prevent noise and vibration nuisance.

8.8 The Council's position is that immunity from prosecution should not be incorporated within the DCO. The existing legislative framework under COPA already affords a statutory defence where National Grid can demonstrate the use of Best Practicable Means (BPM). Furthermore, where works are undertaken pursuant to a Section 61 consent, noise levels and durations can be conditioned and any breach of those conditions remains enforceable. In such cases, BPM again constitutes a valid defence against prosecution.

8.9 Accordingly, provided that the National Grid or its principal contractor can evidence compliance with BPM, there is no justification for an immunity clause within the DCO. It is noted that certain DCO and Nationally Significant Infrastructure Projects (NSIPs) have elected to undertake all works under Section 61 consents, which offers an appropriate and established mechanism for managing noise impacts without undermining enforcement provisions.

9. Ecology

Commitment to Biodiversity Net Gain (BNG)

9.1 The Council expects all developments to take every reasonable opportunity to enhance biodiversity and deliver a measurable net gain for nature. This requires strict adherence to the mitigation hierarchy i.e. avoidance, minimisation and compensation and should be supported by robust biodiversity net gain measures.

9.2 The applicant has committed to delivering BNG, supported by an Initial BNG Report (Document 7.1). Current projections indicate: 8.25% net loss in habitats; 10% net gain in hedgerow units; and 10.65% net gain in watercourse units. As habitat losses cannot be offset against hedgerow gains, additional measures will be required to achieve net habitat gains and comply with national policy. The Council strongly encourages alignment with the Local Nature Recovery Strategy (adopted October 2025) and best practice guidance to ensure BNG delivery post-construction.

Ecology Survey and Assessment Concerns

9.3 The Environmental Statement does not provide a complete ecological assessment. In particular, hedgerows within the Development Consent Order (DCO) limits have not been fully surveyed, despite the Hedgerow Regulations Report (Document 6.8.A3) identifying potentially significant hedgerows. Only one important hedgerow has been identified i.e. H1 due to its species richness in Roydon affected by the siting of Pylon RG87; while mostly retained, parts will be affected and a minor section removed for the haul road.

9.4 The survey identifies an additional 53 hedgerows classified as ‘potentially important’ that were not included in the assessment, 10 of which coincide with proposed pylon locations within South Norfolk. While a distinction is drawn between these and hedgerows deemed ‘unimportant,’ the basis for the exclusion of those 53 from the survey is not clearly explained. If these hedgerows did not satisfy any of the criteria outlined in Paragraph 3.2.1 of Document 6.8.A3, they should have been categorised as ‘unimportant.’ The absence of a clear rationale raises concerns regarding the completeness and transparency of the assessment process. Those hedgerows should be surveyed to assess their importance.

Design and Avoidance Measures impacts on Ecology

9.5 Although the pylon route has been broadly designed to avoid sensitive features, with slight amendments made to the route following the non-statutory targeted consultation response in July 2025, further opportunities to minimise impacts on County Wildlife Sites, Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), trees and hedgerows should be explored. The Council is particularly concerned about potential impacts on Norfolk Valley Fens SAC, Roydon Fen and Flordon Common.

Designated Sites

9.6 The Habitat Regulations Assessment (Document 5.3) confirms that a Likely Significant Effect (LSE) on Norfolk Valley Fens SAC cannot be ruled out. During construction, the haul road and base of Pylon RG24 will be located within 50 metres of a watercourse flowing into Flordon Common, with trenching works within 30 metres. This proximity creates a real risk of watercourse degradation and harm to SAC habitats. While the Outline Code of Construction Practice (CoCP) includes mitigation measures (Table 6.1), the Council remains concerned that damage could occur before mitigation is implemented, given the sensitivity of these designated sites.

9.7 The Council acknowledges that the route has largely been designed to avoid direct impacts on statutory designated sites, including Flordon Common SSSI, Forncett Meadows SSSI, Aslacton Parish Land SSSI and Shelfanger Meadows SSSI. However, their close proximity to the works raises concerns about potential indirect impacts during construction. Roydon Fen, a County Wildlife Site, is likely to experience direct impacts. While a compensation strategy via the Waveney and Little Ouse Recovery (WaOL) Project is proposed, no justification has been provided for why avoidance or mitigation measures were not considered. This lack of explanation is unacceptable. Compensation can only be acceptable if there are no alternative means of delivering the project without the harms or routes to harm.

Protected Species

9.8 The Outline CoCP and OLEMP propose appropriate mitigation for badgers, with 10 setts identified in South Norfolk and 5 unavoidable across the full route. Subject to implementation, impacts on badgers under the Protection of Badgers Act 1992 are not considered significant. District Level Licensing will mitigate impacts on Great Crested Newts and no other licences are anticipated at this stage. However, further ecological surveys will be required at detailed design. If reptile translocation is necessary, the receptor site must be identified, secured and maintained for the lifetime of the scheme.

Construction Working Hours – OLEMP (Document Reference 7.4)

9.9 Section 2.3.4 – Justification for activities outside core hours is unclear. Sensitive works (e.g., trenchless crossings in woodlands) should occur during standard daylight hours.

Overall Assessment

9.10 Following mitigation secured through DCO requirements, impacts on ecological receptors are predicted to be negligible or minor adverse. While these effects may influence individual receptors, they are not expected to compromise overall integrity or conservation status.

10. Cumulative Impact

10.1 The Council notes a concentration of large-scale energy infrastructure proposals and consents within South Norfolk and the wider Norwich area, including:

10.1.1 Tasway Energy Park – 700MW Solar and Battery Energy Storage System (BESS) NSIP (Phase One consultation ongoing).

10.1.2 East Pye – 500MW Solar and BESS NSIP (formal submission anticipated in the New Year).

10.1.3 Consented and proposed TCPA renewable energy schemes around Norwich Main and along the proposed pylon route.

10.1.4 Offshore wind projects and associated infrastructure:

10.1.4.1 Orsted Hornsea Project Three Offshore Windfarm NSIP cable routes and converter station northwest of Norwich Main;

10.1.4.2 Equinor Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects (SEP and DEP) cable routes and converter station south of Norwich Main;

10.1.5 Three consented National Highways schemes for works around Norwich.

10.2 The existing network of pylons running from Norwich into Suffolk already imposes a significant visual presence. The proposed Project will introduce an additional line of pylons in close proximity to the existing network, resulting in two parallel lines dominating the rural landscape. This raises serious concerns regarding:

10.2.1 Harm to rural character and visual amenity;

10.2.2 Adverse effects on the setting of heritage assets.

10.3 The Council is concerned that the cumulative effect of these Projects, together with existing infrastructure, will result in:

10.3.1 Landscape and Heritage Harm as a result of industrial-scale infrastructure incompatible with rural character;

10.3.2 Ecological Impact as a result of potential loss of habitats and biodiversity.

10.3.3 Community Disruption due to noise, disturbance and disruption during construction and operation phases;

10.3.4 Economic Consequences due to negative impacts on local businesses and tourism e.g. South Norfolk with its Market Towns of Diss, Harleston, Loddon and Wymondham; numerous Heritage assets including medieval churches; the Waveney Valley; Boudicca Way; museums; walking and cycling routes which provide a rich tourism/visitor offer. Any reduction in visitor numbers due to disruption or diminished attractiveness of the area will negatively affect hospitality, retail and cultural sectors.

10.4 The overlapping construction periods, likely spanning years rather than months, will exacerbate these impacts.

10.5 Additional anticipated impacts include:

10.5.1 Movement of abnormal loads requiring road closures;

10.5.2 Potential road widening and associated loss of hedgerows and trees.

10.6 South Norfolk Council urges the Examining Authority to:

10.6.1 Require comprehensive mitigation measures to address landscape, heritage, ecological and community impacts;

10.6.2 Ensure that construction phasing and traffic management plans minimise disruption to residents and businesses.

10.7 The Council acknowledge that there are national benefits in delivering the projects, however those national benefits are secured at the cost of very substantial local harm local level. There is however harm identified at a local level, in particular by the erection of the 50 metre pylons, 88 of which would be situated within the South Norfolk District. The Council considers that significant weight should be had to the heritage, visual, ecological and local amenity harms in the planning balance.

10.8 The Council wishes to continue to work pro-actively with the applicants as the application is progressed through to Examination to try to resolve the outstanding

issues particularly in relation to hedgerows and trees and the specific wording of some of the requirements.

PART III: REQUIREMENTS IN SCHEDULES 3 AND 4

11. General Comments

11.1 The Council has reviewed the proposed requirements in line with National Planning Policy Framework (NPPF), which stipulates that planning conditions should be minimal and meet three tests: necessary, relevant to planning and the development, and enforceable, precise and reasonable.

11.2 The Council has significant expertise in discharging requirements for major infrastructure projects including:

11.2.1 Hornsea Three Offshore Wind Farm (2020);

11.2.2 Norfolk Boreas Offshore Wind Farm (2021);

11.2.3 Norfolk Vanguard Offshore Wind Farm (2022);

11.2.4 Sheringham Shoal & Dudgeon Extensions (2024);

11.2.5 A47/A11 Thickthorn Junction (2022);

11.2.6 A47 North Tuddenham to Easton (2022);

11.2.7 A47 Blofield to North Burlingham (2022).

11.3 The Council has a good track-record of discharging requirements. There have been no appeals or delays attributable to the Council in respect of any of the projects referred to above. The Council has worked proactively with the applicant in each case, reaching an agreed position within agreed timeframes. This collaborative approach has consistently ensured a solution that satisfied the applicants, the Council and all relevant consultees.

11.4 The key issues:-

11.4.1 Future Governance Changes: Norfolk (and Suffolk and Essex) is part of the accelerated Local Government Review, meaning the current two-tier system will likely be replaced by unitary authorities before requirements are discharged. Wording must be future-proofed;

11.4.2 Discharge Authority: The Council recommends that the Local Planning Authority be designated as the discharge authority for all planning-related matters.

11.5 Inconsistent use of ‘days’ and ‘business days’ for timescales creates confusion; suggest that terminology is standardised.

11.6 To assist developers, the DCO should include a clear definition of what constitutes a “very minor amendment” (e.g., a simple wording change to a management plan) that can be agreed without triggering a full discharge process. Under the current National Grid drafting, even minor changes require formal resubmission, which is unnecessarily burdensome.

11.7 Missing Requirements

11.7.1 The present Requirements do not seem to cover the following matters, despite the fact that the Council considers these necessary:-

11.7.1.1 Implementation and Maintenance of Landscaping;

11.7.1.2 Drainage Strategy in particularly surface water and foul drainage if necessary;

11.7.1.3 Skills and Employment Plan;

11.7.1.4 Fencing and Means of Enclosure (permanent and temporary e.g. construction lay down areas and satellite construction compound in the Council’s administrative area);

11.7.1.5 Traffic and Highway Access (permanent and temporary);

11.7.1.6 Contaminated Land and Groundwater Management;

11.7.1.7 Noise Control Measures;

11.7.1.8 Control of Critical Light Emissions.

12. Article 5 - Limits of Deviation

12.1 South Norfolk Council wishes to raise concerns regarding the proposed Limits of Deviation under Article 5 of the DCO. These concerns relate to ecological and landscape impacts arising from changes incorporated into the DCO submission following the targeted consultation in March 2025.

12.2 While some deviations pose minimal ecological risk, others present significant issues, particularly in relation to irreplaceable habitats, veteran trees and areas of cultural and conservation importance. The flexibility afforded by Article 5 must not enable works that result in unacceptable ecological harm.

12.3 In particular:

12.3.1 Norfolk 2 (Pylons 30–33 and relocation of Pylon 39): There is potential direct impact on a veteran oak tree of approximately 522cm circumference next to Pylon 33;

12.3.2 Norfolk 3 (Pylons 48 & 49 moved 60m west):

12.3.2.1 Direct impact on a large area of veteran trees, considered irreplaceable habitat and potentially ancient woodland;

12.3.2.2 A veteran bee tree lies within the DCO limits; Requirements must include explicit wording to protect veteran trees and ancient woodland.

12.3.2.3 Repositioning of the haul road into a previously cleared woodland is highly concerning and unacceptable. This area has re-matured and exhibits ex-ancient woodland characteristics. It was previously avoided in the 2024 consultation due to its classification as A3 Woodland, denoting significant cultural, conservation and heritage value. This option would result in the loss of irreplaceable habitat;

12.3.3 The limits of deviation (LOD) should be drafted to avoid the impacts set out above and must avoid the area.

12.4 The Council requests that the Examining Authority:

12.4.1 Restrict the Limits of Deviation to avoid areas of irreplaceable habitat, including veteran trees and ancient woodland;

12.4.2 Amend the Requirements to include:

12.4.2.1 Explicit protection for veteran trees and ancient woodland.

12.4.2.2 A prohibition on works within A3 Woodland or areas exhibiting ex-ancient woodland characteristics.

12.4.3 Secure a Habitat Protection Plan by Requirement to ensure compliance with biodiversity policy and mitigation commitments.

12.5 The Council has concerns about the current scope of Article 5 where it enables deviations that would result in the loss of irreplaceable habitats. These impacts are contrary to national policy and cannot be adequately mitigated. Robust restrictions and requirements must be included in the DCO to protect these sensitive ecological assets.

13. Specific and targeted comments in respect of the DCO Requirements

13.1 Schedule 3

13.2 Requirement 3 – Stages of authorised development

13.2.1 It is unclear why a phasing plan cannot be required prior to commencement. This would provide clarity and certainty for stakeholders. As currently drafted, Requirement 3(1) and (2) appear potentially contradictory, as activities defined as 'pre-commencement' may themselves constitute development. To avoid ambiguity, the sequence should be revised so that (1) precedes (2), ensuring the phasing plan is agreed before any works begin.

13.3 Requirement 4 – Construction Management Plans

13.3.1 There is a need for additional consultees. For example, only Natural England is listed in Requirement 4(1) as a consultee for landscape and ecology. Additional consultees should include:

13.3.1.1 Environment Agency;

13.3.1.2 Local Highway Authority;

13.3.1.3 National Highways (where strategic networks are affected).

13.3.2 Construction Traffic Management Plans, for example, must be agreed with the Highway Authority and National Highways.

13.4 Requirement 5 – Archaeology

13.4.1 For Norfolk this Requirement falls under the remit of the Historic Environment Service currently the responsibility of the County and which has engaged with National Grid.

13.5 Requirement 6 – Design and layout plans (elevations)

13.5.1 The phrase 'general accordance' is unacceptable. In the absence of anything more than illustrative or approximate details, any details submitted as part of the discharge of Requirements must either be in accordance with specific proposals or subject to further approval. The council have asked to be provided with the details of the construction laydown areas and satellite construction compounds. If those details were to be provided, the Council would accept 'in general' accordance with to allow for de minimis variations.

13.5.2 The Council considers Schedule 3, paragraph 1(3), which allows for amendments approved in writing by the relevant discharging authority, should be more tightly drafted. While the requirement for the authorised development to be carried out “in general accordance with” approved plans or documents provides some flexibility, this cannot be construed as permitting material changes. The phrase “in general accordance with” should be restricted to de minimis variations only i.e. those that do not alter the substance or intent of the approved scheme. The current wording would undermine the certainty and integrity of the consent process, effectively enabling significant departures without proper scrutiny or procedural safeguards.

13.5.3 This narrow reading is reinforced by Requirement 6, which governs design and layout plans (elevations). Requirement 6(1) mandates that the authorised development must be carried out “in general accordance” with the approved design and layout plans, while Requirement 6(2) appears to clarify that any departure resulting in materially new or materially different environmental effects would fall outside this flexibility. Accordingly, the interpretation provision should not be used to justify changes that go beyond minor, non-material adjustments, as doing so would conflict with the express limitation in Requirement 6(2).

13.6 Requirement 7 – Construction hours

13.6.1 Current wording allows work on Bank Holidays and Sundays, which is inconsistent with other DCOs. Standard practice is:

13.6.1.1 Monday–Friday: 07:00–19:00

13.6.1.2 Saturday: 07:00–13:00

13.6.1.3 No working on Sundays or Bank Holidays

13.7 Other NSIPs with similar urgency (e.g. Hornsea, Equinor and RWE) have managed delivery without resorting to routine Sunday and Bank Holiday working. If work needs to be carried out outside approved hours, National Grid can apply for prior consent for construction works under section 61 Environmental Protection Act 1990. It allows National Grid to apply to the local authority for prior consent to carry out works that might otherwise cause a statutory nuisance under Part III of the Act. This has been an effective way of managing works needed on Sundays and Bank Holidays in the DCO projects referred to above whilst managing amenity impacts. The requirement should be worded so as to limit the hours but to allow of exceptions where EPA consent is granted.

13.8 National urgency does not override the principle of reasonable mitigation for local impacts. The National Policy Statement and standard DCO practice require minimising adverse impacts on local amenity. Continuous working would go beyond that which was assessed in the Environmental Statement, introducing unassessed harm as set out in paragraphs 8.4 and 10.3.3 of this representation.

13.9 Requirement 8 - Retention and removal of trees, woodland and hedgerows

13.9.1 Plans showing trees for retention or removal are already submitted for approval as part of requirement 4. It is unclear why this Requirement is needed against that background and context.

13.10 Requirement 9 - Reinstatement planting plan

13.10.1 The Heading to, and the text of Requirement itself should not contain the word “reinstatement” because it should encompass planting plans that may or may not include reinstatement.

13.10.2 Requirement 9(4) – term “earliest opportunity” creates ambiguity about in whose opinion the earliest opportunity may be. It should be defined as the “next planting season” for clarity.

13.10.3 Requirement 9(7) - A 10-year replacement period is required to allow establishment, consistent with other DCOs and planning consents. This was agreed under Hornsea following evidence on Norfolk’s climate and planting challenges, as a result of the uniquely dry and sandy ground conditions in Norfolk.

13.11 Requirement 10 - Reinstatement schemes

13.11.1 The Council doesn’t understand why a period of 21 months is provided for. It could be a typo and National Grid meant to refer to 12 months, so this should be clarified.

14. Schedule 4

14.1 Deemed discharge provisions

14.1.1 The Council objects to the inclusion of Schedule 4, Requirement 1(2) within the draft DCO, which introduces a mechanism to allow certain requirements to be treated as approved if the relevant authority does not respond within a specified timeframe.

14.1.2 The principle of deemed discharge is addressed in the Town and Country Planning (Development Management Procedure) (England) Order 2015

(DMPO). While deemed discharge is permitted for some planning conditions, Article 30(2) of the DMPO expressly excludes conditions relating to matters of significant complexity and risk, including:

14.1.2.1 Environmental Impact Assessment (EIA) development;

14.1.2.2 Highway safety;

14.1.2.3 Contaminated land;

14.1.2.4 Environmental protection measures, such as biodiversity, heritage assets and flood risk.

14.1.3 The rationale for these exemptions is clear i.e. that such conditions require detailed technical assessment and cannot be left to automatic approval without scrutiny.

14.1.4 Many requirements within the DCO i.e. particularly those relating to ecology, heritage, landscape and construction impacts are analogous to the exempted conditions under the DMPO. These requirements involve:

14.1.4.1 Protection of irreplaceable habitats (e.g. ancient woodland and veteran trees);

14.1.4.2 Safeguarding heritage assets and cultural landscapes;

14.1.4.3 Managing complex environmental mitigation measures.

14.1.5 Allowing deemed discharge for these requirements would undermine the precautionary approach embedded in National Policy Statement EN-5, as well as statutory duties under the Planning Act 2008 and Environmental Impact Assessment Regulations.

14.1.6 The Council requests that the Examining Authority amends the provision to exclude all requirements relating to environmental, ecological, heritage and other high-risk matters, consistent with the DMPO 2015 exemptions.

14.1.7 By analogy with the DMPO 2015, deemed discharge is inappropriate for requirements involving complex and sensitive issues. Active approval by the relevant authority is essential to ensure compliance with national policy and to prevent significant harm to the environment and communities.

14.2 Importance of Precise Wording

14.2.1 It is critical to recognise that the National Grid team responsible for pre-application and examination will not manage post-consent implementation. Instead, a separate team will rely entirely on the wording of the DCO consent. Contractors appointed post-consent often seek changes to agreed management plans (e.g. working hours) due to unforeseen issues or programme constraints. This underscores the need for clear, robust and practical drafting at the outset.

14.3 Timeframes for Discharge

14.3.1 The proposed 28-day period for discharge is, in the Council's view, unrealistic and unworkable. This is a major issue for the council. Faced with that unrealistic timeframe, the Council may be put in a position where it has no option but to refuse an application for discharge. The Council requires a minimum of 8 weeks/56 days to discharge requirements.

14.3.2 It is unclear in places whether this means calendar days or working days and whether bank holidays are excluded. This must be explicit.

14.3.3 The Council's requirement to allow 8 weeks to discharge a requirement is reasonable when compared to the current statutory timeframes for discharge of conditions under the Town and Country Planning Act (TCPA) are:

14.3.3.1 8 weeks for most applications;

14.3.3.2 16 weeks for EIA developments.

14.3.4 As to the periods of consultation: Prescribed consultees typically require 21 days for initial consultation with further consultation often necessary. Complex applications often necessitate further consultation, particularly where specialist input is required (e.g. environmental health, ecology, heritage). A five-day window in Schedule 4, Requirement 2, paragraphs (2) and (3) does not allow sufficient time for:

14.3.4.1 Reviewing technical documentation.

14.3.4.2 Liaising with internal specialists.

14.3.4.3 Identifying gaps or requesting additional information.

14.3.5 The requirement should be amended to allow a minimum of 21 days for initial review, with flexibility for further consultation where necessary. This ensures:

14.3.5.1 Proper scrutiny of proposals;

14.3.5.2 Compliance with statutory consultation norms;

14.3.5.3 Avoidance of rushed or incomplete assessments that could compromise decision.

14.3.6 The concern of National Grid that longer timeframes will lead to delays is unfounded. The Council's experience demonstrates proactive engagement with developers, enabling projects to remain on track. For example, RWE is ahead of programme due to effective collaboration with the Norfolk Council's.

14.3.7 The Council considers it is necessary to adopt the Vanguard DCO Procedure for discharge of Requirements for this DCO to ensure a proven, workable practical approach is adopted:-

*"**Applications made under requirement***

***1.**—(1) Where an application has been made to a discharging authority for any agreement or approval required pursuant to requirements 13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33 and 34 in Part 3 of Schedule 1 (requirements) of this Order:*

(a) the undertaker must give the discharging authority sufficient information to identify the requirement(s) to which the application relates;

(b) the undertaker must provide such particulars, and the request be accompanied by such plans and drawings, as are reasonably considered necessary to deal with the application.

(2) The discharging authority must give notice to the undertaker of its decision on the application before the end of the decision period.

(3) For the purposes of sub-paragraph (2), the decision period is—

(a) where no further information is requested under paragraph 2 (further information), 8 weeks from the day immediately following that on which the application is received by the discharging authority;

(b) where further information is requested under paragraph 2 (further information), 8 weeks from the day immediately following that on which further information has been supplied by the undertaker under paragraph 2; or

(c) such longer period as may be agreed by the undertaker and the discharging authority in writing before the end of the period in sub-paragraph (a) or (b).

Further information

***2**.—(1) In relation to any application to which this Schedule applies, the discharging authority has the right to request such further information from the undertaker as is necessary to enable it to consider the application.*

(2) If the discharging authority considers such further information to be necessary and the requirement does not specify that consultation with a requirement consultee is required, it must, as soon as reasonably practicable and within 20 business days of receipt of the application, notify the undertaker in writing specifying the further information required.

(3) If the requirement specifies that consultation with a requirement consultee is required, the discharging authority must issue the consultation to the requirement consultee within 10 business days of receipt of the application, and must notify the undertaker in writing specifying any further information requested by the requirement consultee within 10 business days of receipt of such a request and in any event within 42 days of receipt of the application.

(4) If the discharging authority does not give such notification as specified in sub-paragraph (2) or (3) it is deemed to have sufficient information to consider the application and is not thereafter entitled to request further information without the prior agreement of the undertaker."

14.4 Fees

14.4.1 The proposed fixed fee of £145 is outdated. As of April 2025, the national fee for discharge of conditions is £298. Fees should align with the national fee schedule and refund provisions should reflect national practice.

15. Recommendations in respect of Requirements

15.1 Minimum discharge period: No less than 8 weeks, consistent with TCPA discharge of conditions timescales;

15.2 Clarify timeframes: Specify whether periods are calendar or working days and exclude bank holidays;

15.3 Remove deemed consent provisions in Schedule 4;

15.4 Align fees with the national schedule and refund provisions with national practice;

15.5 Ensure flexibility in consultation and response times to reflect statutory consultees' involvement.

CONCLUSION

16. South Norfolk District Council appreciates the opportunity to provide this Relevant Representation and remains committed to engaging constructively throughout the examination process.

17. The Council respectfully requests that the Examining Authority gives full consideration to the matters raised, particularly those relating to environmental protection, local impacts, and compliance with statutory requirements.

18. We look forward to continued dialogue to ensure that the proposed development delivers its objectives while safeguarding the interests of our communities and the environment.