

Submission ID: S54E9D35F

As Chair wish to speak at the hearing on behalf of Tivetshall Parish Council. Our organisation supports the BEPS submission.

Written Summary of Representation

East Pye Solar – EN0110014

Land Parcel 2, BESS, Project Substations and Associated Infrastructure

Submitted on behalf of Tivetshall Parish Council

Tivetshall Parish Council objects to the inclusion of Land Parcel 2, comprising Sub-Sites 2A, 2B and 2C, together with the adjoining Battery Energy Storage System (BESS), Project Substations and associated grid, cable, access and highway infrastructure.

The Parish Council does not contend that the Applicant has undertaken no environmental assessment, nor does it object to renewable-energy development in principle. The concern is whether the considerable body of submitted material demonstrates, with sufficient clarity and certainty, that this concentration of development has been appropriately located, assessed and mitigated and that the conclusions relied upon by the Applicant are secured through the Development Consent Order.

Site 2 extends to approximately 99.9 hectares. It forms part of a sensitive rural landscape containing public rights of way, listed buildings, the setting of Wacton Conservation Area, productive agricultural land, principal and secondary aquifers, a Drinking Water Safeguard Zone, Source Protection Zone III, watercourses, ponds, hedgerows and important ecological corridors. The nearby BESS and grid infrastructure add materially different safety, drainage, noise, lighting and emergency-response considerations.

Scheme definition and Rochdale Envelope

A recurring concern is that significant elements of the final development remain subject to later detailed design. These include aspects of the BESS technology and layout, battery arrangements, Project Substation technology, equipment locations, drainage and firewater containment, noise mitigation, landscaping, panel configuration and detailed access arrangements.

The Parish Council does not suggest that use of a Rochdale Envelope is inherently inappropriate. However, where environmental conclusions depend upon particular layouts, equipment, screening, buffers or operational characteristics, the Applicant should demonstrate that the assessed worst case genuinely encompasses what may ultimately be constructed and that necessary limitations are enforceably secured.

The relationship between the defined “BESS Site”, Sub-Site 1B and Work No. 2 should also be definitively reconciled, including the correct parish location and confirmation that the same development boundary has been used consistently throughout the Environmental Statement, Works Plans, Land Plans and draft DCO.

Site selection and alternatives

The Applicant explains the importance of proximity to the Bramford–Norwich 400kV network and Point of Connection, access and land availability. However, the Parish Council considers that this does not itself demonstrate that the BESS, Project Substations or Sites 2A and 2B represent the least environmentally harmful practicable locations.

The Applicant should therefore provide a transparent parcel-specific account of the alternatives considered, the constraints applied, mitigation introduced after site selection, alternatives rejected and the environmental consequences remaining after mitigation. Particular scrutiny is required where site selection was influenced by land availability and landowner participation and where later design changes were necessary to respond to flooding, ecology, landscape, residential amenity, noise or safety constraints.

BESS safety, emergency response and water protection

The Applicant’s own Battery Safety Management material recognises hazards including thermal runaway, fire, explosion, toxic-gas release, reignition and contaminated firefighting water. The Parish Council’s concern is not that these hazards have been ignored, but that important safety-critical matters remain dependent upon final technology selection and later detailed plans.

The Applicant should demonstrate that the final BESS configuration remains within the assessed safety envelope and should secure appropriate separation, emergency access, firefighting-water provision, firewater containment, drainage isolation, incident response and post-incident remediation.

This is particularly important because groundwater and private water supplies are sensitive receptors. The Applicant should establish the relevant pathways and provide receptor-specific protection where contamination from construction, piling, transformers, drainage systems or a BESS incident could reasonably occur.

Water, drainage and ground conditions

Sites 2A and 2B contain or adjoin ditches, watercourses and drainage features and design evolution within Site 2B has already responded to areas of surface-water flood risk.

The Parish Council asks that the Applicant provide a coordinated field-level understanding of drainage pathways, ponds, ditches, watercourses, cable crossings, access tracks, flood-risk areas and relevant groundwater or private-water receptors. Reliance upon general principles and future detailed drainage design should not substitute for demonstrating at Examination stage that the development can be delivered without unacceptable effects.

Climate-change allowances, extreme rainfall, soil compaction, runoff, groundwater recharge and containment of contaminated firewater should be considered together.

Ecology and biodiversity

The Applicant has undertaken substantial scheme-wide ecological survey work. The difficulty is determining from the submitted material precisely how the evidence applies to individual Site 2 fields and the adjoining BESS/infrastructure area.

Relevant receptors include breeding and wintering farmland birds, barbastelle and other bats, great crested newts, badgers, aquatic ecology, invertebrates, hedgerows, trees, ponds, ditches and roadside habitats. Land Parcel 2 also includes Countryside Stewardship interests supporting farmland birds.

The Applicant should provide a clear parcel-specific ecological schedule identifying survey coverage, results, habitat losses, mitigation, licensing requirements and residual effects, together with a transparent BNG position for the BESS and associated hard infrastructure.

Landscape, heritage, tranquillity and public rights of way

The Applicant's own landscape material identifies Site 2 as part of an open rural landscape with expansive skies and a PRoW network of substantial recreational value. Sub-Site 2B is also identified as lying within an area of very dark night skies.

Solar panels, substations, inverters, transformers, fencing, CCTV, access tracks and planting would be experienced collectively. Proposed planting may reduce some visibility over time but does not remove the need to assess effects before planting matures and may itself alter historic openness.

The Applicant should demonstrate the effect upon the settings of nearby listed buildings, Grade I churches, Wacton Conservation Area and the historic pattern of lanes, field boundaries and routeways.

Similarly, continued legal availability of a PRoW should not be treated as equivalent to retention of its existing environmental experience. Routes presently crossing open countryside may instead become enclosed by panels, fencing, construction activity and infrastructure. Effects upon openness, tranquillity, safety and recreational value therefore require consideration.

Transport, highway safety and utilities

The proposed works affect the A140, B1134 Station Road and surrounding rural lanes. The Applicant should clearly distinguish normal construction movements from abnormal-indivisible-load requirements and provide final swept-path evidence, temporary and permanent highway works, vegetation removal and reinstatement arrangements.

Where widening or straightening of Station Road is required, the effects on pedestrians, cyclists, equestrians, junctions, local properties and connected PRoWs should be expressly assessed.

Glint and glare capable of affecting sections of the A140 has been assessed on the basis that intervening vegetation, buildings and terrain provide screening. Where highway safety depends upon panel orientation, anti-reflective characteristics, setbacks or vegetation, those controls should be secured for the operational lifetime.

B4RN fibre and other utilities should similarly be protected through verified asset-location and construction procedures rather than indicative mapping alone.

Noise, agricultural land and climate resilience

The BESS, substations, tracker panels, inverters, transformers and cooling equipment would introduce operational industrial sound into an exceptionally quiet rural environment. The Applicant should demonstrate the combined worst-case operational effect of the final plant, including night-time operation, tonality, intermittency and low-frequency characteristics and secure appropriate limits and verification.

The development also affects productive agricultural land, including Best and Most Versatile land. The Applicant should distinguish temporary solar occupation from permanent or potentially irreversible effects associated with substations, BESS foundations, hardstanding, piling, access tracks and drainage alteration.

Climate assessment should address not merely the general benefits of renewable generation but the resilience of the infrastructure itself to extreme rainfall, heat, drought, fire and changing groundwater and drainage conditions.

Cumulative and in-combination effects

This is the principal overarching concern.

Residents will not experience the development as separate technical chapters. Site 2, the BESS, Project Substations, National Grid infrastructure, cable corridors, highway works, traffic, noise, lighting, drainage changes and ecological effects will be experienced together within the same rural landscape.

The Parish Council therefore asks the Examining Authority to require a genuinely integrated assessment of the western infrastructure cluster affecting Tivetshall, Great Moulton and Wacton.

Requested outcome

Before reaching its recommendation, the Parish Council respectfully asks the Examining Authority to require the Applicant to:

- provide a consolidated and auditable Site 2/BESS/infrastructure schedule identifying the final or tightly controlled development envelope and mitigation relied upon for each principal receptor;
- reconcile the aviation, highway, utilities, ecology, water, heritage, landscape, noise and PRow assessments with the final design;
- demonstrate that safety-critical and environmentally significant matters deferred to detailed design remain within a properly assessed worst-case envelope;
- secure through the DCO all controls upon which conclusions of acceptable or “not significant” effects depend; and
- assess Site 2, the BESS, Project Substations, National Grid infrastructure and associated works as an integrated cumulative infrastructure cluster.
-

Tivetshall Parish Council submits that the burden remains upon the Applicant to demonstrate that the Scheme is sufficiently defined, assessed and secured for determination. If material environmental effects cannot be adequately demonstrated, avoided, mitigated and secured through the Examination, those affected elements should be removed or materially redesigned; and where the environmental harm of the Scheme as a whole cannot satisfactorily be addressed, the Development Consent Order should not be granted.

-oOo-

**Objections submitted in response to The Applicant Solar
PINS Reference: EN0110014**

**Land Parcels 2A, 2B, Project Substation, BESS and all associated
infrastructure**

**Submitted on behalf of Tivetshall Parish Council who endorse the
submission by Block East Pye Solar**

Compiled with support from:

██████████ and ██████████ of Block East Pye Solar
and numerous Tivetshall residents.



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NHER 10971*



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DISCLAIMERS

This document has been prepared on the basis of the information and application documents available at the date of preparation. Tivetshall Parish Council understands that The Applicant has continued to amend, supplement and update material submitted to the ExA during the examination process.

Accordingly, Tivetshall Parish Council respectfully asks the Examining Authority to read this submission in the context of the information reasonably available to us at the time it was prepared. Where subsequent Applicant submissions clarify, amend or supersede earlier information, any resulting discrepancy within this document is unintentional and should not be interpreted as an attempt to misrepresent the Applicant's case or evidence.

Tivetshall Parish Council has sought throughout to present the Applicant's evidence accurately and fairly, while identifying those matters on which we consider further clarification, evidence or examination is required.

Tivetshall Parish Council has worked from its own and manual research carried out by Block East Pye Solar human research team. We have also used a bespoke GPT within a closed project folder to cross-reference manual research with uploaded East Pye Solar ES chapters, statutory consultee submissions, peer-reviewed research documents, EIA best practice, PINS scoping and other PINS documents. Responses are structured and drafted within the closed project but all submissions are argued, assembled, edited, checked manually by humans and are the responsibility of Tivetshall Parish Council.

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Executive Summary

Tivetshall Parish Council objects to the inclusion of Land Parcel 2, comprising Sub-Sites 2A, 2B and 2C, together with the adjoining BESS, Project Substation and associated infrastructure cluster, because The Applicant's own submitted documents identify a concentration of sensitive environmental, community and safety receptors in this locality.

The issue is not that The Applicant has undertaken no assessment. Extensive Environmental Statement chapters, technical appendices, management plans and mitigation documents have been submitted. The concern is that, for this particularly constrained part of the Scheme, important conclusions of "not significant" depend upon assumptions concerning final layout, panel type and orientation, existing and proposed screening, later detailed design, outline management plans and mitigation which has yet to be demonstrated at the individual parcel and receptor level.

Site 2 is approximately 99.9 ha and lies within a sensitive rural landscape containing an extensive PRoW network, listed buildings, the adjacent setting of Wacton Conservation Area, principal and secondary aquifers, a Drinking Water Safeguard Zone, Source Protection Zone III, watercourses, ponds, hedgerows and important ecological corridors.

Tivetshall Parish Council therefore submits that these are not isolated impacts capable of being considered separately. They must be examined together, including the relationship of Site 2 with the nearby BESS, Project Substations, National Grid infrastructure, cable corridors, construction routes and the communities of Tivetshall, Great Moulton and Wacton.

1. Aviation safeguarding – Tibenham Airfield

Land Parcel 2 and The BESS both lie within Tibenham **Airfield safeguarding and EFATO** (Engine Failure After Take-Off) zones. **The airfield operator has explicitly stated that development within these parcels poses an existential threat to glider safety.**

Tivetshall Parish Council therefore asks the Examining Authority to test the Applicant's assumptions against the operational evidence of Norfolk Gliding Club. (The Club also incorporates a flying training school involving student and low-hours pilots activity. Plus military helicopters may use the facility). This highlights the risk and adequacy of remaining forced-landing areas, the final extent and configuration of panels, glider operating characteristics and the cumulative loss of suitable open agricultural landing ground.

Where aviation safety depends upon particular areas remaining free from panels or upon particular panel configurations, those limitations should be secured in the DCO rather than left to later detailed design. If aviation safety cannot be satisfactorily demonstrated, the affected solar areas should be removed or materially redesigned.

2. Highways safety – A140 glint and glare

Land Parcel 2 runs **directly alongside the A140**, a major strategic route. **Highways consultees have already raised concerns regarding glint and glare affecting road users.**

The Applicant's subsequent assessment accepts that solar reflections are geometrically capable of affecting approximately 4.2 km of the A140, but concludes that existing vegetation, buildings and intervening terrain would obstruct views of reflecting panels and that the resulting effect would therefore be Negligible and Not Significant.

Tivetshall Parish Council accept that the A140 has been assessed. The issue is whether a safety conclusion for a 60-year development is sufficiently robust where the assessment depends materially upon existing screening and where both fixed and single-axis tracker panel options remain within the design envelope. The Applicant itself confirms that both panel types were assessed because either could represent the worst case.

Tivetshall Parish Council request the ExA require the final panel orientation, anti-reflective characteristics, setbacks and any essential screening relied upon for highway safety to be clearly identified and secured for the lifetime of the development, including provision for loss, failure or removal of screening vegetation.

Relevant Applicant documents: [\[APP/6.1.18; APP/6.3.18.1; APP/6.3.2.2; APP/7.15; APP/7.18\]](#)

3. Critical community infrastructure – B4RN broadband

B4RN community fibre-optic broadband infrastructure runs through Land Parcel 2 and also **along the verges of Station Road**, which is essential for construction access.

Tivetshall parish Council objection is therefore not absence of mapping but whether the submitted information provides adequate construction-level protection for the locally important B4RN network, particularly where shallow fibre routes may interact with field margins, verges, access works, cable trenches and highway works. Indicative utility mapping cannot by itself establish the exact depth and position of every local fibre cable or demonstrate how it would be protected during excavation, widening, abnormal-load movements and other construction activity.

Tivetshall Parish Council therefore asks for a B4RN-specific asset protection and liaison procedure, including verification of precise cable positions before intrusive works, appropriate trial-hole or detection procedures, agreed crossing/protection methods, provider notification, emergency repair arrangements and responsibility for any interruption.

This is particularly important in a rural community where broadband provides ordinary communications, business connectivity and access to services.

Relevant Applicant documents: [\[APP/6.1.18; APP/6.2.18.1; APP/5.11; APP/7.1; APP/3.1\]](#)

4. Countryside Stewardship land – ground-nesting birds

Land Parcel 2 includes **live Countryside Stewardship agreements** targeted at **lapwing habitat** and supporting **skylark and turtle dove** populations. These schemes are publicly funded to create and maintain functional breeding habitat.

Ground-mounted solar infrastructure would:

- destroy nesting habitat outright;
- introduce fencing, surveillance, disturbance and predation pressure;
- permanently remove functionality.

Empirical evidence (including post-construction monitoring at Llanwern) demonstrates that mitigation and compensation do not work for these species at scheme scale. This is an irreversible loss of publicly funded biodiversity and cannot be balanced away.

Tivetshall Parish Council asks that the ExA requests The Applicant demonstrate, parcel by parcel, what existing farmland-bird habitat would be displaced, what stewardship commitments would be affected and where effective replacement habitat would be provided throughout the operational period.

Relevant Applicant documents: [\[APP/6.1.8; APP/6.3.8.4; APP/6.3.8.10; APP/7.4; APP/7.23\]](#)

5. Heritage and Conservation Area Setting

Land Parcels 2A, 2B and 2C lie within the setting of the Wacton Conservation Area, and Tivetshall's Adopted Neighbourhood Plan whose adopted appraisal identifies its special interest as deriving from:

- openness;
- long, uninterrupted views;
- historic landscape legibility;
- absence of intrusive modern infrastructure.

Nearby designated assets include **Wacton Hall (Grade II)***, nearby **Grade I churches**, and a **Grade II listed building within c.80m of Sub-Site 2A**.

Tivetshall Parish Council's concern is that solar arrays, inverter and transformer equipment, fencing, CCTV, access tracks, cabling and associated planting would be experienced collectively rather than as isolated components. Planting may provide visual screening, but in an open historic landscape additional belts of vegetation can themselves alter historic openness, views and landscape legibility.

Tivetshall Parish Council request the ExA should therefore examine the combined change to setting, rather than relying only upon whether individual views can eventually be screened.

Relevant Applicant documents: [\[APP/6.1.7; APP/6.3.7.2; APP/6.1.10; APP/6.3.10.1; APP/7.4; APP/7.17\]](#)

6. Public rights of way and experiential severance

Multiple **public rights of way cross and border Land Parcel 2**, and border the BESS and project sub station sites forming part of the way the conservation area and open countryside are experienced.

The Applicant's own landscape baseline describes that network as providing a high level of recreational value.

Tivetshall Parish Council submit that the number and alignment of routes, harm cannot be avoided through micro-siting.

Solar development would:

- enclose routes with fencing;
- alter views and character;
- introduce industrialisation into routes valued for openness and tranquillity.

The Applicant's Outline PRow and Permissive Paths Management Plan confirms, amongst other matters, that Tivetshall St Margaret FP8 interfaces with Sub-Site 2A and would remain "open but managed", while RB6 crosses Sub-Site 2B/CRC2 and is identified for a medium-term restriction. Other connected routes would also be affected during construction.

Tivetshall Parish Council's objection does not rest solely upon an assertion that routes would be legally severed. Routes presently experienced through open agricultural countryside would be bordered or crossed by solar panels and their infrastructure, fencing, construction works, cable routes and associated planting.

Retaining the legal line of a PRow does not necessarily retain its rural character, tranquillity, openness or recreational value including receptor safety..

Tivetshall Parish Council asks the Examining Authority to distinguish between continued legal availability of a route and the environmental experience of using that route, during construction and throughout the operational period.

Relevant Applicant documents: [APP/7.8; APP/6.1.7; APP/6.2.7.10; APP/6.1.11; APP/6.1.12]

7. Water environment and aquifer sensitivity

The Applicant's own evidence establishes that Site 2 is environmentally sensitive in water terms and identifies Site 2 as lying within a Drinking Water Safeguard Zone and Source Protection Zone III. It also records multiple unnamed watercourses through Sub-Site 2B. The underlying geology includes Principal Aquifers, with superficial Lowestoft Formation deposits classified as a Secondary aquifer.

The final ES classifies private water supplies within 1 km of the Order Limits, together with relevant Principal Aquifer formations, as Very High sensitivity receptors.

The Applicant has submitted a Water Environment assessment, Flood Risk Assessment, Water Resources Assessment and ground-conditions material. Tivetshall Parish Council's concern is therefore not absence of water assessment, but whether the Scheme demonstrates the effects at the individual field and receptor level, particularly where panel runoff, soil compaction, access tracks, cable trenches, ditch crossings, construction compounds and final drainage arrangements interact.

This is especially important because the design evolution of Sub-Site 2B itself records changes in response to surface-water flood constraints.

Tivetshall Parish Council asks that the Examining Authority require a clear Site 2 hydrological and hydrogeological schedule identifying watercourses, ditches, ponds, drainage pathways, private-water receptors, construction crossings and monitoring/contingency measures before concluding that the residual effects would be insignificant.

[The Applicant documents: \[APP/6.1.9; APP/6.3.9.1; APP/6.3.9.3; APP/6.1.16; APP/6.2.16.5; APP/7.1\]](#)

8. Great crested newt strategic opportunity area

The Applicant has undertaken Great Crested Newt survey work and has submitted a specific GCN Survey Report and protected-species mitigation strategy.

The examination issue is whether the pond, ditch and terrestrial-habitat network within and adjoining Site 2 and the BESS site has been sufficiently clearly related to the final panel, cabling, access, drainage and construction footprint and whether any necessary licensing or mitigation pathway is demonstrably deliverable.

Given the number of ponds, ditches, hedgerows and connected habitats within Site 2 and the BESS site, Tivetshall Parish Council requests a clear parcel-specific GCN plan showing surveyed ponds, terrestrial habitat, connectivity, buffers, proposed works and any licensing or mitigation requirements.

[Relevant Applicant documents: \[APP/6.1.8; APP/6.3.8.3; APP/6.3.8.10; APP/7.4\]](#)

9. Barbastelle bats – Core Sustenance Zone overlap

Land Parcel 2 lies within a **Core Sustenance Zone (CSZ) for barbastelle bats**, linking it functionally to confirmed and likely maternity colonies within the wider East Pye scheme landscape. Within CSZs, land provides essential foraging, commuting and ecological connectivity required to support breeding success. The scale and permanence of the proposed development at Land Parcel 2 including panel arrays, fencing, lighting, inverter infrastructure, access tracks and prolonged construction activity - would introduce disturbance, fragmentation and functional habitat loss that **cannot be excluded** as affecting breeding and resting places.

The BESS Site and project substation may similarly bring different elements of disturbance to their natural environment.

Tivetshall Parish Council submits that The ExA should require the Applicant to demonstrate the avoidance of protected roosts and functional habitat and identify any licensing requirement arising once the final design is known. The cumulative effect of habitat change across Site 2 and the adjoining infrastructure cluster should also be expressly addressed.

Relevant Applicant documents [APP/6.1.8; APP/6.3.8.5; APP/6.3.8.6; APP/6.3.8.10; APP/7.4; APP/7.25]

10. Conclusion

Tivetshall Parish Council accepts The Applicant has submitted a substantial Environmental Statement and supporting technical evidence.

Tivetshall Parish Council's objection is more fundamental: The Applicant's own evidence demonstrates that Site 2 and the adjoining BESS/grid infrastructure occupy a highly constrained rural location in which numerous sensitive receptors coincide. These include aviation, the A140, local utilities, farmland birds, protected species, listed buildings and historic landscape, an extensive PRoW network, safeguarded groundwater and private water interests.

In several cases The Applicant's "Not Significant" conclusions depend upon mitigation, existing vegetation, outline management plans, design parameters or detailed arrangements that remain to be fixed. In others, the Applicant accepts that the Scheme has already had to be reduced, buffered or altered in response to identified constraints.

Tivetshall Parish Council submits that the application does not yet provide a sufficiently transparent local receptor-area assessment showing what it will mean when the solar arrays, BESS, Project Substations, National Grid infrastructure, cabling, access works, traffic, noise, lighting, drainage and ecological change are experienced together by the same communities and landscape.

Accordingly, Tivetshall Parish Council asks the Examining Authority to require, before reaching its recommendation:

- a consolidated and auditable Site 2/BESS infrastructure and environmental schedule, showing the final or tightly controlled development envelope and the mitigation relied upon for each principal receptor;
- reconciliation of the aviation, highway, utilities, ecology, water, heritage and PRoW evidence with the final design;
- clear and enforceable controls where The Applicant's conclusions depend upon panel orientation, screening, buffers, habitat retention, drainage or later detailed design; and
- an integrated assessment of the cumulative effect of Site 2 with the BESS, Project Substations, National Grid Substation and associated infrastructure on Tivetshall, Great Moulton and Wacton.

If those matters cannot be satisfactorily resolved and secured through the Examination, Tivetshall Parish Council submits that where the environmental harm of the Scheme as a whole cannot be adequately avoided or mitigated, the Development Consent Order should not be granted.

Chapter 1: Introduction

1.1 Tivetshall Scheme Issues

- Lack of scaling
- Lack of clear definitive appendices
- Incorrect page references of sites number in the Works Plans AS002 and AS003
- Why do the documents in the footers not contain the proper file document referencing and revisions numbers?
- All of the above makes it nearly impossible to be able to correlate exactly how this scheme actually relates to each parcel of land

We would ask the ExA to request the Applicant to ensure that the revisions and documents all correlate.

Relevant Applicant documents: APP/6.1.1; APP/6.1.3; APP/6.1.4; APP/2.1; APP/2.3; APP/7.18; AS-002/AS-003

1.2 Overview

The parish of Tivetshall includes the former parishes of Tivetshall St Margaret and Tivetshall St Mary. The Tivetshall parish constitutes a distinct neighbourhood unit characterised by a defined settlement boundary, a coherent pattern of rural residential development, and a strong functional relationship with the surrounding agricultural landscape. National neighbourhood-planning guidance identifies several relevant factors when determining appropriate neighbourhood areas, including:

- village or settlement boundaries,
- the catchment for walking to local services,
- the physical appearance and characteristics of the neighbourhood,
- the natural setting and features, and
- the area where community networks operate.

These criteria collectively demonstrate that the open fields immediately adjoining the village form an integral part of its **natural setting, visual envelope, and amenity buffer**. They are not simply vacant land but function as the transitional zone that maintains the rural character of the neighbourhood and protects the interface between residential receptors and larger-scale land uses.

The proposed siting of a **Battery Energy Storage System (BESS)** and **solar generation infrastructure** within these fields represents a material departure from the established land-use pattern. BESS installations and 400Kv Project Substation constitute industrial-scale engineering operations, and solar arrays in sites 2A, 2B and 2C (Wacton) represent large-scale built development with significant landscape, safety, and infrastructure implications. Their introduction at the village edge would:

- **disrupt the settlement boundary**, replacing bmv agricultural land with industrial infrastructure;

- **alter the physical characteristics** of the neighbourhood through massing, fencing, hard surfacing, and associated grid-connection works;
- **erode the natural setting**, removing the open rural buffer that currently defines the village's edge;
- **introduce disproportionate infrastructure demands**, contrary to guidance that neighbourhoods should consider infrastructure needs early and ensure development is deliverable and sustainable;
- **conflict with community-based spatial identity**, given that neighbourhood planning empowers communities to shape development in ways that reflect local character and settlement form.

The proposed BESS/substation/solar arrays siting is incompatible with the neighbourhood-area characteristics recognised in national guidance and would result in a significant adverse change to the village's landscape setting, amenity environment and settlement coherence

The Tivetshalls have exceptionally deep historic roots. Recorded in the Domesday Book under several spellings, including Teveteshala and Tivetessala, it was already a well-established community by the 11th century. Its name is of Old English origin and is commonly interpreted as meaning either “nook of land” or “lapwing's nook”, reflecting the area's early landscape character.

Historically, the area comprised two distinct parishes: Tivetshall St Margaret and Tivetshall St Mary. Each had its own church, settlement pattern and local identity. Although the two parishes were formally merged in 2019, their separate historic identities remain evident in the landscape structure, archaeology, road network and cultural memory of the area.

The lanes, footpaths byways and bridleways surrounding the The Applicant sites form fundamental historic elements of Tivetshall, Great Moulton and Little Moulton. They are not merely modern access routes, but surviving components of a medieval landscape that continues to shape the character of the present-day parishes.

The site chosen for East Pye Solar project lies within one of the most historically sensitive parts of both Tivetshall and Great Moulton. This landscape preserves the footprint of Little Moulton, a medieval settlement that contracted and disappeared following repeated plague outbreaks. Although no buildings survive above ground, the location of the former settlement is identified

through historic mapping, documentary evidence and the surviving lane network. The site of its former church, All Saints, is known locally as The Sanctuary.



Lodge Road is historically sensitive and highly constrained. Historic England records a Grade II listed early 19th-century house known as The Lodge, located on Lodge Road in Tivetshall St Margaret. This is the clearest formal historic reference connected to the lane. The listing confirms the building's architectural and historic interest, and its name strongly suggests a historic estate or boundary lodge. Such buildings often gave rise to road names such as Lodge Lane or Lodge Road, indicating that the lane may historically have served or led to this property, or to a larger estate of which The Lodge

formed part.

Hundred Way is similarly important. Its name reflects the historic boundary of Depwade Hundred and marks a long-standing territorial division between Tivetshall St Margaret and Great Moulton. It remains the parish boundary today. The East Pye proposal would do more than restrict access: it would transform a historic, tree-lined rural route.

This reinforces the historic sensitivity of the area, as medieval settlements were often positioned near administrative, parish or landscape boundaries. Frith Way and Lodge Road are a continuous route between Tivetshall St Margaret and Great Moulton. It also has clear historic significance. Its name derives from the Old English frith, meaning woodland or wooded pasture and it appears to preserve the line of a medieval woodland edge. Its position close to The Sanctuary suggests that Little Moulton stood within, or beside, a historic wood-pasture landscape, a setting commonly associated with early Norfolk settlement.

The Applicant's own evidence contradicts the claim that Hundred Lane would remain unaffected. It identifies the lane as a historic, tree-lined rural route and Restricted Byway, largely unchanged since at least 1883–1884. The proposal would place it between the BESS and major 400 kV infrastructure, cross it with a construction haul route retained for permanent maintenance access, remove vegetation, introduce operational traffic and materially alter its landscape setting and users' experience

Chapter 2: Environmental Impact Assessment Methodology

1.1 Tivetshall Environmental Impact Assessment Methodology Issues

- Lack of clear definitive appendices
- Incorrect page references of sites number documents AS-018 and AS-019
- Why do the documents in the footers not contain the proper file document referencing and revisions numbers?
- All of the above makes it almost impossible to be able to ensure each document is easy to recognise when multiple documents are open

Tivetshall PC would comment to the ExA that our objection is not the absence of some EIA assessments but the reliance on the Rochdale Envelope which affects adequacy transparency and parcel specific evidence.

Relevant Applicant documents: [APP/6.1.2](#); [APP/5.11](#); [APP/5.12](#); [APP/7.1](#); [APP/7.26](#); [AS-017](#); [AS-018/AS-019](#).

The Applicant states that its Environmental Statement follows the standard EIA sequence: establishing baseline conditions, identifying embedded mitigation, assessing likely significant effects, applying further mitigation where required, assessing residual effects and considering cumulative and in-combination effects. It also relies on a Rochdale Envelope approach because not all technical details have been fixed at application stage.

The difficulty for Sites 2A and 2B is that this broad methodology is only as reliable as the site-specific evidence beneath it. The Applicant defines Site 2 as approximately 99.9 ha, divided into Sub-Sites 2A, 2B and 2C. Sub-Site 2B alone is identified as approximately 43.1 ha, centred on NGR TM 18536 88946, and is proposed for solar PV generating land with panels, inverters, transformers, switchgear, cabling, fencing, CCTV, construction access and associated infrastructure.

The Applicant's own design-evolution material shows that Sub-Site 2B required later reductions to the solar PV array area to accommodate hedgerows, field margins, landscape and ecological mitigation and areas of high surface-water flood risk. This suggests mitigation was applied after the parcel had already been selected, rather than demonstrating that Sites 2A and 2B were chosen through a clear least-harm alternatives exercise.

The baseline for Site 2 is materially sensitive. Sub-Site 2B is crossed by Tivetshall St Margaret RB6, bounded by hedgerows and tree belts and described as having a high degree of recreational value due to the PRoW network. It is also recorded as lying within an area of the darkest night skies. CRC2 links the BESS Site to Sub-Site 2B, while CRC3 links Sub-Site 2A to Sub-Site 2B, meaning these parcels are not isolated solar fields but part of a wider connected infrastructure area.

There are also important ecological and environmental receptors. Lodge Road Roadside Nature Reserve is identified as adjacent to Sub-Site 2B and CRC2, while Site 2 is said to include watercourses, safeguarded water receptors, aquifer sensitivity, Great Crested Newt strategic opportunity habitat, and barbastelle bat core sustenance-zone concerns.

Heritage and archaeology also require closer examination. The documents identify uncertainty around Site 2 archaeological evidence, including references to a Roman harness fitting in Sub-Site 2A and inconsistent descriptions of Trench 2a-01. This raises concern that the archaeological baseline for Sites 2A and 2B has not been presented with sufficient clarity.

In summary, Sites 2A and 2B should not be treated as ordinary or low-risk solar parcels. They form part of a substantial Site 2 landholding within the wider Tivetshall, Great Moulton and Wacton landscape, interacting with PRowWs, hedgerows, dark skies, ecological corridors, water receptors, archaeological features, the A140 corridor and cable-route infrastructure.

Tivetshall Parish Council request the ExA should therefore require The Applicant to provide a clear Sites 2A and 2B clarification note, showing the precise proposed works, access routes, ecological receptors, PRow impacts, archaeological constraints, surface-water and drainage risks, BNG position, construction compounds, cable routes, mitigation commitments and residual effects. Without that parcel-specific evidence, it is difficult to conclude that Sites 2A and 2B have been properly selected, assessed or mitigated

2.1 Missing Water Supplies Surveys and Consultation

2.1.1 The BESS & Substation

Tivetshall and Great Moulton sit on an elevated, free-draining plateau with sensitive groundwater, chalk aquifer receptors and private water supplies. The Applicant's own assessment identifies private supplies within the study area and classifies private water supplies within 1km of the Order Limits as very high sensitivity receptors.

Despite this, the Applicant does not provide a clear, receptor-specific assessment of risk to each private supply. It relies heavily on broad Council, BGS and Environment Agency datasets, with some missing information inferred rather than verified. There is no clear pre-consent evidence confirming abstraction depths, construction details, baseline water quality, groundwater-flow direction, hydraulic connectivity or contaminant travel pathways.

This is particularly concerning because the BESS, National Grid Substation and Project Substations are the elements most associated with potential contamination risks, including transformers, bunding, piling, drainage systems, contaminated runoff and firewater. Yet key matters appear to be deferred until after consent, including intrusive ground investigation, piling and foundation risk assessments, detailed hydrogeological assessment, drainage design and firewater containment.

The 2024 Hawkchurch BESS appeal demonstrates why this matters: permission was refused because of the risk of contaminated firewater reaching private wells and boreholes. The same precautionary principle should apply here. Private water supplies are drinking-water receptors and should not be treated as a secondary issue.

The Applicant's conclusion that there is no significant risk appears to rest on broad assumptions rather than a complete private-water-supply and hydrogeological-risk assessment. Before consent is granted, The Applicant should be required to provide verified private supply mapping, baseline water sampling, groundwater-flow and vulnerability assessment, contamination modelling, firewater containment design, emergency response arrangements and long-term monitoring.

Until that information is provided, The Applicant has not demonstrated that private water supplies and groundwater receptors would be properly protected.

2.1.2 Sites 2A & Part 2B

On personal experience from various landowners many of the sites were surveyed in the unusual drought conditions in 2025, the areas surveyed included normal wet areas that had dried out and all wildlife had temporarily left the location. It appears that Site 2 may have been surveyed later than the main site areas and in some cases, within a more compressed survey programme. As a result, it is unclear whether the Site 2 baseline is complete, seasonally robust, and sufficiently precautionary to support the conclusion that there would be no significant ecological effects.

2.2 Ground Conditions and Contamination

PINS did not accept earlier attempts to scope out ground conditions because existing ground investigation data covered only a small proportion of the Order Limits. That leaves uncertainty across much of the scheme. Excavation, trenching, concrete foundations and possible piling could disturb ground conditions and create pathways for contamination or groundwater impact. Reliance on later Foundation Works Risk Assessments is not sufficient.

2.2.1 Water, Ground Conditions and Drainage Summary

The water and ground conditions for Sites 2A and 2B should be treated as one integrated environmental issue. The Applicant's own documents confirm that the Scheme includes solar PV arrays, substations, BESS, grid connection infrastructure, cable routes, mitigation land and highway works within the Order Limits, with the Sites connected by Cable Route Corridors.

For Sites 2A and 2B, the concern is not only the solar panels themselves, but the combined effect of panel runoff, soil compaction, cable trenching, access tracks, construction compounds, drainage works, field-boundary changes and connection routes. CRC3 links Sub-Site 2A to Sub-Site 2B, meaning these parcels operate as part of a connected infrastructure area rather than isolated fields.

The Applicant's own design-evolution material records that the extent of solar arrays in Sub-Site 2B was reduced to accommodate hedgerows, field margins, landscape/ecological mitigation and an area identified as being at high risk of surface-water flooding. This shows that water and drainage constraints were present within the parcel and had to be addressed after the land had already been selected.

The Applicant's water-environment material also recognises relevant risk pathways, including surface-water runoff, compaction, sediment and pollutant mobilisation, spills, impermeable areas, groundwater recharge effects, cable-related thermal effects and contamination risks from substations, BESS and associated infrastructure. It also identifies private water supplies and permeable geological units as sensitive receptors requiring proper assessment.

Reliance on outline drainage principles, embedded mitigation and future detailed design is not sufficient. The key question is how runoff, ditch connectivity, soil compaction, cable trenches, access routes, surface-water flood-risk areas, private water interests and ecological receptors would interact in the actual fields of Sites 2A and 2B.

The Applicant should therefore be required to provide a Sites 2A and 2B drainage and hydrogeological clarification note, including field-by-field mapping of ditches, drains, ponds, watercourse connections, downstream receptors, cable routes, access tracks, flood-risk areas and any private water supply receptors. It should also confirm baseline monitoring, pollution-prevention measures, emergency response procedures, maintenance responsibilities and how climate-change rainfall has been built into the drainage design.

Tivetshall Parish Council believe until that information is provided, the ExA does not have a sufficiently clear evidence base to conclude that Sites 2A and 2B would avoid harm to the local water environment, groundwater, drainage network, private water interests or connected ecological receptors.

This is particularly important because Site 2 is not ecologically isolated. Lodge Road Roadside Nature Reserve is identified as adjacent to Sub-site 2B and CRC2, while Pulham Market Big Wood SSSI is identified approximately 1.20 km east of Sub-site 2C. The assessment should therefore explicitly address both direct and indirect effects arising from construction access, dust, drainage, lighting, hedgerow loss, verge disturbance, habitat fragmentation and operational management.

2.3 Ecological Surveys, Mapping or Consultation

2.3.1 The BESS & Substation

The Applicant has provided scheme-wide ecology and BNG reporting, including surveys for invertebrates, great crested newt, breeding birds, bats, badger, water vole, otter, aquatic habitat, protected species, BNG and HRA.

However, there does not appear to be a clear BESS-specific ecology or BNG breakdown showing the baseline units, habitat losses, mitigation, enhancements and gains for the BESS and Project Substation..

This is a concern because the BESS is a distinct hard-infrastructure element, involving hardstanding, access, fencing, lighting, security infrastructure, concrete bases and potential piling. These works create specific ecological risks, including habitat loss, fragmentation, lighting effects on bats and nocturnal species, hedgerow impacts, pollution/firewater risk and biosecurity issues.

Tivetshall parish Council submit the ExA should therefore require the Applicant to provide a clear BESS ecology and BNG addendum, identifying the relevant survey results, protected species constraints, habitat and hedgerow impacts, lighting effects, mitigation, monitoring, biosecurity controls and a BESS/Project Substation specific BNG calculation.

2.2.2 Sites 2A & 2B

Based on the The Applicant ecology material found, the issue is not that The Applicant has submitted no ecological material at all. They have submitted a suite of ecology appendices, including desk study / extended habitat survey, invertebrates, GCN, breeding birds, ground-level tree assessment, bat activity, badger, water vole / otter, aquatic habitat assessment and an outline protected species mitigation strategy.

However, the material provided does not give a sufficiently clear, parcel-specific ecological survey audit for Sites 2A and 2B. The assessment is presented as a whole scheme, not on “Sites” or “Sites & CRC” level. This makes it difficult for residents, the ExA and consultees to verify whether every relevant field, hedgerow, pond, ditch, watercourse, verge, access point, cable corridor and construction area within Sites 2A and 2B has been properly surveyed.

Of particular concern is that Site 2B lies adjacent to Lodge Road Roadside Nature Reserve and CRC2, while Sites 2A and 2B include field margins, hedgerows, adjacent field hedgerows, drainage features, PRoW corridors and access/cable interfaces that may support protected and priority species. The submitted material appears to lack a clear standalone reptile survey report, scopes wintering/passage birds out of all phases, treats most breeding bird operational effects as scoped out apart from skylark and relies in places on habitat-suitability or walkover assessment rather than clearly evidenced parcel-specific species survey.

Tivetshall Parish Council submits the ExA should require The Applicant to provide a Sites 2A and 2B ecological survey schedule identifying, for each ecological receptor, the precise survey area, survey dates, methodology, access limitations, results, mitigation, residual risk and whether further pre-consent survey is required.

This should include, at minimum:

- | | |
|---|--|
| ● Reptiles | ● Otters |
| ● Wintering And Breeding Farmland Birds | ● Aquatic Ecology, |
| ● Bats | ● Invertebrates, |
| ● Badgers | ● Hedgerows, Veteran/Roost Trees, |
| ● Great Crested Newts | ● Roadside Nature Reserves |
| ● Water Voles | ● All Access / Cable / Construction-Compound Interface |

Until that information is provided, Tivetshall Parish Council believes the ecological baseline for Sites 2A and 2B cannot be treated as complete or robust.

2.4 Telecoms & Emergency Access

Document EN0110014-000174-6.2.18.1 that states that B4RN (Broadband for the Rural North Ltd-underground), has been mapped along with Openreach - overhead, Openreach - Underground, UK Power Networks High Voltage Overhead Line, Water - Anglian Water.

The Applicant confirms the risk is real: utilities are present within the Order Limits, but the submitted documents do not appear to provide a single asset-location plan for water, sewerage, telecoms, electricity, gas and drainage.

Fibre Broadband is potentially at risk due to their shallow cabling routes in field and road edging, potential interference from metal structures/BESS. Emergency service requirements must be fully addressed due to many of the local population using emergency medical pendant alarms, it is essential that full mapping, protection plans and rapid-repair protocols are put in place to minimise the risk.

2.5 Lack of a Clear Utilities Plan

Although the BESS and project substation site sits within Tivetshall parish, the impacts extend directly into Great Moulton. At present, the application does not include a consolidated plan showing where key utilities are located—such as water mains, sewers, telecoms lines, electricity cables, gas pipelines, or drainage networks.

There also appears to have been limited engagement with the statutory undertakers. For a project like the BESS and its associated infrastructure, it could mean that the application lacks the basic assurance of no essential services being disrupted. Without this basic groundwork, it is difficult for decision-makers to judge whether the project could disrupt essential services or require major diversions later on. This increases the risk of avoidable inconvenience and uncertainty for local residents.

2.6 Climate Change

2.6.1 The BESS & Substation

The Applicant's Climate Change Assessment, ES Chapter 6, relies too heavily on assumptions, generic mitigation, future detailed design and post-consent safety and drainage plans.

The BESS and substation infrastructure are central to the scheme's climate impacts. The Applicant's own figures show BESS replacement accounts for 1,034,103 tCO₂e, or 93.59% of operational emissions and around 85% of total lifecycle emissions. Its claimed carbon benefit is also uncertain, as BESS charging emissions have not been fully assessed and the claimed saving of 957,849 tCO₂e is excluded from the main GHG assessment.

There is also no quantified assessment of potential SF₆ leakage from the Project Substation and National Grid Substation, despite SF₆ having very high global warming potential.

Climate resilience is assessed too generally, with insufficient asset-specific assessment of the BESS, transformers, switchgear, substations, cooling systems, firewater containment, emergency access and groundwater protection.

Tivetshall Parish Council submits the ExA should require The Applicant to submit a BESS and project substation climate-change addendum before consent, covering charging emissions, lifecycle carbon, SF₆ leakage, heatwave resilience, firefighting-water risk, firewater containment and asset-specific climate risks.

2.6.2 Sites 2A & 2B

Tivetshall Parish Council doesn't consider the Proposed Development to meet the climate-resilience requirements of EN-1 or the NPPF. National policy expects major energy projects to remain safe and functional under future climate conditions, yet there is no site-specific assessment showing how this scheme would perform as temperatures rise, rainfall patterns shift, or dry periods become longer.

There are also major gaps in the flood-risk and drainage assessment. No quantitative modelling has been provided for surface water runoff, groundwater behaviour, or flood risk associated with the extensive solar panel coverage. With shallow groundwater, permeable soils and a dense drainage network in this area, the absence of this analysis means it hasn't been demonstrated that the development wouldn't increase flood risk elsewhere.

The EIA also overlooks wider climate-related effects, including potential microclimatic changes and increased drought vulnerability and it doesn't assess how key infrastructure - such as the BESS and project substation - would cope with extreme heat or intense rainfall.

Tivetshall Parish Council believe overall, the submission doesn't provide the site-specific climate risk assessment or adaptation measures required by EN-1, nor does it demonstrate compliance with the NPPF.

2.7 Missing Analysis of Views from Listed Buildings or Impacted Homes

The impacts extend beyond people. The plateau supports a range of wildlife that relies on its open, connected habitats. The introduction of tall, dense, and illuminated structures would fragment these habitats, displace species, and fundamentally alter the ecological function of the area.

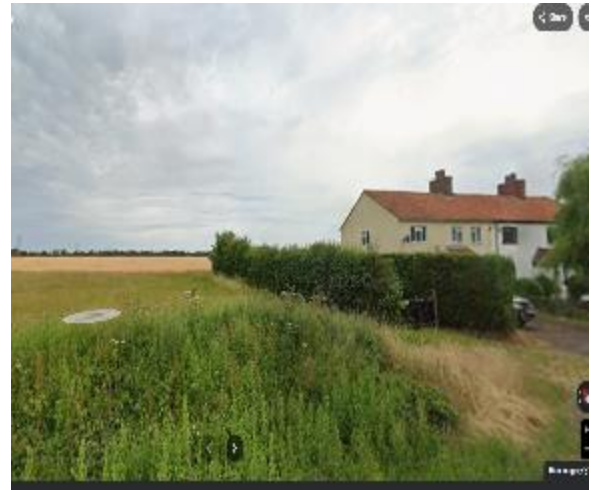
Taken together, the proposal would transform a rural landscape into an industrialised zone, with consequences that have not been adequately assessed, mitigated, or justified. The

community and its environment deserve far more rigorous consideration than this scheme currently provides.

The BESS visual envelope identifies multiple Grade II listed buildings, however the Applicant's conclusion is that most would experience only negligible impact/neutral effect/not significant.

Station Road - B1134 - Homes opposite the proposed BESS Site and Project Substation

Fernleigh Cottages



The Cottage

Photos courtesy [REDACTED] July 2026

The current view from these homes on Station Road B1134 which is the proposed location of the Project Substation and BESS site.



Photo courtesy [REDACTED] July 2026

Visual Showing Proximity of BESS/Solar Panels /National Grid & 2 x 400Kv substation to residential including Listed properties in Lodge Road Tivetshall



Red House Farm Accommodation - Station Road 238m from Solar Arrays



Friends Meeting House 200m from Solar Arrays



Prangle Farmhouse, Lodge Road, Grade II - 50m from Solar Arrays



Lodge Farm Lodge Road - 108m



Walk Farm Listed



Chestnut Farm, Station Road



2.8 What haven't The Applicant done locally

2.8.1 Missing Ecological Surveys, Mapping and Consultation - See Chapter 2.3

It appears that Site 2 may have been surveyed later than the main site areas and in some cases, within a more compressed survey programme. As a result, it is unclear whether the Site 2 baseline is complete, seasonally robust, and sufficiently precautionary to support the conclusion that there would be no significant ecological effects.

2.8.2 Consultation Procedural Inadequancies

The Applicant has digitally excluded a significant number of Tivetshall parishioners from being able to see the proposals relating to their village making this consultation invalid.

Not all households have the ability to use the internet.

Tivetshall Parish Council therefore submit that the ExA should request that The Applicant provide a Site 2-specific ecological gap analysis and, where necessary, undertake further targeted surveys before any conclusion is reached on impacts to protected species, priority habitats, Lodge Road Roadside Nature Reserve and nearby designated sites.

Chapter 3: The Order Limits : Site and Surroundings

Tivetshall The Order Limit Issues

- Updated Plans - Boundary/Parish Issue Still Needs Clarity
- Published documents appear inconsistent.

We would ask the ExA to request a clean amendment/reconciliation schedule regarding the parish location issues.

Relevant Applicant documents: [APP/2.1](#); [APP/2.2](#); [APP/2.3](#); [APP/6.1.3](#); [APP/6.2.1.1](#); [AS-002/AS-003](#).

3.1 Site Location and Context Sites 2A & 2B & The BESS

Due to the complexity of the scheme Residents should be able to understand, from a single plan and schedule, the precise purpose of each part of the Order Limits around the subsite -

Land take for each site is :

BESS Site as approximately

22.90 ha / 56.6 acres

Sub-Site 2A as approximately

40.5 ha / 100.1 acres

Sub-Site 2B as approximately



43.1 ha / 106.5 acres.*

The Applicant has identified sub-site 2B as one parcel in Tivetshall St Margaret. This is incorrect. As the western section of approximately 50% of the site is located in Great Moulton parish. The eastern Section 50% is clearly in Tivetshall parish.

The site locations map legend does not identify whether the PROW is a Bridlepath, a Footpath or a Restricted Byway. The location of Site 2 contains all of these 3 types of PROW. They create a significance as the only safe route for horse riders and cyclists between Tivetshall parish and the common within the Wacton parish & Gore Lane in Great Moulton Parish.

Inaccurate identification of Site 2 boundaries and Parishes

- Western Section 50%:
 - Northern boundary lies south of FP12 Footpath Great Moulton
 - Southern boundary is Frith Way Great Moulton. The parish boundary of Great Moulton and The Tivetshalls and RB6 Restricted Byway Tivetshall St Margaret
 - Eastern boundary is RB31 Wacton which adjoins RB6 Restricted Byway Tivetshall St Margaret PROW.
- Eastern Section 50%:
 - Northern boundary is RB6 Restricted byway Tivetshall St Margaret PROW and partly along a natural watercourse. RB6 intersects with RB31 Restricted Byway Wacton and onwards to Wacton Common.
 - Eastern boundary is A140 Norwich Road

Tivetshall parish Council submit the ExA should require The Applicant to provide a parish-by-parish land-take schedule for Sub-Site 2B, no separate acreage has been submitted by The Applicant and there becomes a reliance on any distinction between Tivetshall, Wacton or other parish areas.

This is not a request for cosmetic detail. The final environmental effect on Tivetshall/Wacton/Great Moulton which will depend on whether piled foundations, concrete feet, cable trenches, access works, drainage works, hedgerow changes or archaeological protection measures are used in the specific fields at Sub-Site 2A, 2B and the BESS.

3.2 Landscape and Visual

The landscape within and surrounding Sub-Sites 2A, 2B and the BESS and project Substation Site comprises predominantly open agricultural fields, rural lanes, scattered farmsteads, historic buildings and a well-used Public Rights of Way network associated with Tivetshall St Margaret, Tivetshall St Mary, Great Moulton, Wacton and Pulham Market.

The Applicant's own Landscape Visual Baseline describes Site 2 as a vast rural landscape characterised by openness and exposure, extensive arable farmland and large fields, with hedgerows, hedgerow trees, tree belts and woodland blocks limiting some visibility but leaving the perception of expansive skies as a distinctive attribute of the area. It also records that PRoWs along the boundaries of all Sub-Sites and through Sub-Site 2B, together with routes connecting into the broader landscape and Wacton Common, provide considerable opportunities for recreational users to experience views of the Site.

Sub-Site 2A lies between Prangle Lane/Tivetshall St Margaret BR9 and the A140 Norwich Road. The Applicant records that it comprises four fields, generally with well-defined field boundaries. . The water tower to the east is identified as a prominent local landmark. The submitted baseline also records that Hill House, a Grade II listed building, is a readily apparent feature from Sub-Site 2A, with further listed buildings along Lodge Road and Carpenters Walk, including The Lodge, Prangle Farmhouse, Friends Meeting House and Walk Farmhouse / Aylmer's Hall. PRoW Tivetshall St Margaret BR9 lies along the western boundary and Tivetshall St Margaret FP8 along the southern boundary, both within the arable field margin of Sub-Site 2A. The Applicant accepts that the local PRoW network gives this area a high level of recreational value.

Sub-Site 2B is also highly relevant to Tivetshall. The Applicant records that it is subdivided centrally by Tivetshall St Margaret RB6, which is bounded by a well-defined hedgerow and tree belt on either side. The northern field of Sub-Site 2B is bounded by hedgerows and tree belts and the site is accessed by Frith Way and the PRoW network. The Applicant again acknowledges the high recreational value arising from this well-defined network of rights of way. **It should be mentioned that the northern field of Sub-Site 2B lies towards the middle of the CPRE relative tranquillity spectrum. Importantly, The Applicant also records that Sub-Site 2B lies within an area of the darkest night skies.**

3.3 Proximity of Site 2B and the BESS Site (project substation) to Tivetshall Parish

The current and former farmsteads, including the recognised former Quaker Meeting House all lie in very close proximity to the proposed BESS site and solar array. For these homes, the site forms part of their immediate outlook and day-to-day environment; these surrounding fields contribute directly to the village's rural setting, sense of openness, and separation from other settlements.

The proposed layout places the BESS compound and parts of the solar array in very close proximity to residential properties in Tivetshall St Margaret, with only limited buffer space between the development and existing homes. The solar infrastructure extends across multiple fields, wrapping around parts of the village and occupying land that currently provides open views and separation. With the shared rural setting between the three villages. In combination, the solar array, cabling corridors, and BESS site and Project Substation

would create a continuous band of energy infrastructure in an area that is presently open, agricultural, and free from large-scale industrial development.



Visual Showing Proximity of BESS/Solar Panels /National Grid & 2 x 400Kv substation to residential properties in Lodge Road



Partial Drone Views over proposed Project Substation and BESS site - The Cottage, Station Road visible top right corner

Showing proposed sitings. (White arrow on lhs identifies Station Road).



Partial Drone Views over Plot 2 A/B/C these encompass all of the villages of Tivetshall, Great Moulton and Wacton

Legend: Red= solar panels

Yellow = Proposed cable corridor

Looking west



Looking East



3.4 Relationship from Tivetshall to Great Moulton

View showing Project Substation and BESS sites adjacent to Parish boundary (Hundred Way) showing solar fields, National Grid Substation and 400Kv Substation in the village of Great Moulton (Red = solar panels)



Great Moulton lies to the north/north-west of the site, separated by open farmland but clearly connected in visual and functional terms. The proposed solar array and BESS site would occupy land that currently forms part of



the open countryside between the two villages, reducing the perceived separation and increasing the sense of encroaching development.

From parts of Great Moulton and its approaches, the application site is visible across open fields. The development would therefore be experienced not only as a localised feature near Tivetshall St Margaret, but as a substantial change in the shared rural setting of both villages.

Chapter 4: The Scheme

Tivetshall The Scheme

Tivetshall Parish Council's objection remains on the lack of fixed details. Works plans were revised but no later revision identified in the reviewed library that fixes all of the design and safety matters

We would ask the ExA to request all revisions to be identified correctly.

Relevant Applicant documents: APP/6.1.4; APP/3.1; APP/7.5; APP/7.18; APP/7.26; AS-002/AS-003

IMPACT

The Applicant's own Site Selection Assessment confirms that the National Grid Substation and the BESS siting process was driven by proximity to the 400kV overhead line, access for abnormal loads, proximity to the selected solar land and landowner willingness. It also confirms that the Horlock Rules require early environmental consideration, protection of amenity, use of landform and existing screening, and minimisation of visual, noise and other environmental effects. The Applicant has therefore set its own test.



Tivetshall Parish Council ask the ExA to question whether the Great Moulton / Sub-Site 1B and the Tivetshall BESS (including 400kV project substation) locations genuinely satisfy that test, or whether the selected location reflects grid convenience, land availability and cost reduction more than least-harm environmental siting.

Tivetshall Parish Council ask the Planning Inspector to ensure that East Pye's own evidence - Great Moulton/Tivetshall and Wacton as part of the affected visual and heritage setting - is properly reflected and that the assessment is not understated by relying on limited viewpoints.

4.1 The BESS and Project Substation Infrastructure

Tivetshall Parish Council would submit that The Applicant have made the research of this document difficult. Also we are at a loss to comprehend why permission to proceed was given, when all of the structure information is not available.

The development is so vast it is impossible to even come to terms with what is proposed for Tivetshall, Great Moulton and Wacton

Tivetshall BESS and project substation is part of the principal infrastructure hub of the East Pye scheme, because it combines solar generation with the BESS, 2 x 400 kV Project Substations, the National Grid Substation, cable works and overhead-line/pylon works.

Residents of Tivetshall are concerned that The Applicant has not provided any more detailed information regarding this site, The Applicant documents rely on a broad Rochdale Envelope. The selected locations for all of this infrastructure including the BESS site reflects grid convenience and compliant land owners and not a planning led decision

Tivetshall Parish Council ask the ExA, how we can be expected to try and comprehend what this scheme will mean to us as receptors and our landscape without complete transparency. The Applicant states that the Order Limits cover 1,212.3 hectares — approximately 2,996 acres. The Order Limits contain the Sites, BESS Site, 22.90 ha, Cable Route Corridor, mitigation/enhancement areas and highway works

4.2 Inconsistent Definition and Parish Location of the BESS Site

There is a material inconsistency between The Applicant's description of the BESS Site in ES Chapter 3 and its description of Work No. 2 in ES Chapter 4. Chapter 3 and the Site Selection Assessment treat the BESS Site as a distinct area additional to Sites 1–10 and their associated sub-sites. Chapter 4, however, describes Work No. 2 as the energy-storage facility comprising the BESS compound contained within Sub-Site 1B which is located within the parish of Great Moulton..

These descriptions cannot safely be treated as interchangeable without a definitive explanation and plan. They create uncertainty as to whether the BESS Site is a separate parcel, part of Sub-Site 1B, overlapping with it, or capable of being located more widely within it. That uncertainty is material because the draft DCO, Works Plan, Land Plan, Book of Reference and Environmental Statement must all identify and assess the same development on the same land.

Residents' parish-boundary evidence further indicates that the BESS Site and Work No. 2 are situated within the civil parish of Great Moulton, not Tivetshall. The Applicant should therefore be required either to confirm and correct the parish location or to provide an authoritative georeferenced parish-boundary plan demonstrating otherwise. A parish error cannot be dismissed as presentational where it may have affected consultation, identification of the host community, residential and environmental receptors, emergency planning, cumulative assessment and the opportunity of Great Moulton residents to understand and respond to the development proposed within their parish. ***After corresponding with The Applicant they have stated in their email dated 13 July this was a typographical error.*** As residents we have no further clarification. **What should the document state? Tivetshall Parish Council request an accurate and concise amendment schedule.**

Tivetshall parish Council request the ExA to require:

- a definitive plan showing the BESS Site, Sub-Site 1B, Work No. 2 and the Great Moulton–Tivetshall parish boundary;
- a reconciliation schedule explaining the relationship between those areas;
- corrected clean and tracked versions of all affected application documents;
- confirmation that every environmental assessment used the correct Work No. 2 boundary and parish location;
- an audit of consultation and notification undertaken in Great Moulton;
- supplementary environmental information and further consultation where the discrepancy has affected the assessment or understanding of the Scheme; and
- precise draft DCO wording securing Work No. 2 to the corrected BESS Site boundary.

Until this has been completed, the Examining Authority cannot be satisfied that the BESS has been consistently described, spatially defined, consulted upon and environmentally assessed.

4.2.1 Infrastructure in The BESS Site

BESS element	The Applicant parameter
● BESS enclosure height	Up to 3.5 m
● BESS control building	Up to 6 m long, 2.5 m wide and 3.5 m high
● Fencing	3 m palisade fencing, with CCTV
● Operational access places	4 .5 m to 6 m wide; up to 8 m at passing
● Foundations	Reinforced concrete base up to 1 m deep, or piles up to 12 m below ground with 1 m pile cap
● Surfacing	Levelled platform; each unit on a concrete base

These parameters are taken from Chapter 4, Table 4.1

4.2.2 Project Substation in the BESS Site — 400 kV

BESS element	The Applicant parameter
● Maximum compound area	3 ha / approx. 7.4 acres
● Maximum height	13 m to the top of the busbars
● Relay and control room	Up to 7 m by 19 m, 4.2 m high
● 33 kV switch room	Up to 7 m by 19 m, 4.2 m high
● Fencing	3 m palisade fencing plus 2.5 m deer-type wire mesh and wooden post fencing outside
● Access	Up to 6 m wide, hardcore or gravel over levelling layer
● Foundations	Concrete base/monolith plinth up to 1 m deep or piles up to 12 m deep
● Transformers	
● Switchgear	Gas-insulated or air-insulated

4.3 Sites 2a & 2B Scheme and Infrastructure Summary

Sites 2A and 2B should not be described simply as two solar-panel fields. Together they comprise approximately 83.6 hectares of the wider Site 2 development, (including 2C and

part of 2B Great Moulton Site). The principal concern is that the application establishes a broad maximum development envelope but does not appear to provide a single, definitive schedule identifying exactly what would be installed within each sub-site. This makes it difficult for residents and the ExA to understand the actual concentration of infrastructure, the location of noise-generating equipment, the scale of permanent access and hardstanding, the extent of cable trenching, and the resulting parcel-specific effects.

Tivetshall parish Council submits The ExA should therefore require The Applicant to provide a separate infrastructure schedule and annotated plan for Site 2A and Site 2B, showing every permanent and temporary component, its maximum dimensions, likely location, operational purpose, access requirements, noise characteristics and whether its design is fixed or remains subject to later approval.

The Applicant identifies Site 2 as approximately **99.9 hectares**, divided into:

- Sub-Site 2A — approximately 40.5 hectares (100% in Tivetshall)
- Sub-Site 2B — approximately 43.1 hectares (Applicant incorrectly identifies as 100% Tivetshall).
- Sub-Site 2C — approximately 16.3 hectares. - Wacton is covered by a separate submission document.

Both sub-sites are primarily intended to accommodate solar photovoltaic generating infrastructure and the electrical, access, security, drainage and landscaping works needed to operate it. Each sub-site could contain a combination of:

- solar PV array areas;
- tracker or fixed panel parameters
- mounting structures;
- inverter and transformer equipment;
- electrical switchgear;
- 33 kV sub-distribution switch rooms and underground cabling;
- underground electrical cables;
- access points, access tracks, temporary construction and laydown areas;
- data and communications cables;
- internal access tracks;
- perimeter fencing and gates;
- CCTV and security systems
- lighting;
- drainage, SuDS, ditch crossings and pollution controls;
- landscape planting, hedgerow buffers, pond buffers and biodiversity mitigation;
- interfaces with cable routes and the wider Site 1 / BESS / substation infrastructure cluster.
- temporary construction areas;
- maintenance and replacement activity throughout the operational period.

Sites 2A and 2B would operate as part of the wider East Pye electrical system, linked through internal cabling to the BESS, project substation and proposed National Grid connection infrastructure. The Applicant does not appear to have provided a document principally establishing a final, fixed parcel-by-parcel schedule showing the precise number, model, dimensions and final location of every component in Sites 2A and 2B.

How will this affect Site 2 in Tivetshall? Because the final impact will depend on whether piled foundations, concrete feet, cable trenches, access routes or archaeological protection measures are used in the specific fields.

4.3.1 Solar PV infrastructure

- extensive rows of solar PV modules
- fixed or potentially alternative mounting arrangements within the authorised parameters;
- driven or screwed mounting posts;
- frames, rails and supporting structures;
- DC string cabling between panels;
- combiner boxes and associated electrical equipment;
- earthing and lightning-protection equipment.
- maintenance corridors;
- gaps and buffers around environmental features.

The precise extent of panel coverage, exact row spacing and final orientation appear to remain matters for detailed design.

4.3.2 Inverters, transformers and electrical compounds

- inverter stations;
- transformers;
- switchgear;
- auxiliary electrical equipment;
- control and communications equipment;
- equipment kiosks or containers;
- hardstanding or gravel bases;
- protective barriers or fencing around electrical plant
- Local protective fencing and access arrangements.

These installations would convert the DC electricity generated by the panels into AC electricity and raise the voltage for onward transmission.

The important examination issue is that the application does not appear to provide a final schedule identifying:

- how many inverter or transformer stations would be located in Site 2A;
- their final positions;
- their maximum combined sound-power levels;
- whether they would operate continuously or intermittently;
- the extent of hardstanding around each installation;
- the make, model and cooling arrangements.

4.3.3 Internal And Inter-Site Electrical Connections

- low-voltage or DC panel cabling;
- medium-voltage AC collection cables;
- fibre-optic and control cables;
- cable trenches;
- cable jointing locations;
- crossings of hedgerows, drains and access routes;
- connections towards Land parcel 2A, 2B and the wider project electrical network.

4.3.4 Underground Cables Inverters, transformers

The cable route should be assessed not merely as a narrow buried line. Construction may require a much wider temporary working corridor for:

- individual panel strings;
- panel groups to inverter stations;
- inverters to transformers or switchgear;
- Site 2A & 2B to the wider Site 2 collection network;
- Site 2 to the BESS/project substation and grid-connection infrastructure.
- excavation;
- construction vehicle movement;
- cable drums and installation equipment;
- drainage management;
- jointing and testing;

Cable construction may involve:

- open-cut trenches;
- jointing bays;
- cable marker posts;
- temporary haul routes;
- trench drainage and dewatering;
- Soil Storing
- soil stripping and reinstatement;
- crossings of field drains, ditches, hedgerows and existing utilities.

Access and tracks

- panel delivery;
- piling or mounting installation;
- inverter and transformer delivery;
- cable installation;
- drainage works;
- routine maintenance;
- vegetation management;
- emergency access;
- replacement of electrical equipment and solar modules;
- eventual decommissioning.

Potential works include:

- new or upgraded site entrances;
- visibility splays;
- widened gateways;

- temporary road protection;
- internal stone or reinforced access tracks;
- passing or turning areas;
- culverts across drainage ditches;
- temporary construction haul roads.

The Applicant's transport material covers construction and decommissioning traffic, access arrangements, road safety, non-motorised users, public rights of way and abnormal or large-load movements.

4.3.5 Security Infrastructure

- perimeter deer or security fencing;
- access gates;
- CCTV cameras;
- CCTV poles;
- infrared or low-light surveillance;
- communications connections;
- warning and electrical-hazard signage;
- possibly local security or monitoring cabinets.

The final number and position of CCTV cameras do not appear to be fixed in the application material. This matters because camera poles and fencing may remain visible above or through proposed planting.

4.3.6 Drainage and Water Management

- existing agricultural drains;
- field ditches;
- culverts;
- filter drains;
- swales;
- attenuation areas;
- check dams;
- erosion-control measures;
- temporary settlement or silt-control features;
- drainage beneath or alongside access tracks;
- measures to manage cable-trench water.

Although solar panels themselves have a limited physical footprint, runoff may become concentrated along panel drip lines. Construction traffic, piling and cable trenching may also compact soils or alter existing drainage pathways.

The final detailed drainage design is therefore significant and should not be regarded as a minor post-consent matter.

4.3.7 Access Arrangements

Permanent and temporary access for construction, operation, maintenance, replacement and decommissioning

- a new or modified field entrance;
- bellmouth or gateway works;
- visibility improvements;
- internal tracks;
- track crossings over field drains;
- temporary haul routes;
- turning areas for large vehicles;
- reinforced areas around inverter or transformer equipment.

The final access arrangement should identify which roads and entrances would be used during:

- peak construction;

- normal operation;
- emergency attendance;
- replacement of transformers or inverters;
- panel replacement;
- decommissioning

4.4 Uncertainty Matters - Gas Insulated Switchgear or Air insulated Switch Gear

As The Applicant has not confirmed whether the proposed 400 kV substations will use Gas-Insulated Switchgear (GIS) or Air-Insulated Switchgear (AIS). This uncertainty matters.

This is a material design choice between GIS and AIS as it affects how much land is needed, appearance, how much noise it produces, and the safety and environmental effects and maintenance.

Without a clear decision, residents and planners cannot properly understand the visual, environmental, or safety impacts of the substations. The Applicant should confirm the technology type before consent is granted, so that the full effects on land use and the surrounding community can be properly assessed, together with the control equipment required to facilitate export from the Scheme to the proposed National Grid Substation.

The Applicant has provided indicative layouts, typical images and maximum design parameters. What is missing and crucial for the residents of Tivetshall and Great Moulton is that none of the following has been finalised:

- engineering drawings
- final battery chemistry, supplier and BESS unit model. notwithstanding that the Outline BSMP appears to use lithium-ion / LFP assumptions for assessment purposes
- the number, spacing arrangements of BESS Enclosures/Battery Units on site
- final firewater-containment design
- final substation technology choice, or final detailed layout for the BESS and substations.
- noise Assessments

The Applicant is relying on a broad Rochdale Envelope and is deferring material design decisions until after consent.

Tivetshall residents deserve the reassurance that the ExA has sufficient fixed information, to assess the likely significant effects of the BESS, Project Substations and National Grid Substation before consent is granted.

Tivetshall Parish Council submits that the ExA require a consolidated plan and schedule identifying a final or narrowed layout, given the scale and risk profile of the BESS, Project Substations and National Grid Substation within the Tivetshall/Great Moulton infrastructure cluster.

- technology type
- safety systems

- drainage/firewater-containment arrangements
- separation distances
- access arrangements
- acoustic barriers
- full noise assessments
- substation type before significant effects can be confidently assessed.

4.5 Battery Management Replacement Schedules

Residents ask why The Applicant's documents do not provide a clear battery replacement schedule for the BESS. **This is a serious omission.** A BESS proposed to operate for up to 60 years is unlikely to remain unchanged throughout that period. Battery replacement could involve repeated heavy vehicle movements, temporary storage of damaged or degraded battery components, fire and contamination risks, noise, lighting, lifting equipment, access disruption and waste transport. These are not minor maintenance matters. They are foreseeable operational-phase impacts and should be assessed before consent, not deferred to procurement contracts, future OEM arrangements, or later management plans.

- The Outline Battery Safety Management Plan accepts that lithium-ion batteries have a finite life, mainly linked to cycling and refers to maintenance, replacement, supplementation, recycling and disposal.
- The Outline Operational Environmental Management Plan also refers to a "programme of replacement" for Solar PV Panels, transformers and BESS Batteries.
- **However, no timetable, frequency, expected number of replacement cycles, traffic assessment, waste route, storage protocol, fire-risk assessment, or environmental assessment of battery replacement events has been provided.**

Tivetshall Parish Council submits the ExA should require The Applicant to provide a full BESS Battery Replacement and Augmentation Schedule, including expected replacement intervals, transport routes, waste handling, temporary storage, fire safety controls, emergency procedures, environmental mitigation and confirmation that all such works have been assessed within the Environmental Statement.

4.6 Safety

4.6.1 The BESS Site

Residents of Tivetshall, Great Moulton and Wacton are extremely concerned that The Applicant has **scoped out major accidents and disasters** which could be caused by electrical fires and explosions. The Applicant's own Outline BSMP acknowledges the principal hazards associated with BESS failure, including thermal runaway, fire, explosion, electrical hazards, toxic gas release, hydrogen fluoride, carbon monoxide, contaminated firewater runoff, reignition and emergency access requirements. The Applicant's plume

modelling also identifies exceedances of hydrogen fluoride and carbon monoxide thresholds along public rights of way under worst-case conditions

Tivetshall Parish Council submit this is not acceptable when many of this scheme's **“safety-critical” details remain deferred to detailed design**. The ExA should therefore require The Applicant to provide, before any BESS works are authorised, a complete site-specific Battery Safety Management Plan based on the final selected BESS technology and chemistry. This should include final layout drawings, certified fire and explosion testing, large-scale fire testing, thermal runaway modelling, final plume modelling, emergency response procedures, NFRS approval, confirmed access arrangements, firefighting water provision, firewater containment, isolation-valve testing, post-incident recovery, defective-module handling, public warning procedures and enforceable monitoring and compliance requirements.

Tivetshall parish Council central concern is not simply whether The Applicant has referred to relevant standards, but whether the final scheme can be shown, before construction, to protect residents, first responders, public rights of way users, nearby watercourses, groundwater and the wider rural environment from the credible consequences of a BESS failure event.

The current submitted material provides an outline framework, but not yet the final safety evidence required for full public confidence.

4.6.2 Project Sub Station Safety

During the summer of 2026 a field fire in Kenninghall (located 11 miles from Tivetshall) resulted in two domestic homes being destroyed. The cause identified by Norfolk Fire Service is a spark from a sub station landing in a dry field. UKPN have stated an independent investigation has identified remnants of a metallic balloon as a possible cause of the spark occurring. Either way the addition of the project substation in our parish must significantly increase a similar type of risk in Tivetshall.

All but 10 properties in our village have open field(s) on one side, some 2 others 3 or even all 4 sides. We have seen images of the speed at which the field fires spread across roads and gardens then destroying homes. Tivetshall Parish Council is deeply concerned that adding a project substation could greatly increase the risk to our village, its inhabitants, their homes, businesses, its wildlife and all the plants, trees and hedges ancient and new, of field fires arising from a similar occurrence.

Tivetshall Parish Council accept insurance companies are private businesses and exist not only to provide a service/product but to create profit for shareholders. We are concerned that insurers may consider that the project is introducing greater risks on properties and take decisions to increase premiums or exclude them altogether.

4.6.3 What The Applicant has still deferred

The following is a list of unfinalised matters in the submitted application and are to be resolved later:

- Final BESS technology and battery chemistry.
- Final BESS layout and detailed drawings.
- Final fire detection and suppression system.
- Final thermal runaway testing data for the selected system.
- Final large-scale fire testing / full-scale destruction testing.
- Final plume analysis based on the selected system.
- Final emergency response plan.
- Final firefighting water system and water-supply capacity.
- Final firewater containment arrangement.
- Final operational procedures, staff training and emergency operations.
- Final HAZID, HAZOP, fire risk analysis, explosion risk analysis, DSEAR assessment, FMEA/LOPA and Hazard Mitigation Analysis.
- Final NFRS-reviewed site plan showing access, hydrants, drainage, isolation valves, pollution controls and firewater containment. Sites 2a and 2 b

4.7 UKHSA

The following is an article highlighting the unusual steps The UK Health Security Agency (UKHSA) took in intervening in a local planning application in relation to a proposed battery energy storage system (BESS) site at Navenby in Lincolnshire which highlights the facts that there are many issues which do cause concern.

“Its response to the application which highlighted the lack of compliance with [guidance on BESS fire safety](#) issued by the National Fire Chiefs Council (NFCC), as a result of which it “significantly increases” the risk of a fire at the site developing into a major incident.”

The NFCC guidance states that battery modules should have 6m separation between each one to mitigate against fire spreading through thermal radiation in the event that one module goes into thermal runaway.

The UKHSA said: "The non-compliant 3.5m spacing significantly increases the probability of a domino effect (thermal runaway)." "This design failure renders the air quality modelling... unreliable and insufficient to safeguard the community.

The letter to the council also raised concerns that water used to fight any fire at the site would not be contained by the size of the proposed "firewater lagoon", leading to pollution into the local environment: "The release of highly toxic firewater run-off (containing heavy metals and corrosive acids) into the aquifer, posing potential contamination risk to land and groundwater, the public water supply and environmental health".

Additionally, UKHSA found fault with the application, stating that it "fails to address the high probability that a lithium-ion fire will be left to burn for days or weeks... prolonging the potential exposure of nearby residents to toxic gases".

The Navenby BESS site has been designed to store up to 400MW of electricity, with the site developers, Windel Energy and Recurrent Energy, explaining in a consultation document that: "Advanced safety measures, including continuous monitoring of individual battery cells, are in place to promptly address any potential concerns and manage operations for utmost safety."

As previously [reported](#) by the FPA, the dangers posed by BESS sites and the need for greater regulatory safety has been raised in the House of Commons. The debate came after a series of incidents at BESS sites, including a [fire](#) at one such site at East Tilbury, Essex in February 2025

Wildfires have occurred in numerous areas of the UK during the summer of 2026. The linear style of Tivetshall means 250 homes (all except 10) have at least one field boundary. Some have fields on two sides or even three. The fire risk to all homes in the village are at higher than average risk in the event of a fire becoming a major incident.

Tivetshall Parish Council is extremely concerned that the information contained in the UKHSA and NFCC (National Fire Chiefs Council) guidance is applicable to the The Applicant BESS site. The BESS site in Tivetshall currently comes under Government Guidelines. We request that the ExA requires The Applicant Solar to ensure that the development is subject to the strictest measures in place to ensure fullest safety compliance.

4.8 Intrusion of Substation , Panels and BESS Noise into an Extremely Quiet Rural Soundscape

The proposed National Grid Substation, 400kV Project Substation, BESS and associated solar generating infrastructure would introduce industrial and electrical noise into a recognised extremely quiet rural environment. This is not an urban or already industrialised soundscape where continuous mechanical noise is expected. It is countryside where background sound levels can fall below <25 dB, particularly during evening, night-time and early-morning periods, when natural sounds, distance from major roads and the absence of existing industrial plants are defining features of local amenity.

In such a low-background environment, even modest absolute sound levels from transformers, cooling fans, inverters, battery containers, auxiliary plant, switchgear and substation equipment can become clearly perceptible. The issue is not simply whether predicted noise meets a generic numerical threshold. The more important considerations are character, context and the degree of change. A continuous or semi-continuous hum, tonal component, low-frequency element, fan noise, intermittent switching, tracker panel

movements, alarms, reversing vehicles, maintenance activity or transformer-related noise would be distinctly out of keeping with the existing rural acoustic character.

Although ground mounted solar panels are generally passive and do not themselves produce significant continuous mechanical noise, tracker panels do involve mechanical movement and subsequent noise. Therefore the solar development cannot properly be described as acoustically silent. Operational noise would arise from the electrical and mechanical infrastructure required to collect, convert, regulate and export the electricity generated by the panels. This includes distributed inverters, inverter stations, transformers, switchgear, substations, cooling fans, ventilation systems, auxiliary power supplies, monitoring equipment and other electrical plant positioned across the solar parcels.

Inverter and transformer equipment can produce persistent tonal or harmonic noise, commonly perceived as humming, buzzing or whining. Cooling fans and ventilation systems may operate intermittently or vary in speed according to electrical load and temperature, creating changing or cyclical noise characteristics. Start-up, shutdown, switching and fault-management processes may also generate intermittent sounds that are more noticeable than their averaged decibel level suggests. Where numerous inverter and transformer stations are distributed across a large solar site, their combined effect may create multiple localised noise sources rather than a single, readily controlled source.

The Applicant must therefore assess not only the principal substations and BESS compound, but also the number, type, power rating and location of all inverter stations, transformers, switchgear compounds and cooling systems associated with the ground mounted solar arrays. Any proposed panel-tracking or mechanically adjustable mounting systems should also be identified and assessed, including motors, actuators and associated control equipment. The assessment should additionally consider noise associated with routine inspection, vegetation management, panel cleaning, equipment replacement and maintenance vehicles, particularly where such activities could occur during early-morning, evening or weekend periods.

Where equipment locations remain indicative or are subject to later detailed design, the assessment may understate the effects on nearby homes, gardens, farms, public rights of way and other quiet rural receptors.

Large areas of panels and supporting structures may also alter the local acoustic environment by changing the way wind and rainfall are experienced beneath and around the arrays. While these effects may not constitute conventional plant noise, they form part of the overall change from an open agricultural landscape to an extensive engineered development and should not be dismissed where arrays are close to homes, footpaths or other sensitive receptors.

Where the existing background level is <25 dB, the margin between silence, natural rural sound and intrusive industrial sound is very small. A noise source that might be treated as

acceptable in a busier location can become prominent, persistent and harmful in a tranquil village landscape. This is especially relevant for Tivetshall, Great Moulton and Wacton, where residents experience the surrounding countryside not merely as visual open space, but as a quiet rural environment forming part of residential amenity, recreation, sleep quality, farming life, public-rights-of-way use and local character.

The proposed infrastructure would not create temporary construction effects only. The substations, BESS, solar inverters, transformers and associated electrical plant would generate operational noise for the lifetime of the development. This would introduce a fundamentally different acoustic character: fixed electrical infrastructure operating during the day and, in the case of the BESS, substations, transformers, cooling systems and auxiliary equipment, potentially throughout the night.

Night-time impact is particularly important because low background levels make tonal and low-frequency sound more noticeable. Even low-level continuous noise may disturb sleep, affect the enjoyment of gardens and open windows and alter the perceived tranquillity of the area. The possibility that individual items of plant may cycle on and off, change fan speed or operate under different weather, load and emergency conditions must also be assessed, rather than relying only on annualised or averaged operating assumptions.

The Applicant's assessment should therefore not rely solely on broad compliance with predicted decibel limits. It must demonstrate that the final equipment selection, layout, acoustic enclosures, transformer specifications, cooling systems, inverter design, BESS container design, emergency plant, maintenance arrangements and mitigation measures will avoid a material change to the existing soundscape. Where the assessment is based on example equipment, assumed locations, outline mitigation or later detailed design, residents and the Examining Authority cannot be confident that the true operational noise effects have been properly assessed.

This is particularly important for Site 1, Site 2B and 2A, where the BESS, National Grid Substation, 400kV Project Substation, solar arrays, distributed inverter and transformer stations, grid-connection works and associated infrastructure would be experienced cumulatively. The effect would not be limited to a single noise source. It would arise from the combined introduction of a substantial energy-infrastructure cluster into an area currently characterised by rural quietness, open countryside, scattered homes, public rights of way and dark and tranquil landscape conditions.

The noise assessment should therefore identify every significant operational source, including:

- National Grid and Project Substation transformers and switchgear;
- BESS inverters, transformers, battery-container cooling and ventilation systems;
- solar inverter stations and distributed transformers;
- cooling fans and temperature-control equipment;

- auxiliary power, control and monitoring equipment;
- emergency generators, alarms and fault-management systems;
- switching, start-up and shutdown events;
- mechanically adjustable or tracking panel systems, as proposed;
- routine inspection, cleaning, vegetation management and maintenance activity; and
- the combined and cumulative operation of all plant across Site 1, Site2A, 2B and the wider scheme.

In an environment with background sound levels <25 dB, The Applicant should be required to provide a robust worst-case operational noise assessment based on fixed equipment specifications and finalised locations. This should include night-time assessment, tonal and low-frequency character, cumulative plant noise, emergency operation, maintenance activity, transformer hum, cooling-plant noise, BESS operation and the combined effect of distributed solar inverters and transformers.

The assessment should not assume that every item of plant operates at a benign average level. It should examine credible worst-case operating conditions, including high electrical output, elevated temperatures, maximum cooling demand, simultaneous plant operation, equipment degradation, replacement equipment and emergency or fault conditions. The possibility of sound propagation during calm nights, temperature inversions and other weather conditions favourable to noise transmission should also be properly addressed.

There should be enforceable noise limits, secured equipment specifications, restrictions on the location of noisy plant and a clear requirement for post-installation verification under representative worst-case operating conditions. Monitoring should assess overall sound level, tonality, low-frequency content and intermittency, rather than relying solely on a single averaged decibel measurement. There must also be a transparent complaints procedure and an enforceable obligation to undertake corrective action where plant proves audible, tonal or intrusive at nearby homes, gardens, public rights of way or other quiet rural receptors.

Tivetshall Parish Council's central concern is that this development would introduce a persistent and geographically dispersed industrial acoustic signature into an area where quietness is itself a valued environmental and residential resource. In a soundscape <25 dB, the threshold at which industrial sound becomes noticeable and harmful is materially lower. We submit the ExA requires The Applicant to show not only individual parts of the scheme can meet numerical standards, but the combined substations, BESS, solar inverters, transformers and associated plant will preserve the existing rural tranquillity and avoid imposing continuous, tonal or intermittent operational noise on communities that currently experience exceptionally low background sound levels.

4.8.1 Noise Analysis - Oakridge Environmental Services Impact Report: undertaken on behalf of BEPS & The Villages of Great Moulton and Tivetshall.

[APPENDIX 2](#)

4.8.2 Noise Analysis - Article, regarding the issue of Noise associated with large NSIP developments

██████████ is managing director at RSK Acoustics – 2 April 2025

[APPENDIX 3](#)

4.10 Principal Defects

Principal defect	Applicant's own evidence
The BESS is not a minor ancillary element; it is part of a major industrial grid hub.	The Scheme includes a BESS, up to three 132 kV substations, up to three 400 kV substations, grid connection infrastructure and a new National Grid Substation. The BESS is Work No. 2 and is contained within Sub-Site 1B, alongside wider grid infrastructure.
Site selection for the BESS appears driven by proximity to the Point of Connection, not by a robust least-harm location test.	Chapter 5 states that the general BESS location and co-location with the 400 kV Project Substation were identified to be in close proximity to the Point of Connection. Later design changes then attempted to respond to flooding, screening, residential amenity, fire safety and noise. The present evidence does not clearly justify placing permanent large-scale grid and storage infrastructure on BMV agricultural land, including land identified within the wider scheme as Grade 2 and/or Grade 3a, unless The Applicant can provide a parcel-specific agricultural land classification plan for the BESS and substation footprints
The Applicant's own assessment identifies significant adverse landscape and visual effects associated with the BESS Site and related infrastructure.	Chapter 20 records significant residual effects for the "Landscape character and feature of BESS Site, CRC1, CRC2" during construction, and also identifies long-term Major Adverse residual effects during operation and maintenance.
The BESS site is located in an open, exposed and relatively tranquil rural landscape.	Appendix 7.2 describes the BESS site as a large open area on a high plateau, with visibility focused into the mid-distance and extending further in some directions. It also records the site as moderately tranquil and relatively dim at night.
Major visual harm is accepted at several PRow and residential viewpoints.	Chapter 7 records significant visual effects at BESS viewpoints including Great Moulton RB19, Tivetshall St Margaret FP1, FP12, FP11, FP4, Great Moulton RB1 and property at Station Road, with effects including Major and Major to Substantial Adverse.
The construction phase would materially disrupt tranquillity, access and landscape features.	Appendix 7.3 states that construction at the BESS site would include access from Hundred Lane and Station Road, task lighting, temporary fencing, intermittent noise, construction traffic, PRow closures affecting Great Moulton RB19 and Tivetshall St Margaret FP3, and loss of trees and hedgerow including the tree belt at Hundred Lane and important hedgerows.

Principal defect	Applicant's own evidence
Mitigation relies heavily on future planting and buffers, but those measures do not remove the core harm.	Chapter 5 records that setbacks and buffer zones were introduced along the western and southern BESS boundary to allow potential screening and woodland connectivity, and that the BESS area was later set back further to provide a 200 m buffer to the nearest residential property for fire safety and noise reasons.
Fire and major accident risks are treated as scoped out despite acknowledged BESS fire risk.	Chapter 18 records that PINS expected fire risk and mitigation for battery storage to be set out in the Outline BSMP. It also records public concerns about BESS fire, hydrogen fluoride, smoke, fire duration, water protection and PFAS pollution. The Applicant's response relies on the Outline BSMP, future detailed BSMP, external firefighting water capture drainage and future emergency response planning.
Firewater and pollution control remain outlined and dependent on later design.	Chapter 18 confirms that the BESS creates risks of electrical fire and that firewater capture drainage, safety systems, fire detection, cooling and an Emergency Response Plan will be developed or secured later. Appendix 9.1 also states that drainage strategies for the BESS and substations will include treatment stages and firewater containment, with further detail in the Outline BSMP and detailed design secured by DCO requirement.
Operational noise is mitigation-dependent and BESS remains a dominant source.	Chapter 12 states that BESS enclosures are expected to be the dominant noise source after mitigation, and that worst-case operation assumes all BESS enclosures and inverters operating at worst-case duty. It also says actual levels may be lower, depending on fan operation. Chapter 18 records that early morning NOAEL exceedances are largely associated with operational noise from the BESS and solar inverters.
Additional operational noise mitigation is still required.	Chapter 18 states that additional mitigation will be necessary to reduce operational noise below the NOAEL threshold, including low-noise inverter models, acoustic enclosures, relocation or reorientation of plant or noise barriers. It also records that one residential receptor remains above NOAEL due to operational noise from the BESS, although below LOAEL.
Lighting would industrialise a relatively dim rural night-time environment.	Chapter 4 confirms that the BESS, Project Substations and National Grid Substation would have lighting for health and safety, maintenance and security, with motion-sensing lighting for the BESS and other critical infrastructure. The Lighting Strategy confirms BESS perimeter lighting by column-mounted luminaires, controlled by motion sensors with manual override.

Principal defect	Applicant's own evidence
	The BESS site is defective because the Applicant has NOT demonstrated that this is the least harmful or properly justified location for battery storage. The submitted documents show a sensitive, open and relatively tranquil rural site, significant landscape which is reliant on future planting to reduce visual harm, with deferred fire and drainage controls, mitigation-dependent operational noise and operational lighting within a dark rural environment. These are not matters of minor refinement; they go to the acceptability of the BESS siting itself.

Chapter 5: Site Selection, Reasonable Alternatives and Design Evolution

Tivetshall Site Selection Issues

Tivetshall Parish Council states that with all updated and documented revisions, the justification remains disputed.

Relevant Applicant documents: APP/6.1.5; APP/6.2.5.1-6.2.5.4; APP/7.17; APP/7.18; APP/7.20; AS-006.

5.1 Strategic site-selection context

The Applicant's initial solar land search used a 20-kilometre radius around Norwich Main Substation. The Applicant sought approximately 1,100 hectares to accommodate a 500 MW solar project together with substations, battery storage, access, landscaping, biodiversity measures and cable corridors. Eight solar sites were initially identified through that process. The initial solar-site search began in relation to Norwich Main Substation, but Norwich Main was later discounted because there was insufficient capacity and no opportunity to expand it to accommodate a 500MW solar project. The Point of Connection then shifted to the Bramford to Norwich 400kV overhead line. The Applicant states that the previously identified sites remained within 20 kilometres of the new connection area and remained viable, **the Point of Connection Option 4A moved to land south of Great Moulton in the parish of Tivetshall**, at which point the BESS site, Site 1, additional site 2 plots were subsequently added to the Scheme.

The staged assessment applied planning, environmental, spatial, technical and operational criteria. Five potential development areas were identified and later rejected as unsuitable because of the constraints found. Four wider alternative development zones were then considered, but the Applicant did not treat them as reasonable alternatives because sufficient land had not been made available. The Site Selection Assessment also states that not every unconstrained agricultural parcel was examined in detail; the process focused on large landholdings identified through land agents and on land that owners were willing to offer.

This material explains the broad geography of the Scheme and the importance placed on grid proximity, land assembly and landowner participation. It does not, by itself, amount to a field-by-field alternatives appraisal demonstrating that every part of Sub-Sites BESS, 1A,B,C,D and 2A and 2B represents the least harmful practicable option.

Tivetshall Parish Council objects to the adequacy and transparency of the Applicant's site-selection and design-evolution case, particularly in relation to the BESS the 400kV Project Substations and the wider Site 1A,B,C,D and Sites 2A.B & C within the parish and adjoining parishes.

The Applicant's own Site Selection Assessment confirms that the Scheme includes a solar photovoltaic generating station, a Battery Energy Storage System, up to three 132kV Project

Substations, up to three 400kV Project Substations, Grid Connection Infrastructure and a new National Grid Substation. It also confirms that the new National Grid Substation and Grid Connection Infrastructure would connect the Scheme to the existing Bramford to Norwich 400kV overhead line.

Tivetshall Parish Council's concern is not simply that energy infrastructure is proposed. The concern is that the application does not clearly demonstrate that the most sensitive elements of the Scheme - the BESS, National Grid Substation, 400kV Project Substations, access works, cable corridors, lighting, drainage, fencing and associated infrastructure - have been assessed as a combined infrastructure cluster affecting Tivetshall, Great Moulton and Wacton.

5.2 BESS. Project Substation and Site 1 Infrastructure Cluster

The BESS is materially different from solar PV infrastructure. It has a different operational profile, fire-safety risk, noise source, lighting requirement, drainage requirement and emergency-response implication. It should therefore be justified and assessed on its own terms, not treated as an incidental element of the wider solar scheme.

The Applicant's Site Selection Assessment states that the general location of the BESS was identified at the EIA Scoping stage adjacent to the National Grid Substation option and that locating the BESS near the National Grid Substation would minimise transmission losses, maximise storage efficiency, support grid balancing and bring together taller infrastructure with the overhead lines. It also states that the BESS Site was selected because of its proximity to the Point of Connection and access from Station Road, with consideration of landscape, visual, heritage and noise impacts as far as practicable.

That explanation shows why proximity to the Point of Connection is attractive to the Applicant. It does not, however, provide a transparent criteria-led assessment of alternative BESS specific sites. In particular, The Applicant has not clearly shown how alternative BESS sites were tested against residential proximity, fire safety, emergency access, groundwater protection, contaminated firewater containment, landscape and visual harm, agricultural land quality, public rights of way, ecological sensitivity, operational noise and cumulative effects with the substations and grid infrastructure.

Tivetshall Parish Council therefore considers that the BESS location appears to have been driven primarily by grid proximity and co-location with other major electrical infrastructure. Later design changes may reduce some harm, but they do not demonstrate that the BESS location was selected through a robust, comparative assessment of reasonable alternatives.



View from Fernleigh Cottages on Station Road. The proposed location of BESS site and Project Substation. Distant tree line is Hundred Way - the Parish Boundary of Tivetshall and Great Moulton.

Photo courtesy [REDACTED] July 2026

The ExA has itself identified the inconsistency between the two 400kV substations described in the Scoping Report and the three contained in the submitted application. Tivetshall Parish Council submits the ExA should require The Applicant to provide a complete dated change chronology, comparative plans and a clear explanation of how the environmental effects of the additional 400kV Project Substation—including its greater voltage, height, equipment, noise, landscape effects, construction requirements and abnormal-load movements - were assessed and consulted upon

5.3 Design Evolution and Mitigation After Selection

Tivetshall Parish Council accepts that design evolution is a normal part of the DCO process. However, in this case, the design-evolution material appears to show mitigation being added after the BESS and Project substation location had already been selected.

The Applicant's documents refer to later refinements including setbacks, buffers, screening, surface-water considerations, residential amenity, fire-safety separation and noise considerations. Those changes may be relevant mitigation, but they do not answer the prior question of whether the BESS and associated project substation and infrastructure should be located in this sensitive village-edge position at all.

This distinction is important. Design evolution should not be used to disguise the absence of a clear alternatives case. If surface-water setbacks, landscape buffers, woodland connectivity, residential separation, fire safety and noise mitigation were necessary after the location was identified.

Tivetshall Parish Council submit the ExA should require The Applicant to explain why those issues were not determinative site-selection criteria from the outset.

5.4 Consistency and Clarity of the Scheme Description

The application documents must be internally consistent so that Tivetshall residents and the ExA can understand what is being consented.

The Applicant's Site Selection Assessment states that the Order Limits contain all elements of the Scheme, including solar PV arrays, 132kV and 400kV Project Substations, the National Grid Substation, the BESS, Grid Connection Infrastructure, cable routes, mitigation and enhancement areas and highway works. It also states that the Order Limits comprise ten land parcels, together with the BESS Site.

Tivetshall Parish Council remains concerned that the relationship between the "BESS Site" and Work No. 2 is not sufficiently clear for residents. We submit the ExA should require The Applicant to confirm, in one clear schedule and plan, the precise spatial relationship between the BESS Site, Sub-Site 1B, the National Grid Substation, the 400kV Project Substations, the 132kV Project Substations, access works, cable routes, drainage works, fencing, lighting and emergency-response infrastructure.

Without that clarification, it is not possible to be confident that all environmental assessments have been undertaken on a consistent spatial basis.

5.5 Safety, Water and Emergency-Response Concerns

The BESS safety case remains dependent on detailed design and later management controls. Tivetshall Parish Council is not saying that the Rochdale Envelope is unlawful in principle. However, where major infrastructure is proposed close to residential receptors, private water supplies, public rights of way and sensitive rural landscapes, the worst-case parameters must be clear enough to allow likely significant effects to be properly understood before consent is granted.

The Applicant's Site Selection Assessment confirms that the Grid Connection Agreement allows for export of up to 500MW of electricity and import of up to 500MW to be stored in the BESS. That is a major operational facility, not a minor ancillary feature.

Tivetshall Parish Council therefore asks the Examining Authority to test whether the current information is sufficient to assess worst-case effects, including BESS fire, toxic emissions, contaminated firewater, access for emergency services, drainage design, groundwater

pathways, private water supplies, operational noise and impacts on nearby residents and public rights of way.

5.6 Cumulative Assessment of the Western Infrastructure Cluster

Tivetshall Parish Council is concerned that the cumulative impact of the western side of the Scheme is understated by dividing the assessment into separate components and technical topics. The real-world effect on residents will not be experienced separately as “BESS”, “substation”, “cable corridor”, “highway works”, “noise”, “lighting” or “drainage”. It will be experienced as one combined infrastructure cluster.

Tivetshall Parish Council submits the ExA should require The Applicant to assess the BESS /Project Substation/ National Grid Substation / Project Substation/ Site 1A.B.C.D and Sites 2A,B,C cluster as a single integrated development area, including:

- construction traffic and abnormal-load access;
- permanent and temporary access tracks;
- public rights of way impacts;
- drainage and groundwater risk;
- contaminated firewater containment;
- operational noise from fixed plant;
- lighting and security infrastructure;
- fencing, CCTV and visual enclosure;
- transformers, inverters, substations and BESS equipment;
- cable corridors and grid connection works;
- emergency access and fire-safety response;
- cumulative effects on Tivetshall, Great Moulton and Wacton.

Until this is provided, Tivetshall Parish Council considers that the Examination cannot safely conclude that the western infrastructure cluster has been properly assessed, justified or mitigated.

5.7 Sites 2A and 2B

The Applicant’s Site Selection Assessment does not provide a clear parcel-by-parcel justification for the selection of Sites 2A and 2B. The Applicant also states that it did not assess in detail every piece of unconstrained agricultural land available. Instead, because of the large extent of land involved, it focused on large-scale land ownerships identified by land agents as having potentially willing landowners and ultimately on the land parcels that landowners were willing to offer to The Applicant. That is an important limitation. It means Sites 2A and 2B were not shown to have emerged from a comprehensive environmental comparison of all potentially suitable land. **The selection process was materially influenced by grid connection, land availability, landowner willingness, commercial deliverability and operational requirements.**

Tivetshall Parish Council's concern is that the recorded Site 2 evolution is principally mitigation-led and is not sufficiently transparent at parcel level. The Applicant does not provide a consistent schedule showing, for each design stage, the area or generating capacity removed, all alternative field configurations considered, any whole-field exclusions or larger offsets tested, the comparative environmental effects and the reasons why more protective options were rejected. The strategic site-selection exercise explains the broad location and land-assembly process, but it does not resolve that parcel-specific evidence gap.

For Sites 2A and 2B, Tivetshall Parish Council therefore requests a dedicated design-evolution and mitigation schedule explaining:

- why each parcel was selected;
- what alternative land was considered and rejected;
- what mitigation was introduced only after selection;
- what residual harm remains after mitigation;
- whether mitigation is secured, enforceable and parcel-specific;
- how access, ecology, heritage, public rights of way, landscape, aviation, glint and glare, water, soils, agricultural land quality and cumulative impacts were weighed together.

Tivetshall Parish Council believe that without parcel-specific explanation, the ExA cannot safely conclude that Sites 2A and 2B have been properly selected, assessed or mitigated.

5.8 Road and Access Design evolution for Road Changes

The targeted consultation ran from 22 October to 26 November 2025. The Applicant stated that the changes arose from further design work, due diligence, consultation feedback and continuing environmental assessment. The following localised boundary changes are relevant to The Bess/Substation and Access to Site 1 and Site 2 or its immediate access context.

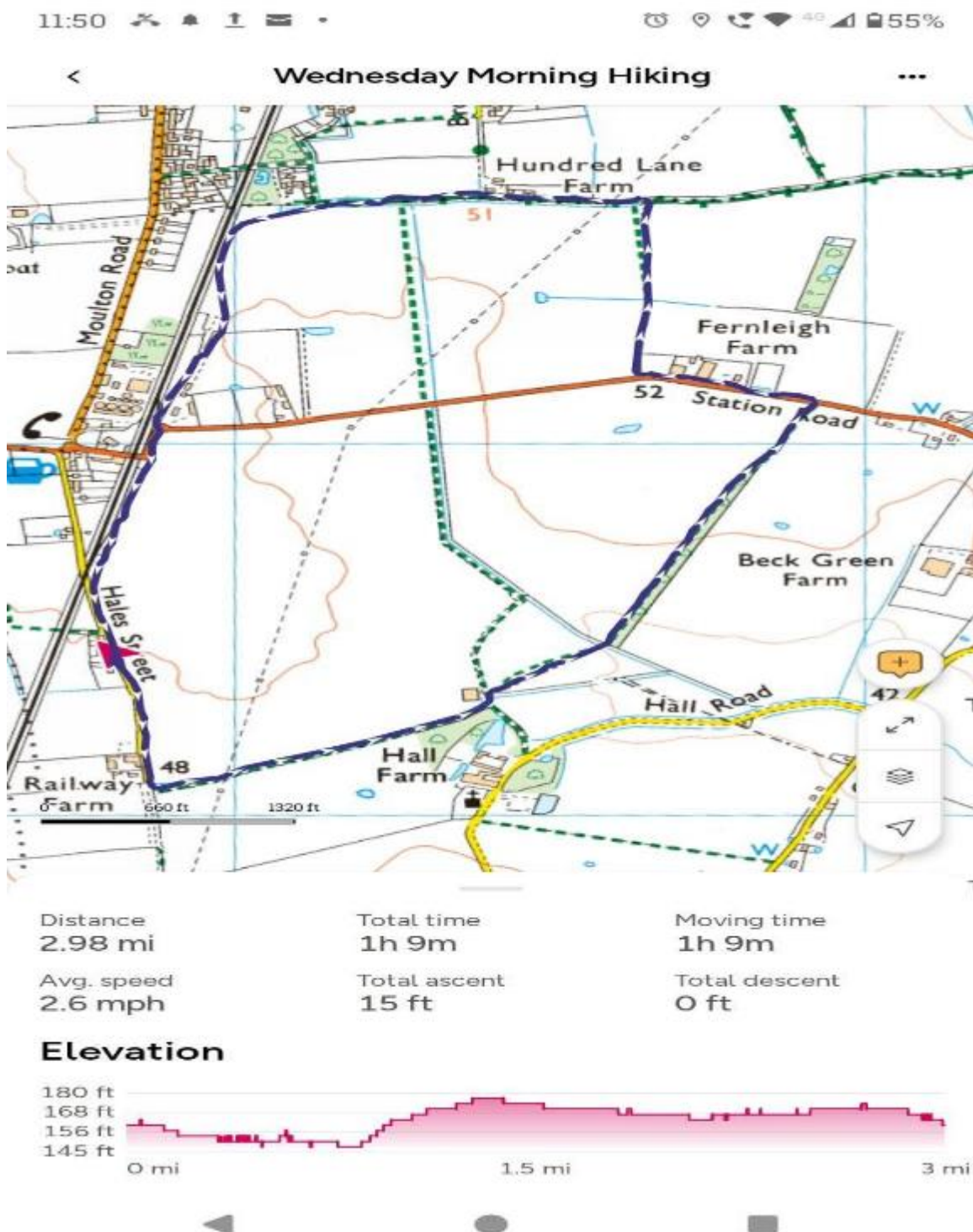
Area	Location / relationship	Purpose stated by The Applicant	Added area
1	B1134 Station Road / A140 Norwich Road junction; land south of 2A	Temporary removal of street furniture and vegetation to enable abnormal-load turning movements.	0.33 ha
2	B1134 Station Road between Prangle Lane and Lodge Road; land south-west of 2A	Potential highway widening and vegetation removal to enable abnormal-load turning movements.	1.20 ha
3	B1134 between Green Lane and the BESS site; land west of 2A / CRC2	Temporary removal of street furniture and vegetation to enable abnormal-load turning movements.	0.22 ha
5	Lodge Road; CRC2	Potential roadside vegetation removal to provide sufficient visibility for site access.	0.08 ha
7	A140 Norwich Road south of Wood Lane; CRC4 / 2C	Potential roadside vegetation removal to provide sufficient visibility for site access.	0.04 ha

ES Chapter 11 identifies the normal construction accesses for Sub-Sites 2A-2C as A07, A08 and A10 from existing A140 lay-bys. Vehicles approach and depart using controlled turning arrangements at the A140/B1134 and Long Stratton Bypass/Parker's Lane roundabouts. The B1134/Station Road changes above are therefore most directly associated with abnormal-load movements and the western infrastructure route, although Areas 1-3 lie beside Site 2A and remain relevant to the cumulative effects experienced around Site 2.

These changes mean a greater number of properties to be affected by revised haul routes - all properties on Station Road B1134, impacting residents of Hales Street and Moulton Road, Tivetshall St Margaret, due to the road intercepts B1134 with construction access and proposals to straighten to enable AIL.

Apart from the statutory notices The Applicant has never directly contacted the Tivetshall Parish Council with regard to any of the proposed changes to Station Road. Our village has a number of intersections with B1134 Station Road. PROWs Tivetshall St Margaret BR9, FP11, FP12. There are also junctions with Lodge Road, Green Lane and Star Lane (Quiet Lane status). The current width and bends on Station Road reduce the actual speeds which vehicles travel, particularly larger vehicles. This gives pedestrians, cyclists and horse riders more time to avoid direct interaction and keeps them safer helping to prevent road traffic

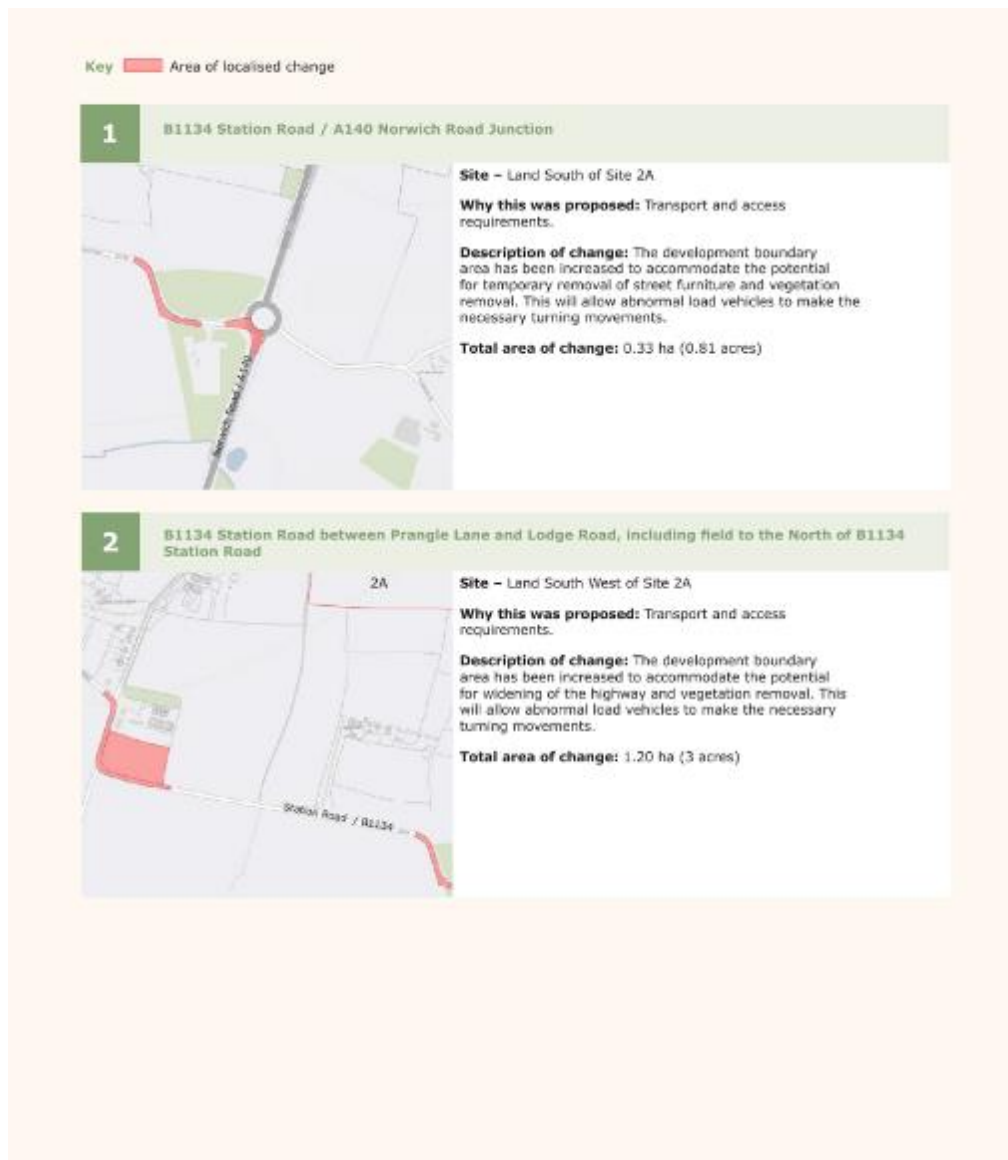
incidents involving them. Straightening and widening B1134 Station Road will increase risk to pedestrians, cyclists and horse riders attempting to cross. They will have their personal safety compromised as a result of the proposed changes. Or they will be denied safe access to the north of Station Road and its continuing network of PRowWs through Great Moulton and Wacton. Example below:



Map courtesy of [REDACTED] - 2026

The Applicant proposals:

Figure 1. Targeted consultation road changes at the B1134/A140 junction and Station Road beside Sub-Site 2A.



Road change Plans retained from the Targeted Consultation

3

B1134 Station Road between Green Lane and the BESS Site



Site – Land West of Site 2A and South of the BESS Site
CRC2

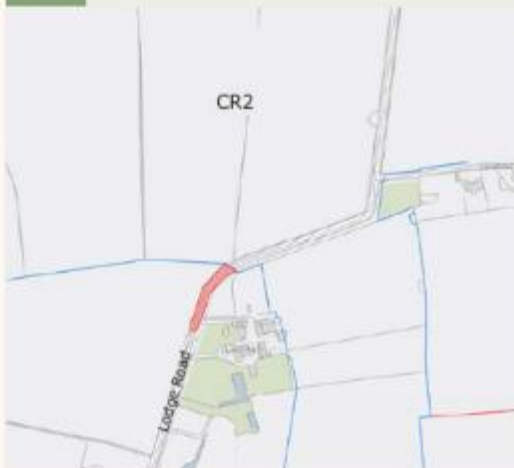
Why this was proposed: Transport and access requirements.

Description of change: The development boundary area has been increased to accommodate the potential for temporary removal of street furniture and vegetation removal. This will allow abnormal load vehicles to make the necessary turning movements.

Total area of change: 0.22 ha (0.54 acres)

5

Lodge Road



Site – CRC 2

Why this was proposed: Transport and access requirements.

Description of change: The development boundary area has been increased to accommodate the potential for vegetation removal along the highway. This will ensure there is sufficient visibility for vehicles to safely access the Site.

Total area of change: 0.08 ha (0.20 acres)

Tivetshall Parish Council request the ExA require The Applicant to provide the following information:

- A final, coordinated plan showing all Site 2 panels, drainage, landscape planting, ecological buffers, PRowS, access points, temporary works and permanent highway works, rather than requiring these relationships to be assembled from separate documents.
- For Areas 1, 2, 3, 5 and 7, final swept-path drawings and a schedule distinguishing temporary and permanent works, highway widening, vegetation loss, street-furniture removal, reinstatement and the properties or road users affected.
- Confirmation that all environmental assessments remain valid for the final road and layout design, with updated assessment where the detailed works would create materially different landscape, heritage, drainage, ecological, noise or traffic effects.

Tivetshall Parish Council are concerned that The Applicant is endeavouring to reduce the cumulative impact of the western side of this scheme (Tivetshall, Great Moulton and Wacton) by separating out each component. The consequence minimises the combined overall effect of prolonged construction traffic, PRow disruption, drainage and water risk, permanent grid infrastructure, industrialisation of rural land, and loss of tranquillity. An Environmental Statement with the impacts by topic and component, which may understate the combined effect on Tivetshall.

The working text makes this exact cumulative-assessment point and asks that Plot 1, Plot 2, the BESS, National Grid Substation, 400kV substations, grid works, pylons, access routes, compounds and cable corridors be assessed together. The documentation provided by The Applicant does not adequately illustrate the scale and visual impact of the proposed infrastructure.

During the targeted consultations road changes have not been identified whether they are north or south of the highway (B1134) so we and the property owners are not aware of how the proposals will directly impact them and other residents of the village.

Tivetshall Parish Council submit that ExA should require The Applicant to assess the Tivetshall / Great Moulton / Wacton western infrastructure as one cumulative cluster, with a single integrated assessment of roadways, PRow, water, utilities, drainage, emergency access, construction phasing, and permanent operational infrastructure.

Conclusion

Tivetshall Parish Council does not dispute the national need for renewable energy infrastructure. The objection is about the adequacy of The Applicant's justification for placing this scale of infrastructure in this specific rural location.

The Applicant has explained why proximity to the Point of Connection and the 400kV network is commercially and operationally attractive. It has not clearly demonstrated, however, that the BESS, substations and associated infrastructure have been subject to a transparent, BESS-specific and cluster-wide assessment of reasonable alternatives and cumulative harm.

Botley West Proposal

We would draw attention to the the Botley West Proposal, when the Secretary of State required Botley West to provide more detailed evidence explaining:

- alternative locations and site-selection methodology;
- how environmental, social, economic, technical and financial considerations affected selection;
- how identified locational disadvantages were taken into account; and
- whether further design reductions were possible, with evidence where viability was relied upon to resist changes.

When this argument is applied to The Applicant, the three-stage table explains how the selected BESS area was progressively reduced and buffered, but it does not demonstrate a transparent comparison of alternative BESS sites.

The Examining Authority should therefore require The Applicant to provide:

- a clear chronology of design changes from scoping, PEIR, targeted consultation and DCO submission;
- a BESS-specific alternatives and mitigation schedule;
- a clear plan and schedule explaining the relationship between the BESS Site, project substation & All of Site 1A,B,C,D and Work No. 2;
- a combined residential-amenity and cumulative-effects assessment for the Site 1 infrastructure cluster;
- a parcel-specific design-evolution statement for Sites 2A and 2B;
- confirmation that all worst-case effects have been assessed on a consistent spatial and technical basis.

Until that information is provided Tivetshall Parish Council submits that the application has not demonstrated that the BESS, substations, Sites 2A and 2B, and the wider western infrastructure cluster have been properly justified, properly assessed or properly mitigated.

Chapter 6 Climate Change BESS Site, Site 1 and Site 2

Tivetshall Issues: Climate Change

Assessment exists but no specific later revision identified. We would challenge the assumptions and completeness of the assessment particularly regarding the BESS infrastructure.

[Relevant Applicant documents](#): APP/6.1.6; APP/7.18; APP/7.26.

Tivetshall Parish Council does not object to renewable energy in principle. However, a scheme promoted as a response to climate change must also be safe, resilient and locally sustainable under future climate conditions. The Applicant has not demonstrated that this is the case for the BESS site, project substation, Site 1 Infrastructure and Sites 2.

The Applicant's own Examination Library identifies ES Chapter 6: Climate Change as a submitted assessment document, alongside the Water Environment, Ground Conditions, Soils, Other Environmental Matters and In-Combination Effects chapters. It also identifies key supporting plans, including for the BESS Site & Project Substation, Site 1 Infrastructure and Site 2 Zones of Theoretical Visibility, the Watercourses Plan, Private Water Supplies Plan and Utilities Plan. These documents show that climate change is not an isolated topic; it interacts directly with drainage, groundwater, soils, emergency resilience, food security, heat, fire risk, visual mitigation, ecology and cumulative infrastructure effects.

The BESS site is particularly sensitive because it is not ordinary solar infrastructure. The Applicant's Site Selection Assessment confirms that the BESS site forms part of a 500MW import/export grid-connected scheme and that the Order Limits include solar PV arrays, 132kV and 400kV project substations, the National Grid Substation, BESS, grid connection infrastructure, cable corridors, mitigation areas and highway works. The BESS site was selected primarily because of its proximity to the Point of Connection and access from Station Road, with The Applicant stating that proximity to the National Grid Substation would minimise transmission losses, maximise storage efficiency and concentrate taller infrastructure close to the overhead lines. That is a technical and grid-efficiency justification; it does not amount to a full climate-resilience justification for placing battery storage, substations, hardstanding and associated fire/drainage infrastructure in this rural location.

The key defect is that The Applicant has not provided a clear, site-specific climate-risk assessment for the BESS and the Tivetshall land parcels. The local submission material records that national policy expects major energy projects to remain safe and functional as temperatures rise, rainfall patterns change and dry periods become longer, but that no site-specific assessment has been provided showing how this scheme would perform under those conditions. This is not a minor omission. The BESS, substations, access tracks, compounds, cabling, construction traffic and operational hardstanding all create different climate-risk pathways from a conventional open field.

The flood and drainage position is especially weak. The Tivetshall Neighbourhood Plan material records known local flooding and surface-water drainage concerns at Green Lane, Station Road, Star Lane, Lodge Road and the A140. It also records that the Applicant relies on the position that solar panels are raised above grassed ground and would not materially

increase impermeable area, while also acknowledging that the BESS, National Grid Substation, project substations, access tracks, construction compounds, construction traffic, ground compaction, material storage and operational hardstanding create drainage and runoff pathways requiring assessment and mitigation.

That distinction is critical. Even if raised solar panels are treated as a limited impermeable area, the BESS and Project infrastructure are materially different. They introduce hardstanding, foundations, access tracks, compacted working areas, drainage systems, firewater-containment requirements and equipment pads. Climate change increases the importance of these issues because of heavier rainfall, flash flooding, prolonged dry periods and soil cracking which can all affect runoff, infiltration, groundwater recharge, slope stability, soil recovery and contaminant pathways.

Tivetshall also lies within a sensitive rural water environment where groundwater, surface-water drainage, private wells, boreholes, roadside ditches and small watercourses are closely connected. The local material records that changes to runoff, infiltration, sediment movement or contamination at site level could affect receptors beyond the immediate development footprint, and that public and private drinking-water supplies rely on vulnerable groundwater resources including chalk, sand and gravel aquifers. This means climate resilience cannot be assessed simply by stating that overall flood risk is low. The question is whether the scheme remains safe during more extreme rainfall, drought, firewater events, drainage failure or combined infrastructure incidents.

The same concern applies to Site 2. Site 2 is not ecologically or hydrologically isolated. The submitted local material identifies Lodge Road Roadside Nature Reserve adjacent to Sub-Site 2B, Pulham Market Big Wood SSSI approximately 1.20km east of Sub-Site 2C, and the need to address effects from construction access, dust, drainage, lighting, hedgerow loss, verge disturbance, habitat fragmentation and operational management. These matters are all vulnerable to climate change: heavier rainfall increases sediment and pollution risk; drought stresses hedgerows and planting relied on for mitigation; hotter summers increase fire, heat and equipment-stress risks; and more extreme weather reduces the reliability of deferred or generic mitigation.

The cumulative position is also not adequately resolved. The BESS, Site 1, Site 2, National Grid Substation, project substations, cable corridors, access works and solar arrays would not operate as separate climate-risk elements. They would form a concentrated infrastructure cluster around Tivetshall and Great Moulton. Each element may add hard surfaces, soil compaction, altered drainage, heat accumulation, changed runoff and reduced groundwater recharge. The cumulative effect is a localised increase in climate vulnerability, particularly where existing drainage, rural lanes, private water supplies, field ditches, aquifers, hedgerows and ecological corridors are already sensitive.

Tivetshall Parish Council submit the ExA should therefore require The Applicant to provide a dedicated BESS, Site 1 and Site 2 Climate Resilience Addendum before any conclusion is reached. That addendum should include quantitative surface-water modelling, climate-

change rainfall allowances, exceedance routes, ditch and culvert capacity, groundwater recharge effects, soil compaction impacts, firewater containment under extreme rainfall, heat resilience of BESS equipment, drought impacts on planting and landscape mitigation, emergency access during flood events, and cumulative effects from the BESS, substations, cable works, compounds and solar arrays operating together.

Without that evidence, The Applicant has not demonstrated that the BESS site, Site 1 or Site 2 would remain safe, functional and environmentally acceptable over the lifetime of the development. A project cannot rely on the general climate benefit of renewable energy while failing to prove that its local siting, design and mitigation are themselves resilient to climate change.

Chapter 7: Landscape and Visual

Tivetshall Issues Landscape and Visual

Updated Visual Material - Core Landscape Objection Remains

Relevant East Pye / PINS documents: APP/6.1.7; APP/6.2.7.5.9; APP/6.2.7.6; APP/6.2.7.7; APP/6.2.7.9; APP/6.2.7.10; APP/6.3.7.2; APP/7.4; APP/7.18; AS-004; AS-005; AS-008; AS-009.

The landscape around Tivetshall is defined by its long-established agricultural character, open views, historic field patterns, and the community's reliance on footpaths and quiet lanes as their only accessible green space. The proposed development would introduce industrial-scale infrastructure into a landscape that has remained largely unchanged for more than a century. This chapter assesses the impacts on agricultural land quality, historic land use, landscape character, and the community's functional use of the countryside. It demonstrates that the scheme would fundamentally alter the appearance, function, and cultural identity of The Tivetshall's rural environment.

Some of the diverse fungi found bordering The BESS - One Hundred Way



Paxillus involutus, also known as the brown roll-rim, is a widely distributed, highly toxic mushroom that forms symbiotic relationships with trees.

Macrolepiota procera, commonly known as the parasol mushroom, is a large, edible fungus prized for its culinary versatility and distinctive appearance.



Chlorophyllum molybdites, also known as the false parasol or green-spored parasol,

is a highly poisonous mushroom commonly found in lawns and meadows, causing severe gastrointestinal

distress if ingested.





Cantharellus cibarius, commonly known as the golden chanterelle, is a highly prized edible mushroom known for its vibrant color, culinary versatility, and numerous health



Tivetshall lies within two landscape character areas identified by the South Norfolk Landscape Character Assessment: the Great Moulton Plateau Farmland and the Waveney Tributary Farmland. The parish's farmland drains from north to south into the Beck, which rises in Great Moulton, flows through Tivetshall St Margaret via the Starston Beck, continues to Pulham Market, Pulham St Mary, Starston and onward to the River Waveney.

Flooding risks and recorded incidents occur in Green Lane, Station Road, Star Lane, and along the A140. Development on farmland north of Station Road and Lodge Road reduces the land available to absorb surface water, increasing flood risk.

In 2020, several parts of the parish experienced significant flooding and surface-water drainage problems, resulting in damage to private properties. During the preparation of the Neighbourhood Plan, residents identified nine locations affected by flooding. Policy TIV14 states that *“development proposals within the immediate locality of areas identified... should take account of all relevant evidence of flooding. Development must not cause or contribute to new flooding or drainage issues and should mitigate its own flooding and drainage impacts.”*

7.1 Old Routeways

Tivetshall doesn't have the capacity to absorb multiple large-scale developments without fundamentally altering its character.

Even if individual schemes seem manageable, the combined effect can be substantial.

Any NSIP proposal in or around the parish needs to recognise that this is not just empty farmland — it's a historic landscape where the setting, views, and buried archaeology all matter. From Roman times through the medieval period and into the present, The Tivetshalls (now one parish) have been defined by its agricultural landscape. The area is dotted with listed farmhouses and barns, many dating back several centuries, which serve as tangible reminders of its farming past. Agriculture shaped not only the economy but also the social and cultural life of The Tivetshalls with churches, windmills and farms at the heart of village life.

Narrow country roads by their nature have very little foundation. There are listed buildings and a historic Quaker Meeting House with a historic burial ground close to Lodge Road.

Considerable shaking and vibration can cause damage to these buildings if heavy traffic is constantly passing. Residents have lived or specifically moved to this area over many years due to the ability for recreationally safe walking, riding and cycling, the tranquility and the wildlife.

Tivethall Parish Council on behalf of its residents is seeking assurances (in line with Norfolk County Council's response), that it is recognised Lodge Road is not suitable as a route to the various The Applicant sites and will not be used by the project.

7.2 Settlement Pattern and Historic Boundaries

The BESS site & Substation are located on the boundary between Tivetshall and Great Moulton, demarcated by Hundred Way, which reflects the historic boundary of Depwade Hundred. Medieval settlements, such as The Sanctuary, were commonly established near such boundaries. Although The Sanctuary no longer survives above ground, its location is confirmed through historic mapping and documentary evidence.

The network of lanes, footpaths, and bridleways in and around Tivetshall and neighboring parishes are fundamental historic elements, preserving the structure of the medieval landscape and provide essential green space for the community.

The area around Tivetshall St Margaret and St Mary has been predominantly agricultural for centuries. Archaeological finds show evidence of farming activity dating back to the Roman period, including at least one Roman villa site in Tivetshall St Mary. Artefacts such as harness pieces, pottery and coins suggest that the land was cultivated and managed for agricultural production as early as the Roman era. The villa's proximity to the Roman Pye Road (now the A140) would have facilitated the transport of agricultural goods.

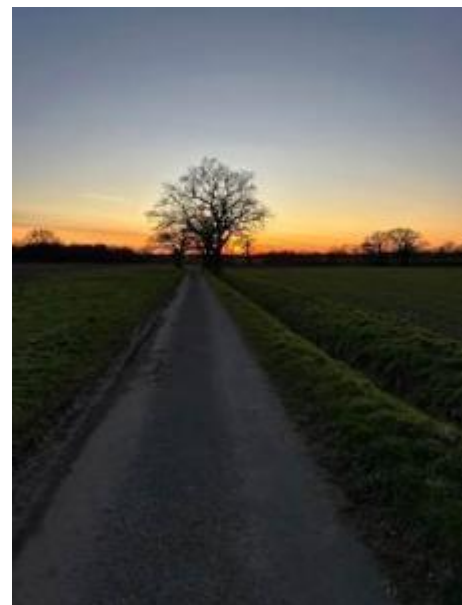
By the medieval period the Tivetshalls' landscape was shaped by small farms.

Patten Lane (NHER 11022), which runs north to south in the south of the parish, was thought to be a Roman road, but a small exploratory excavation has dated the beginnings of this track to the Saxon period. It links with other northward paths and lanes to Wacton Common which were drovers' routes to markets in Norwich and beyond.

7.3 Plateau Farmland: Key Characteristics and Sensitivities

The Tivetshall landscape is part of one of only three Plateau Farmland areas in the district, making it distinctive and highly sensitive. The defining characteristics of Plateau Farmland include:

- Flat, elevated landform
- Large arable fields
- Openness and exposure due to limited enclosure
- Long views across the plateau and district
- Remnant mature oak hedgerow trees
- Straight plateau-top roads with wide grass verges and ditches
- Wooded horizons
- Sparse settlement, with small nucleated and linear villages
- Historic features such as isolated churches, moats, and farm ponds
- Vernacular buildings, notably with brickwork and Dutch gable ends



These features contribute to a landscape that is visually distinctive and deeply rooted in agricultural history. The lanes and paths are integral to the area's character, connecting dispersed settlements and maintaining the medieval landscape structure.



Ancient meadow off Lodge Road/Station Road - Photo courtesy of [REDACTED]



View east from Lodge Road



View south west from Tivetshall FP12

Photos courtesy of [REDACTED]

7.4 Neighbourhood Plan TIV11: Natural assets

The adopted Neighbourhood Plan refers to important natural assets of the parish due to their landscape and biodiversity value. These include woodlands, ancient meadows, numerous ponds, ancient hedgerows and trees. The Policy TIV11 specifically states “*For large developments (10 or more dwellings, or commercial sites)*

biodiversity net gain should be achieved through one or more of the following and have a method statement for the ongoing care and maintenance

- *the creation of new natural habitats, in particular through native species*
- *the creation of a community woodland*
- *natural buffers between new and existing development*
- *the planting of additional trees and hedgerows*
- *restoring and repairing fragmented biodiversity networks.*
- *Development proposals should have regard to the Tivetshall Design Guidance and Codes. 5.4.11*

Those areas listed with closest links to the solar panels, BESS and sub-station are recognised as extremely important.

7.5 Landscape Sensitivity to Development

South Norfolk’s Landscape Sensitivity and Susceptibility evidence identifies Plateau Farmland as highly vulnerable to large-scale energy and industrial development. The openness, long views, and lack of natural screening mean that even modest infrastructure can be visually intrusive. In areas like Tivetshall, Great Moulton and Wacton where the landscape has remained largely unchanged for centuries, these sensitivities are particularly pronounced.

For further guidance, refer to the South Norfolk District Council’s Supplementary Planning Document on landscape susceptibility in relation to energy generation, storage, and transmission

1. <https://southnorfolkandbroadland.oc2.uk/document/37>.
2. *South Norfolk District Council - Landscape Susceptibility in relation to Energy Generation, Storage and Transmission - SPD*

The BESS site and project Sub station lie on the boundary of Tivetshall and Great Moulton. Hundred Way reflects the boundary of Depwade Hundred and marks a long-standing territorial division. Medieval settlements were commonly positioned near such boundaries, and the proximity of Hundred Way.

7.6 Land Parcels 2A and 2B solar arrays and their associated infrastructure

The lanes that surround the site, together with the footpaths and bridleways that run through it, form fundamental historic elements of both Tivetshall and Great Moulton. They belong equally to the medieval landscape and to the present-day. It is vital that the DCO recognises the importance of the characteristics of both villages. They should be addressed together in a holistic way due to their unique positioning on the Great Moulton Plateau. Tivetshall parish sits within the South Norfolk Claylands and is one of only three recognised Plateau Farmland areas in the district, alongside Ashwellthorpe and Hingham. This makes its landscape character unusually distinctive and highly sensitive.

The period of the Tivetshalls Neighbourhood Plan looks ahead to 2042 and should therefore consider Climate Changes and the likely increase in localised flooding.

During the preparation of the Neighbourhood Plan, there were areas of the parish that experienced significant flooding and surface water drainage issues, where private properties were damaged. Residents were asked in the household survey ‘There are a number of locations that have surface water drainage issues. The following locations within the parish were identified:

1. Rectory Road. a. By Post Office. b. By Tinker’s Lane.
2. Station Road bend near A140 roundabout.
3. Ram Lane (3 locations).
4. Green Lane. a. Crossing House. b. Junction of Hall Road. c. Opposite Village Hall.
5. Junction of Grove Road and Glebe Road.
6. Corner of Mill Road and Stoney Road.
7. Lodge Road.
8. A140 Norwich Road south of Pulham Roundabout.

7.7 Visual Receptors

The development would be visible to:

- residents living along the lanes and farmsteads
- Walkers, horse riders and cyclist using the parish’s only green-space network
- road users on narrow rural lanes
- heritage settings including churches and historic farms
- neighbouring parishes with open views across the site



Fernleigh Cottages Station Road eastwards

Gt Moulton BR9 Hundred Way South

Photos courtesy of [REDACTED]

towards Station Road



View east from Tivetshall St Margaret BR9 Photo courtesy of [REDACTED] - 2026

Lodge Road eastwards from BR9 site of Land Parcel 9 Solar arrays and associated infrastructure. Photo courtesy of [REDACTED]

The scale and height of the infrastructure mean it cannot be screened without fundamentally altering the landscape. The BESS compound, fencing, lighting and industrial structures would be visually dominant from nearby homes in Tivetshall St Margaret, Tivetshall St Mary and Great Moulton. The village's rural character would be replaced by a permanent industrial installation operating day and night. Security lighting and emergency illumination would erode dark skies and tranquillity.

The Applicant has not assessed the BESS and project substation separately from the solar array, despite its significantly greater height, massing, and operational lighting.

7.8 Footpaths, Byways and Bridleways Severely Affected

Hundred Way – an Early Administrative Boundary between Tivetshall and Great Moulton

Hundred Way isn't just a bye-way, according to White's History, Gazetteer, and Directory of Norfolk (1845), Depwade Hundred extended roughly 10 miles east–west and 6 miles north–south, covering parishes such as Great Moulton, Tivetshall St Margaret, Tivetshall St Mary, Wacton and Pulham Market.

Although the planning laws have changed, Tivetshall Parish Council ask the ExA to ensure that all relevant policy regulations and Environmental Impact Assessment (EIA) Regulations on Historic Landscapes Must Be Assessed, for example

- Cultural heritage (including historic landscape)
- Landscape character
- Cumulative effects

If the ES has not assessed the Depwade Hundred landscape, that is a deficiency in the ES.



Photos of the orchids that are prevalent on Hundred Way highlighting just one of the amazing flora and fauna on this historic right of way.

Hundred Way is known especially as an area where there are very important areas of rare botany. A Level 6 botanist familiar with the area wrote to The Applicant Solar prior to submission saying that full botanical surveys needed to be carried out by, at minimum, a Level 5 Botanist. However The Applicant Solar has not acknowledged this in its submission nor has it undertaken any botany surveys in the area.

The area is also home to Norfolk's major communities of the locally scarce Dyer's, Greenweed/Petty Whin, Genista tinctoria, a strikingly beautiful low-growing broom.

These routes are used daily by residents, dog walkers and horse riders. They form an important part of the village's rural character. Field Parcels within the industrialised cluster

are among the least appropriate locations in the entire area due to their proximity to homes, rights of way, and PWS.

The proposed BESS and 400Kv substation and Site 2A and 2B would fundamentally change this environment. remove the open, rural setting that makes these paths valued.

- introduce noise, lighting, and large industrial structures into what is currently peaceful countryside
- diminish the safety, comfort, and enjoyment of walkers and riders
- permanently alter the character and experience of these routes.



Public rights of way are legally protected, and their setting is a material planning consideration. This proposal would undermine both.

Enclosing these routes within a landscape of substations, inverters, 4.5-metre tracker panels, lighting columns, fencing, and security cameras creates a significant psychological barrier for local people who rely on these paths for recreation.

Over time, restricted access and unmanaged hedging will inevitably lead to overgrown, little-used footpaths and bridleways—effectively turning the north side of the village into a no-go area.

Tivetshall Parish Council is also deeply concerned about long-term stewardship. The experience of Thames Water under Macquarie ownership has shown how quickly essential infrastructure can be neglected once sold on. Villagers fear that, regardless of who ultimately owns this development, the community will be left to deal with the consequences of maintenance declines or responsibilities are abandoned. This, combined with the fact that the National Grid substation will remain permanently even if the solar infrastructure is removed, raises a fundamental question:

If the solar farm is temporary, why does the decommissioning leave the BESS fields at a lesser grade than it is now?

7.9 Community Use of Bridleways, Footpaths and Lanes as Functional Green Space

Although Tivetshall does have an area designated as a playfield. It is dog free and contains childrens' play items. The Parish Council currently rents the site annually from the landowner. Consequently the parish still relies heavily on its network of footpaths, quiet lanes, and surrounding countryside for everyday recreation, exercise, dog walking, and

informal social interaction. These routes function in the same way that urban communities use parks.

The landscape is not simply a visual backdrop; it is an essential part of daily life and community wellbeing. Residents use the footpaths and lanes for walking, running, cycling, horse riding and driving and accessing nature. The routes predominantly provide the only safe and tranquil outdoor environment available. Any reduction in safety, tranquillity, or accessibility along these roads and lanes represents a direct loss of recreational space for the community.



Increased construction traffic, industrial noise, and visual intrusion from large-scale energy infrastructure would diminish the quality and usability of these paths and lanes. This would reduce opportunities for outdoor activity, affect mental and physical wellbeing, and undermine the rural character that defines The Tivetshalls.

7.9.1 Bridleways & Site2A.

The bridlepath path BR9 to the west of site 2A is not in the ownership of the Applicant. Therefore the substantial hedge referred to is not within the site and is to the west of the bridlepath. It will not shield the bridlepath from the solar panels and fencing boundary. The western boundary for Site 2A is incorrectly identified in relation to BR9 bridleway. Emails over 18 months from a Lodge Road resident to the Applicant seeking assurance that this boundary receives a large amount of mitigation to no avail. Adrian Ramsay MP has also requested this. The proposed tracker solar panels are a new design which glint and glare and also move with the sun and are very high. The movement and noise at random times is not something a horse is accustomed to. A bolting horse would go straight down to Station Road (the main road used by numerous HGVs each day). Substantial mitigation keeping the solar panels a greater distance from the users of the BR9 bridlepath must be provided and prioritised to ensure the safety of riders and their mounts for an untested scenario with these new style panels. In addition there is the bridlepath path RB6 which is proposed as an access route as well as having the same problems of proximity to panels. Again a greater amount of mitigation should be provided for RB6 next to site 2B.

BHS (British Horse Society guidance) for solar sites.

“If bridleways or byways are alongside or through sites, care must be taken not to create a narrow corridor. Fencing can be intimidating, especially at this height, and create a need for vegetation control, or, if solid, create a drainage or poached surface problem by preventing light and air reaching the surface. A narrow corridor may also potentially create conflict from users being confined, with no ‘escape space’ from a threat as would be the case with an open field. The need to maintain adjacent hedges and surface vegetation so as not to further

reduce the available width should also be considered, as well as vehicular access for maintenance if appropriate.

Unless the recorded width of the bridleway or byway is greater, a minimum useable width of 4m between fences is recommended, meaning fencing at no less than 5m apart to allow for the strip immediately adjacent to the fence being unusable, and with vegetation cut through the full width. This mitigates the enclosed effect of the corridor of the right of way between high fences”

Lodge Road is proposed for two way traffic (incl HGV) during the construction, maintenance and decommissioning periods. Unsuitable due to narrowness, unkempt sometimes high verges, ditches that follow the line and are adjacent to the road. Pedestrians, cyclists and horse riders and carriages have to attempt to use these verges to allow traffic to pass and in places the ditch is a foot or two away and the road the same . It is also part of the Rebellion Way a popular cycle route.

BHS (British Horse Society guidance) for traffic routes

“The impact on residents and traffic flow or delays for motorists will be considered but not on other road users, such as equestrians. This is a point of highway safety which is a Material Planning Consideration. Unfortunately, alternative roads for either the construction or the riders rarely exist, but an off-road route, most commonly using a field edge alongside the road, may be negotiated for non-motorised users and compensation paid by the developer to the owners of the land over which it passes, for the duration of the unusual traffic period. This is only likely to occur where there is a high number of local riders to justify it, perhaps between a large livery yard and a bridleway. Alternatively, where verges are adequate, mowing and flattening them may provide a refuge strip for equestrians.

Drivers should be reminded of the highway code and BHS guidance to pass horses at 10mph, by at least 2m.

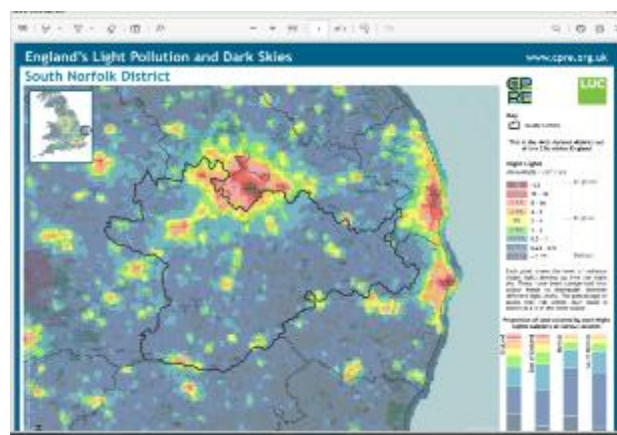
In summary, a Traffic Management Plan should include the safety of users of rights of way both on and adjacent to the site and on roads used in the locality. It may be appropriate for construction traffic to be restricted to:

- *Limited hours and / or days of the week so that equestrians have options to avoid increased traffic*
- *Limited routes, so roads most important to equestrians are avoided.”*

7.10 Loss of Rural Tranquillity and Dark Skies

Neighbourhood Plan Policy Tiv13 Development proposals must take account of the areas' dark skies, the introduction of substations, BESS compounds, solar arrays, fencing, and security lighting would erode the parish's dark-sky quality and rural quiet.

New lighting should not be located at the edge of the settlement. It is important to reduce the impact on dark skies by minimal light spillage, use downlighting and restricting hours of lighting. Proposals including lighting likely to cause disturbance or risk to wildlife should seek to mitigate such disturbance or risk. Lodge Road and Station Road areas, already subject to HGV activity, are especially sensitive to additional lighting. This is the 44th darkest district out of the 326 within England Night Lights



These sensory changes are significant in a landscape where tranquillity is a defining characteristic.

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA F 08 Created by LUC
Contains Ordnance Survey data

DMSP data collected by the US Air Force Weather Agency www.cpre.org.uk Key South Norfolk

7.11 Cumulative Landscape Industrialisation

Energy infrastructure has a well-documented tendency to cluster around established grid nodes. Once a substation and BESS compound are introduced, the landscape becomes a focal point for future grid reinforcement, cable routes, and additional energy schemes. This cumulative industrialisation erodes rural character over time, replacing agricultural land with a long-term infrastructure corridor. The Applicant has not assessed this risk, despite the permanent nature of the proposed National Grid cluster.

7.12 Residential Amenity and Village-Boundary Incompatibility

National Policy Statements EN-1 and EN-5 require applicants to protect residential amenity, avoid unacceptable noise and visual impacts, and demonstrate that infrastructure has been sited to minimise harm. The proposal to place a 500MW BESS facility of up to 1000 large containers together with a 400kv project substation, including all the gantries and infrastructure plus the Site 2A and 2B solar array sites does not meet these requirements and has not been justified.

Residents of a long-established rural village have a reasonable expectation of tranquillity, dark-sky conditions, and low-impact surroundings. The relocation of solar arrays and major transmission infrastructure into this site would fundamentally alter these conditions.

7.13 Infrastructure Cluster BESS, Project Substations, Solar Panels and National Grid Connection

National Policy Statements EN-1 and EN-5 require applicants to assess cumulative impacts, long-term operational effects, and the siting of permanent infrastructure. No such assessment has been provided for the cluster in Tivetshall.

Tivetshall Parish Council believe residents deserve full, honest, evidence-based assessments before decisions are made.

It is inconceivable that The Applicant has provided no designs or plans or any environmental considerations for this major industrial development in our rural community.

The documents submitted to the ExA only break down each individual project noise, we would ask the Inspectors to request a full noise analysis based on the actual equipment within Tivetshall. The Solar Array Land Parcels in Tiveshall are 2A and 2B which will presumably house inverters. The Applicant has referred to the project substation and BESS by different titles making it difficult for us to be precise in our nomenclature requesting actions by the ExA. The same location is also referred to in the DCO in places as 'Site 1 and the BESS'.

Without a full cumulative assessment of construction impacts, operational noise, traffic, groundwater risk, and permanent landscape change, the proposal cannot be considered compliant with EN-1 or EN-5. The scale and permanence of the Project sub station in Tivetshall and the National Grid infrastructure proposed for Great Moulton require a level of scrutiny, transparency, and evidence that is currently absent from the application.

The proposal would permanently alter the agricultural, visual, and cultural landscape of Tivetshall and Great Moulton. It conflicts with national policy protections for high-quality farmland, disrupts historic land-use continuity, industrialises a tranquil rural environment, and removes the parish's only functional green space. The landscape harm is significant, long-term, and cannot be mitigated. The whole of this area of Tivetshall and Great Moulton would become an industrial wasteland. Walkers, riders, cyclists, bird-watchers alike would not use this area of our villages which has been used in this way for hundreds of years.

Chapter 8: Ecology and Biodiversity

Tivetshall Issues: Updated Ecology Evidence

Tivetshall Parish Council ask the ExA to request the revised ecology document is parcel specific audited analysis.

Relevant East Pye / PINS documents: APP/6.1.8; APP/6.3.8.1-6.3.8.10; APP/7.4; APP/7.23; APP/7.24; APP/7.25; AS-017.

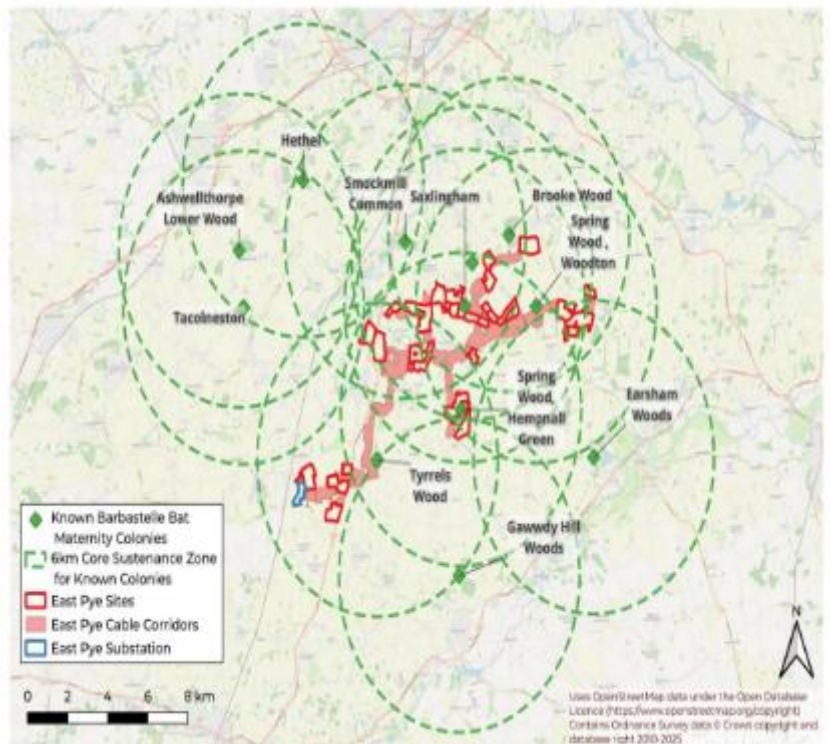
The ecology submission is extensive, but it is largely presented at scheme level. There is insufficient clear separation of impacts for the BESS, substations, cable routes and affected land parcels. Further site-specific evidence is needed on lighting, hedgerows, species movement, protected species, construction disturbance and BNG delivery.

8.1 Barbastelle Bats

Ecological and Bat Habitat Impacts

Where a proposed NSIP is located wholly within overlapping Core Sustenance Zones for barbastelle bats and directly adjacent to multiple ancient woodlands supporting maternity colonies, the impacts of construction disturbance, habitat fragmentation, lighting, noise and long-term landscape disruption are **intrinsic to the scheme** and **cannot be reduced to a level that avoids adverse effects on the local barbastelle population's favourable conservation status**.

As such, the effects are **not capable of mitigation**, and the scheme is fundamentally incompatible with the Habitats Regulations.



8.2 Other Species of Bats

The following BATS shown on the Magic Map Survey records

- Barbastelle
- Common Pipistrelle
- Daubenton's Bat
- Noctule
- Serotine
- Sorano Pipistrelle
- Leisler
- Brown Long Eared Bat
- Natterer's Bat

8.3 Red list, amber list and protected birds - ALL were recorded in The Tivetshalls 2025 and 2026

8.3.1 Red List

Cuckoo; Gray Partridge; Green Finch; Herring Gull; Greenfinch; House Martin; House sparrow; Lapwing; Mistle Thrush; Skylark; Starling; Swift; Tree Sparrow; Turtle Dove; Willow Tit; Yellow Wagtail

8.3.1.1 Skylarks

are a priority farmland bird species and are regularly recorded in the open arable fields surrounding Tivetshall St Margaret. These fields provide essential nesting habitat, foraging grounds, and undisturbed flight space. The proposed project would remove or fragment this habitat and introduce continuous disturbance into an area that currently supports breeding skylarks.

The project creates several pressures that are incompatible with skylark ecology: continuous operational noise that disrupts song flights, security lighting that interferes with natural light cycles, construction disturbance that displaces nesting birds, and loss of open sightlines due to fencing and compounds. In a BESS fire, skylarks would be exposed to toxic smoke, contaminated deposition on nesting grounds, and long-term soil contamination affecting future breeding seasons.

8.3.1.2 Turtle Doves

Turtle doves are one of the UK's fastest-declining bird species and rely on quiet, open farmland with accessible seed sources and hedgerow cover. The fields around Tivetshall St Margaret provide suitable foraging habitat, and the hedgerows near the project site offer shelter and flight corridors.



The project threatens turtle doves through loss of foraging habitat, disturbance from noise and vibration, lighting impacts that disrupt dawn and dusk feeding, and increased collision risk from construction traffic. In a catastrophic BESS incident, turtle doves would be exposed to toxic smoke and contaminated seed sources. Downwind deposition would also affect turtle dove habitat in Tivetshall.

photo courtesy [REDACTED] - Tivetshall St Margaret September 2025

8.3.1.3 Swifts

Swift numbers are plummeting, and they're now on the UK's Red List of Birds of Conservation Concern. For every ten Swifts zooming across our skies in 1995, there were only about three by 2022.

Recording from Swifts Mapper 2026

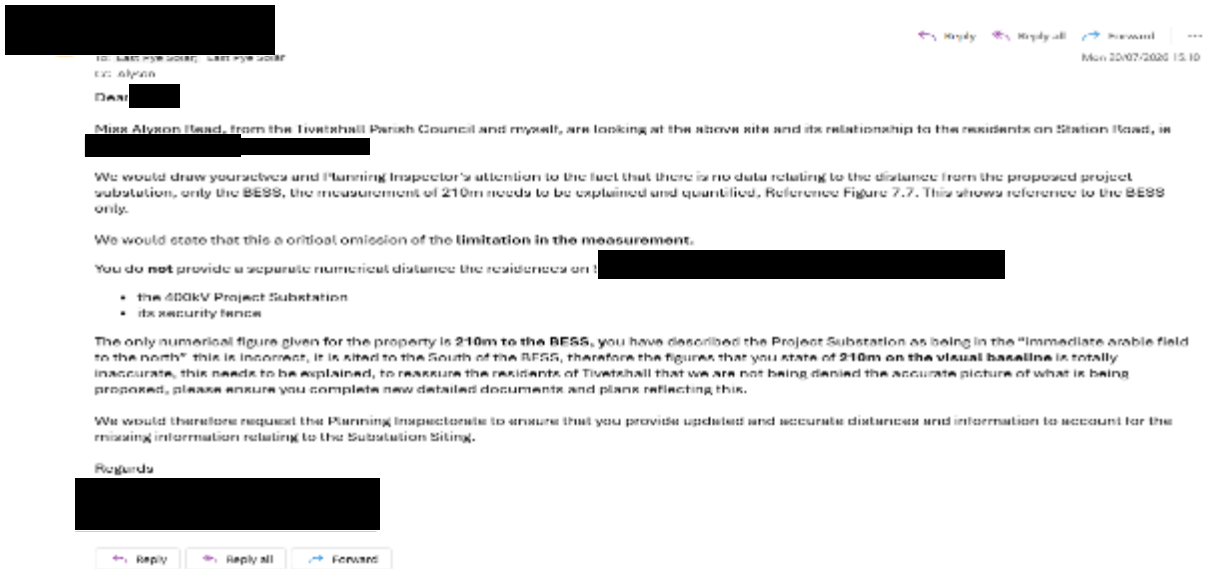
Location Accuracy - Yes

Location Accuracy Comments - 3 occupied Swift nests in the eaves located at [REDACTED]. Preoccupied site for the past 10 years.

Is site at risk? Unsure. Number of nests occupied 3; Years nest used 10

Age of building Pre 1945; Type of building House

The Applicant has omitted to give any distances from the Project Sub Station to properties on the adjacent southern site off [REDACTED] which includes [REDACTED], the location of these swift nests.



Email
above

regarding the placing of the infrastructure in relation to this property of the proposed substation and BESS located on [REDACTED]. No reply received to date.

There are other locations in Tivetshall parish which are due to be added to Swift Mapper. Courtesy of [REDACTED] The Street private garden 2026 Swifts including active nests. Also sightings of Turtle Doves.

8.3.1.4 Lapwing

Lapwing rely on open farmland with minimal disturbance for nesting and feeding. The arable fields around Tivetshall St Margaret provide suitable habitat, and lapwing are known to use these fields during the breeding season. The project would remove open ground essential for nesting, introduce continuous noise that deters Lapwing from establishing territories, an increase in human and vehicle disturbance that causes nest abandonment, and fragment habitat through fencing, compounds, and access tracks. In a BESS fire, toxic deposition on fields would contaminate invertebrate food sources and nesting grounds. Any Tivetshall farmland, lying downwind, would also be affected.

The bird from which the Tivetshall parish derives its name.



Photo courtesy
of [REDACTED]
taken in
Tivetshall

Classified in the
UK as Red under
the Birds of
Conservation

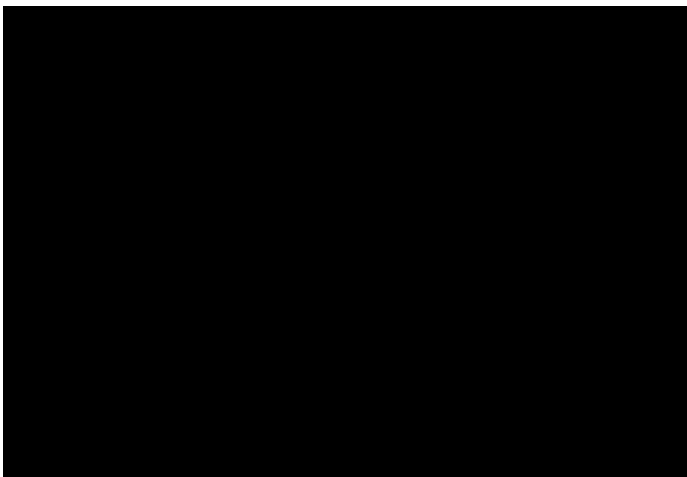
Concern 5: the Red List for Birds (2021). Priority Species under the UK Post-2010 Biodiversity Framework. Listed as Near Threatened on the global IUCN Red List of Threatened Species. Habitats Grassland Heathland and moorland Freshwater Farmland Coastal Wetlands Source: The Wildlife Trusts

8.3.2 Amber List

Bullfinch; Dartford Warbler; Dunnock; Lesser Black Backed Gull; Mallard; Moorhen; Quail; Rook; Song Thrush; Stock Dove; Wood Pigeon; Wren.

8.3.3 Protected Birds

Barn Owl; Buzzard; Kestrel; Little Owl; Peregrine Falcon; Red Kite; Sparrow Hawk; Tawny Owl.



Barn Owl Tivetshall St Margaret
photo courtesy of [REDACTED]

Peregrine Falcon recorded by [REDACTED]

8.4 Great Crested Newts

Great crested newts (GCN) are a European Protected Species and rely on a combination of ponds, ditches, hedgerows, and undisturbed terrestrial habitat. The landscape around Tivetshall St Margaret contains multiple features suitable for GCN, including ponds within the typical 250m terrestrial range, damp ditches, and hedgerow corridors that connect directly to the proposed BESS site.

The The Applicant has not carried out full-season surveys for GCN and has relied on incomplete or desk-based assumptions. This is a serious omission given the known presence of suitable habitat and the legal protection afforded to this species.



Photograph courtesy of [REDACTED] of [REDACTED]
[REDACTED] - May 2026

The project poses several unmitigable risks to GCN:

- Habitat loss and fragmentation caused by construction compounds, access tracks, fencing, and hardstanding. GCN relies on continuous terrestrial habitat for foraging and shelter; the project would sever these routes.
- Ground disturbance from trenching, cabling, and heavy machinery, which risks killing or injuring newts during construction.
- Lighting impacts, as GCN avoids illuminated areas; security lighting around the project would create a permanent barrier to movement.
- Noise and vibration, which disrupt hibernation and foraging behaviour.
- Pollution risk, as runoff from construction materials, oils, and concrete can contaminate ponds and ditches used by GCN.

In a catastrophic BESS incident, GCN would be exposed to:

- toxic firewater runoff containing heavy metals, fluorinated compounds, and battery chemicals
- contaminated deposition on terrestrial habitat
- long-term soil and water contamination affecting breeding ponds and foraging areas

Because The Tivetshalls lies downwind under prevailing north-westerly and westerly winds, contaminated particulates and rainfall could also affect GCN habitat in our parish.

8.5 Badgers

Badgers are present in the wider landscape around Tivetshall St Margaret, using the network of hedgerows, field margins, and ditches for foraging and movement. These linear features connect directly to the land parcel proposed for all elements of the scheme. The species is legally protected, and any disturbance to setts, foraging routes, or commuting corridors requires strict assessment and licensing.

The Applicant has not undertaken adequate surveys to identify active sets or to map badger movement routes across the site. This omission is significant given the known presence of suitable habitat and the proximity of the project to hedgerow corridors used by badgers.

The project introduces several unmitigable risks to badgers:

- Habitat fragmentation, as fencing, compounds, and hardstanding sever established commuting routes between foraging areas.
- Disturbance from construction, including heavy machinery, ground vibration, and night-time activity, which can cause sett abandonment or displacement.
- Operational noise, which disrupts nocturnal foraging behaviour and deters badgers from using traditional routes.
- Lighting impacts, as security lighting around the project creates illuminated barriers that badgers avoid, further fragmenting habitat.
- Ground disturbance, including trenching and cabling, which risks collapsing outlier setts or harming badgers using underground tunnels.

In a catastrophic BESS incident, badgers would be exposed to:

- toxic smoke plumes that settle on foraging grounds
- contaminated firewater runoff entering ditches and field margins
- long-term soil contamination affecting earthworm populations, a key food source

Because The Tivetshalls lies downwind under prevailing north-westerly and westerly winds, badger foraging areas in that parish would also be affected by airborne deposition and contaminated rainfall following a BESS fire.

8.6 Garden birds source:

Appendix 1 Attached listing of birds recorded in Tivetshall by [REDACTED]

Appendix 2 50 Garden Birds listed in 2025 in Tivetshall by [REDACTED]

8.7 Rare Flora

Lodge Road/Hundred Way/Carpenter's Walk & Seen 2026 on RB6/Tivetshall St Margaret. (TM1788/1888).



Sulphur clover is a scarce plant in GB, and on the **Red Lists for GB (Endangered) and England (vulnerable)**. Seen 2026 on RB6/Tivetshall St Margaret.

Road verges are the major habitat for this plant (perhaps 95% of cases), and South Norfolk is one of its strongholds, supporting around 20% of the national population. It often grows in narrow strips along a verge, perhaps 50cm in width, which makes it particularly vulnerable to road widening or pressure from large vehicles.

The area is also home to Norfolk's major communities of the **locally scarce Dyer's, Greenweed/Petty Whin, Genista tinctoria**, a strikingly beautiful low-growing broom, which is categorised as **Endangered on the GB Red List**.

Lodge Road/Hundred, Way/Carpenter's Walk/Prangle Lane area of tracks contains the best colony of Dyer's Greenweed in Norfolk, and is only spot where the notable trio of Dyer's Greenweed, Sulphur Clover, and Spiny Restharrow, Ononis spinosa grow together.

Woodton Road (TM2796/2795) is the location of Norfolk's largest road-verge colony off **Dyer's Greenweed**, which is also found at Wood Lane/Tyrrell's Wood (TM2089) and **Lodge Road/Hundred Way/Carpenter's Walk (TM1788/1888)**. This species has only eight extant locations in the county, up to five of which are within the area affected by the scheme.



Other noteworthy verge species include:

Crosswort, *Cruciata laevipes*, **which is Near-threatened on the England Red List**, at Wood Lane/Tyrrell's Wood (TM2089) **Pepper saxifrage**, *Silaum silaus*, **which is Endangered on the GB Red List**, all found at **Lodge Road/Hundred Way/Carpenter's Walk/Prangle Lane** area, Bussey's Loke/Fylands Road/Saxlingham Green/Wash Lane area, Wood Lane/Tyrrell's Wood, Woodton RoadMarket Land

In some cases the designation Roadside Nature Reserve protects specific verge stretches, but in our opinion the area is under-designated (for example, the RNR on Woodton Road should extend to protect the whole community of *Genista tinctoria* there, **and a wider area should be protected in the Hundred Way/Prangle Lane area**).

These unploughed verges and their adjoining ditches and hedges are a vital living heritage, as some of the last remaining links back to the pre-industrialised and even medieval/prehistoric agriculture once practiced in the East of England, and to the rich natural tapestry which it supported and jostled with in a pre-chemical age.

Field edges are also sites of concern, and as they are currently less well documented than verges there is an equally pressing need for survey before any irreversible changes take place. For example, Prangle Lane track, which looks like it may be affected by the scheme, is in effect a field edge of great importance, while the field entrance at Market Lane RNR is a highly valuable and irreplaceable habitat.

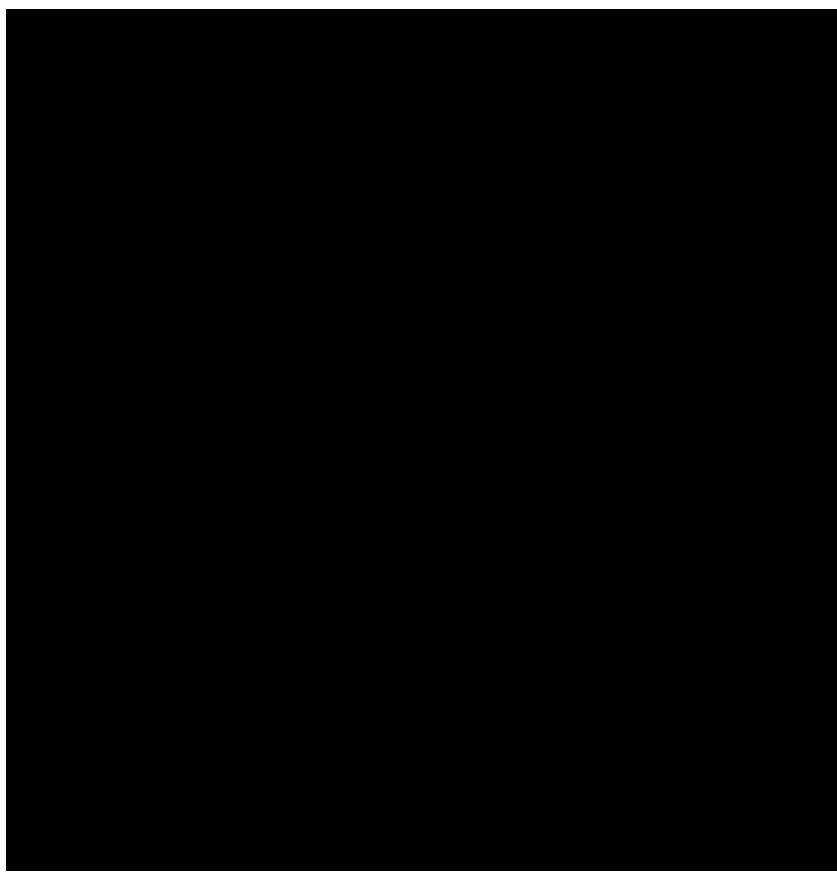
Report is included as part of full BEPS objection documentation

8.11 Hedgerows and Significant Trees



This year the Parish Council Biodiversity Group measured some of the oak trees in Lodge Road. They are awaiting verification by the Woodland Trust to be recorded on the UK Trees of Significance Register. Lodge Road is single track and the ancient trees and hedging is a vital habitat for birds and mammals. Lodge Road is identified by The Applicant for 2 way access during construction, maintenance and decommissioning phases.

Eight of the largest pedunculated Oak trees had girth measurements ranging from 3.4m to 4.5m. **Translated into ages that is from approximately 190 years old to 250 years.**



*Photograph courtesy [redacted]
ish Councillor – difficult to see but
Owl is present in the hole.*

The Applicant's documents acknowledge that the Order Limits contain an extensive network of native hedgerows, species-rich hedgerows, hedgerows with trees, mature trees and ecologically valuable tree lines. The ES and BNG Report identify these features as priority/local ecological habitats and recognise their importance for protected and priority species, including bats, nesting birds, badgers and other mammals.

However, The Applicant's conclusion that impacts will be negligible or beneficial relies heavily on embedded mitigation, temporary hedgerow removals, later reinstatement, BNG delivery, ecological buffers, the Outline LEMP, Outline CEMP/OEMP/DEMP, and a detailed lighting design that has not yet been finalised. The Examining Authority should therefore test whether the assessment adequately captures the local ecological-network function of hedgerows around Tivetshall St Margaret, particularly their role as mature, connected commuting and foraging corridors between farmland, ponds, ditches and woodland blocks.

The ES confirms that temporary hedgerow removals of up to 10 m sections may be required for cable routes, haul routes and access, and that hedgerows, tree lines, mature trees and field margins are used by nationally important bat assemblages, including barbastelle. It also confirms that nesting bird habitat is associated with hedgerows, ditches, woodland edges, pond edges and uncultivated margins. These features should therefore be treated as functioning ecological infrastructure, not merely replaceable linear habitat units.

The Applicant has assessed lighting, fragmentation, disturbance, tree-root protection and contamination pathways, so it would be inaccurate to say these matters have not been assessed at all. Tivetshall Parish Council is concerned with the more serious issue of whether the assessment is sufficiently site-specific, enforceable and precautionary, particularly in relation to: temporary severance of mature hedgerow corridors; delayed restoration of corridor function; operational lighting at the BESS and substations; construction disturbance to nesting birds and bats; root protection for mature trees in hedgerows and the absence of a clearly identified ecological assessment of toxic smoke deposition, contaminated firewater runoff and long-term soil contamination effects on hedgerows and hedgerow-dependent invertebrates in a catastrophic BESS incident.

8.12 Inadequate Mitigation for Common Species

Common and Priority Mammals, Dark Skies and Ecological Connectivity

Tivetshall Neighbourhood Plan Policy TIV13 requires development proposals to take account of the area's dark skies, to minimise light spillage, to use downlighting, to restrict hours of lighting, and to mitigate lighting likely to cause disturbance or risk to wildlife. This local policy is directly engaged by The Applicant's proposal because their own Lighting Strategy confirms that the Order Limits lie within a rural dark landscape, with some areas falling within the



darkest night-sky classification, and that lighting will be required during construction, decommissioning and operation.

The Environmental Statement confirms that bats, nocturnal birds such as barn owls, and badgers are present within or adjacent to the Order Limits and may be affected by artificial lighting. It also confirms that the Scheme will require temporary lighting for construction

compounds, laydown areas, security infrastructure, vehicles, Horizontal Directional Drilling works and abnormal load movements, as well as operational lighting for the BESS, National Grid Substation and Project Substations. The reliance on later detailed lighting design and management plans does not remove the need to assess the effect of this lighting on dark skies, nocturnal wildlife and rural tranquillity at examination stage.

The ES also confirms that several “common” farmland mammals are in fact legally and materially relevant. Brown hare, hedgehog, harvest mouse and polecat are identified as “Other Priority Mammals”, with field margins, hedgerows, ditches, grassland margins, woodland edges, scrub, ponds, watercourse corridors and lowland fen all considered likely to support them. Open arable fields are also acknowledged as likely to be regularly used by foraging brown hare. The desk study records over 80 recent brown hare records, frequent observation of brown hare during 2024 and 2025 surveys, and over 100 recent hedgehog records within the 2 km search area.



Brown hares are one of the UK's most iconic farmland mammals, known for their speed and their dramatic spring boxing matches. They rely on grassland habitats and woodland edges for food and cover. They breed and raise their young above ground.

Conservation status

Introduced, but naturalised species. Protected in the UK under the Wildlife and Countryside Act, 1981. Priority Species under the UK Post-2010 Biodiversity Framework.

Important habitats of the Brown Hare are grassland, farmland and woodland.

Hedgehogs Quoting from British Hedgehog Preservation Society 2022 data report referring to a long and historic decline with differences between urban and rural increasingly apparent. "In urban areas a stable population ." "in stark contrast, rural populations remain low and in the last two decades, have continued to decline by between a third and three quarters nationally. **The largest declines are seen in the eastern half of England.**"

The concern is that, having acknowledged these receptors, The Applicant gives them only Site-level importance and treats them largely as a legislative-compliance matter. That approach understates their ecological role in a highly connected rural landscape. In Tivetshall St Margaret, Great Moulton and the wider East Pye solar project landscape, farmland mammals move through a permeable network of fields, lanes, hedgerows, ditches, woodland edges and watercourse corridors. Construction trenching, vegetation clearance, fencing, heavy vehicle movements, lighting, compounds and long-term operational infrastructure all have the potential to cause injury, displacement, disturbance and fragmentation of these movement routes.

The assessment is therefore too narrow. It does not adequately explain how priority mammals use the wider East Pye Solar project landscape, how movement corridors between Tivetshall, Great Moulton, Hundred Farm, Starston, Aslacton and Wacton would be maintained, or how cumulative severance from fencing, lighting, haul routes, cable corridors and substations would be avoided. Reliance on generic outline mitigation is not sufficient for a dispersed NSIP of this scale.

Tivetshall Parish Council believe this should be framed as a significant ecological deficiency. The issue is not that the ES wholly omits brown hare and hedgehog, but that it acknowledges their presence and statutory relevance while failing to provide a sufficiently detailed, place-based assessment of their movement corridors, construction risks, lighting impacts and long-term habitat fragmentation. Consent should not be granted unless the applicant provides a specific priority-mammal mitigation and monitoring strategy, including dark-sky compliant lighting controls, mammal-permeable fencing, safe escape measures from trenches and excavations, retained hedgerow and ditch corridors, seasonal working controls, and enforceable post-construction monitoring.

8.13 Ecological Severance from Fencing

The ES confirms that solar areas would be enclosed by deer fencing up to 2.5 m high, while substations and BESS-related compounds would include 3 m palisade fencing, in some cases with additional deer-type mesh fencing outside the palisade compound. These are substantial engineered enclosures, not minor boundary features.

Tivetshall Parish Council submits that The Applicant relies on retained hedgerows, buffers, habitat enhancement and outline protected-species mitigation. The assessment does not adequately demonstrate how long-term movement by priority mammals, amphibians and reptiles would be maintained across the whole operational scheme. The issue is not only direct habitat loss, but functional severance: the combined effect of fencing, access tracks, substations, BESS infrastructure, lighting, cable corridors and maintenance activity on movement between hedgerows, ditches, ponds, woodland edges and open farmland.

Tivetshall Parish Council request that a scheme of this scale should provide a clear, enforceable connectivity strategy showing where mammal-permeable fencing, amphibian and reptile crossing points, retained dark corridors, hedgerow links, ditch buffers and monitoring measures would be secured. Without that, the ES risks understating the long-term ecological consequences of severance and fragmentation, for example species that rely on wide territories or seasonal movement routes would be displaced.

The Applicant's conclusion that ecological connectivity would be retained or enhanced is therefore not sufficiently evidenced at a place-based level nor has the applicant assessed the long-term ecological consequences of this severance.



*Roe Deer and Chinese Water Deer - Photos
courtesy of [REDACTED]*

8.14 General Biodiversity Net Loss – Landscape-Scale Decline & Failure of Assessment

The farmland, hedgerows, ditches and tree lines surrounding the proposed project site form a connected ecological network that supports a wide range of species, including protected,

priority, and common wildlife. This landscape functions as a single, interdependent system, where the loss or degradation of one component affects the viability of many others.

Tivetshall Parish Council agrees with BEPS that The Applicant has submitted a BNG calculation and baseline habitat survey information, but these do not provide a credible or sufficiently robust assessment of ecological interconnectedness, landscape permeability, species movement, or the functional value of existing habitat networks. The BNG claim is therefore not adequately evidenced. The BNG Report claims a 37.42% gain in habitat units, 31.35% gain in hedgerow units and 16.08% gain in watercourse units across the Order Limits. However, those figures are expressly dependent on baseline habitat surveys, the Hedgerow Removals Plan, the Green Infrastructure Strategy in the Outline LEMP, and a series of assumptions.

Natural England specifically advised at scoping stage that, given the size and scale of the scheme, the ES should make clear the scheme's contribution to ecological connectivity. The Applicant's response appears to rely on broad statements about connectivity retention and BNG/LNRS contribution, but the calculation does not, therefore prove that existing ecological networks, species movement routes or landscape permeability would be protected. This is particularly important because the statutory biodiversity metric is a proxy based on habitat type, area or length, distinctiveness, condition and strategic significance. It does not directly measure whether wildlife corridors remain functional, whether species can move safely through the landscape, or whether the development would sever established relationships between hedgerows, ditches, watercourses, fields, lanes, woodland edges and surrounding farmland.

8.15 Starston Beck Headwaters

The Starston Beck rises on a small holding in Great Moulton, North of the Project Site, however along each hedgeline natural water courses join and add to the flow of this beck, a small but ecologically important watercourse. The waters then filter through the whole of the plateau, linking all areas which then flows eastwards before joining the River Waveney, a designated river system supporting priority habitats and protected species. Headwater zones are particularly vulnerable to disturbance because they regulate water quality, flow, and ecological connectivity downstream. These same areas are those proposed for the major infrastructure of the Project, which are the BESS, 2 project substations, the national grid connection and numerous cable corridors.

Tivetshall Parish Council accepts that The Applicant has assessed runoff, contamination, sediment mobilisation, culverting and hydromorphological disturbance pathways, but concludes these are negligible or minimal following embedded mitigation.

The issue is not that no assessment has been undertaken, but whether the assessment is sufficiently localised and robust for the Starston Beck Headwater network, particularly given the proximity of the National Grid Substation and associated works to the source area and the reliance on later CEMP, DEMP, OEMP and drainage-strategy controls. However, the

submitted assessment appears to treat the Starston Beck network at a broad WFD catchment level.

Tivetshall Parish Council ask the ExA to request a focussed assessment of the Starston Beck source/headwater area and its local hydrological sensitivity.

8.16 White Clawed Crayfish - Downstream Vulnerability to project-Related Contamination

White-clawed crayfish are a legally protected native species and a Section 41 priority species. The Applicant's own documents confirm that the BESS, National Grid Substation and associated sub-sites lie within the Waveney Operational Catchment, with Starston Beck screened into the WFD assessment, establishing a clear hydrological pathway from the development to the Waveney/Starston Beck system.

Although not recorded within the Order Limits, The Applicant acknowledges historic records in the wider catchment and that the Environment Agency requires surveys where works may affect watercourses. Despite this, the ES provides no receptor-specific assessment of downstream impacts on white-clawed crayfish.

This is a material omission. The Water Environment Chapter identifies credible pollution risks from the BESS and project substation including lead, lithium, heavy metals and contaminated firewater, and accepts that a BESS fire could create pathways via polluted runoff and groundwater contamination. The Environment Agency has also raised outstanding concerns about spills, leaks, firefighting runoff, drainage design, containment reliability and secondary pollution from contaminated substrate.

It has not been demonstrated by The Applicant that contaminants from a BESS or substation incident would not be transported downstream. They have not assessed potential acute or chronic toxicity, sediment-bound contamination or habitat degradation affecting white-clawed crayfish. Without a precautionary, receptor-specific assessment of downstream contaminant transport, containment failure and emergency mitigation, the ecological assessment cannot be considered robust or compliant with WFD objectives or statutory duties for protected species.

8.17 Conclusion

The The Applicant Solar proposals conflict with the NPPF, South Norfolk Local Plan, and the Tivetshall Neighbourhood Plan (notably policies Tiv13 and Tiv14), all of which require the conservation of historic landscape character, setting, rural tranquillity, and heritage assets

It is accepted that The Applicant has screened or assessed at least 14 protected/notable species groups, including European Protected Species such as bats, great crested newt and otter.

However, several protected species receptors are not taken forward as full Important Ecological Features and are instead addressed for "legislative compliance only", including reptiles, badger, otter, water vole and other priority mammals.

Tivetshall Parish Council are requesting the ExA ensures the adequacy of this approach and it should be tested against GOV.UK protected species guidance, particularly whether the submitted surveys and mitigation provide enough evidence to assess likely impacts on the species and their supporting habitats, and whether avoidance, mitigation, compensation, monitoring and licensing requirements are sufficiently secured.

The project introduces several unmitigable risks to all protected wildlife, particularly Bats, Red List Birds, Badgers and Great Crested Newts

- Habitat fragmentation, as fencing, compounds, and hardstanding sever established commuting routes between foraging areas.
- Disturbance from construction, including heavy machinery, ground vibration, and night-time activity, which can cause sett and nest abandonment or displacement.
- Operational noise, which disrupts nocturnal foraging behaviour and deters wildlife from using traditional routes.
- Lighting impacts, as security lighting around the project creates illuminated barriers that badgers avoid, further fragmenting habitat.
- Ground disturbance, including trenching and cabling, which risks collapsing outlier setts or harming badgers using underground tunnels.

In a catastrophic BESS incident, all wildlife would be exposed to:

- toxic smoke plumes that settle on foraging grounds
- contaminated firewater runoff entering ditches and field margins
- long-term soil contamination affecting earthworm populations which are a key food source.

Chapter 9: Water Environment

9.1 Water Environment, Groundwater and Private Water Supplies

Tivetshall Issues - Water Environment

Our objection acknowledges the update. We dispute the Applicant's assertion that individual private supplies, field drains, ditches, cable crossings, BESS/substation contamination pathways and firewater risk have been sufficiently verified and secured.

Relevant Applicant documents: APP/6.1.9; APP/6.2.9.1; APP/6.3.9.1; APP/6.3.9.2; APP/6.3.9.3; APP/6.2.16.5; AS-018/AS-019.

Tivetshall and the surrounding East Pye Solar Project land parcels sit within a sensitive rural water environment, with private water supplies, surface-water drains, ordinary watercourses, groundwater Source Protection Zones, Principal and Secondary aquifers and downstream catchment connections all requiring careful assessment. The issue is not merely flood risk, but the protection of groundwater, private supplies, surface water quality and controlled waters from construction, operational and emergency pollution pathways.

The Applicant's own ES confirms that water-environment risks include potential contaminants in runoff from the BESS, National Grid Substation and Project Substations; spills and sediment mobilisation during construction and decommissioning; changes to runoff and groundwater recharge; harmful battery-related materials including lead, lithium and other heavy metals; and contaminated firewater in the event of a fire at the BESS or substations.

The ES acknowledges the relevant risk pathways, but then concludes that residual effects would be minor or not significant, principally through reliance on embedded mitigation, outline drainage design and future management controls. The assessment remains largely desk-based and distance-led. It does not clearly demonstrate, for each potentially affected supply, the abstraction depth, source strata, groundwater flow direction, hydraulic connectivity, contaminant travel time, or pathway from the BESS, substations, cable corridors, compounds or construction areas. The Applicant states that no part of the Order Limits lies within a groundwater Drinking Water Safeguard Zone, but then confirms that parts

of the Order Limits fall within a surface water Drinking Water Safeguard Zone identified as at risk from pesticides and nitrate.



Tivetshall Parish Council suggest this is a substantial omission as The Applicant concludes that credible risks have not been identified, but that conclusion is not supported by a sufficiently detailed receptor-specific hydrogeological assessment.

Tivetshall Parish Council would assert that this does not by itself prove harm from the Scheme.

South Norfolk Development Management Policy DM 3.14 supports this objection because it requires development to minimise pollution and ensure no deterioration in water quality or watercourses, including surface and groundwater quality and public health and safety. The Water Resources Act 1991, Environmental Permitting regime and Water Framework Directive Regulations similarly require protection of controlled waters and prevention of deterioration in water status.

The critical deficiency is therefore not that water risks are wholly omitted. It is that The Applicant has acknowledged the relevant risks but has not demonstrated, with sufficient site-specific evidence, that private supplies, groundwater, surface waters and downstream receptors would be protected from contamination, altered recharge, construction disturbance, BESS/substation runoff, or firewater failure.

Tivetshall Parish Council submits that the ExA requires the Applicant to provide a receptor-specific hydrogeological risk assessment, verified private-supply survey, pollutant pathway assessment, firewater containment design, groundwater monitoring scheme and enforceable emergency response measures.

9.2 Rivers, Streams, Ditches, Culverts

Tivetshall sits on a local watershed. The north and eastern side of the parish, including the East Pye Solar Project site, forms part of the headwaters of the Starston Brook (also known as Starston Beck). This network of springs, drains and field ditches flows eastwards through Tivetshall St Margaret, The Pulhams, Starston and Harleston before joining the River Waveney, a major river system forming the Norfolk–Suffolk border. The upper reaches around the East Pye Solar project sites have very low dilution capacity, meaning any contaminants introduced here travel quickly into the Waveney catchment.

Across the parish, the drainage network consists of shallow groundwater, permeable sands and gravels, agricultural ditches, culverts, and field drains. These features are highly sensitive to disturbance. Trenching, piling, cable installation, soil compaction and altered runoff from solar arrays can disrupt natural flow paths, overload ditches, or divert water towards private wells and boreholes.

Because Tivetshall contains the early points of a river system, any pollution incident, sediment release or change in drainage behaviour at The Applicant has the potential to affect downstream watercourses, farmland, and designated habitats within the Waveney catchment.

9.3 Flooding



The Starston Beck crossing Star Lane a River Waveney tributary - Winter 2026

Water running down Star Lane from Station Road and the consequence in the Beck

Flooding and surface-water drainage are known local concerns in Tivetshall, including at Green Lane, Station Road, Star Lane, Lodge Road and the A140. Residents recorded significant flooding and drainage problems during preparation of the The Tivetshall Neighbourhood Plan, including locations close to the proposed East Pye Project solar fields, substations and BESS infrastructure. Policy TIV14 *'requires development near identified*

flood-risk locations to take account of all



relevant flooding evidence, and to ensure that development does not cause or contribute to new flooding or drainage problems.'

The Applicant's FRA concludes that overall flood risk is low and that the solar arrays would not materially increase impermeable area because the panels are raised above grassed ground. However, The Applicant's own documents also acknowledge that the BESS, National Grid Substation, Project Substations, access tracks, temporary compounds, construction traffic, ground compaction, material storage and operational hardstanding all create drainage and runoff pathways requiring assessment and mitigation.

Tivetshall Parish Council concerns are therefore not that flood risk has been wholly omitted, but that the assessment may understate localised parish-scale flooding risk. The FRA relies on generic assumptions that vegetated cover will be maintained beneath panels, that access tracks will remain permeable and that outline drainage for the BESS and substations will control runoff after detailed design. It does not clearly demonstrate how historic flooding evidence from Tivetshall, including Station Road, Lodge Road, Star Lane, Green Lane and the A140, has been incorporated into the surface-water modelling and drainage strategy.

With the known history of local flooding, the proximity of proposed infrastructure to Station Road and Lodge Road and the introduction of impermeable and compacted areas associated with the BESS, substations, construction compounds and access routes,

Tivetshall Parish Council submit the ExA requests The Applicant to provide a site-specific parish drainage assessment. This should test exceedance routes, cumulative runoff from fields north of Station Road and Lodge Road, soil compaction during construction, ditch capacity, outfall locations, maintenance responsibility and climate-change rainfall allowances. Without that evidence, the ES does not demonstrate with sufficient confidence that the Scheme would avoid increasing flood risk to nearby homes, farmland, lanes and private water supplies.

9.4 Water Environment, Drinking Water Supplies and Catchment Risk

Tivetshall lies within a sensitive rural water environment where groundwater, surface-water drainage, private wells, boreholes, roadside ditches and small watercourses are closely connected. The parish forms part of the wider River Waveney catchment, including pathways toward Starston Beck. Changes to runoff, infiltration, sediment movement or contamination at site level therefore have the potential to affect receptors beyond the immediate development footprint.

Public and private drinking-water supplies in the wider area rely on vulnerable groundwater resources, including chalk, sand and gravel aquifers. These can be permeable and may allow contaminants to move through the subsurface where there is limited natural attenuation. Private wells and boreholes are particularly sensitive receptors because they may support domestic use, farming, livestock and wider rural land management. The Applicant's own Ground Conditions assessment confirms that private water supplies and permitted

groundwater abstractions are present near the Scheme, including within the study areas for the BESS, National Grid Substation, Project Substations, PV arrays and cable routes.

The existing local drainage context increases the need for caution. Tivetshall has experienced long-standing problems with surface water and foul drainage, including reports of raw sewage escaping onto public roads, into roadside ditches and culverts and then toward natural watercourses. Residents have reported sewage backing up into domestic drainage and sewage tanker deployment as recent as 2026 during wet periods when the system was under pressure. This local evidence is relevant because any additional runoff, sediment movement or pollution incident could interact with an already stressed drainage environment.

During construction, the Scheme would involve trenching, drilling, possible piling, concrete and cement use, cable works, foundations, ground disturbance, construction compounds, access routes and heavy vehicle movements. These activities can create pollution pathways through fuel spills, concrete washout, sediment runoff, ground compaction, altered infiltration and disturbance of shallow groundwater. The Environment Agency has specifically identified the need for Foundation Works or Piling Risk Assessment where deep or piled foundations may create pathways for contamination into deeper groundwater units. If such assessments are deferred until after consent, the Examination will not have sufficient evidence to understand the risk to private supplies and groundwater receptors. Manufacturers of Tracker Solar Panels indicate they require deeper foundations than ground mounted solar panels.

During operation the BESS, substations, inverter bases, concrete pads, platforms, access tracks and hardstanding would introduce new impermeable or semi-impermeable surfaces. These can alter natural infiltration, redirect runoff, reduce recharge locally and increase pollutant transport risk. Potential contaminants include fuel, oils, transformer fluids, battery-related substances, firewater runoff, herbicides, sediment and contaminants associated with damaged infrastructure. The concern is not only ordinary drainage, but also low-probability, high-consequence events such as a BESS fire, transformer leak or containment failure. The BESS site is of great safety concern to Tivetshall. The project identifies a fire-water facility. It does not include any inspections by the Fire Service during the lifetime of the project to ensure ongoing compliance with safety standards.

The Source Protection Zone position should be treated carefully. The Order Limits are not identified by The Applicant as being within a groundwater Drinking Water Safeguard Zone, but parts of the Scheme are within groundwater Source Protection Zone 3 and parts are within a surface-water Drinking Water Safeguard Zone for nitrate and pesticides. This does not by itself prove harm from the Scheme, but it reinforces the need for a precautionary and receptor-specific assessment of groundwater, surface water and drinking-water pathways.

Tivetshall Parish Council are concerned that The Applicant concludes that there are credible risks to private water supplies that have not been identified. **However, that conclusion**

appears to depend heavily on a desk-based and distance-led assessment. The ES does not provide a receptor-by-receptor hydrogeological assessment showing abstraction depth, source strata, groundwater-flow direction, hydraulic connectivity, contaminant travel time, supply vulnerability or the pathway between each private supply and the proposed works.

Tivetshall Parish Council request the ExA requires The Applicant to provide a receptor-specific private and public water-supply risk assessment before consent is granted. This should include verified private-supply locations, abstraction depths, baseline water-quality testing, groundwater-flow assessment, contaminant-pathway analysis, piling and foundation risk assessment, firewater containment design, shut-off valve locations, foul-drainage arrangements, sealed-tank provision where necessary, emergency pollution-response measures and long-term monitoring.

Tivetshall Parish Council believes without that evidence, the ES does not demonstrate with sufficient confidence, the private wells, boreholes, groundwater abstractions, Source Protection Zones, surface-water receptors and downstream River Waveney catchment interests would be protected from contamination, altered recharge, construction disturbance, drainage failure or emergency pollution incidents.

Chapter 10 : Cultural Heritage

Tivetshall Cultural Heritage Concerns

The archaeological setting and cumulative issues remain, particularly for Site 2 and the combined change to the historic landscape.

Relevant Applicant documents: APP/6.1.10; APP/6.2.10.1; APP/6.3.10.1-6.3.10.6; AS-020 to AS-024.

10.1 Plateau Farmland Sensitivity to Industrialisation

The area around the Tivetshalls (St Mary and St Margaret) has been predominantly agricultural for centuries. By the medieval period, the Tivetshalls' landscape was shaped by small farms and moated medieval sites, such as Bunnetts Moat. The Domesday Book (1086) records the Tivetshalls as a thriving agricultural community. The village's name is derived from Old English 'Lapwings Nook' reflect the rural pastoral character of the area.

The parish hasn't been heavily excavated—the finds show a long history of occupation. Prehistoric activity is hinted at in the Roman-period. Saxon finds are much rarer. By the medieval period, the evidence became richer.

The parish has remained almost exclusively agricultural and pastoral with little industrial development. Unlike many villages that grew around a single central point, the Tivetshalls developed in a long, linear pattern. From Roman times through the medieval period and into the present the current Tivetshall parish has been defined by its agricultural landscape. The village has retained its linear style.

Lanes that have followed the same lines for centuries, meadow systems and field boundaries that mirror medieval enclosure patterns. Much of this landscape has survived. It provides an unusually vivid insight into how the parish once functioned—something that could easily be lost if development isn't handled carefully.

10.2 Impacts to Conservation Area & Tivetshall Neighbourhood Plan

Tivetshall is not a Conservation Area but we would like to highlight the following:

- Development proposals are not subject to Conservation Area statutory tests (e.g., preserving/enhancing character).
- The Neighbourhood Plan (Adopted 2022) design codes do still carry weight and need to be respected in shaping any proposals.
- The NP emphasises:
 - Rural character
 - Landscape sensitivity
 - Appropriate materials and scale
 - Respect for historic context

The Tivetshalls' medieval landscape framework remains intact, including:

- Surviving church sites
- Ancient lane networks
- Historic meadow systems
- Field boundaries consistent with medieval enclosure patterns

This survival provides an unusually clear understanding of the medieval parish structure. Development in such a landscape risks irreversible loss of both buried archaeology and visible historic character.

The area is dotted with listed farmhouses and barns, many dating back several centuries, which serve as a tangible reminder of its farming past.

Drovers Routes: Whilst not individually named in official records many of the by-ways and restricted byways in Tivetshall most likely originated as drovers routes used historically for moving livestock between villages and markets. Tivetshall is popular for hiking, walking, riding and cycling. These routes are now protected as public rights of way and are accessible and very popular for walking, cycling, riding and in some cases driving.

10.3 Impacts to Grade 1 Listed Churches

St Margaret's Church stands apart from the main settlement, surrounded by fields and outlying farm buildings. It has the appearance of a modest farmworker's cottage attached to the east end of the nave.

Inside the church: an unmarked 12th-century tomb in the chancel; medieval bench ends.

The most significant feature is the large Elizabethan tympanum of 1587, erected above the rood screen during the national crisis preceding the Spanish Armada. It is one of the few surviving examples in England that spans the full width of the church, from the top of the rood screen to the roof. The lion and unicorn flank the royal coat of arms, with “God Save Our Queen Elizabeth” painted beneath. The design incorporates symbols of the other four Tudor monarchs and the badge of Elizabeth's mother, Anne Boleyn.



The churchyard is well kept and densely filled, and contains a Grade II war memorial (ID 1455231).

St Mary's Church is now a ruin. Built in the 14th century. The thatched roof was replaced in the early 1900s. The First World War memorial (Grade 2 listed) was erected around 1920 in the churchyard. In a 1930's publication it was recorded as 'an extraordinarily plain building the only things of interest were a plain Stuart table and the Arms of George IV'. In 1949 the tower collapsed. Allegedly the vibration of WW2 heavy aircraft circling into formation from the numerous USAF bomb groups was responsible for its weakening.



Annually to this date parishioners and the primary school children attend a memorial service conducted on Armistice Day.

Tivetshall is located/sandwiched between the A140 and the Norwich to London railway line. The A11 is further west. Traffic hold ups on the A140 or B1134 Station Road result in vehicles taking alternative routes along the narrow lanes of Tivetshall and past either of our two highly valued churches.

10.4 Impacts to Grade II* Listed Buildings

Listed below are a number of our grade 2 buildings in the parish.

As villagers what we are concerned about is our village will become a rat race for cars, lorries and HGVs for the years during construction and thereafter for maintenance by HGVs and employee vehicles. Narrow country roads by their nature have very little foundation. The listed buildings include a historic Quaker Meeting House with a historic burial ground on Lodge Road. Considerable shaking and vibration can cause damage to these buildings if heavy traffic is constantly passing.

10.4.1 Station Road Grade 2 listed Properties

1. Beck Green Farmhouse
2. Chestnut Farmhouse
3. The Valley Farmhouse
4. Barn Cottages No's 1&2
5. Fernleigh Cottages 1-3
6. The Cottage
7. Star Cottage

10.4.2 Lodge Road Grade 2 listed Properties

1. Walk Farmhouse (Aylmer's Hall)
2. The Lodge, Lodge Farm,
3. Prangle Farm
4. Friends Meeting House incl cemetery
5. Star Green Farm
6. Kingfisher Cottage
7. Glenhaven (formerly Star PH)

10.5 Impacts to Pre-Modern Agricultural Landscape

Historic Landscape and Rural Features

Tivetshall lies within the Great Moulton Plateau Farmland and Waveney Tributary Farmland character areas and is shaped by long-established natural drainage flowing north to south into the Starston Beck. The landscape is defined by:

- Open, exposed plateau farmland
- Large arable fields
- Long, uninterrupted views
- Sparse settlement pattern
- Mature remnant hedgerow oaks
- Narrow lanes with ditches and grass verges
- Isolated churches set within open fields
- The landscape has remained largely unchanged for centuries and retains exceptional historic legibility. Industrial-scale energy development would permanently alter this established character and erode the rural qualities that define the parish, where the landscape has remained largely unchanged for centuries; these sensitivities are especially pronounced.
- Sensitivity to ground disturbance, especially around known medieval and Roman features. There is potential for undiscovered archaeology due to limited past investigation

South Norfolk's Landscape Sensitivity and Susceptibility evidence identifies Plateau Farmland as highly vulnerable to large-scale energy and industrial development. Its openness, long views, and lack of natural screening mean that even modest infrastructure can appear visually intrusive.

South Norfolk District Council - Landscape Susceptibility in relation to Energy Generation, Storage and Transmission - SPD

10.6 Archaeology

The Tivetshalls is a small parish with limited archaeological investigation, resulting in a modest number of recorded sites. Prehistoric activity is hinted at through pieces like a polished flint axehead and other worked flints. Roman-period activity is represented, with finds of a copper-alloy coin from the 3rd c reign of Emperor Maximianus, pottery sherds, brooches, Tesserae; Hypocaust tiles. a pudding stone quern fragment, and the sites of 3 Roman villas. These demonstrate a high-status Roman presence, indicating that the surrounding landscape is of elevated archaeological importance.

Saxon finds are much rarer, limited to items like an Early Saxon wrist-clasp and a bow brooch. By the medieval period, the evidence became richer. Coins, including a late 13th-century silver penny, appear more frequently.

10.6.1 Key Archaeological Concerns – Site 2

Reviewing the PINS documents now available Tivetshall Parish Council submit to the ExA that there appears to be critical errors or inconsistencies for example:

The project documents are unclear on dating, giving unclear information about Trench 2a-01. One document describes Roman remains, while another describes medieval features. This is important because Roman remains associated with a possible trackway could be of greater archaeological significance. **The Applicant should clarify the correct dating and provide the evidence supporting it.**

The Environmental Statement is confusing. It states there are no Historic Environment Record (HER) entries within Site 2. However, the Archaeological Mitigation Strategy refers to a Roman harness fitting recorded within Sub-site 2A. The Applicant must explain this apparent inconsistency and confirm that all known archaeological records and finds have been properly assessed.

Limited archaeological investigations were undertaken. Only nine evaluation trenches were excavated across Site 2, including just one trench in Sub-site 2C. Given the possible trackway, archaeological remains in Sub-site 2A and evidence of past activity in Sub-site 2B, it is not clear that the level of investigation has been sufficient.

Important design details, including cable routes, access tracks and equipment locations, have not yet been finalised. As a result, the full archaeological impact on Site 2 remains uncertain.

Tivetshall Parish Council request the ExA before any consent should require the Applicant to conduct a Site 2-specific archaeological review once the final layout is known.

The mitigation strategy lists a range of possible archaeological measures but does not clearly explain how they would be applied to Site 2.

There is no specific mitigation plan for the possible trackway, Trench 2a-01, areas of disturbance in Sub-site 2B, or future cable and access routes. Tivetshall Parish Council requests this lack of detail should be addressed before conclusions are reached.

10.7 Community Identity and Well-Being Rooted in Cultural Heritage and Historic Landscape

The Landscape reflects the relationship between people and place, and the part it plays in forming the setting to our everyday lives. It is a product of the interaction of the natural and cultural components of our environment and how they are understood and experienced by people. The land surrounding Tivetshall preserves the footprint of a medieval landscape that has remained largely unchanged for hundreds, if not thousands, of years. The ancient field patterns, routeways, and topographical lines still mirror the layout of our village and its immediate neighbouring parishes. This continuity is exceptionally rare. It allows the settlement to be understood not through surviving buildings, but through the land itself, which has held its shape across the centuries with remarkable integrity. For this reason, the setting is sacrosanct in heritage terms and the overall strategy must be to conserve the Plateau Farmland with its expansive skies, created by its elevated landform, dominance of arable farming and lack of settlement and to preserve this landscape as set out in South Norfolk and Broadlands Document *LUC_2001_RPA_E2_Great_Moulton_Plateau and the Landscape* - GOV.UK

This survival provides an unusually clear understanding of the medieval parish structure. Development in such a landscape risks irreversible loss of both buried archaeology and visible historic character.

Tivetshall's historic development is linear rather than nucleated, shaped by:

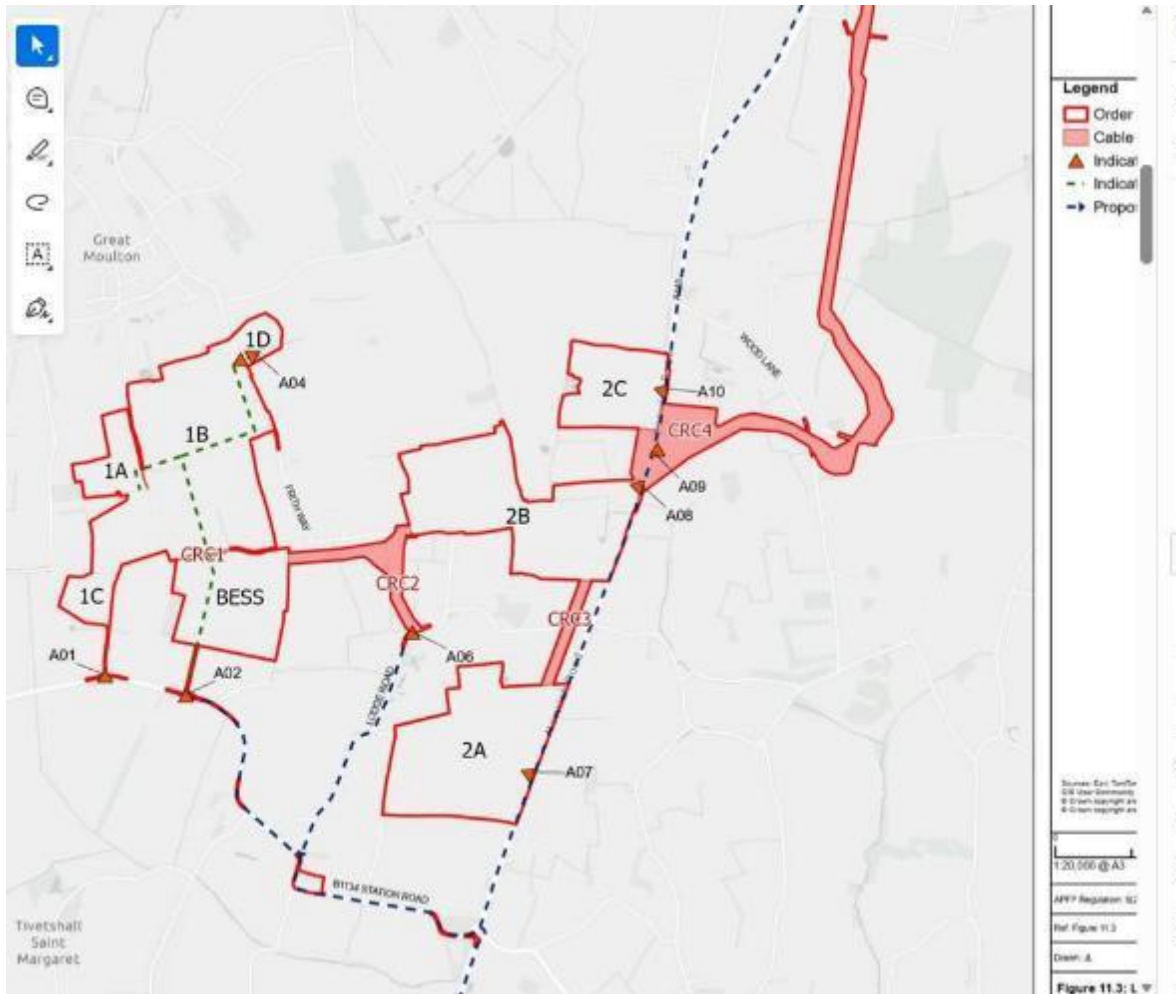
- The Roman Pye Road (now the A140)
- Medieval routeways
- The arrival of the nineteenth-century railway
- The geographical separation of the two parish churches

This pattern remains legible in the modern village layout and is a key element of its heritage character.

The The Applicant proposal represents a profound and irreversible intrusion into a landscape whose historic character is inseparable from the medieval origins of Tivetshall. The Applicant Project is not simply a solar scheme; it involves large substations, extensive Battery Energy Storage Systems, transformers, hardstanding, lighting, and security infrastructure. Together, these elements would introduce an unmistakably industrial presence into a countryside that has, until now, retained its historic form, tranquillity, and sense of continuity.

Chapter 11: Transport and Access

Tivetshall Transport and Access Concerns



Relevant Applicant documents: APP/6.1.11; APP/6.3.11.1; APP/6.2.11.1-6.2.11.17; APP/7.6; APP/7.7; APP/7.8; AS-002/AS-003.

11.1 Impacts on Existing Road Network

Station Road (B1134) and any associated access routes must be assessed as real rural roads with existing agricultural, residential and business use, not merely as abstract links in a traffic model. In addition the Norwich to Tilbury pylons route is within close proximity to neighbouring villages and the relevant additional traffic must be taken into account.

The Applicant must be required to demonstrate how construction HGVs, abnormal loads, worker vehicles, BESS deliveries, substation traffic, cable-corridor traffic, PRoW users, cyclists, horse riders, local residents, agricultural vehicles and emergency vehicles would safely coexist. The road has significant trees, and natural water courses along its length.

Also an HGV continuity plan should be provided for the Simpsons Malt site and all of Station Road. The Applicant is proposing that Station Road is both a construction/access corridor for the BESS/Substation area. It is a key existing HGV/agricultural route, this is a material omission.

Tivetshall Parish Council submit that the Outline Construction Traffic Management Plan is not sufficient unless it identifies how existing Simpson Malt and all other HGV movements will be maintained or safely diverted during any roadworks, widening, traffic management of abnormal-load movements or construction access conflicts on Station Road

Tivetshall Parish Council submits that the 2026 NSIP application documents do not yet provide sufficient certainty that the road network can safely and acceptably accommodate the combined impacts of Site 2, the BESS and associated grid infrastructure. The Examination Library shows that transport/access information is spread across Chapter 11, the Transport Assessment in four parts, route figures, traffic survey figures, PRow/cycle/bus-stop figures, the OCTMP, the OOTMP and the PRow Management Plan. These documents must be read together. The Applicant should be required to demonstrate consistency between all of them, particularly in relation to Site 2, Station Road, Hundred Way / Great Moulton RB19, Lodge Road, the BESS and the wider western infrastructure cluster.

Tivetshall Parish Council also asserts that The BESS should be assessed as part of a single western infrastructure cluster, including the National Grid substation, project substations, cable corridors, pylons, compounds, access tracks, lighting, security, drainage and emergency-response infrastructure. **Treating these elements separately risks understating the true road-network burden on Site 2, Station Road, Hundred Way / Great Moulton RB19 and all surrounding rural lanes.**

11.2 Proposed Station Road Straightening and Widening

11.2.1 Station Road (B1134)

The proposed use of Station Road for access to the substations and BESS raises significant unresolved impacts for residents and existing road users. Any widening or straightening of Station Road would directly affect residential properties, farmsteads, agricultural land, mature trees, verges, ditches and natural watercourses. These works would not be minor or temporary in character; they would physically alter a sensitive rural road corridor and could cause land take, loss of vegetation, drainage impacts, noise, vibration, dust, access disruption and loss of residential amenity.

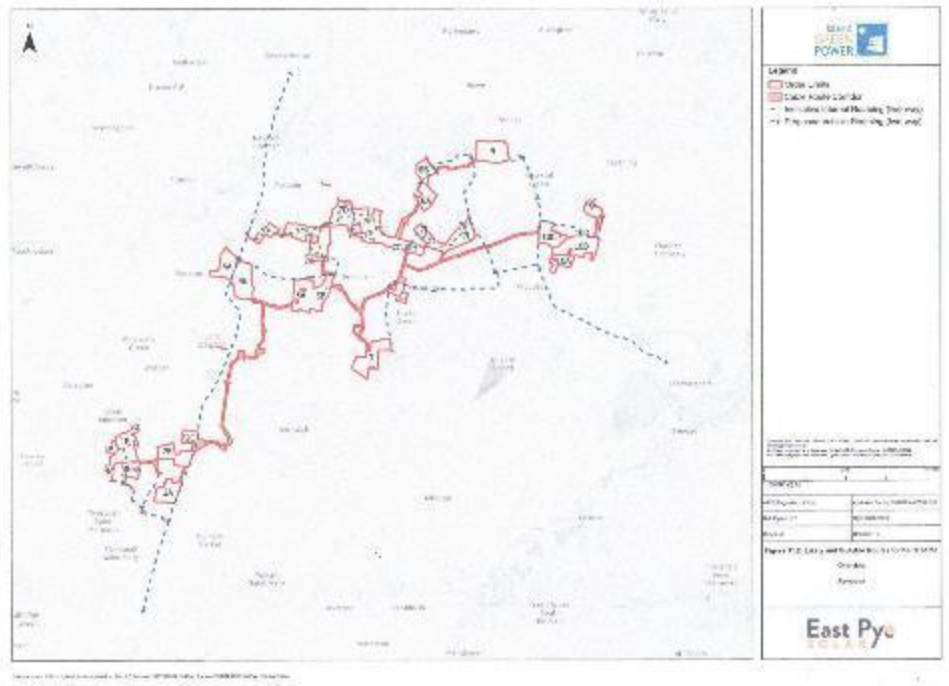
Station Road is already an important HGV including the agricultural route serving Simpsons Malt, local farms and livestock/feed movements.

Tivetshall Parish Council submit that The Applicant has not demonstrated how existing HGV, agricultural, residential and emergency access would be maintained during any roadworks or construction traffic associated with the substations and BESS. A specific Station Road widening, access and diversion plan is required before the road-network impacts can be properly assessed.

11.2.2 Lodge Road

Arising from the Pre Exam hearings The Applicant stated the road was necessary for access to the sites.

There are several different types of traffic evidence in the DCO they need to be read together to understand the impact. However as they are not all in the same document it makes it very difficult for residents of Tivetshall to be able to understand the impact on their lives.



APP6.2 Fig 11.2

The Works Plan indicates Lodge Road as a likely and suitable route to the Scheme.

Tivetshall Parish Council disputes that the route is suitable. All the land parcels and the CRC routes are inter connected. Lodge Road is single track for the majority of its length.

The Map indicates Lodge Road as a straight dashed line. The reality is: 6 bends with one of 75o and another 90o. A single track width with trees and hedging a driver's vision is often blind to oncoming traffic. Lodge Road is lined by either homes or by significant trees and hedging. There are no pavements or street lighting. A number of trees are mature oaks of 200-250 years age.

Photo courtesy [REDACTED] 2025

Lodge Road showing an HGV



CRC2 and Land parcel 2B (Site 2B) can be accessed within the site via the A140- A08 Land Parcel 2A

Tivetshall Parish Council submits the ExA should support Norfolk County Council Highways' opinion that access should only be from A or B classified roads.

11.3 Impacts on Existing Traffic

11.3.1 Traffic Surveys

11.3.1.1 Link 16 Lodge Road - This is identified as 41 HGV (greater than 3.5t) over an 18 hour period. 23% of total traffic This is a particularly high HGV proportion for a road with a low overall traffic. Walk Farm and Lodge Farm house agricultural buildings and are located directly on Lodge Road. Chestnut Farm uses Lodge Road for access to parcels of their own land and also provide agricultural services to private land owners in Lodge Road. The data records would imply that HGV commercial vehicles use Lodge Road when in fact it is possible that the vehicle movements are agricultural vehicles on their daily workload.

The Applicant's stated change is 0% - no additional Link 16 traffic to the scheme during the assessed peak construction scenario. However, to quote Document A05 sub site 2B and CRC2 Highway access and crossing, **construction and operation** ; and A06 CRC2 Highway access, **Construction only**.

If both A05 and A06 are both intended to be used during construction, including access associated with CRC2 **on what routing assumption does Table 11.16 show zero Scheme traffic increase on Link 16 Lodge Road?**

Tivetshall Parish Council has requested the Applicant provide an hour by hour breakdown of the figures and dates of the survey.

Tivetshall Parish Council submit that the ExA requests an explanation from The Applicant on the inconsistency of their documentation.

11.3.1.2 Link 17 B1134 - Station Road - baseline survey records 2936 AADT and 18% HGV. The future 2029 baseline is stated as Total 3106 and HGV 547 with peak construction figures of 3204 and HGVs 585. Increases of 3% AADT and 7% HGVs.

A02 APP/7.6 identifies A02 as serving all the following sites:

BESS; 1A; 1B; 1C; 1D; CRC1; CRC2 via B1134 Station Road. For both construction and operation.

Tivetshall Parish Council submit that the ExA requests an explanation from The Applicant on the minimal increase in traffic figures, especially HGVs during construction and operation for all the stated sites.

11.3.2 Additional Traffic on Village Network

The existing traffic conditions on Station Road and the wider Tivetshalls' road network have not been adequately addressed. As mentioned Station Road is a key HGV and agricultural route serving surrounding farms for movement of livestock, access to crop fields, Simpson Malt for grain delivered from farms and their malting products' onward transmission. It is not a lightly trafficked rural route capable of absorbing additional construction traffic without consequence.

The existing road network in Tivetshall is already constrained and has very limited pedestrian infrastructure. There are only three short sections of paved footway within the parish: one near the school and village green, a limited section along the A140 between Ram Lane and Rectory Road, close to the bus stops. The third footway exists west of the railway between the Simpsons Malt buildings and the company car park on Moulton Road, primarily for employee and visitor safety.

Outside these limited areas, the parish road network including Lodge Road consists predominantly of narrow, single width, rural lanes bordered by narrow and sometimes high verges, ditches, natural watercourses, agricultural fields, residential frontages and farm accesses. These roads provide little or no protected space for pedestrians, cyclists, horse riders or other vulnerable users. Any increase in HGVs, abnormal loads, construction vehicles or diverted traffic would therefore raise significant highway safety concerns.

Tivetshall Parish Council requests the ExA insist The Applicant must demonstrate how existing HGV, agricultural, residential and emergency access would be maintained and must also provide suitable diversion routes, swept-path analysis and safety measures before any conclusion is reached that the road network can safely and acceptably accommodate the combined impacts of Site 2, the BESS and associated grid infrastructure in addition to the current HGVs, agricultural, everyday passenger vehicle and emergency vehicles.

11.3.3 Inconsistencies

- The access plans are not consistent with the words relating to Site1 A01. One table identifies it as serving 1C whereas another table identifies Site 1A.
- App/6.3.11.1 Appendix C the map on page 99 shows two access routes from Station Road. At the Pre Exam Hearing the Applicant stated that this has been revised due to the PACE solar site receiving planning permission.

- Tivetshall Parish Council submit the ExA requires the Applicant to provide an up to date plan detailing the required two emergency access routes to the BESS site for emergency access.
- The Applicant states that there is 0% increase in traffic on Lodge Road arising from the project. However it is proposed as a 2 way route during Construction, Maintenance and Decommissioning.

11.4 Impacts on Public Rights of Way and Historic Routes

The Public Rights of Way, Bridleways, Quiet Lanes and historic routes in Tivetshall form an interconnected historic landscape network. They are not simply recreational paths capable of being diverted without harm.

Tivetshall Parish Council submits that The Applicant must NOT treat Rights of Way and historic routes as matters that can be addressed only through temporary signage or short-term diversion plans. The impacts include loss of tranquillity, severance of circular walking routes, increased fear and intimidation from traffic, harm to rural character, loss of safe recreational access and damage to the historic legibility of the landscape.

Any proposal for road widening, narrowing, crossing or traffic impact affecting these public rights of Way, our Quiet Lanes or historic routes must be assessed as a combined highways, heritage, landscape and public amenity impact. It is not sufficient to defer these matters to a generic PRoW or construction traffic management plan.

11.4.1 Public rights of way (Human Rights Act, necessity, least-interference)

Tivetshall's FPs 1,2,3,4, 5 and FP 15, 14, 12, Hall Road RB19, FP11, BR9, FP3 , FP5 and Lodge Road and FP5, 3, 2 and 17 form a large part of the parish's walking network and are among the most heavily used routes for daily recreation. They provide the only accessible green space for many residents. These routes have historic alignments, Quiet Lane status, and environmental sensitivities that heighten their vulnerability to traffic increases



Courtesy of [REDACTED] - Monday morning walk

“Up Hales St., Moulton Rd. to Black Mill, across the railway to Broadgate Ln. Up to the next footpath and back across the fields and the railway to Station Rd., then back home. On the way I saw deer, squirrels and rabbits and coming back down Hales St. the air was alive with birdsong. Wonderful.”

11.4.2 Proportionality test

Under the proportionality test, any interference with these routes must be necessary, justified, and the least intrusive option available. The scale of traffic associated with the proposed energy infrastructure would significantly diminish safety, amenity and tranquillity, representing a disproportionate interference with residents' ability to use these long-established public rights of way.

11.5 Impacts on Pedestrians and Children

Additional HGVs, construction vehicles, abnormal loads or diverted traffic associated with the substations, BESS or roadworks would therefore create a clear safety risk. This is particularly concerning near the school, village green, bus stops, residential frontages and routes used by children and families. Increased traffic volumes and vehicle speeds would reduce safety, increase fear and intimidation, and make these routes less usable for local people.

Tivetshall has very limited pedestrian infrastructure. There are only three short sections of paved footway within the parish: one near the school and village green, another along part of the A140 between Ram Lane and Rectory Road, close to the bus stops. The third is also a short footway west of the railway between the Simpsons Malt buildings and the company car park on Moulton Road, mainly for employee and visitor safety.

Every other road and lane in the parish is bordered by narrow and sometimes high verges, ditches up to 5' deep, natural watercourses, agricultural fields, residential properties or farm accesses. There is little or no safe refuge for pedestrians, children, cyclists or horse riders.

Lodge Road and Station Road have no footways. They all contain residential properties which are home to school children.

The Street has no footway and part of it has no verge either.. It is the main daily route to the Primary School, the Village Hall, playfield, the Green and its village pond and our Post Office (in Rectory Road).

Rectory Road has no footway - it has a school bus stop and is also the way from the most densely populated part of the village to access the bus stops for the hourly bus service which runs along the A140.

Tivetshall Parish Council submit the ExA requires The Applicant to provide a specific pedestrian and child safety assessment before any conclusion is reached that the road network can safely accommodate the proposed construction traffic. This should include speed controls, safe walking routes, protection at bus stops, management of HGV movements and measures to prevent unsuitable diversion of traffic through narrow village 'Quiet designated' lanes which are regularly used for general walking, cycling and horse riding and carriage driving.

11.6 Impacts on Horse Riders and Carriage Drivers

Guidance from British Horse Society. “Factors which could affect equestrians and should be considered during the planning phase are:

- *Construction traffic increase on roads and impact on equestrian safety should be avoided by careful traffic management and provision of alternative routes for equestrians.*
- *Bridleways and byways across the site should be retained or diverted with widths great enough to avoid the arrays over-shadowing the routes.*
- *Use of bridleways or byways as construction roads must be avoided as it will irretrievably damage their character if they are ‘green’ paths and may close them to the public for the duration of construction.*
- *Post-construction access roads must not coincide with bridleways or byways because public access is needed at all times which may conflict with security demand for the site.*
- *Damage or change to surface of bridleways or byways to install cables should be avoided by re-routing cables or by directional drilling if unavoidable.*
- *Effect on drainage from new hard surfaces and increased speed of run off must be accommodated to avoid poaching of bridleways and byways.*
- *Damage from installation of fencing must be avoided and the effect of fencing on the character and enjoyment of adjacent routes mitigated.*
- *Constraining width of bridleways or byways can feel intimidating with the loss of adjacent open space.*
- *Additional access opportunities may be achievable for perimeter or cross-development routes.*
- *Inverter buildings near rights of way should be constructed to minimise transfer of sound.*
- ***Tracker arrays should not be adjacent to bridleways or byways until their noise and movement can be assessed for impact in mature developments.***

The impact on residents and traffic flow or delays for motorists will be considered but not on other road users, such as equestrians. This is a point of highway safety which is a Material Planning Consideration. Unfortunately, alternative roads for either the construction or the riders rarely exist, but an off-road route, most commonly using a field edge alongside the road, may be negotiated for non-motorised users and compensation paid by the developer to the owners of the land over which it passes, for the duration of the unusual traffic period. Drivers should be reminded of the highway code and BHS guidance to pass horses at 10mph, by at least 2m.

In summary, a Traffic Management Plan should include the safety of users of rights of way both on and adjacent to the site and on roads used in the locality. It may be appropriate for construction traffic to be restricted to:

- *Limited hours and / or days of the week so that equestrians have options to avoid increased traffic*

- Limited routes, so roads most important to equestrians are avoided.

11.6.1 Use of bridleways and byways for access

Guidance from British Horse Society continued “Factors which could affect equestrians and should be considered during the planning phase are:

Bridleways, byways and unsurfaced roads should not be used for site access. If it is unavoidable, and accepted by the highway authority’s rights of way service,¹ in consultation with the BHS, every effort should be made to ensure that the surface will be maintained and restored to a surface material suitable for horses after construction of the solar farm.

An alternative route for equestrians should be provided during construction to minimise disruption and to ensure users’ safety. It is unacceptable to close off-road routes where roads are the only alternative when those same roads are also busier because of the construction traffic.

Closures without alternative routes should be avoided and, if necessary, construction traffic managed to reduce the length of closures, rather than an automatic blanket closure throughout the period of construction.”

Tivetshall Parish Council have highlighted the BHS reference to Tracker Panels. We submit that the ExA should require the Applicant to avoid Tracker Panels and use ground mounted panels wherever they are in close proximity to Bridle Paths and Byways throughout the East Pye Project.

11.7 Impacts on Cyclists

Tivetshall Parish Council submit that The Applicant should not assess cycling impacts only by reference to traffic flow percentages. On rural lanes, even a relatively small increase in HGVs or construction vehicles can have a serious effect because cyclists have limited space to pass, stop or move away from traffic.

The Applicant should also not treat cyclists as interchangeable with pedestrians. Cyclists are affected differently by road narrowing, loose debris, mud, temporary traffic lights, uneven road surfaces, metal plates, poor reinstatement, HGV overtaking, convoy systems and abnormal-load movements.

The impact of the proposed development on cyclists has not been adequately addressed. Tivetshall and the surrounding parishes rely on narrow rural lanes with limited or no dedicated cycling infrastructure. These roads are bordered by verges, often high, ditches from 1’ to 6’ deep, watercourses, agricultural land, residential properties and farm accesses, leaving cyclists with little safe refuge from passing vehicles.

Many of these lanes are used for everyday local journeys, recreational cycling and Quiet Lane use. The introduction of additional HGVs, construction vehicles, abnormal loads, road widening works, temporary traffic management or diverted traffic would materially increase risk for cyclists and reduce the safety and enjoyment of these routes.

Station Road is already used by HGVs, tractors and agricultural trailers serving Simpsons Malt and surrounding farms. Adding BESS, substation and Site 2 construction traffic to this existing burden would increase conflict between cyclists and large vehicles. The Applicant should therefore provide a specific cycling safety assessment, including route-specific mitigation, speed controls, safe diversion routes and measures to protect cyclists during roadworks and construction traffic movements

One of the main cycling routes is The Rebellion Way is a 232-mile (373 km) circular cycling route around Norfolk, designed for multi-day on- and off-road touring with scenic, mostly flat terrain and rich historical landmarks

The Rebellion Way is named after Boudicca and Robert Kett, two of Norfolk's famous rebel leaders. The route highlights sites connected to their uprisings, offering a unique blend of cycling adventure and cultural exploration.

It is therefore submitted that as the route follows Footpath WA-RB31 and TSM-RBS before joining Lodge Road and crossing the B1134 towards Star Lane no mention of this particular Cycle Network has been identified by The Applicant.

Due to the major changes proposed for this portion of the route Tivetshall Parish Council submits the ExA should request The Applicant to review AP-047 - ES Chapter 11, APP-097 ES Figures 11.9–11.13 and APP-203.

11.7 Parking for The Applicant Solar Workers

No location identified. Tivetshall Parish Council supported the planning application for the PACE 50mw solar site on Station Road which will feed electricity into Simpsons Malt. Their plans clearly showed sufficient space for facilities for the workforce. These are now detailed as 24 parking spaces, 2 canteens, offices etc. The Applicant have failed to identify space for similar types of facilities on a much larger site involving many more in the workforce.

11.8 Local Bus Transport

11.8.1 Local bus transport and school bus route concerns

The DCO transport material recognises bus services as part of the baseline transport environment. The Transport and Access chapter identifies bus services in Table 11.11 and states that bus stops within the study area are shown on Figures 11.9 to 11.13, alongside Public Rights of Way, the National Cycle Network and bus stops. The same chapter lists bus services including routes between Norwich, Hempnall, Harleston, Long Stratton, Burston, Diss and Bungay.

The bus times recorded by The Applicant are inaccurate. Quoted as 8am - 9am In fact buses start from Roydon towards Norwich at 6.50am and pick up times are from 7.20am and 7.42am at Tivetshall. Thereafter every hour.

For Tivetshall residents, the key concern is that The Applicant appears to treat bus services as a general transport baseline, but does not appear to provide a detailed local assessment of school bus routes, school pick-up/drop-off points, children and adult residents waiting at roadside locations, or the effect of construction traffic on buses using narrow rural roads. In addition to the NCC funded transport a number of schools in and around South Norfolk attended by children from Tivetshall provide their own minibus transport.

Critical areas of concern

- The first concern of Tivetshall Parish Council is the **limited pedestrian infrastructure around bus stops and school bus waiting points**. Tivetshall has only very short sections of paved footway, including near the school/village green, a limited stretch near the A140 bus stop area and a stretch along Moulton Road from the Maltings to their car park. Elsewhere, roads are bordered by narrow and sometimes high verges, ditches, watercourses, fields, domestic driveways and farm accesses. This means children and other bus users may have to wait close to the carriageway, without proper refuge from passing HGVs, tractors, construction vehicles or abnormal loads.

Additional HGVs, construction vehicles, abnormal loads, temporary traffic lights, convoy working or diverted traffic would increase risk at precisely the times when children and other passengers are boarding or alighting from buses and walking to and from their homes.

- The second concern is **construction traffic interaction with bus services**. The PINS/NSIP material identifies the need to assess expected construction routes, vehicle types, peak hour and daily movements, and to show anticipated routes in the ES. If construction vehicles use Station Road, Lodge Road, Frith Way, the A140/B1134 junction or other roads used by local or school buses, there is potential for delay, conflict, unsafe passing and obstruction at stops.
- The third concern is **school travel timing**. The Applicant should not assess traffic only by daily averages. School buses operate at sensitive times, when children are waiting, boarding or alighting; when parents are waiting nearby to drop off or collect and other traffic may also be present. Even short-term HGV peaks, convoy working, temporary traffic lights, abnormal-load deliveries or road widening works could create disproportionate risk during school travel periods.
- The fourth concern is **diversion risk**. Station Road (B1134) is now identified for widening and straightening. This will undoubtedly necessitate temporary signals or convoy working. Buses and school transport may be delayed or displaced onto smaller lanes. That is particularly serious in Tivetshall because many local lanes are narrow, have limited passing opportunities, no footways, ditches and no safe waiting areas.

- The fifth concern is **lack of school bus route-specific assessment**. We have not seen, in the material reviewed, a clear applicant plan identifying school bus routes through Tivetshall, school bus stops, waiting areas, visibility at stops, safeguarding measures for children, or commitments to avoid HGV movements during school bus times. This should be treated as a material omission.

Tivetshall Parish Council believes The Applicant has not adequately assessed impacts on local bus transport and school bus routes serving the village. The Transport and Access material identifies general bus services and shows bus stops within the study area, but this does not address the specific safety risks for children and other passengers using rural bus stops and informal school bus pick-up points.

Before any conclusion is reached on transport acceptability, Tivetshall Parish Council submits the ExA requires The Applicant to provide a school bus and local bus impact assessment for Tivetshall. This must identify all affected routes and stops, assess child safety at roadside waiting points, avoid construction HGV movements during school bus times, and demonstrate how bus services serving the residents of Tivetshall would be maintained safely during any Site 2A, 2B and 2C, Station Road, Lodge Road, Frith Way, A140/B1134 or associated access works.

11.9 Potential Impact on Rail Mainline

Although Network Rail was included in the statutory consultee list, residents require transport documents which should explain whether construction routes, temporary closures, abnormal loads, queuing traffic, emergency access or drainage routes could affect rail access, level crossings or rail-side infrastructure. Moulton Road residents could be affected by any construction work on Station Road.

If The Applicant considers there is no effect, that conclusion should be stated clearly and evidenced. We ask the Examining Authority to require:

- Confirmation of whether any construction route interacts with level crossings or rail maintenance access.
- A clear response on emergency access to rail infrastructure during construction.
- Confirmation of whether Network Rail raised any transport or safety requirements.
- Any mitigation required to prevent HGV queuing or road closures affecting rail safety.

11.10 Impact on local Airfields

The Applicant's Equality Impact Assessment identifies recreational receptors near the Order Limits including Norfolk Gliding Club and Seething Airfield. Residents need a clearer explanation of whether BESS fire smoke, construction lighting, security lighting, thermal plume risk, emergency access or construction traffic could affect local airfields, gliding activity, private flying or emergency aviation use.

If The Applicant says these are not significant risks, the evidence should be clearly set out.

Tivetshall parish Council submits the ExA should request:

- A plain-English summary of how aviation receptors have been assessed.
- Confirmation of any consultation with Norfolk Gliding Club, Seething Airfield and other relevant local aviation users.
- Clarification of whether BESS fire plume/smoke and lighting effects have been considered for aviation safety.
- Any operational or emergency controls required to protect local aviation activity.

11.11 Outline CEMP and Outline CTMP

Residents are of the opinion that the Outline Construction Environmental Management Plan and Outline Construction Traffic Management Plan provided leaves too much of the practical detail to later detailed plans.

Residents are being asked to accept the principle of this unnecessary and devastating development before the full local construction impacts are properly explained. Therefore Tivetshall Parish Council consider it imperative that the ExA require from The Applicant:

- A detailed CEMP and detailed CTMP before construction, with site-specific requirements for the Tivetshall BESS and project substation, Land Parcels 2A and 2B and all the associated infrastructure. Tivetshall is the principal infrastructure hub of the The Applicant scheme, because it combines solar generation with the BESS, 2 x 400 kV Project Substations, the National Grid Substation, cable works and overhead-line/pylon works.
- Clear phasing, routing, vehicle numbers, parking, hours, abnormal load procedures and PRow controls.
- Swept-path checks and passing-place details for the narrowest roads and access points.
- A named local contact and rapid complaint-response process.

11.12 Conclusion

Although The Applicant has produced a Transport and Access chapter, a Transport Assessment, an Outline CTMP, an Outline Operational Traffic Management Plan, an Outline CEMP and an Outline PRow and Permissive Paths Management Plan, when taken together these documents DO NOT give a clear enough picture of what will actually happen on our Tivetshall local roads and paths during construction.

Tivetshall Parish Council has received serious concerns regarding the impact on our village residents.

Plans and figures

Reference	Plan/Figure	Why referred to
APP-005 / APP/2.1	Location Plan	Overall location of the Order Limits.
APP-006 / APP/2.2	Land Plan	Land ownership/land interests and Order land context.
APP-007 / APP/2.3	Works Plan	Works areas, including scheme components, permissive paths and temporary construction compound references.
APP-010 / APP/2.6	Streets Plan	Streets affected by the DCO powers.
APP-011 / APP/2.7	Access and Public Rights of Way Plan	Access points and PRoW information.
APP-059 / APP/6.2.4.1	Figure 4.1 Indicative Masterplan	Indicative layout and access context.
APP-060 / APP/6.2.4.2	Figure 4.2 Indicative Temporary Construction Compound Locations	Temporary construction compound locations.
APP-061 / APP/6.2.4.3	Figure 4.3 Key Construction Phase Features	Construction phase features.
APP-094 / APP/6.2.11.1	Figure 11.1 Indicative Transport and Access Study Area	Transport/access study area.
APP-095 / APP/6.2.11.2 to APP/6.2.11.8	Figures 11.2 to 11.8 Likely and Suitable Routes to the Scheme	Construction vehicle routeing maps.
APP-096 / APP/6.2.11.14 to APP/6.2.11.17	Figures 11.14 to 11.17 Traffic Survey Locations	Traffic survey locations.
APP-097 / APP/6.2.11.9 to APP/6.2.11.13	Figures 11.9 to 11.13 Public Rights of Way, National Cycle Network and Bus Stops	PRoW, NCN and bus stop plans relevant to vulnerable road users.
APP-110 / APP/6.2.18.1	Figure 18.1 Utilities Plan	Useful for infrastructure context where transport interacts with utilities or rail/road infrastructure.

Chapter 12: Noise and Vibration

Tivetshall Issues - Noise and Vibration

No specific post-application noise revision was identified in the additional submissions reviewed.

We ask the ExA requests for a worst-case assessment based on indicative/future equipment protect an exceptionally quiet rural soundscape, especially where BESS, substations, inverters, transformers and maintenance activity could be experienced cumulatively and at night.

[Relevant Applicant documents](#): APP/6.1.12; APP/6.2.12.1; APP/6.2.12.2; APP/6.3.12.1; APP/7.13; APP/7.18.

This part of Norfolk is not an industrial area. It is a quiet rural landscape, with scattered homes, farms, narrow roads, old buildings, public rights of way, hedgerows and open fields. Even noise levels which might be acceptable in a busier place can be far more noticeable and intrusive here, particularly at night. Noise and vibration are a serious concern for residents living close to the proposed BESS, substations, Solar arrays 2A, 2B and 2C, construction routes and wider Site 1 infrastructure cluster.

The Applicant has submitted Environmental Statement Chapter 12: Noise and Vibration, supported by figures showing sound survey locations and sensitive receptors. However, residents remain concerned that the assessment does not yet explain, in practical local terms, what the BESS site, substations, solar arrays and infrastructure and associated cable works, construction routes and compounds would mean for people living in this quiet countryside.

The issue is not whether a noise chapter exists, but whether it properly reflects the rural setting, the sensitivity of nearby homes and older buildings, and the combined effect of several noisy infrastructure elements being built and operated close together.

What is of concern, is whether The Applicant can give the Planning Inspector a clear and transparent level of understanding, which at this time is not apparent nor does it portray how the noise and vibration would affect this quiet rural area in real life.

12.1 Noise Impact assessment report

Attachment 2 is a report prepared by Oakwood Environmental Services on behalf of the villages of Great Moulton and Tivetshall.

12.2 Impact on Residents' Homes and Rural Businesses

Tivetshall is a rural community where quiet is part of daily life. Homes, farms, tourism accommodation and small businesses depend on low background noise for sleep, work, animal care and the enjoyment of gardens, lanes and public rights of way.

Construction noise and vibration arising from HGVs, abnormal loads, plant, cranes, trenching, cable works, road works, piling or foundation works and BESS/substation installation, Solar arrays and associated infrastructure of site 2A, 2B and 2C and the cumulative impact of further construction. These impacts would not be confined to one field: they would affect rural roads, access points, compounds, cable corridors and the wider western infrastructure cluster.

Operational noise is also a serious concern. The BESS, inverters, transformers, cooling systems, substations and electrical plants create tonal hum, low-frequency noise and night-time disturbance when the surrounding countryside is otherwise quiet. Land parcels 2A, 2B and 2C will contain 4.5m high tracker panels which will have movement noise as well as inverters.

12.3 Construction, Vibration and Older Buildings

Construction is likely to be the most disruptive phase for residents because works will be prolonged, currently anticipated to be for 2 years, but this doesn't include the National Grid Substation, for which no plans or timetable are available, spread across several locations and experienced cumulatively by the same homes, lanes and road users.

The local road network includes narrow lanes, limited footways, verges, ditches, farm entrances, homes close to the highway and existing agricultural traffic. HGV movements, access works, trenching and compound activity could therefore have a direct effect on day-to-day village life.

Many local buildings are older, traditionally built or listed. Vibration from HGVs, abnormal loads, piling, compaction, trenching and road works may affect timber-framed, clay-lump, flint, brick, farm and historic buildings differently from modern structures.

Tivetshall residents need clear information on where the noisiest works would occur, how long they would last, proposed working hours, HGV routes, whether piling or heavy compaction would be used, and how vibration would be controlled near homes, older buildings, wells, boreholes, septic tanks and drainage systems.

12.4 Cumulative Noise and Vibration

Of major concern is the cumulative impact. The BESS, National Grid substation, 400 kV infrastructure, project substations, solar inverters, transformers, cable corridors, access tracks, construction compounds, generators, HGV routes, road works and decommissioning activity. These should not be assessed separately for our community will experience their combined effect.

Without a joined-up assessment, the true noise and vibration impact on Tivetshall and Great Moulton residents will be understated.

12.5 Wildlife and Rural Character

Noise, vibration and lighting would not only affect residents. They could also disturb how wildlife uses hedgerows, ditches, ponds, field margins, open farmland, rural lanes and public rights of way.

Birds, bats, mammals, amphibians and other species depend on quiet, connected habitats for feeding, breeding, commuting and sheltering. The assessment should explain how noise, vibration, lighting, fencing and habitat fragmentation have been considered together.

12.6 What We Ask of the ExA

12.6.1 Intrusion of Substation and BESS Noise into an Extremely Quiet Rural Soundscape

The concerns regarding operational noise are addressed in more detail elsewhere in this submission. [Intrusion of Sound into Rural Tranquility](#)

In summary, the proposed National Grid Substation, 400kV Project Substation and BESS would introduce a new and persistent industrial acoustic character into an exceptionally quiet rural environment. This is not a location where continuous mechanical or electrical plant noise already forms part of the existing soundscape. Background levels can fall below 25 dB, particularly during evening, night-time and early morning periods, making even modest levels of transformer hum, cooling fan noise, inverter noise, switchgear, alarms, maintenance activity or low-frequency sound clearly perceptible.

The issue is therefore not simply whether predicted noise levels meet a generic numerical threshold, but whether the character, timing, duration and cumulative effect of the noise would materially alter the existing rural tranquillity of Tivetshall, Great Moulton and Wacton. The substations and BESS would not be temporary construction effects; they would operate for the lifetime of the development, including at night when background levels are lowest and residents are most sensitive to intrusive or tonal sound.

This is particularly important for Site 1 and Site 2B, where the BESS, National Grid Substation, 400kV Project Substation, grid connection works and associated infrastructure would be experienced cumulatively as a new energy infrastructure cluster. The Applicant should therefore be required to provide a robust worst-case operational noise assessment based on fixed equipment specifications and finalised locations, including night-time effects, tonal and low-frequency noise, cumulative plant noise, emergency operation, maintenance activity and post-installation verification. Enforceable noise limits and corrective action requirements should also be secured.

The central concern, as set out in the detailed noise section, is that the development could impose a continuous industrial acoustic signature on our communities which are currently characterised by rural quietness, open countryside, public rights of way and tranquil residential amenity. In such a low-background soundscape, the threshold for harm is lower, and The Applicant must demonstrate not only numerical compliance, but that existing rural tranquillity would be preserved.

12.6.2 Noise Analysis Article - Solar Arrays 2A, 2B and 2C

Solar farms are often perceived as silent because static panels themselves do not generate noise. However, The Applicant is proposing **tracker panels** in their large-scale solar development. The Land Parcel 2A, 2B and 2C will also rely on supporting electrical infrastructure, including transformers and inverters, which can produce residual and cumulative noise. In quiet rural locations, where background sound levels are naturally low, even low-level operational noise may be noticeable and potentially disruptive to residents, countryside users and wildlife. For this reason, noise of each Land parcel should also be assessed and designed out at the earliest stage, rather than left to later mitigation.

See Chapter 4 : Cross-reference: *The sound of solar: Noise in a sustainable world* | New Civil Engineer by [REDACTED] is managing director at RSK Acoustics – 2 April 2025

Tivetshall Parish Council respectfully ask the ExA to require The Applicant to provide further, site-specific information before any conclusion is reached on noise and vibration and not reply on broad or generic conclusions, so the cumulative assessment is understood on the impacts that maybe felt by Tivetshall, Great Moulton and surrounding communities

This should include:

- A receptor-by-receptor assessment for nearby homes, rural businesses, listed buildings and sensitive community locations.
- A cumulative assessment covering the BESS, substations, inverters, transformers, cable works, construction compounds, traffic routes and decommissioning.

- A BS4142-compliant assessment of operational plant noise, including tonal hum, low-frequency noise and night-time impacts.
- A clear construction programme showing timing, duration, HGV routes, high-noise works and vibration controls.
- Protection for older buildings, wells, boreholes, septic systems, wildlife, public rights of way and rural roads.
- Clear monitoring, mitigation and complaint procedures secured through enforceable DCO requirements.

Chapter 13: Air Quality

Tivetshall Issues - Air Quality

This Issue only remains partly addressed, the BESS incidence evidence remains outline and no specific post-application Air Quality chapter revisions have been identified in the additional submissions made.

[Relevant East Pye / PINS documents](#): APP/6.1.13; APP/6.2.13.1; APP/6.2.13.2; APP/7.1; APP/7.5; APP/7.26.

Tivetshall is a rural village of open farmland, hedgerows, homes, gardens, livestock, wildlife corridors and quiet lanes. Norwich/Ipswich Road (A140) and the Norwich to London railway are existing features, but they do not make this an industrial setting. The village remains a place of clean air, tranquillity and rural character.

In a quiet rural place, even modest increases in dust, diesel fumes, particulates and construction disturbance are noticeable. The concern is the combined impact of industrial-scale works imposed on a non-industrial landscape.

The Applicant's Environmental Statement Chapter 13: Air Quality does not give residents a clear enough account of the effects from the Solar Arrays on Land sites 2 A, B and C, BESS, substations, cable works, compounds, HGV traffic, Station Road activity, construction and decommissioning.

13.1 Impact on Homes, Farms and Rural Life

Tivetshall has no industrial buffer. Homes, farms, gardens and rural businesses sit close to fields, lanes and access points. Dust and diesel fumes could affect:

- older residents - (Tivetshall has a higher than average age population),
- people with asthma or respiratory conditions,
- livestock,
- crops,
- Washing,
- Windows
- The everyday enjoyment of our homes and gardens

In a rural village, dust on gardens, pasture, crops, troughs, ponds, hedgerows and field margins is not a minor nuisance. It affects how people live and work.

The assessment must cover:

- homes, gardens, farms and rural businesses;
- livestock, horses, crops, pasture and silage;

- ponds, ditches, troughs, public rights of way and rural lanes.

13.2 Construction Dust and Diesel Emissions

The main air-quality impacts would arise during construction and decommissioning: dust from groundworks, trenching, cable laying, access tracks and compounds; and diesel emissions from HGVs, generators, plant and delivery vehicles. Increased HGV traffic, dust and fumes impacts would matter because homes, gardens, farms, livestock and public rights of way sit close to the works and local roads.

The Applicant should be required to identify:

- HGV and construction traffic routes
- specific effects on Station Road
- locations of dust-generating works
- proximity to homes, gardens, livestock and private water supplies
- monitoring and stop-work controls in dry or windy conditions

13.3 BESS Fire and Emergency Air Quality Risk

A BESS fire or thermal runaway incident is not ordinary construction dust. Lithium-ion battery fires can release toxic smoke and gases, including hydrogen fluoride, carbon monoxide, volatile organic compounds and fine particulates.

Tivetshall residents need to know what would happen if such an incident occurred. The submission does not appear to provide a clear, localised assessment of toxic smoke, plume movement, downwind exposure or of any emergency arrangements for farms, homes or the railway corridor in Tivetshall, Great Moulton, Wacton and neighbouring villages.

This is a major gap. Smoke could affect homes, gardens, livestock, crops, roads, railway operations, ponds, troughs and private water supplies.

The Applicant should provide:

- plume-dispersion modelling for a credible BESS fire
- identification of downwind receptors, including Great Moulton and other adjacent villages.
- assessment of toxic gases, smoke particulates and exposure
- shelter-in-place, evacuation, warning and communication arrangements
- Station Road access and emergency response
- smoke impacts on the Norwich to London railway line
- post-incident testing and clean-up for homes, gardens, farmland and water supplies.

13.4 Operational Phase Impacts

Once built, the sites in Tivetshall would still introduce new sources of emissions and mechanical noise. Tracker solar arrays, inverters, substations, and battery units can generate heat, airflow, and low-frequency hums that change how air and sound move around nearby homes. Maintenance traffic would add diesel exhaust and noise to lanes that are normally quiet. The long operational life of the scheme means these effects would persist for decades.

13.5 Private Water Supplies, Land and Surface Deposition

Dust, smoke and particulates do not stay in the air. They can settle on roofs, gardens, crops, pasture, ponds, ditches, troughs and soil. They can create pathways into private water supplies, livestock water, surface water and farmland.

The Applicant should explain how airborne deposition from construction, decommissioning or a BESS fire will be assessed alongside water, agriculture and contamination risks.

13.6 Cumulative Air Quality Impact

Air-quality impacts must be assessed cumulatively. The BESS, National Grid substation, 400 kV infrastructure, project substations, solar arrays, cable routes, access tracks, compounds, HGV routes and decommissioning works cannot be treated as separate minor impacts if the same residents experience them together.

For Tivetshall and nearby villages, the issue is the total burden: dust, fumes, traffic, disturbed soils, emergency risk and long-term disruption across a rural landscape.

The Applicant should show the combined impact on Tivetshall, Great Moulton, the railway corridor, local farms, homes and wildlife.

13.6 Conclusion

Tivetshall is a rural village, not an industrial site. Our homes and gardens, the farms sit within open countryside, hedgerows and quiet lanes.

The key concerns are construction dust, diesel emissions, cumulative disruption and the unresolved risk of toxic smoke from a BESS fire. These impacts could affect residents, farms, wildlife, private water supplies, road users and the wider rural setting.

The Applicant's air-quality chapter does not yet provide the clear, local, cumulative and emergency-risk evidence needed for a scheme of this scale. Until it does, the ExA cannot safely conclude that air-quality impacts have been properly understood or reduced to an acceptable level.

Tivetshall Parish Council on behalf of its residents ask the ExA to require The Applicant to provide:

- A receptor-specific construction dust assessment for homes, farms, gardens, public rights of way and rural lanes.
- A clear assessment of HGV, diesel, generator and plant emissions.
- Enforceable monitoring, mitigation and stop-work controls.
- A cumulative assessment covering the BESS, substations, solar arrays, cable routes, compounds, access tracks, HGV routes and decommissioning.
- A BESS fire air-quality assessment, including plume modelling, toxic gas risk, downwind exposure and emergency response.
- Specific consideration of smoke, visibility and emergency access impacts on Station Road and the Norwich to London railway line.
- Assessment of airborne deposition on crops, gardens, pasture, ponds, troughs, private water supplies and surface water.
- A public warning, communication, testing and clean-up plan for any serious air-quality incident.
-

Chapter 14: Socio-Economics — Tivetshall

Tivetshall Issues - Socio Economics

This Issue only remains partly addressed, the assessment uses wider study areas and does not fully convey Tivetshall-specific effects

[Relevant Applicant documents](#): APP/6.1.14; APP/6.2.14.1; APP/7.10.

Socio-Economics Chapter 14, APP/6.1.14; does **not name Tivetshall specifically** and instead uses wider study areas such as the Order Limits, a “Local Area” made up of LSOAs, South Norfolk, Norfolk/Suffolk, the East of England and England. East Pye’s socio-economic chapter fails to provide a meaningful assessment of how the BESS site, solar arrays and associated infrastructure would affect Tivetshall and its residents. The chapter relies on broad, desk-based study areas and generalised data, rather than a clear, settlement-specific analysis. This approach overlooks local conditions and the distinct rural economy of Tivetshall, which differs significantly from the wider South Norfolk area.

The Planning Inspectorate had already required socio-economic matters to be assessed at a local level, including impacts on businesses, tourism, and Public Rights of Way.

Tivetshall parish Council respectfully request that The Planning Inspector recognise these omissions as serious flaws and require East Pye to produce a proper, locally focused socio-economic assessment before any conclusions are accepted.

14.1 Local Tourism and Rural Character

East Pye's assessment of tourism and rural character is superficial. It suggests that tourism assets and accommodation providers could be "indirectly affected" but concludes the impact would be "minor" and "not significant." This conclusion is unsupported and too broad. Tivetshall tourism depends on our rural environment. Its quiet countryside, dark skies, and a sense of tranquillity — all of which would be disrupted by construction traffic, lighting, and industrial activity around the BESS site, project substation, solar arrays and their infrastructure. Visitors primarily come to experience the ability to walk and/or cycle along the quiet lanes; to photograph birds, deer, hares and other wildlife; to study the clear night dark skies. These are all beneficial to physical and mental health and wellbeing.

The chapter's failure to provide local evidence, settlement-specific modelling, or meaningful engagement with residents means its conclusions cannot be relied upon.

Tivetshall Parish Council respectfully request that The Planning Inspector recognise these omissions as serious flaws and require East Pye to produce a proper, locally focused socio-economic assessment before any conclusions are accepted.

14.2 Local Businesses and Employment

The local question for Tivetshall: what happens to the small rural businesses closest to the BESS and project substation site, the solar arrays and associated infrastructure and construction routes?; what happens if the B4RN fibre internet system is disrupted?

East Pye's assessment of local business and employment impacts is inadequate. It relies on regional averages and generic data rather than identifying the specific businesses, farms, and self-employed residents operating near the BESS site, cable corridors or Solar Arrays. No evidence is provided to show how construction traffic, noise or land disturbance could affect local trade, deliveries, or access.

The Planning Inspector will be aware that this omission fails to meet the requirement for a settlement-level socio-economic assessment. Local businesses form a key part of Tivetshall's rural economy, and disruption to access routes or utilities could have direct financial consequences. This leaves a significant gap. The wider economic benefits of a nationally significant energy scheme do not remove the need to understand the burden placed on the local residents and villages.

14.3 Agricultural Contractors and Land Use

Tivetshall Parish Council submit that this chapter does not address the impact on agricultural contractors or seasonal workers who depend on uninterrupted access to farmland. The BESS site, project substation, solar arrays and their infrastructure plus the cable routes may restrict field access, increase travel times and interfere with soil management and drainage. East Pye's reliance on broad agricultural data ignores the practical realities of farming operations in Tivetshall.

Agricultural daily activities relies on weather patterns. Particularly during harvest when dry weather is essential. A short window of appropriate weather will result in a non stop need for access between fields and the farmyards. Any restrictions on roads delaying agricultural vehicles during the harvest can result in losses of yield achieved.

Tivetshall Parish Council submits the ExA should require the Applicant provides a detailed assessment of how construction and operation will affect agricultural access routes, productivity, land agricultural availability and local contracting businesses.

14.4 Property, Insurance and Valuation

The Applicant did not produce the relevant evidence to assess the potential effects on property values or insurance risks for homes near the BESS site, project substation and solar arrays and infrastructure and appears to have dismissed these concerns without analysis, despite clear evidence that industrial energy infrastructure can influence property desirability and premiums.

Tivetshall parish Council submits The ExA should recognise this as a serious gap and require the Applicant to provide a transparent property-risk assessment and consultation with insurers before any conclusions are accepted.

14.5 Construction Disturbance and Access

East Pye's treatment of construction disturbance is superficial because they do not quantify the number of vehicle movements, noise levels, or access restrictions affecting residents and businesses. Nor does it identify mitigation measures beyond generic "traffic management."

This lack of detail undermines confidence in the assessment. Tivetshall parish Council submits the ExA should require a full construction-phase impact plan, including defined access routes, working hours and communication procedures for affected residents.

14.6 Cumulative Socio-Economic Effects

The Applicant have totally failed to consider the cumulative effects alongside other energy and infrastructure projects in South Norfolk. The BESS site and Solar arrays are part of a large cluster of major infrastructure. The Applicant are ignoring how multiple developments would

compound disruption, visual intrusion, and economic strain on our small community and its adjacent parishes.

Tivetshall Parish Council submit the ExA should require the Applicant to provide a cumulative socio-economic assessment that reflects the combined pressures on Tivetshall and neighbouring villages.

14.7 Summary and Conclusion

Overall, Tivetshall Parish Council believes the Applicant's socio-economic chapter is incomplete and unreliable. It relies on desk-based data, omits local evidence and fails to meet the ExA's requirement for settlement-specific assessment. For The Applicant to conclude that no additional socio-economic mitigation is required is incomprehensible.

Tivetshall Parish Council submit the ExA should not accept its conclusions until the Applicant provides a revised chapter that includes:

- Local business and tourism data
- Agricultural and property-risk analysis
- Construction-phase access and disturbance modelling
- Cumulative impact assessment across South Norfolk

Relevant Applicant documents:, ES Volume 1, Chapter 14 — Socio-Economics, APP/6.1.14; APP-050 as Chapter 14 Socio-Economics and APP-051 as Chapter 15 Soils and Agricultural Land; ES Chapter 19 — In-Combination Effects Assessment, APP/6.1.19. (NSIP Documents)

Chapter 15 Soils and Agricultural Land

Tivetshall Issues - Soils and Agricultural

Tivetshall Parish Council ask the ExA to focus on the weight to be given to Best and Most Versatile land, permanent hard-infrastructure losses, soil compaction/handling and whether restoration can genuinely return disturbed Land returned to comparable agricultural quality.

Relevant Applicant documents: APP/6.1.15; APP/6.2.15.1; APP/6.2.15.2; APP/7.9; AS-010.

15.1 Best and Most Versatile Agricultural Land

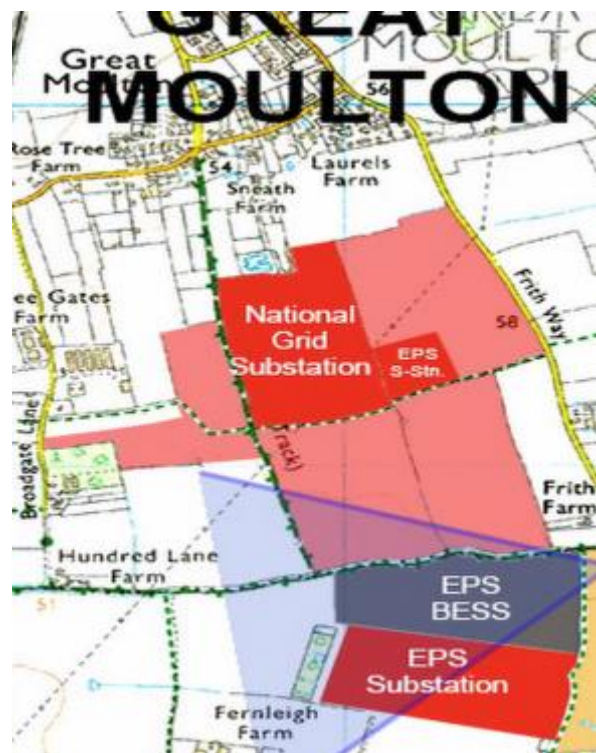
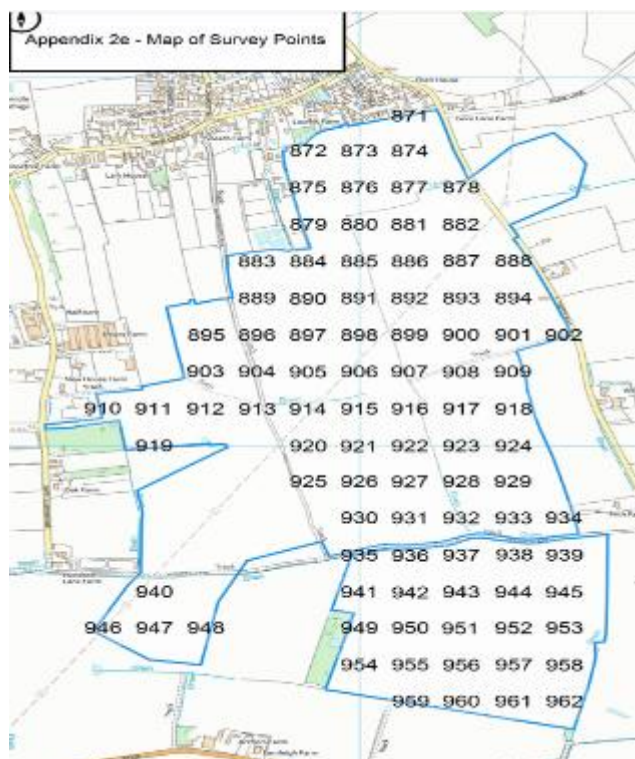
Tivetshall Parish Council object to the siting of a Battery Energy Storage System (BESS) and Solar Arrays on high-quality agricultural land in our parish. This is not a small or temporary solar field, but a major industrial battery compound, forming part of a wider grid cluster with the National Grid Substation, project substations, access tracks, hardstanding, fencing, security equipment, cabling and associated works. The permanent industrialisation and loss of Best and Most Versatile (BMV) land is a serious and unjustified planning harm.

Government policy clearly defines BMV land as Grades 1, 2 and 3a, Under NPS EN-3, applicants must avoid BMV land wherever possible and prioritise poorer quality, brownfield or industrial sites. They must also clearly justify site selection.

The Applicant's own Site Selection Assessment confirms that the Scheme includes a BESS, multiple 32kV project substations and 400kV substations, grid connection infrastructure and a new National Grid Substation within **Order Limits covering 1,212.3 ha**.

The Applicant's own soils chapter states that the BESS is "essentially all Grade 2 quality", meaning avoidance of BMV land was not achieved. That is a serious constraint: Grade 2 is best and most versatile agricultural land, and the BESS is not comparable to raised solar panels on piles above retained grassland.

The Applicant admits that the site was chosen because "Because the land was available" and close to the Point of Connection, not through a proper environmental comparison of a less harmful alternative. This is a major flaw: **commercial convenience cannot replace environmental justification**. High-quality agricultural land should not be sacrificed for grid layout or access efficiency.



The Environmental Statement does not clearly provide how much Grade 2 or Grade 3a land will be affected permanently or long-term by the BESS compound, hardstanding, access tracks, foundations, drainage works, cable trenches, firewater containment or associated infrastructure. Tivetshall residents and other interested parties should not have to reconstruct this information from scattered documents. The BESS footprint up to 6.5ha, requires topsoil stripping, concrete pad bases, permeable areas, and

potentially reinforced concrete foundations to 1m or piling up to 12m deep. Those works are inherently more intrusive than ordinary solar arrays and not credibly reversible

The following maps clearly highlight the total loss of BMV Grade 2 land, together with the comparable drone image showing the exact area being proposed for the most highly industrialised part of the scheme.

The ExA should therefore require The Applicant to provide, before the close of the Examination:

1. a corrected and consistent breakdown of all Grade 1, Grade 2 and Grade 3a land A corrected breakdown of all **Grade 1, 2 and 3a** land affected by the Scheme, by site and infrastructure type.
2. A clear distinction between **temporary, long-term, and permanent** BMV loss.
3. A **BESS-specific agricultural land assessment** explaining why poorer-quality or brownfield land was not used.
4. A proper **alternatives assessment** unconstrained by land availability.
5. **Enforceable soil protection and restoration commitments**, including evidence that land affected by hardstanding, deep foundations, and compaction can realistically be restored to its original grade.

ExA cannot safely conclude that the use and loss of BMV land is proportionate, justified, or compliant with national policy. The current evidence shows that permanent BMV loss is 22.90ha of Grade2 BMV. The BESS is therefore among the most damaging elements of the Scheme, and its siting on Grade 2 land remains disproportionate and unjustified.

15.2 Safeguarding Food-Producing Land

The loss of productive farmland for the BESS site, project substation, solar arrays and associated infrastructure is not just a local concern. It raises the wider national issue of protecting food-producing land from permanent or semi-permanent industrial development.

Unlike the solar panels, which may sometimes allow limited grazing or managed vegetation beneath them, the BESS compound is a hard infrastructure use. Battery containers, concrete bases, access tracks, drainage systems, fencing, security lighting and fire-safety infrastructure remove land from normal agricultural production. This is a very different impact from temporary construction disturbance or low-level panel installation.

The Applicant's own policy summary recognises that poorer-quality agricultural land should be preferred to higher-quality land and that Best and Most Versatile land should be avoided where possible.

The Applicant states they have considered previously developed land and brownfield registers, but states that no suitable previously developed sites were identified that could accommodate a 500MW utility-scale solar project. That may explain the wider solar search,

but it does not, by itself, justify placing the BESS and hard infrastructure on high-quality agricultural land without a proper separate assessment.

For Tivetshall and Great Moulton this means part of the working rural landscape would be converted into an industrial battery and grid compound. This would weaken the agricultural function of the land, harm the rural setting of nearby communities and increase pressure on remaining farmland.

The ExA should require The Applicant to explain why the BESS site and Solar Arrays could not be located on poorer-quality land, previously developed land, land already affected by infrastructure, or a less agriculturally sensitive site. Protecting food-producing land is not a minor issue. It is a matter of national policy, local identity, and long-term rural resilience.

Chapter 16: Ground Conditions

Tivetshall Issues - Ground Conditions

No specific post-application Ground Conditions revision was identified in the additional submissions reviewed. Our objection remains

[Relevant East Pye / PINS documents](#): APP/6.1.16; APP/6.2.16.1-6.2.16.5; APP/7.1; APP/7.26; AS-018/AS-019.

Tivetshall Parish Council have noted that The Applicant has recognised possible ground and groundwater pathways, but has not provided a sufficiently clear BESS-specific case on foundations, vibration, settlement, private water supplies, drainage, firewater containment and monitoring.

Tivetshall Parish Council would ask the ExA to ensure that the Battery Energy Storage System, National Grid Substation and Project Substations and solar arrays Site 2 should not be treated as minor parts of the solar scheme. They are concentrated, engineered development areas involving concrete bases, possibly piled foundations, cable trenches, hardstanding, drainage works and heavy construction activity., with the compound covering up to 6.5 hectares.

The Design Principles, Parameters and Commitments document also allows for BESS foundations formed either as reinforced concrete bases up to 1 metre deep, or, if piling is needed, piles up to 12 metres below ground level with a 1 metre pile cap. BESS cable trenches may also be up to 1.2 metres deep and 1.6 metres wide. The Applicant accepts that piling can affect groundwater quality through increased turbidity or concrete bleed waters. For this reason, The Applicant has used a 1 kilometre study area around the BESS and substations when considering groundwater abstractions, private water supplies and groundwater protection.

The Applicant has recognised that there is a possible pathway between the construction works and groundwater, but residents are still left without a clear, BESS-specific explanation of how nearby properties will be protected in practice.

16.1 Ground Disturbance and Foundation Works

16.1.1 BESS and Substations

The BESS and substations involve much deeper and heavier works than normal solar panels. The likely works include excavation, soil stripping, compaction, concrete bases, possible piling, cable trenches, hardstanding, drainage and access works.

The Applicant assesses ground conditions at a scheme-wide level, but the BESS needs separate consideration because it carries a different risk. A solar panel pile or shallow cable trench is not the same as a large BESS compound, substations, transformers, hardstanding and possible deep foundations.

Tivetshall Parish Council submits the ExA should require The Applicant to confirm before consent:

- whether piling will be used;
- what foundation method will be used;
- how concrete bleed water and turbidity will be prevented from affecting groundwater;
- how local drainage and infiltration will be protected;
- how disturbed or compacted ground will be reinstated;
- what monitoring will prove that no long-term harm has occurred.

The Applicant says there will be no major ground condition impacts after built-in mitigation. But that claim only holds if the BESS foundation, drainage, groundwater protection, and monitoring plans are clearly defined and guaranteed.

16.1.2.Tracker System Panels

The Applicant have not given any references to supplier recommendations that Tracker Panel systems require steeper engineering challenges than fixed-tilt structures, primarily due to dynamic wind loads and aeroelastic galloping, which require deeper, more robust foundations.

16.2 Vibration, Settlement and Nearby Buildings

There is no clear assessment focused on the BESS for vibration, ground movement, or risk to nearby homes and buildings.

The Applicant says piled foundations might be used for the BESS and substations, but the documents don't include a separate vibration study, settlement model, pre-construction building survey, or monitoring plan for nearby properties. This matters because piling, digging, compacting soil, heavy vehicles, and deep cable works can all cause ground movement or vibration. Older rural houses, walls, wells, drains, and shallow foundations are more likely to be affected.

The Applicant have not indicated that if Tracker Panels are used there are steeper engineering challenges than fixed-tilt structures, primarily due to dynamic wind loads and aeroelastic galloping, which require deeper, more robust foundations.

Tivetshall Parish Council submits the ExA should require:

- Surveys showing the condition of nearby properties before work starts
- Clear vibration limits and monitoring points
- Settlement risk checks where piling or deep excavation is planned
- A simple complaints and inspection process
- A clear repair and responsibility procedure if damage occurs

Without these baseline surveys, residents could later struggle to prove construction damage, as they wouldn't have the evidence needed.

16.3 Groundwater and Private Water Supplies

The Applicant identifies private water supplies and groundwater abstractions as relevant issues. Its assessment refers to information from local authority records, British Geological Survey data and Environment Agency abstraction data, also identifying 29 potentially active private water supplies or permitted groundwater abstractions within the 1 kilometre study area around the BESS, National Grid Substation and Project Substations. It assumes that these draw water from chalk at depth beneath overlying deposits.

The Applicant has concluded that there is NO credible risk to private water supplies even though they have confirmed that the BESS and substation area sits within a sensitive groundwater context, and that piling may affect groundwater quality through turbidity or concrete bleed waters.

Residents need more than a desk-based conclusion. Tivetshall Parish Council submit the ExA should require The Applicant to confirm:

- the exact location and status of private water supplies;
- whether supplies are used for drinking water, livestock, gardens or domestic use;
- pre-construction water quality and flow monitoring;
- monitoring during and after construction;
- trigger levels for turbidity, contamination or reduced supply;
- emergency action if a private supply is affected.

16.4 Surface Water, Field Drains and Ditches

The Applicant states that there are no statutory Main Rivers within 250 metres of the BESS, National Grid Substation or Project Substations. However, it also records field drains and small ponds close to the substation areas and along the southern and eastern boundaries of the BESS site. These ditches connect to small tributaries discharging towards Starston Beck, approximately 1 kilometre south of the BESS. This means the BESS is not isolated from the local drainage network.

The issue is not whether a Main River is nearby. Ordinary watercourses, field drains, ditches and ponds can still carry runoff, sediment or pollution away from the site.

Tivetshall Parish Council submit the ExA should require a BESS-specific drainage plan showing:

- how runoff from hardstanding and concrete bases will be controlled;
- how field drains and ditches will be protected;
- whether drains will be cut, diverted, culverted or replaced;
- where water will go during heavy rainfall;
- how fuel, oil, concrete washout and sediment will be kept out of ditches;
- how firewater will be kept separate from ordinary drainage.

16.5 Contamination and Firewater

Of particular concern to residents is that The Applicant's Ground Conditions chapter mainly considers contamination from existing or historic land uses, as the risks created by the BESS are being negated,

A BESS fire or thermal incident could create contaminated firewater, battery residues, metals, firefighting chemicals and polluted runoff. These risks are different from ordinary existing ground contamination. If contaminated firewater is not fully contained, it could enter hardstanding drainage, field drains, ditches, shallow ground or groundwater pathways. Given the nearby drainage network and private water supplies within the wider study area, this requires a specific containment case.

Tivetshall Parish Council submit the ExA should require The Applicant to provide:

- a BESS firewater containment strategy;
- confirmation that contaminated water cannot enter field drains or ditches;
- details of bunding, isolation valves and containment volumes;
- maintenance responsibility for containment systems;
- post-incident soil, groundwater and surface water testing;

- a remediation plan if contamination occurs.

16.6 Baseline Surveys and Monitoring

The Applicant mainly uses desk-based data and a Phase 1 ground assessment, but a full on-site baseline study must be done before construction starts for the BESS and substation areas. These types of studies do not measure actual ground conditions on site.

A full pre-construction baseline is essential to record soil stability, groundwater levels, and any existing vibration or settlement risks before work begins. Without this evidence, it would be difficult to confirm whether later damage or movement was caused by construction activities.

For this type of development, Tivetshall parish Council submit the ExA should require:

- groundwater quality monitoring before construction;
- confirmed private water supply locations and baseline quality;
- property condition surveys where vibration or settlement could occur;
- surveys of affected ditches, culverts and field drains;
- soil and contamination sampling within the BESS footprint;
- vibration and settlement monitoring during piling and heavy works;
- post-construction monitoring.

Without baseline surveys, later harm may be difficult to prove, trace or remedy.

16.7 Residual Risk

The BESS and substations are not ordinary solar infrastructure. They are large, engineered and potentially deep-founded elements of the scheme.

Tivetshall Parish Council submit the ExA should require The Applicant to provide a separate BESS and substation ground-conditions assessment, with secured baseline surveys, monitoring and enforceable mitigation, before accepting any conclusion that there would be no significant effect..

The Applicant assumption that no significant ground-conditions effects remain after embedded mitigation and that no additional mitigation is required is flawed based on broad assumptions and later detailed design and general controls, rather than a full BESS-specific and Tracker Solar arrays assessment.

The unresolved issues are:

- the final BESS and solar arrays foundation method;
- whether piling will be required;
- vibration and settlement risk to nearby buildings;

- protection of private water supplies;
- protection of field drains, ditches and surface water pathways;
- containment of contaminated firewater;
- protection for residents if damage or contamination occurs.

Chapter 17 Electromagnetic Fields

Tivetshall Issues: Electromagnetic Fields

Our objection to this proposed element of this scheme is that the EMF case is **high-level, assumption-led, human-health focused, and weakly site-specific**, despite PINS having scoped EMF in because of uncertainty around cabling design and receptor proximity.

[Relevant Applicant documents](#): APP/6.1.18; APP/6.2.18.1; APP/6.3.18.1; APP/7.1; APP/7.18; AS-025/AS-026.

17.1 Electromagnetic Fields: Residents, Public Routes and Sensitive Receptors

The Applicant has submitted a separate EMF chapter and a High-Level Electromagnetic Field Assessment. (ES: Chapter 17 – Electromagnetic Fields APP/6.1.17) However, the assessment does not remove local concern. It confirms that EMF was scoped into the Environmental Statement because of uncertainty around cabling design and proximity to receptors, including both human and ecological receptors.

The main weakness is that the assessment is high-level and desk-based. It does not provide measured baseline EMF conditions, receptor-by-receptor modelling, or clear parcel-specific mapping for homes, public rights of way, working farms, the BESS, Site 1, Site 2, the National Grid Substation, project substations, solar arrays infrastructure and cable route corridors. (APP/1.3)

This matters because the Scheme would introduce major electrical infrastructure into a rural environment, including 132kV and 400kV underground cabling, substations, transformers, solar arrays infrastructure, the BESS and works to the 400kV overhead line. Tivetshall residents and PRow users should not be expected to rely on broad assumptions where infrastructure is proposed close to homes, walking routes and land used daily by local people.

The Applicant predicts that the magnetic field from 400kV underground cables would be below the public reference level, but the predicted maximum is close to that limit directly above the cable centreline. The assessment relies on generic assumptions about cable behaviour and distance decay, rather than a clear local model showing the final cable alignment, burial depth, grouping, loading, shielding and proximity to individual receptors.

For overhead 400kV infrastructure, The Applicant accepts that electric-field levels can exceed the relevant public reference level directly beneath the cables and relies on a 15m clearance distance to reduce exposure.

That makes the accuracy and enforceability of the 15m separation essential. Tivetshall Parish Council submit the ExA requires the Applicant therefore show, clearly and on plans, where this separation is achieved from homes, PRow, workplaces and other places where people may be present.

17.2 Children and Vulnerable Users

The EMF chapter treats human receptors as a general category. It does not appear to separately assess children, families using public rights of way, people with implanted medical devices, or residents with repeated long-term exposure close to cable routes or electrical compounds. A rural PRow or lane may be used daily by families, dog walkers, school-age children and vulnerable residents.

Tivetshall Parish Council submit that a general conclusion of “not significant” does not provide enough reassurance unless it is supported by clear mapping and receptor-specific evidence.

The ExA should require The Applicant to provide a simple plan showing all EMF-generating infrastructure in Sites 1 and 2, including the BESS, National Grid Substation, project substations, inverters, underground cables and overhead-line works, with distances to homes, PRow and other regular public receptors.

17.3 Bats, Hedgerows and Ecological Corridors

The Applicant’s EMF chapter states that ecological EMF effects are considered in the Ecology and Biodiversity chapter, but the EMF chapter itself is mainly focused on human health, this does not support the PINS request for EMF risks to ecological receptors to be addressed.

Tivetshall Parish Council submits that this creates a documentation gap. The local landscape around Site 2 and the cable routes includes hedgerows, tree lines, ditches and field margins that function as ecological corridors. Bats use these features for commuting and foraging. If cables, inverters or other electrical infrastructure are placed close to these corridors, Disruption could fragment habitats and reduce feeding efficiency.

The Applicant should explain whether EMF has been considered alongside lighting, habitat loss and fragmentation. At present, the documents do not clearly show a site-specific EMF assessment for bats or hedgerow corridors.

The issue is not that harm has been proven; it is that The Applicant has not presented the evidence clearly enough to rule it out.

17.4 Aquatic Species, Ditches and Watercourses

The same concerns on the impact on BATS also applies to aquatic habitats. Cable routes and construction works may interact with ditches, drains, ponds and watercourses. The Applicant's EMF chapter does not provide a clear watercourse-by-watercourse assessment of whether aquatic species or freshwater invertebrates could be affected by EMF from nearby cabling or electrical infrastructure.

Where The Applicant relies on the Ecology chapter instead, it should identify the exact section, species group and mitigation relied upon. Without that cross-reference, it is difficult for residents, our parish council and the Examining Authority to understand whether ecological EMF effects have genuinely been assessed or simply assumed away.

Tivetshall Parish Council submit the ExA should require the applicant to supply a clear statement confirming whether EMF effects on aquatic receptors have been assessed for Sites 1 and 2, the BESS area, solar arrays infrastructure, cable crossings and the National Grid connection works.

17.5 EMF, Electrical Compatibility and Aviation

The Applicant has submitted aviation assessments dealing with matters such as glint and glare, forced landing options, glider launch failure, thermal effects, turbulence and wind shear. However, those documents do not appear to provide a specific assessment of EMF or electromagnetic compatibility effects on aviation radio, navigation or communication systems.

This is a gap, particularly because Site 1, the BESS site, the National Grid Substation and the 400kV infrastructure sit within a wider area where private aviation and gliding activity are known issues. The concern should not be dismissed simply because the general EMF assessment predicts no significant human-health effects. Aviation safety is a separate receptor issue and should be addressed directly if it has not already been assessed.

Aviation safety is an issue for parishes near to the Norfolk Gliding Club site including Tivetshall.

Tivetshall Parish Council submit the ExA require The Applicant to confirm whether the BESS, substations, inverters, overhead-line works and grid connection infrastructure have been reviewed for electromagnetic compatibility with nearby aviation activity, including Tibenham/Norfolk Gliding Club and other local aviation receptors.

17.6 Overall Documentation Failure

The Applicant's EMF documentation is too general for infrastructure of this scale. It relies heavily on generic values, desk-based review, assumed compliance with ICNIRP limits, CE/UKCA marking, protective enclosures and a 15m clearance from overhead lines. Those may be useful starting points, but they are not a substitute for clear, site-specific evidence.

The key failures are:

- no measured local EMF baseline;
- no receptor-by-receptor assessment for homes, PRow, farms or vulnerable users;
- no clear child or vulnerable-user assessment;
- no transparent EMF mapping for Sites 1 and 2, the BESS, substations, cable corridors and National Grid connection works;
- no clear ecological EMF assessment within the EMF chapter itself;
- no obvious EMF/electromagnetic compatibility assessment for aviation receptors;
- reliance on future design, product marking and generic assumptions rather than enforceable, mapped mitigation.

For these reasons, Tivetshall Parish Council submits the ExA should require The Applicant to provide a parcel-specific EMF clarification note before any conclusion is reached that the effects are not significant.

Chapter 18: Other Environmental Matters

Tivetshall Issues: Electromagnetic Fields

Our objection to this proposed element of this scheme is that the EMF case is **high-level, assumption-led, human-health focused, and weakly site-specific**, despite PINS having scoped EMF in because of uncertainty around cabling design and receptor proximity.

[Relevant Applicant documents](#): APP/6.1.18; APP/6.2.18.1; APP/6.3.18.1; APP/7.1; APP/7.18; AS-025/AS-026.

18.1 Utilities

1. Glass Fibre Broadband .
2. Water and sewage pipes

The Applicant has submitted a large Environmental Statement and supporting appendices, but the key concern is that the assessment remains too broad, too scheme-wide and too dependent on future management plans. For communities affected by the BESS, substations, cable corridors, and Site 2.

Also of concern is that The Applicant's assessment of utilities, water supply and communications remains too high-level for the scheme based around Tivetshall, Great Moulton and Wacton.

18.2 Electricity, Cabling and Local Infrastructure

The Applicant explains the overall grid arrangement for the Scheme, including solar PV sites, cable route corridors, project substations, the BESS and the National Grid Substation. However, for residents the local impacts remain unclear.

Tivetshall Parish Council submit that the documents do not provide a sufficiently detailed site by site protection plan showing the precise location of local cables, inverters, underground works, construction power requirements, service crossing points, emergency isolation arrangements, or repair responsibilities if local infrastructure is damaged.

The EMF assessment is also high-level and desk-based. It considers proposed cables, substations and transformers, but does not give residents a clear Site by site explanation of likely exposure, separation distances, or whether any cumulative effects could arise from cabling and electrical infrastructure in combination with existing services nor does it provide clear receptor-by-receptor mapping for homes, PRow, children's routes, ecological corridors.

Tivetshall Parish Council therefore request the ExA requires the Applicant to provide a clear design baseline and site by site utilities schedule before they ExA can safely conclude that local services and residents will be protected.

18.3 Water Supply, Drainage and Private Water Supplies

The Applicant's own baseline confirms that Site (Land parcel) 2A and B and the BESS and project substation site are not urban, brownfield or visually enclosed industrial land. They are described as open, rural, arable, elevated plateau landscapes with expansive skies, PRow networks, scattered homes, heritage receptors, hedgerows, ponds, ditches and areas of tranquillity or dark skies.

Although The Applicant assigns "Medium" sensitivity, its own descriptions show that these sites have recognised rural character, recreational value and visual sensitivity, particularly around the BESS, Sub-Site 1B, Sub-Site 2A 2B, 2C and the surrounding PRow interconnecting network of Tivetshall, Great Moulton and Wacton.

The Applicant's FRA and water assessment recognise that sensitive water receptors, including private drinking water supplies, can be affected by mobilisation of contaminants to surface water and groundwater receptors if not properly mitigated. The documents also rely heavily on later detailed drainage design, the Outline CEMP, the Outline DEMP and future management measures. Tivetshall Parish Council is concerned that this is not enough for a site with ditches, ponds, field drainage and nearby homes and farmland.

The Water Resources Assessment also confirms that the Scheme lies in a water-stressed area. The Anglian Water supply has been scoped out as a feasible option because of water scarcity and that tankering is the preferred supply method. It further recommends continuing discussions with local tankering suppliers and identifying suitable storage locations. That means important practical matters remain unresolved. The Applicant should be required to provide a Site by site specific drainage and private water supply protection plan, including baseline survey data, pollution response measures, emergency contacts, monitoring arrangements and clear responsibility for rapid repair or alternative supply if any private supply is affected.

Private water supplies are a critical local issue. The Applicant's documents recognise private supplies within 1 km as very high sensitivity receptors and also recognise that piling can affect groundwater through turbidity or concrete bleed-water migration. This risk is especially important around the BESS, substations and cable corridors and should not be left to post-consent controls.

18.4 Telecoms, Broadband and Emergency Resilience

The Applicant's own documents confirm that telecommunications, utilities and television have been scoped into ES Chapter 18 and that existing telecoms infrastructure is shown on Figure 18.1 Utilities Plan. The identified assets include Openreach overhead and underground lines, Gigaclear underground infrastructure and B4RN / Broadband for the Rural North Ltd underground infrastructure, with B4RN shown on Sheets 17, 18 and 19 of Figure 18.1.

This is particularly important for Site 2 and the Station Road area, where community fibre broadband is understood to run through Land Parcel 2 and along the road verges used for construction access. These are not minor services. In a rural area, fibre broadband supports households, farms, businesses, home working, care systems, medical alarms and emergency communications. The Applicant's response is to rely on future detailed design, protection zones, ground penetrating radar, trenching/HSS where required, protective provisions and further consultation. However, this is not a substitute for a clear Site 2 and BESS and project substation site-specific protection plan.

The issue is more serious because the BESS safety case depends on reliable communication systems. The Applicant states that the BESS will rely on 24/7 remote monitoring, a control facility able to shut the system down, emergency-service liaison and a future Emergency Response Plan. The final BSMP, final battery chemistry, detailed emergency response arrangements and some incident procedures are all deferred to detailed design.

Tivetshall Parish Council submit the ExA should therefore require The Applicant to provide a telecoms and emergency resilience schedule for Site 1, Site 2 and the BESS before consent is granted. This should include:

- a parcel-by-parcel utilities and telecoms plan;

- exact mapping of B4RN, Openreach and other broadband assets;
- confirmation of direct consultation with B4RN, Openreach, Gigaclear and relevant undertakers;
- protection measures for shallow-laid fibre in verges and field edges;
- rapid repair and resident notification protocols;
- confirmation that emergency medical alarms, VoIP phones and internet-dependent care systems will not be left vulnerable;
- BESS-specific confirmation that monitoring, shutdown and emergency-service communications would remain resilient during power, broadband, mobile-network or access disruption;
- a completed Emergency Response Plan before any works affecting the BESS, substations, Station Road or telecoms assets begin.

At present, The Applicant has identified the existence of telecoms and broadband infrastructure, but it has not demonstrated how rural communications resilience would be protected in practice, especially where emergency response arrangements are concerned.

18.6 Air Quality and BESS Fire Risk

The Air Quality chapter mainly addresses dust and traffic emissions. The Applicant has scoped out detailed BESS fire emissions, relying instead on the Outline Battery Safety Management Plan and a claimed offset from residential property.

Tivetshall Parish Council believes this is inadequate. A BESS fire is low probability but high consequence, and the ExA should require the Applicant to provide clear evidence on toxic gas release, plume behaviour, emergency access, firewater containment and downwind receptor exposure.

18.7 Noise, Vibration and Operational Disturbance

Construction noise in rural areas is highly noticeable due to low baseline sound levels. When several large schemes proceed within similar timeframes, the duration and spread of disturbance increase substantially. Tivetshall residents may experience months or years of intermittent but intrusive noise and vibration.

The BESS, substations, transformers, inverters, solar arrays infrastructure, construction works, access traffic and possible piling would introduce noise and vibration into quiet rural areas. These impacts should be assessed at the closest homes, PRow routes and sensitive receptors. General conclusions should not replace clear worst-case, receptor-specific evidence.

18.8 Electromagnetic Fields

The ExA required EMF to be assessed because of uncertainty around cabling design and proximity to receptors. The Applicant's assessment remains high-level and desk-based. It does not provide clear receptor-by-receptor mapping for homes, PRow, children's routes, ecological corridors, substations, BESS infrastructure or cable corridors.

18.9 Climate Change and Resilience

The Applicant's climate case should be tested against the actual infrastructure proposed. The BESS, substations, cabling, concrete foundations, solar arrays and infrastructure, construction traffic, replacement equipment and decommissioning all have embedded carbon and climate-resilience implications.

A general renewable-energy benefit should not obscure local environmental harm or the absence of detailed BESS-specific lifecycle assessment.

18.10 Cumulative and In-Combination Effects

The cumulative impact on local communities is not limited to individual technical topics. Tivetshall residents will face the combined effects from landscape change, construction traffic, PRow disruption, loss of rural amenity, groundwater uncertainty, BESS fire risk, noise, lighting, EMF concern, ecological fragmentation and long-term land-use change. Tivetshall Parish Council submit the ExA should require The Applicant to provide clearer settlement-by-settlement and receptor-by-receptor cumulative assessment.

Conclusion

The ExA should not accept broad "not significant" conclusions where impacts on the BESS, substations, cable corridors, private water supplies, PRow users, residents and sensitive rural receptors have not been fully demonstrated before consent.

Chapter 19 In-Combination Effects Assessment

Tivetshall Issues: Combination Effects

The assessment does exist - local integration remains disputed.

We would ask the ExA to ensure that the local villages of Tivetshall, Great Moulton and Wacton cluster needs to be presented clearly enough for those combined effects to be understood

[Relevant Applicant documents](#): APP/6.1.19; APP/7.19; APP/7.26.

The villages of Tivetshall, Great Moulton and Wacton's concern is that the Applicant's in-combination assessment doesn't show how different impacts from the scheme would actually be felt together by local people, walkers, farms and the environment around this

Industrial cluster consisting of site (land parcels) 1, 2A, B and C and the BESS and project substation site.

The Applicant explains that in-combination effects happen when one receptor is affected by several topics from the same scheme, this is exactly the point. Tivetshall residents and visitors won't experience noise, traffic, lighting, drainage, and visual change separately. They'll feel them all at once.

The villages of Tivetshall, Great Moulton and Wacton are especially sensitive. The same people and places could be hit by several overlapping effects from the same scheme or different schemes.

19.1 Residents and Rural Amenity

Nearby households could face noise, dust, lighting, traffic, and visual disturbance all at once during construction and fencing, maintenance activity, and loss of open views once operational. Even if each topic seems minor alone, together they could noticeably affect daily life in a small rural community.

19.2 Footpaths and Recreation

All residents from every village will experience more than a visual change. Construction noise, traffic, fencing, and lighting will all combine to alter the quiet, rural feel of these paths. The Applicant should assess this from the user's perspective - how the walks themselves would change.

19.3 Traffic, Access, and Noise

For all villages sub-Site 2C beside the A140, the BESS and project substation by Station Road sub-sites 2A and 2B and the rural lanes, construction traffic and access works would merge the noise and visual disturbance. For residents, farmers and drivers, that means additional traffic, HGVs, verge damage, dust, and delays - all part of one lived experience, not separate issues.

19.4 Water, Drainage, and Ecology

All the sites within the cluster will experience issues with the sites' ditches, ponds and trees linked to drainage and ecology. Ground disturbance, runoff, sediment, lighting and noise could all affect the same habitats at once. The Applicant should show how these pressures interact, not just list them by topic.

19.5 Heritage, Landscape, and Sense of Place

The Tivetshall parish character comes from its lanes, farms, field patterns and rights of way. Introducing solar infrastructure changes not just views but the village's overall feel - its tranquillity, movement, and rural identity. These combined changes deserve a single, integrated assessment.

19.6 Community Wellbeing

The Applicant has considered human health, mental wellbeing and in-combination effects across the Environmental Statement. Whether the assessment sufficiently demonstrates clearly how the combined effects would actually be experienced by the communities surrounding the **BESS, Project Substation, Site (Land parcels) 1 and 2 and associated infrastructure**

Within ES Chapter 19 assesses only groups of “**residents/users of the local area**” and “**users of PRow and walking routes**”. This approach **does not assess every individual receptor** and specifically accepts that where a resident experiences adverse visual effects at the same time as construction traffic noise, the result **may be a Significant Adverse in-combination effect**. [APP/6.1.19 APP/6.1.19; APP/7.19]

The issues continue through every phase of the scheme.

The Applicant also recognises in its Human Health Summary that major infrastructure can affect mental wellbeing through **environmental change, disruption, uncertainty and concern about potential risks**. Its Equality Impact Assessment acknowledges that construction traffic and severance can affect access, mobility, social interaction and community cohesion and specifically recognises that the Scheme affects our **small villages and surrounding land in a particularly rural part of South Norfolk**. [APP/6.1.18; APP/7.19]

The Applicant confirms that the Grid Connection Infrastructure and National Grid Substation are assumed to remain after the solar development is decommissioned, which will include the haul road across the sites and Hundred Lane. The community effect therefore cannot simply be regarded as a temporary construction issue followed by full restoration of the locality. [APP/6.1.19]

Tivetshall Parish Council submit the ExA requests a clear locality-specific assessment identifying which residential, farming and recreational receptors are exposed to multiple effects; which effects occur concurrently; their duration and frequency and whether mitigation genuinely reduces the combined burden rather than addressing each technical effect separately.

19.7 Human Rights – Articles 8 and A1P1 Engagement and Proportionality

The technical uncertainties described above engage rights protected under the Human Rights Act 1998, notably Article 8 (right to respect for private and family life) and Article 1 of Protocol 1 (right to peaceful enjoyment of possessions). The absence of a clear Site 2A and 2B (also entitled Land parcels 2A and 2B elsewhere by The Applicant) utilities baseline and EMF exposure assessment means Tivetshall residents cannot reasonably determine the extent of interference with their homes, health or amenity. Such omissions risk

disproportionate impacts on daily life and property use. Tiivetshall Parish Council therefore requests that the Examining Authority require a site-specific proportionality assessment to ensure that any interference with these rights is justified, necessary and accompanied by enforceable mitigation measures.

19.8 Requested Outcome

Tivetshall Parish Council requests the ExA require the Applicant to produce a site by site specific report showing how traffic, noise, lighting, landscape, water, ecology, heritage, and community effects would be experienced together by:

- Residents of Tivetshall, Great Moulton and Wacton
- users of all rights of way
- visitors to this historic landscape
- local farmers and landowners
- road users on A140 and Station Road, the villages and all our rural lanes
- local water and habitat receptors

Tivetshall Parish Council objection is simple: Chapter 19 doesn't reflect real-life experience. There is no live the life scheme chapter by chapter, site by site reflecting the total effect of construction, operation, and long-term change on the same people, homes, routes and landscape.

19.9 Air Quality

Even if each element of the project appears acceptable on its own, the combined air-quality impacts can become significant when the multiple large construction sites operate concurrently. Dust, vehicle emissions and disturbed soils affect vulnerable residents, local schools, care settings and sensitive ecological receptors.

Cumulative impacts are a material planning consideration and must be properly assessed before decisions are made.

19.10 Socio-Economic Impact

Our communities would face prolonged construction disturbance, loss of rural character and a sense of over-concentration of energy infrastructure. These factors will affect Tivetshall residents' wellbeing, amenity, and perception of belonging. A robust cumulative impact assessment must consider these social dimensions, not just physical environmental effects.

19.11 Impact of EMF

The combined presence of high-voltage grid infrastructure, substations, inverters, cabling, and BESS compounds increases EMF contributions within the Tivetshall area. While each source may be individually compliant, cumulative exposure must be assessed holistically.

change the character of the area from open, rural farmland to a landscape increasingly dominated by solar infrastructure, fencing, tracks, BESS and substations. For residents, road users and people walking the local lanes and footpaths, the experience would shift from seeing occasional fields of panels to encountering them repeatedly across different parishes, creating a sense of being surrounded by energy infrastructure. In practical terms, this means the cumulative effect is far greater than any single project: it risks the gradual industrialisation of a wide rural area and a permanent change to how local communities experience their countryside.

20.2 Construction Traffic and Local Roads

Overlapping construction periods significantly intensify HGV movements on narrow rural lanes. Shared access routes become pinch points, increasing risks to road safety and creating prolonged noise, dust and disruption for residents. Even if each project appears manageable on its own, the combined construction traffic places disproportionate pressure on a road network not designed for sustained industrial use.

20.3 Noise, Lighting and Vibration

Tivetshall is a rural area of low background noise, dark skies, quiet lanes, public rights of way and scattered homes. Tivetshall Parish Council is concerned that The Applicant has not properly assessed the combined noise, lighting and tranquillity impacts of the BESS, Site 1 and 2, the infrastructure, National Grid Substation, Project Substations, tracking panels, solar inverters, construction activity, security lighting and associated traffic, this is a particular concern.

Lighting must also be assessed cumulatively. Even if directional or motion-controlled, lighting from the BESS, substations, compounds, vehicles and construction works would introduce artificial light into a dark rural setting, affecting nearby homes, PRow users, nocturnal wildlife and the wider sense of tranquillity. The Applicant's own material indicates that the BESS and project substation location was chosen for proximity to the Point of Connection with impacts only minimised "as far as practicable". That does not demonstrate that cumulative harm has been avoided. Tivetshall residents would experience these effects together, as a lasting change to the soundscape, dark skies, rural setting and amenity of Tivetshall and Great Moulton.

20.4 Loss of Rural Quiet and Dark Skies

Tivetshall's rural character and open dark skies depend on low noise levels, minimal artificial lighting. Multiple energy developments introduce:

- inverter hum
- substation noise
- construction machinery
- security lighting

- maintenance and security vehicle movements at night
- fencing and compounds that reflect light

Individually, these may appear manageable. Together, they erode the parish's tranquillity and dark-sky quality, replacing a quiet rural environment with a patchwork of industrial noise and illumination. This cumulative sensory change affects wildlife, residential amenity and the experience of local footpaths and lanes.

20.5 Ecology and Biodiversity & Sites 2a & 2B. Landscaping and ecological mitigation retained hedgerows

Cumulative ecological effects arise from habitat fragmentation, lighting, fencing and the loss of arable margins across a broad area. Species that rely on connected landscapes - particularly bats and farmland birds are vulnerable to these landscape-scale changes. All animals rare or common including hare, hedgehog and deer will not have the freedom to move through the countryside due to the combined footprint of multiple fenced compounds. Disturbed habitats reduce ecological resilience and undermine local biodiversity.

New hedgerow planting;

- woodland or tree-belt planting;
- grassland creation;
- wildflower or species-rich grassland;
- buffer zones around trees, ponds and ditches;
- habitat enhancement areas;
- bird or bat boxes;
- ecological exclusion or protection areas;
- gaps for wildlife movement;
- drainage-related habitat creation.

These measures are not necessarily areas free from future management or disturbance. They would require maintenance and may take many years to provide meaningful screening.

The existence of proposed planting also does not remove the need to assess the panels, electrical equipment, fencing and CCTV during the period before planting matures.

20.6 Impact on Heritage

The rural settings of churches, farmsteads, historic lanes and dispersed settlements are integral to the heritage character of South Norfolk. Large solar schemes, especially when combined with new grid infrastructure such as the proposed 400 kV substations, introduce repeated industrial elements into these settings. Over time, the cumulative effect is a weakening of the historic landscape, where heritage assets are increasingly experienced against a backdrop of panels, fencing and substations rather than open countryside.

20.7 Water Environment, Private Water and Ground Conditions

Multiple ground-disturbing activities increase the risk of aquifer disturbance, contaminant mobilisation, turbidity, and sedimentation. Homes and farms with private water supplies are more likely than previously to rely on them due to climate change and are particularly vulnerable. A cumulative hydrological assessment is essential to understand combined pressures on groundwater and local water security.

20.8 Soils and Agricultural Land

Tivetshall Parish Council is concerned that The Applicant has not clearly assessed the cumulative impact on the BMV Grade 2 which contains the BESS and 400Kv substations and BMV Grade 3 on Site 2. The loss is not only of individual field sites (parcels), it is the combined effect of soil stripping, compaction, excavation, trenching, piling, hardstanding, access routes, drainage changes and construction traffic across productive agricultural land.

The BESS and substation cluster is of particular concern because it would introduce permanent or long-term infrastructure, including hardstanding, foundations, fencing, access tracks and below-ground cabling. These works could result in irreversible or long-lasting damage to soil structure, drainage, fertility and agricultural capability.

Best and Most Versatile land must be treated as a finite national resource. Where Grade 2 or other high-quality land is affected, the cumulative loss cannot be dismissed simply because some areas may later be restored. Deep foundations, piling, reinforced bases, compaction and altered drainage may prevent land from returning to its original agricultural quality.

Construction impacts must also be assessed cumulatively. Heavy vehicle movements, temporary compounds, cable corridors and repeated access across fields can damage soils beyond the footprint of the final infrastructure. This is especially relevant where works take place during wet conditions and on our clay-rich soils which are vulnerable to compaction and smearing.

The cumulative concern is therefore straightforward: soil is not just a surface layer that can automatically be replaced. It is a living agricultural resource affected by handling, drainage, compaction and long-term disturbance. The combined effect of the BESS, substations, cabling, access works and construction activity could permanently reduce land quality and farming productivity. When these impacts occur repeatedly across neighbouring fields and parishes, the cumulative effect is a reduction in agricultural productivity (affecting farm financial viability) and increased risks of runoff, erosion, and waterlogging.

20.9 Glint, Glare and Visual Amenity

Tivetshall Parish Council is very concerned that The Applicant has significantly underestimated the real-world impact on the community and the resulting impacts in an intrusive and industrialised environment, affecting residential amenity, road safety, the character of local footpaths and the wider rural setting.

20.10 Major Accidents and Disasters

Large-scale solar farms and BESS installations, introduce accident, disaster and potential foreign interference risks that can compound across projects and shared infrastructure. Cumulative risk arises not only from individual installations but from their interaction across geography and time.

20.11 Cumulative Climate-Change Vulnerability

All Project substations, POC substations, BESS sites and Haul Roads, increased depth of piling for tracker panels will introduce hard surfaces, soil compaction, altered drainage and the increased runoff. When several schemes occur across neighbouring parishes, the combined effect is a measurable shift in local hydrology and microclimate. This increases vulnerability to:

- flash flooding
- reduced groundwater recharge
- soil drying and erosion
- heat accumulation around infrastructure
- drought stress on farmland and hedgerows

Tivetshall already sits within a sensitive hydrological landscape with shallow groundwater and permeable soils. Multiple solar and energy schemes amplify these vulnerabilities.

EN-1 requires cumulative climate-risk assessment, yet no combined modelling has been undertaken for the cluster of projects around the parish.

20.12 Human Health and Community Wellbeing

Multiple large-scale energy and infrastructure projects concentrated around Tivetshall create a prolonged period of disruption that affects physical and mental wellbeing. Noise, dust, HGV traffic, construction vibration, loss of rural views, and the steady industrialisation of the landscape all contribute to chronic stress and reduced quality of life. Vulnerable groups—including children, older residents, people with sensory sensitivities and those with long-term health conditions - are disproportionately affected.

The cumulative burden is not simply environmental; it is social and psychological. Tivetshall residents face years of overlapping construction phases, repeated road closures, and the loss of tranquillity that defines rural living. These impacts are not captured when each project is assessed in isolation, yet together they represent a significant and material effect on community wellbeing.

Conclusion

When all current and emerging proposals around Tivetshall are viewed together, the picture is clear: this is not a single project but a sustained wave of industrial-scale development across

a rural parish. The combined effect on landscape, ecology, heritage, roads, soils, water, health, and climate resilience, are far greater than the sum of their

parts. Tivetshall residents will face years of construction, permanent changes to their countryside and a steady loss of rural character.

Cumulative impact is a material planning consideration. Without a full, transparent and evidence-based cumulative assessment, decision-makers cannot understand the true scale of change facing Tivetshall or the long-term burden placed on its community.

Chapter 21 Summary of Significant Effects

No specific post-application revision to the Applicant's residual-significant-effects summary was identified in the additional submissions reviewed. Tivetshall Parish Council submits that the conclusions of the Applicant understates the combined local effects of Site 2, The BESS, Project Substation, National Grid POC and 4.5m high tracking panels which are adjacent in the village of Great Moulton

Tivetshall Parish Council ask the ExA to require a full review of the key significance conclusions.

Relevant Applicant documents: [APP/6.1.20](#); [APP/7.18](#); [APP/7.26](#)

Tivetshall Parish Council submits that the significant effects of the BESS, project substation, Site 2 and associated infrastructure have been materially understated, together with the cumulative effect with Site 1A-D. It forms a major western infrastructure cluster with long-term consequences for Tivetshall and the surrounding rural area. The residual harm is not limited to one topic area. It arises from the combined effect of landscape change, visual intrusion, construction traffic, public right of way disruption, ecological disturbance, operational noise, lighting, fire and emergency risk, drainage and water protection concerns, loss of agricultural land and the permanent industrialisation of a rural setting.

The following is a listing of the more significant issues that Tivetshall Parish Council considered to be unresolved. It is our opinion that the Applicant has not demonstrated that the BESS, project substation, or Site (Land parcel) 2 and associated infrastructure are located in the least harmful or properly justified locations, nor that the cumulative effects on Tivetshall have been assessed with sufficient clarity, caution or site-specific evidence.

Principal Issues for the Examining Authority relating to Tivetshall Parish

1. **A140 Highway Safety – Glint and Glare**
2. **BESS Fire, Thermal Runaway, Explosion and Toxic-Plume Risk**
3. **BESS Firewater Containment, Groundwater and Private Water Supplies**
4. **Emergency Access, Firefighting Water and First-Responder Safety**
5. **Inconsistent Definition and Parish Location of the BESS Site / Work No. 2**
6. **Site Selection, Reasonable Alternatives and Grid-Led Siting**
7. **Rochdale Envelope – Deferral of Material Design and Safety-Critical Matters**
8. **Battery Replacement and Augmentation Across the 60-Year Operational Period**
9. **Critical Community Infrastructure – B4RN Broadband and Utilities**
10. **Site 2 Ecology – Parcel-Specific Survey and Baseline Transparency**
11. **Barbastelle Bats – Core Sustenance Zone, Connectivity and Licensing**
12. **Ground-Nesting Farmland Birds and Countryside Stewardship Land**
13. **Great Crested Newts and Protected-Species Connectivity**
14. **Water Environment, Flood Risk, Drainage and Aquifer Sensitivity**
15. **Ground Conditions, Piling, Foundation Risk and Contamination Pathways**
16. **Heritage Setting – Listed Buildings, Grade I Churches and Conservation Areas**
17. **Archaeology and the Historic Landscape**
18. **Landscape Industrialisation, Residential Amenity and Village Setting**
19. **Loss of Rural Tranquillity, Dark Skies and Lighting Effects**
20. **Public Rights of Way, Historic Routeways and Recreational Severance**
21. **Station Road, Rural Highway Capacity, HGVs and Abnormal Loads**
22. **Operational Noise in an Exceptionally Quiet Rural Soundscape**
23. **Climate Change – BESS Lifecycle Carbon and Climate Resilience**
24. **Best and Most Versatile Agricultural Land and Loss of Food-Producing Land**
25. **Electromagnetic Fields – Homes, Public Routes, Ecology and Aviation Compatibility**
26. **Air Quality – Construction Dust and BESS Fire Emissions**
27. **Socio-Economic Effects – Farming, Rural Businesses, Tourism and Property**
28. **Consultation Adequacy, Digital Exclusion and Local Understanding**
29. **Cumulative and In-Combination Effects – BESS, Site 1, Site 2 and Grid Infrastructure**

30. **Residual Significant Effects, Community Wellbeing and Long-Term Industrialisation**
31. **Tibenham Airfield, EFATO and Operational Safety**

Tivetshall Parish Council believes The Applicant places too much development across a widely sensitive rural land, with many significant and long-lasting environmental consequences. Some infrastructure would be permanent, while other impacts depend upon mitigation, future detailed design and post-consent controls whose effectiveness cannot yet be fully demonstrated.

Tivetshall Parish Council therefore respectfully requests the ExA recommends that development consent for The Applicant's East Pye Solar Scheme be refused.

–oOo–

APPENDIX 1

Birds recorded in The Tivetshalls by residents during 2024, 2025 and 2026

1. Courtesy of [REDACTED] witnessed in his private garden 2025

Barn Owl; Blackbird; Blue tit; Buzzard, Carrion Crow; Chaffinch; Coal Tit; Dunnock; Goldfinch; Great Tit; Greater Spotted Woodpecker; Greenfinch; Green Woodpecker; Herring Gull; Kingfisher; Kestrel; Long Tailed Tit; Magpie; Moorhen; Pheasant; Pied Wagtail; Red Kite; Red Legged Partridge; Robin; Rook; Song Thrush; Sparrow Hawk; Starling; Swallow; Wren; Wood Pigeon.



2. Courtesy of [REDACTED] – during walks around The Tivetshalls in 2024-early 2026

Life List

59 species

Gray Partridge

Home | GB-ENG
January 8, 2026



Gray Wagtail

Home | GB-ENG
November 8, 2025



Eurasian Jay

Home | GB-ENG
October 14, 2025



Common Quail

Home | GB-ENG
July 10, 2025



Stock Dove

Home | GB-ENG
July 10, 2025



Eurasian Oystercatcher

Home | GB-ENG
June 17, 2025



Eurasian Treecreeper

Home | GB-ENG
June 11, 2025



Greater Whitethroat

Home | GB-ENG

May 30, 2025



Eurasian Bullfinch

Home | GB-ENG

May 19, 2025



European Starling

Home | GB-ENG

May 19, 2025



Dartford Warbler

Home | GB-ENG

April 26, 2025



Lesser Black-backed Gull

Home | GB-ENG

March 8, 2025



Mallard

Home | GB-ENG

March 2, 2025



Eurasian Nuthatch

Home | GB-ENG

February 28, 2025



Common Raven

Home | GB-ENG

February 28, 2025



European Herring Gull

Home | GB-ENG
August 17, 2024



Eurasian Magpie

Home | GB-ENG
August 14, 2024



Ring-necked Pheasant

Home | GB-ENG
August 13, 2024



Eurasian Blackcap

Home | GB-ENG
August 8, 2024



Eurasian Sparrowhawk

Home | GB-ENG
August 1, 2024



Dunnock

Home | GB-ENG
August 1, 2024



Common Chaffinch

Home | GB-ENG
August 1, 2024



Eurasian Green Woodpecker

Home | GB-ENG
August 1, 2024



Tawny Owl

Home | GB-ENG
July 31, 2024



Yellowhammer

Home | GB-ENG
July 29, 2024



Great Tit

Home | GB-ENG
July 29, 2024



Common Chiffchaff

Home | GB-ENG
July 28, 2024



Long-tailed Tit

Home | GB-ENG
July 27, 2024



Eurasian Jackdaw

Home | GB-ENG
July 27, 2024



European Greenfinch

Home | GB-ENG
July 27, 2024



Eurasian Wren

Home | GB-ENG
July 27, 2024



Common Buzzard

Home | GB-ENG
July 26, 2024



Eurasian Linnet

Home | GB-ENG
July 26, 2024



White Wagtail

Home | GB-ENG
July 26, 2024



Eurasian Blue Tit

Home | GB-ENG
July 26, 2024



European Goldfinch

Home | GB-ENG
July 26, 2024



Western House-Martin

Home | GB-ENG
July 26, 2024



Carrion Crow

Home | GB-ENG
July 26, 2024



European Robin

Home | GB-ENG
July 26, 2024



APPENDIX 2

Noise Impact assessment report

Following is a report prepared by Oakwood Environmental Services on behalf of the villages of Great Moulton and Tivetshall.

Great Moulton Residents Group – Review of Noise Impact Assessment East Pye Solar – Planning Inspectorate Reference: EN0110014
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OES26- N-GMRG-001/V2



Noise Impact Assessment Review

East Pye Solar

Solar PV station, erection of a battery energy storage facility
(BESS), National Grid substation
and associated infrastructure

On behalf of

Block East Pye Solar and Great Moulton
Parish Council

Great Moulton

Norfolk

Planning Inspectorate Reference: EN0110014

Great Moulton Residents Group – Review of Noise Impact Assessment East Pye Solar – Planning Inspectorate Reference: EN0110014	OES26- N-GMRG-001/V2
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1. Introduction

1.1 Introduction

This report is prepared on behalf of Great Moulton Parish Council in support of refusal of the planning application EN0110014 for the erection of a battery energy storage facility (BESS) and a National Grid substation within the parish of Great Moulton, Norfolk. The BESS and National Grid substation will serve a proposed solar farm which is also part of the application. However, it is the BESS and substation that have the potential to cause significant adverse effects to the residents of Great Moulton. The grounds for refusal include consideration of potential noise impacts stated as follows:

This report is a technical review of the applicant's submitted Noise Impact Assessment and supporting information. It does not purport to provide a complete new operational noise assessment of the scheme.

Rather, it considers whether the submitted information is sufficiently detailed, transparent and robust to allow the decision-maker to conclude that unacceptable adverse noise effects would be avoided. Where the applicant's information is incomplete, uncertain or not capable of independent verification, this report identifies those limitations and the implications for decision-making.

1.2 Summary

The case is not that the BESS and National Grid substation development is inherently unacceptable in noise terms. Rather, the concern is that the submitted information does not provide sufficient information and therefore introduces a high level of uncertainty as to whether adverse noise effects would be avoided or capable of being mitigated effectively once the site becomes operational, particularly having regard to:

- BS 4142 assessment methodology, context and uncertainty;
- The very quiet rural night-time acoustic environment;
- Potential low-frequency and lack of information on tonal characteristics;
- Uncertainty over the final plant specification; and
- Limited information on modelling inputs and scale of uncertainty of the noise propagation model for a large collection of noise sources with a low frequency character

acoustic character, mitigation assumptions and receptor background conditions remain uncertain, the decision-maker cannot be confident that the proposed development would be acceptable in noise terms.

While it is acknowledged that grid-scale battery energy storage systems (BESS), substations and associated electrical infrastructure can often be made acceptable in noise terms, it is respectfully submitted that the current submission does not provide sufficient certainty to conclude that this particular development would not give rise to

adverse or significant adverse effects on residential amenity, particularly during the night-time period and in relation to low-frequency and/or tonal noise.

The BESS is considered in some detail because it appears to be one of the potentially dominant operational noise sources, but the same issues of specification uncertainty, source data, acoustic character, mitigation assumptions and receptor context are also relevant to the National Grid substation and other noisy operational elements of the scheme.

1.3 Documents examined

Report	Prepared by	Date
Environmental Statement Vol. 1: Chap.12 – Noise and Vibration	Stantec	March 2026
Environmental Statement Vol. 2: Figure 12.1 Sound and Meteorological Survey Location	Stantec	February 2026
Environmental Statement Vol. 2: Figure 12.2 Noise and Vibration Sensitive Receptors	Stantec	February 2026
Environmental Statement Vol. 3 Appendix 12.1 Baseline Sound Survey Report	Stantec	March 2026
Environmental Statement Vol. 3: Appendix 12.2 – Noise Modelling and Calculations	Stantec	March 2026
Statutory Nuisance Statement Revision 1	Stantec	March 2026

Table 1 - Reports examined

2. Stantec Environmental Statement – Noise and Vibration

2.1 Baseline Sound Survey

The Environmental Statement on noise and vibration prepared by Stantec provides a baseline noise survey taking data from 51 noise monitoring positions that effectively covers the number of noise-sensitive receptors across this vast site. The survey durations were 6 to 8 days at each location and provide a good representative snapshot of the ambient and background sound levels in terms of broadband A-weighted $L_{eq,T}$, $L_{90,T}$ and $L_{F Max,T}$.

However, the report states that as this was an unattended survey, it is not possible to accurately comment on the dominant noise sources or specific noise events during the entire survey period. Comments were given on the on-site environmental sound climate at the time of set-up and collection and these included "on-site sound levels dominated by vehicular movements on the surrounding road network" for the majority of the survey positions and in all 4 of the survey positions reported for Parcel Group 1 which covers Great Moulton.

These are MP41 to MP44. Since no octave or third-octave band data have been published, it is not possible to determine whether road traffic noise is the dominant source of noise in this isolated rural area. The presence of road traffic noise can be indicated by comparing the spectral content of the measured levels with the typical road traffic spectrum set out in BS EN 1793-3 and referenced in BS 8233:2014. This is a concern, as the subsequent noise model and specific sound level assessments rely somewhat on the masking effect of road traffic sound. The DEFRA-funded strategic noise maps produced by Extrium (<http://www.extrium.co.uk/noiseviewer.html>) shows that the A140 to the east of Great Moulton does not appear to have a significant noise impact on the area. (See **Figure 1** to **Figure 3**).

These strategic road traffic noise maps are not a substitute for receptor-specific background sound measurements, but they provide useful context when considering whether road traffic is likely to provide a consistent masking influence at Great Moulton, particularly during the night-time period.

The submitted ES Chapter 12 identifies MP41, MP42 and MP43 as the associated measurement positions for residential receptors in and around Great Moulton, including dwellings on Broadgate Lane and Station Road. The ES also identifies these receptors as high sensitivity receptors.

This reinforces the need for particular caution when applying generic assumptions about the residual acoustic environment at Great Moulton, because the acceptability of the operational assessment depends on whether the measured baseline is genuinely representative of the receptor locations and whether the assumed masking environment is present during the most noise-sensitive periods.

The principal concern at this time is not whether the background sound levels reported by the applicant are numerically correct at the monitoring locations. Rather, it is whether those measurements and the acoustic conclusions drawn from them are representative of the nearest and most affected residential receptors.

The submitted assessment relies upon assumptions regarding the residual acoustic environment, including the degree to which existing background sounds like road traffic, would mask operational noise from the BESS, National Grid substation and associated infrastructure. If those assumptions are not representative of the receptor locations, the conclusions of the BS 4142 assessment may be materially affected. This uncertainty could then be further exacerbated by tonal and character assumptions informing the selected Noise Rating level on which judgement is made as to whether or not there are significant impacts.





Figure 3 Night road traffic noise levels from Extrium

2.2 Noise modelling and calculations

2.2.1 Assessment Assumptions and Limitations

The authors have stated that:

"Detailed plant specifications are not available at this stage, and potential noise emissions based on example equipment data have been assessed using an example plant layout which has been based on achieving the Outline Operational Environmental Management Plan..... noise requirements"

The ES Chapter 12 states that the operational assessment has been informed by scheme information but also identifies assessment assumptions and limitations. The submitted information therefore appears to rely on an indicative plant layout and example plant data at this stage.

This is important because the final number, type, layout and operating regime of BESS containers, inverters, transformers and associated cooling plant may materially affect both the overall rating level and the acoustic character of the installation. In a BS 4142 assessment, such uncertainty is not simply a matter of calculation refinement; it affects the confidence that can be placed on the predicted outcome and on the conclusion that no significant effect is anticipated.

This introduces a level of uncertainty that is difficult to evaluate. The authors have prudently used a conservative approach assuming plant operates simultaneously, continuously, and at maximum output. However, there is no indication as to the number of battery storage units to be installed and the authors have made an exception with the BESS by assuming reduced sound levels associated with lower fan duty as a method of mitigation. It is not clear from the report how many units have been used in the calculation of noise from the BESS.

The calculation includes the provision of a 4m high acoustic barrier in areas around the BESS with a surface density of 15kg/m² and an absorptive side facing the battery storage containers.

The inclusion of a 4 m high acoustic barrier as part of the modelled mitigation indicates that operational noise requires material mitigation in order to achieve the assessment conclusions. The effectiveness of that mitigation is therefore central to the reliability of the assessment and should be supported by clear assumptions regarding barrier location, height, surface density, absorption, source heights, frequency performance and long-term deliverability.

Consideration could be given to an earth bund around the BESS and substation site that provides sound and visual screening.

The need for a 4 m high acoustic barrier as embedded or additional mitigation is itself a material indicator that operational plant noise is capable of being significant if not carefully controlled.

The ES Chapter 12 includes operational plant noise assessment tables and residual operational assessment tables, but the robustness of those conclusions depends on the performance assumptions for the barrier, the assumed source heights, source directivity, plant layout and the frequency content of the source data. If any of these assumptions change at detailed design stage, the modelled screening performance and receptor levels may also change.

The sound source data have only been given in broadband A-weighted sound power levels and thus, if the noise model has been calculated in accordance with ISO 9613-2, has used the 500 Hz octave-band frequency to estimate sound attenuation. However, there are concerns regarding low-frequency sound from the BESS, inverters and substations, which will not be addressed by A-weighted broadband levels, and attenuation over distance in the lower frequencies such as 50 Hz and 100 Hz is less than that in the mid to high frequencies.

The ES Chapter 12 reports operational sound power data in tabulated form and concludes that residual effects would not be significant. However, without the supporting octave-band or one-third-octave source data, it is not possible to independently test whether the model has appropriately accounted for low-

frequency propagation, barrier performance at low frequencies or the potential prominence of transformer hum and cooling plant noise at night. This is particularly relevant as the development includes both BESS infrastructure, inverters and a National Grid substation, as these source types can include tonal, low-frequency or otherwise distinctive acoustic components.

The practical implication for nearby residents is that the likely audibility, character and intrusiveness of operational noise cannot be confidently determined from the information currently provided.

This is particularly important at night, when residual sound levels in rural areas may be low and when tonal or low-frequency components may be more noticeable than would be suggested by broadband A-weighted levels alone.

The absence of transparent source spectra and detailed modelling inputs therefore prevents a robust assessment of whether operational noise would be inconspicuous, clearly audible, adverse, or potentially significant at the most affected dwellings.

When considering background noise levels and statements in the applicants noise reports suggesting reliance on traffic noise to provide masking of operational sound, the accuracy and consideration of spectral make-up of the ambient noise is a key consideration to ensure any consideration of impact is as accurate as possible.

2.2.2 Operational Assessment of Low Frequency Noise

The authors of the noise model have provided a calculated 1/3 octave band façade incident external sound level from estimated noise from both the National Grid Substation and the BESS site.

However, it is not clear how the one-third-octave-band sound power levels from the plant have been determined. For example, manufacturer's data or measurements taken from existing sites. Although the authors state that they have used manufacturers' sound power levels of similar plant, this is not documented and only the A-weighted sound power levels are reported.

Without this information it is not possible to check the validity of the estimated sound levels.

The ES Chapter 12 includes operational plant assessment outputs for high sensitivity residential receptors and identifies residual operational effects as not significant. However, the ability to reach that conclusion is dependent on the accuracy of the assumed source spectra and propagation model. If the underlying frequency data are not provided, the assessment cannot be independently checked against the low-frequency criteria or the tonal audibility method in BS 4142. This is a material limitation because a broadband A-weighted level can mask the presence of a pronounced low-frequency component which may be more noticeable inside dwellings, particularly during the night-time period.

This issue is particularly relevant to electrical infrastructure such as transformers and substations, where tonal or low-frequency components may form an important part of the perceived acoustic character. The assessment should therefore demonstrate not only compliance with broadband noise limits, but also that the frequency content and acoustic character of the predicted sound would not give rise to adverse perceptibility or disturbance at nearby dwellings.

It is also not clear how much absorption from the proposed noise barriers located around the BESS has been estimated in the model, but the effective absorption at low frequencies will be affected by the depth of the absorptive layer. This is due to the length of the soundwave, which is equal to the speed of sound in air (m/s) divided by the frequency of the sound (Hz). This can range from 13.7 m at 25 Hz to 2.1 m at 160 Hz. (See **Table 2**.) The use of earth bunds, which have a wider footprint as mitigation, would address some of these concerns.

Frequency (Hz)	25	31.5	40	50	63	80	100	125	160
Wavelength (m)	13.7	10.9	8.6	6.9	5.4	4.3	3.4	2.7	2.1

Table 2 – Typical wavelength values (m) for low frequency 1/3 octave bands (Hz).

2.2.3 BS 4142 Acoustic Feature Rating Corrections

The authors have concluded that neither the BESS nor the National Grid Substation produce any tonal sound, despite stating:

"High voltage transformers can generate a 100Hz hum due to vibration of the transformer coil. The acoustic modelling exercise indicates that the specific sound level from the high voltage transformers, including the 100Hz tone, is unlikely to be distinguishable at the receptor as it will be masked by other broadband sound relating to the BESS inverters and BESS Containers."

Annexe C of BS 4142:2014+A1:2019 provides a 1/3 octave band method for assessing the audibility of tones. If the 1/3 octave band data used in the noise model were provided, this would prove/disprove the likelihood of tones and the value to be added to the Rating Level.

In the absence of disclosed one-third-octave data, it is not possible to confirm whether the transformer 100 Hz component would be sufficiently masked at the receptor, or whether it would remain perceptible during periods of low residual sound.

This is important because the assessment appears to rely on the assumption that broadband BESS-related sound will mask any transformer tone. That assumption may not be robust where the BESS cooling plant is operating at reduced night-time duty, or where weather, plant loading or operating mode changes the relative contribution of the transformer and cooling plant sources.

The authors also state:

"BESS are designed without any noticeable acoustic features due to the broadband nature of the sound. Noise from the proposed development is not likely to be readily distinctive against the residual sound environment. Therefore, no rating penalty has been applied for 'Other Sound Characteristics'."

Section 11 of BS 4142:2014+A1:2019 states:

"The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it."

If one-third-octave-band or at least one-octave-band data were available from the baseline sound survey, this could be used to show whether the specific sound level is in fact indistinguishable against the residual background. The authors may be relying on the presence of road traffic noise, particularly in the 80 Hz to 160 Hz one-third-octave bands. However, it has not been demonstrated that road traffic is the dominant noise source in all areas, particularly in Great Moulton where the BESS and National Grid substation are proposed. Road traffic in this rural area is sporadic and there are long periods, particularly at night, when there is very little traffic.

The same concern applies to any reliance on road traffic or general residual sound to mask tonal or low-frequency components from the proposed plant. Masking cannot be assumed from short attended observations or from broadband A-weighted sound levels alone. It should be demonstrated using representative night-time frequency data for the residual sound environment and the predicted plant noise. Without that comparison, there remains uncertainty as to whether tonal components, particularly around 100 Hz, would be perceptible at residential receptors during quiet night-time periods.

In the absence of this information, it is not possible to determine whether the operational sound would be appropriately characterised as acoustically neutral, or whether rating penalties for tonality, intermittency, distinctiveness or other acoustic features may be required. T

this is a material issue because even relatively small changes to the rating level may alter the BS 4142 outcome, particularly where representative night-time background sound levels are low.

2.3 Implications for residential receptors

The implications for residents are not that unacceptable noise effects have been conclusively demonstrated at this stage. Rather, the submitted information does not allow those effects to be confidently ruled out. This distinction is important.

Where a proposed development includes substantial operational electrical infrastructure in a quiet rural environment, the assessment should provide sufficient information to demonstrate that noise from the BESS, National Grid substation, transformers, inverters, cooling plant and associated infrastructure would not result in unacceptable effects at the nearest and most affected dwellings.

The current assessment does not provide sufficient transparency regarding final plant specification, source spectra, modelling assumptions, mitigation performance or the representativeness of receptor background sound levels.

As a result, it is not possible to determine with confidence whether operational noise would be insignificant, acceptable subject to mitigation, or potentially adverse at individual residential receptors. This uncertainty is itself material to the planning decision, because the decision-maker must be satisfied that significant adverse effects on health and quality of life would be avoided before consent is granted.

3. Conclusion

Paragraph 4.43 of the Statutory Nuisance Statement states:

“A noise assessment has been undertaken and is reported in ES Volume 1, Chapter 12 - Noise and Vibration [EN0110014/APP/6.1.12]. This chapter focuses on an assessment of the likely significant effects on noise and vibration as a result of the Scheme. The noise and vibration assessment concludes that no significant noise or vibration effects are anticipated.”

However, it is not possible to validate this assessment due to the degree of uncertainty in the submitted assessment. This is due to:

- The lack of detail in plant selection, both for the BESS and National Grid substation;
- Operational assumptions such as reduced fan duty at night and the suggestion of acoustic enclosures without details/specifications;
- Lack of spectral data for both the assumed plant noise and the residual/background sound survey;
- Lack of detail regarding the acoustic barrier performance and the propagation of low frequency noise (<160Hz) over distance;
- Insufficient evidence supporting the decision not to add a feature correction to the specific sound level.

Taken together, the available information does not demonstrate that the development would avoid adverse or significant adverse noise impacts with sufficient certainty. The conclusions of the submitted assessment are therefore not robust, as they are dependent on assumptions which have not been substantiated by project-specific data. Accordingly, the Council's position remains that insufficient information has been provided to demonstrate that acceptable noise levels can be achieved and maintained. The absence of confirmed plant specification, lack of frequency-based source and survey data and limited transparency of the modelling approach collectively introduce a substantial level of uncertainty into the assessment. This is not a minor or isolated uncertainty, but one which has the potential to materially alter the outcome of the BS 4142 assessment.

Relatively small changes in the underlying assumptions — including acoustic character corrections and spectral content — may reasonably result in rating levels within a range indicative of adverse or significant adverse impact. In the context of an exceptionally quiet rural environment, such outcomes may be particularly difficult to mitigate effectively through design or operational controls once the site is constructed.

The ES Chapter 12 records that operational plant noise has been assessed against defined LOAEL and SOAEL thresholds and concludes that residual operational effects would not be significant. However, those conclusions are only as reliable as the assumptions on which they are based. The present review identifies several areas where the submitted information does not allow independent verification of the assessment outcome, including the absence of confirmed plant specification, incomplete disclosure of source spectral data, uncertainty over acoustic feature corrections, limited transparency over barrier performance, and uncertainty regarding the representativeness of the residual acoustic environment at Great Moulton.

If the applicant subsequently provides confirmed plant specifications, source sound power spectra, detailed modelling assumptions, mitigation specifications and representative receptor-based background data, it may then be possible to undertake a more definitive assessment of likely operational impacts. Until that information is available, any attempt to quantify the precise degree of impact at individual dwellings would be subject to significant uncertainty.

This raises fundamental concerns regarding reliance on pre-commencement or pre-operational planning conditions to resolve these issues at a later stage. Paragraph 198 of the National Planning Policy Framework requires planning decisions to ensure that development avoids significant adverse impacts on health and quality of life arising from noise.

Where the submitted information does not allow the decision-maker to confidently conclude that unacceptable noise impacts would be avoided, the appropriate conclusion is not that the matter can simply be deferred, but that the assessment is presently insufficient. The associated Planning Practice Guidance sets out the concept of the Significant Observed Adverse Effect Level (SOAEL), above which adverse effects should be avoided. The potential for adverse or significant adverse noise effects cannot be ruled out with the degree of confidence required.

On the information currently submitted, the proposed development has not demonstrated compliance with Policy ENV2 or national planning policy in relation to noise.

On the information currently submitted, the applicant has not demonstrated with sufficient confidence that adverse or significant adverse noise effects would be avoided, particularly at night and in relation to low-frequency and/or tonal operational plant noise.

Noise is a material consideration in the national Planning Framework. Refusal of the application is therefore justified unless and until the applicant provides sufficient project-specific evidence to demonstrate that the BESS, National Grid substation, Inverters and associated noisy infrastructure can operate without causing unacceptable noise impacts at affected residential receptors.

APPENDIX 3

The sound of solar: Noise in a sustainable world | New Civil Engine

The noise associated with solar farms, particularly large developments, can be significant and compounded by their rural locations. In these settings, any additional noise can be noticeable and can have an impact on people using and living in the area, as well as local wildlife.

It is often assumed that solar farms don't make any noise, that they are silent generators of clean energy. While the panels themselves make no noise, the infrastructure surrounding solar farms that enables energy to reach our homes does create residual noise. It is important to design for this noise at the start of the process to avoid surprise mitigation further down the project's development that could increase costs and delay planning approvals.

When considered at the scale of solar farm installations that we see in the UK, the electrical infrastructure that enables these large-scale connections to the grid can have an impact on existing noise environments if noise is ignored. Typically developed in rural locations where there is sufficient land to house solar photovoltaic (PV) panels, these naturally quieter environments can often mean that low-level noise emissions that would often go unnoticed in an urban environment have the potential to be disruptive. Managing this is regulated closely by planning policies to ensure any noise brought by the infrastructure is not harmful to wildlife or residents.

National policies such as the National Planning Policy Framework (NPPF) and the Noise Policy Statement for England (NPSE) both provide specific overarching requirements to protect residents and communities from noise associated with developments and promote its effective management for good health and quality of life. At a local level, individual councils and authorities will have their own policies, resulting in some national variation and making it crucial to understand what applies to a specific site. An understanding of acoustics is vital to delivering new projects in line with these regulations and for positive community outcomes. Dispelling myths around sound and solar means appropriately anticipating the impact of an installation and designing mitigation early on.

On a solar farm, it is the supporting infrastructure, such as battery storage, transformers and substations, that produces noise. The significance of that audible noise is relative to the existing environment and the plant chosen. Identifying the right products for the development and working closely with the manufacturers allow for greater control over potential noise. Engaging with the manufacturers at this stage also enables collaborative work on designing the plant for greater noise control and quieter operation when installed

Ambient sound levels typically fluctuate through the course of the day – it is usually quieter overnight than during the day – and vary by location. The bustle of a city will create much more noise than rural countryside. This means that a low-level sound generated by a battery energy storage system or transformer may not be noticeable during the day in the middle of a city, but in the countryside it would be. It is also important to bear in mind the cumulative effect of multiple plant and machines running together; it is unlikely that a solar farm will have a single source of noise.

When there is an understanding of these specific environmental factors, and their relationship with the infrastructure to be installed, it becomes possible to manage noise. To most effectively mitigate potential significant noise, incorporating actions into the design is vital. It means not only cost savings against implementing measures later on but also issues can be removed in their entirety.

Layout is particularly important on large sites where significant infrastructure is needed. It is possible to design in a way that is sympathetic to acoustics, moving sources away from receptors such as residents or wildlife or creating noise barriers with needed site structures. These intelligent designs make use of the natural noise-managing properties of terrain, structures and buildings. If this is considered at the design stage, buildings such as offices and substations that are an integral part of the site can be positioned in a way that they serve as these needed noise barriers.

Making these design elements as effective as possible comes down to accurate early estimations of source noise levels. Preparing models that simulate the acoustics of the site means that mitigation can be designed from the beginning. Like in many construction and engineering disciplines, it's always the case that action to eliminate will be taken before action to insulate. The accuracy of models and plans makes this possible. Engaging acoustic specialists early on enables mitigation to be optimised. Working on the early planning and design stages of the project also means that it is possible for cross-discipline collaboration, opening opportunities for solutions to be found together.

Ultimately, by incorporating acoustic considerations from the outset and integrating noise reduction strategies into the design, we not only align with regulations but also foster harmonious relationships with local communities and protect wildlife. Effective noise management is not an afterthought but a crucial element of sustainable solar farm development that ensures long-term success and minimal environmental impact.