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# Design & Access Statement

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## Sunny Oaks Renewable Energy Park

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# INTRODUCTION & PROPOSAL

The application seeks full planning consent for a 'Proposed Renewable Energy Park; Consisting of Ground Mount Solar Arrays, Battery Energy Storage System (BESS) Ancillary Infrastructure, Means of Access and Associated Landscaping' (The Proposal). The accompanying Planning Statement provides further detail as to what is proposed, including a full project description.

This Design and Access Statement (DAS) will not duplicate the content of wider consultant reports which make up the suite of submission documents; bar limited duplication about the 'Access Considerations'. The DAS will solely focus on (1) the design and (2) the access; albeit the final and fixed approach (as presented by the submission plans) is a construct of several material considerations; all of which are clearly detailed by the suite of supporting technical reports.

As defined by the Planning Portal;

*"A design and access (DAS) statement is a short report accompanying and supporting a planning application. They provide a framework for applicants to explain how a proposed development is a suitable response to the site and its setting, and demonstrate that it can be adequately accessed by prospective users".*

*"A DAS is required with planning applications for major development – both full and outline. A DAS must explain the design principles and concepts that have been applied to the development. It must also demonstrate how the proposed development's context has influenced the design. The Statement must explain the applicant's approach to access and how relevant Local Plan policies have been taken into account, any consultation undertaken in relation to access issues, and how the outcome of this consultation has informed the proposed development. Applicants must also explain how any specific issues which might affect access to the proposed development have been addressed".*

*"The level of detail in a Design and Access Statement should be proportionate to the complexity of the application, but should not be long"*

In accordance with The Town and Country Planning (Development Management Procedures) (England) Order 2013, Article 8, parts 2 and 3 confirm:

(2) An application for planning permission to which this article applies shall be accompanied by a statement ("a design and access statement") about —

- (a) the design principles and concepts that have been applied to the development; and
- (b) how issues relating to access to the development have been dealt with.

(3) A design and access statement shall —

- (a) explain the design principles and concepts that have been applied to the development;
- (b) demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account;
- (c) explain the policy adopted as to access, and how policies relating to access in relevant local development documents have been taken into account;
- (d) state what, if any, consultation has been undertaken on issues relating to access to the development and what account has been taken of the outcome of any such consultation; and
- (e) explain how any specific issues which might affect access to the development have been addressed.

This DAS will outline the design principles and concepts which have been applied to the development. This will be framed by the subsections entitled 'Design Principles'.

The DAS will demonstrate the iterative design approach (or steps) taken to accommodate any constraints, mitigations and enhancements so the proposal, while accepting change (as outlined by planning policy) is undertaken in a contextual and responsible way. This will be framed by the subsections entitled 'Informative Design Approach'. This approach has worked in composite with consultants (and their reporting); each of which have influenced the final design.

This DAS will outline the pre-application consultation process with the Council to ensure the design and layout was considered against salient material considerations, required mitigations and enhancements. This will be framed by the subsection entitled 'Pre-application Consultation'. This part of the DAS will only associate itself to the design of the proposal rather than other pre-application consultations detailed by supporting consultant reports.

The DAS will outline the approach to the access considerations; structured by the site design, constraints, opportunities and pre-application consultation with the Council and Island Roads. This will be framed by the subsection entitled 'Access Considerations'. The DAS will then conclude with relevant adopted policy analysis.



# LOCATION & SITE CHARACTERISTICS



Figure 1 - Isle of Wight & Site

The site sits to the north east quarter of the Isle of Wight. It forms two parcels of land served off Whiterails Road (to serve the Ground Mount PV arrays) or off Bridesford Road (to serve the BESS).



Figure 2: The Site (Original Site Area)

The site is formed from a planning unit (defined by red line) covering an area of 32.5ha; albeit from that planning unit (or application boundary) only 27.2ha would be used for solar panel development (land north of Whiterails Road), with approximately 0.8ha of land used for BESS and Substation to the south of Whiterails Road. The remaining land within the planning unit would be used for maintenance tracks, environmental enhancement or retained for the purposes of agriculture. As part of the 27.2ha used for solar panel development, the land below and between the ground mounted arrays is currently laid to grass. That land would be sowed with wildflower mix from local donor meadows (where possible) and annually maintained.

The Site is located close to the built-up area of Wootton, within a settled rural landscape and dissected by Whiterails Road. The Proposed Development (Access off Bridesford Road to service the BESS) is located circa 330m from the nearest edge of the Isle of Wight Area of Outstanding Natural Beauty (AONB). The BESS is circa 650m from the AONB and the Ground Mount arrays 880m away.

The Site consists of a number of pastoral and arable (animal feedstock) fields enclosed by clipped hedgerows and mature hedgerow trees. The ground-mounted solar PV arrays are set out on land to the north of Whiterails Road. To the south of Whiterails Road, positioned against existing woodland and close to the existing substation, is the BESS and proposed substation. Access to this supporting infrastructure will be made via an existing farm track off Bridesford Road, which will undergo surface improvements typical of an agricultural farm track.



# DESIGN PRINCIPLES - THE LOCATION

As a starting point The Proposal has been located (and selected) on land which is not:

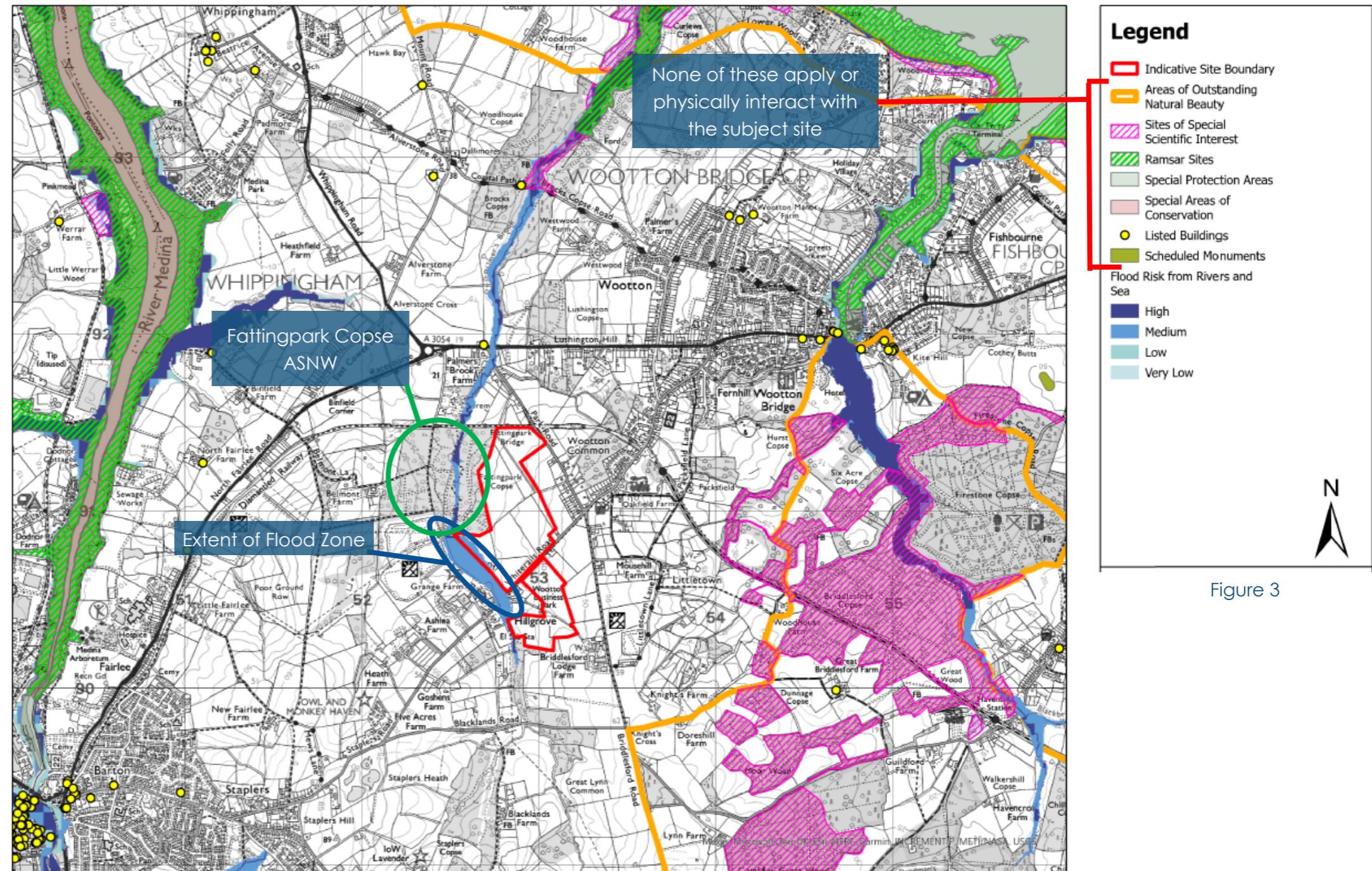
- Environmentally sensitive or,
- Designated (as a landscape, ecological or heritage resource (or similar).

Although not an overriding planning consideration, the site is importantly co-located with the Scottish and Southern Electric (SSE) grid network where there is an agreed point of connection for the electrical export; noting that The Proposal will utilise the last grid capacity available until SSE undertake significant grid network reinforcement (off Island). This is supplemented (as an essential requirement) to have a willing landowner to make The Proposal possible.

Beyond the scope of any designations or strategic sensitivities, an Agricultural Land Classification (ALC) was undertaken to ensure the proposal would not use grade 1-3a land. The results of the ALC demonstrates the land is on grade 3B or worse and therefore is not best or most versatile.

It was recognised that a small part of the site (served off Whiterails Road) sat within a flood zone; albeit through technical due-diligence (as per the Drainage and Flood Risk Assessment) this would not hinder the site in strategic principle. It was also recognised, beyond the parameters of Figure 3, that the woodland (Fattingspark Copse) to the west (and partial north) of the Ground Mount PV arrays (served off Whiterails Road) was an Ancient Semi-Natural Woodland (ASNW) and so suitable buffers would be required.

Once fixing those known parameters, and in the knowledge that the strategic principle and concept could be accommodated (subject to detailed material planning considerations; as per the supporting technical reports) The Proposal then needed to 'deep dive' into site specific considerations which would in detailed terms.



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Figure 3



# DESIGN PRINCIPLES - CONSTRAINTS ANALYSIS

A 'constraints first' approach to set the developable areas and to ensure a responsible approach was undertaken to avoid, mitigate and protect trees (off and on site) and hedgerows. A full topographical survey was undertaken which included plotting all tree positions (and crown spreads), boundaries (including against the ASNW), hedgerows and the overhead 33KV electrical lines. This was mapped against the below ground Southern Gas Networks (SGN) intermediate and medium pressure gas pipeline and a sewer pipe.

The electric, gas and sewer infrastructure mapped all required easements.

As a result of that installed infrastructure, including easements, trees (and suitable buffers) and hedgerows, a developable area (in principle) was defined to enable The Proposal to be accommodated within (figure 4).

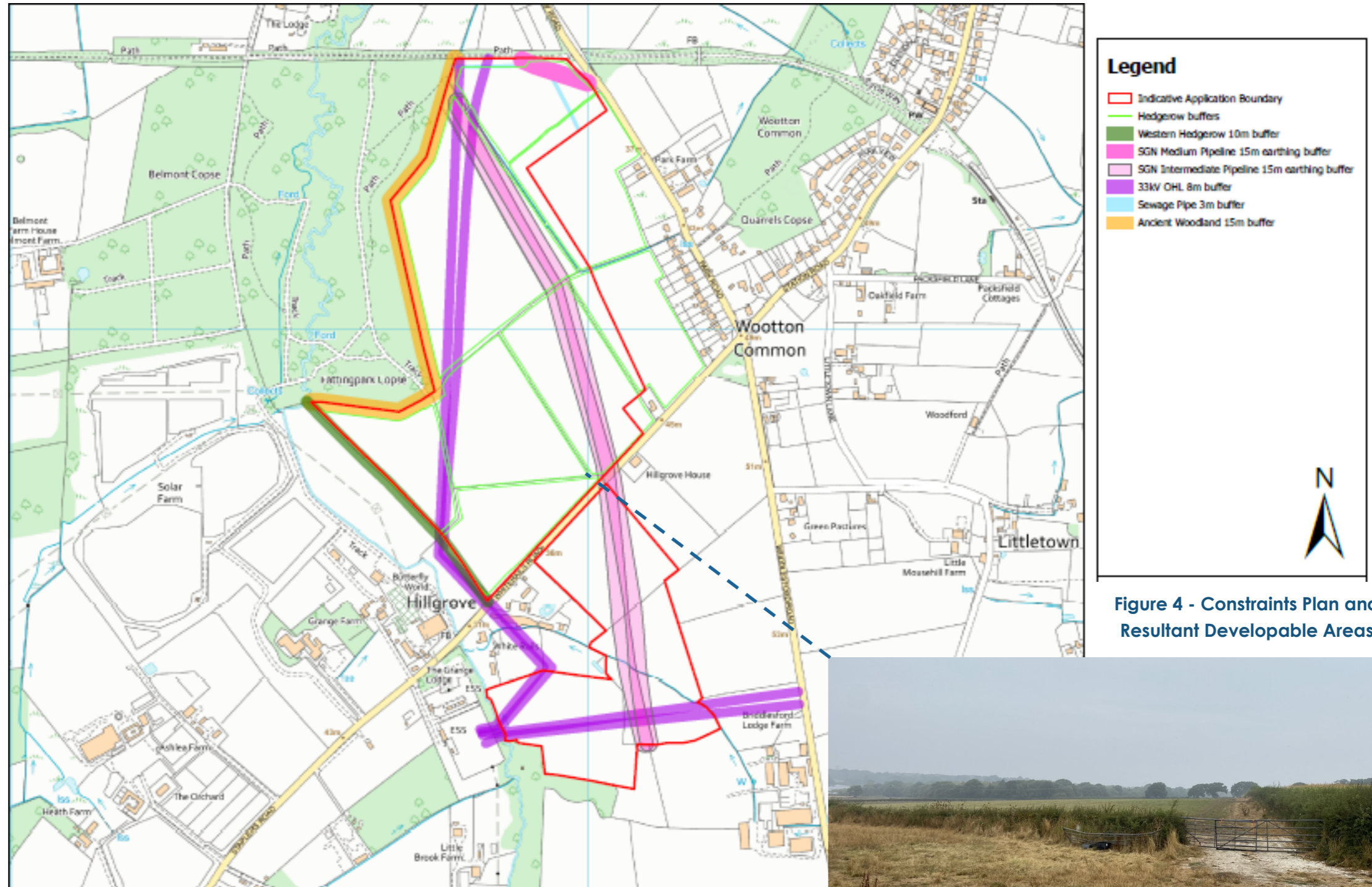


Figure 4 - Constraints Plan and Resultant Developable Areas



33k SSE Overhead Line



Example Existing Hedgerow Intersection  
(to be retained/reinforced)



# DESIGN PRINCIPLES - FIRST PHASE LAYOUT

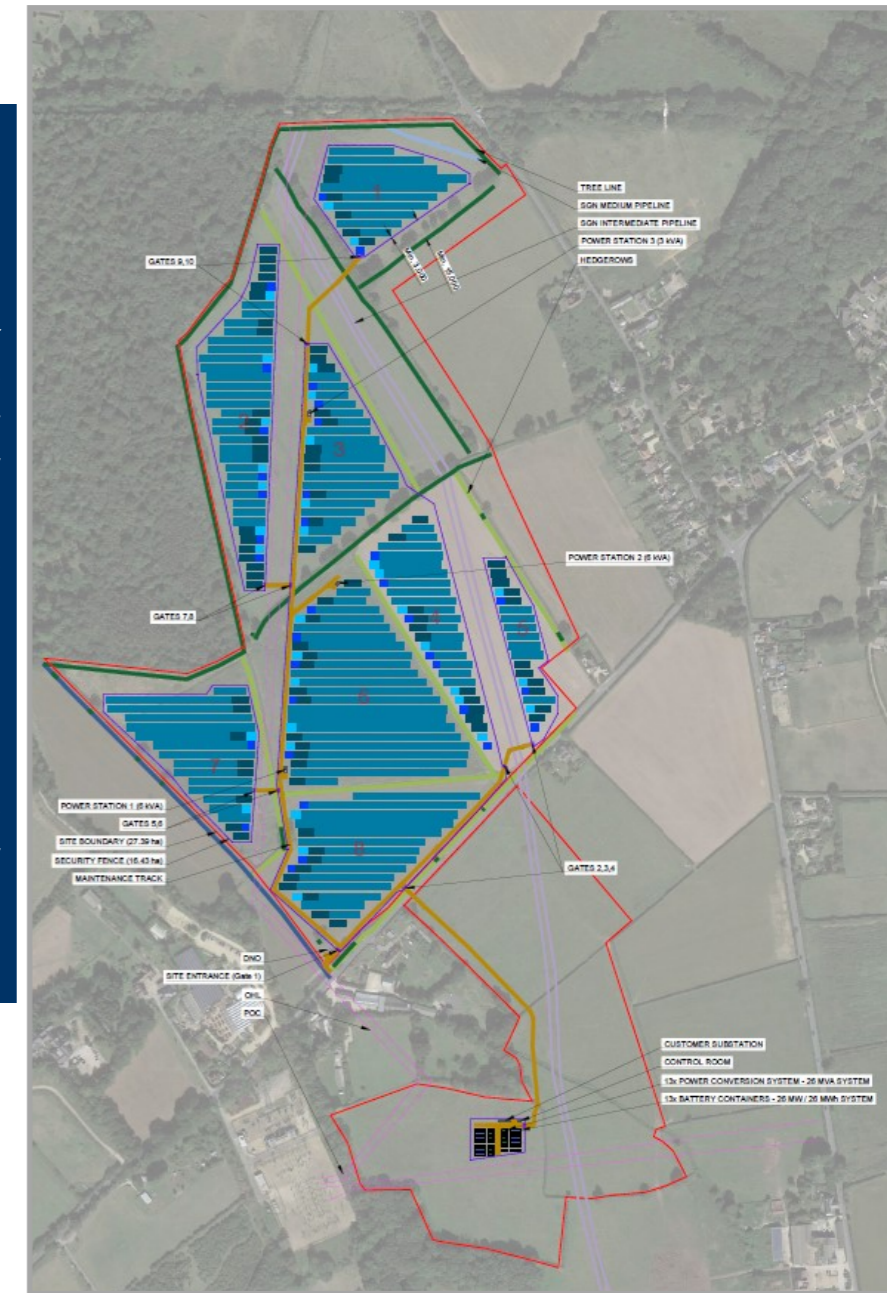
When setting the developable areas (subject to further technical reports and assessment) The Proposal established eight compartment zones for the ground mount PV arrays and a single zone for the BESS.

As a design principle, the arrays are mounted on frames at an angle of approximately 15 degrees to the horizontal, with a maximum height of up to 3.0m (however the highest point of the solar panels is currently 2.76m above ground level (AGL). They are a form of their function to capture maximum solar gains and thus face south. To ensure a robust assessment is undertaken the 3.0m height has been assessed as part of the application, including the suite of technical reports such as the Landscape and Visual Impact Assessment. The lowest part of the panels would be 90cm AGL to provide sufficient freeboard between flood levels in a small and discreet part of the site located within flood zones 2 and 3. Frames that support the panels are typically made of aluminium and they are fixed to the ground with ground anchors.

Space between frames is provided for maintenance access and to avoid shading from neighbouring panels. Land amongst the solar panels would be sown with a wildflower seed mix from local donor meadows which has been specifically chosen to compliment local ecology and result in a comprehensive net gain in habitat and biodiversity; as detailed by the Ecological Impact Assessment.

The BESS compound would contain a BESS sized to discharge 28.5MW of electricity over a two hour period, comprising up to 40 containers measuring approximately 3.5m in height by 12.2 m in length by 2.5 in width for the switchgear units, 3.5m in height by 3.8m in length by 2.5m in width for the converter units, and 3.5m in height by 6.1m in length by 2.5m in width for the battery back housing. Each container would house battery strings, battery management systems, power distribution systems and auxiliary systems such as fire suppression and alarm systems, ventilation, cooling, internal lighting and thermal control system. Each BESS unit would be placed on skids, raising them off the ground

Extract of RCE1001 - 100 PV Layout - Figure 5



Typical Installation of Frames



Example Ground Mount Arrays



Example of Site Cleaning Techniques



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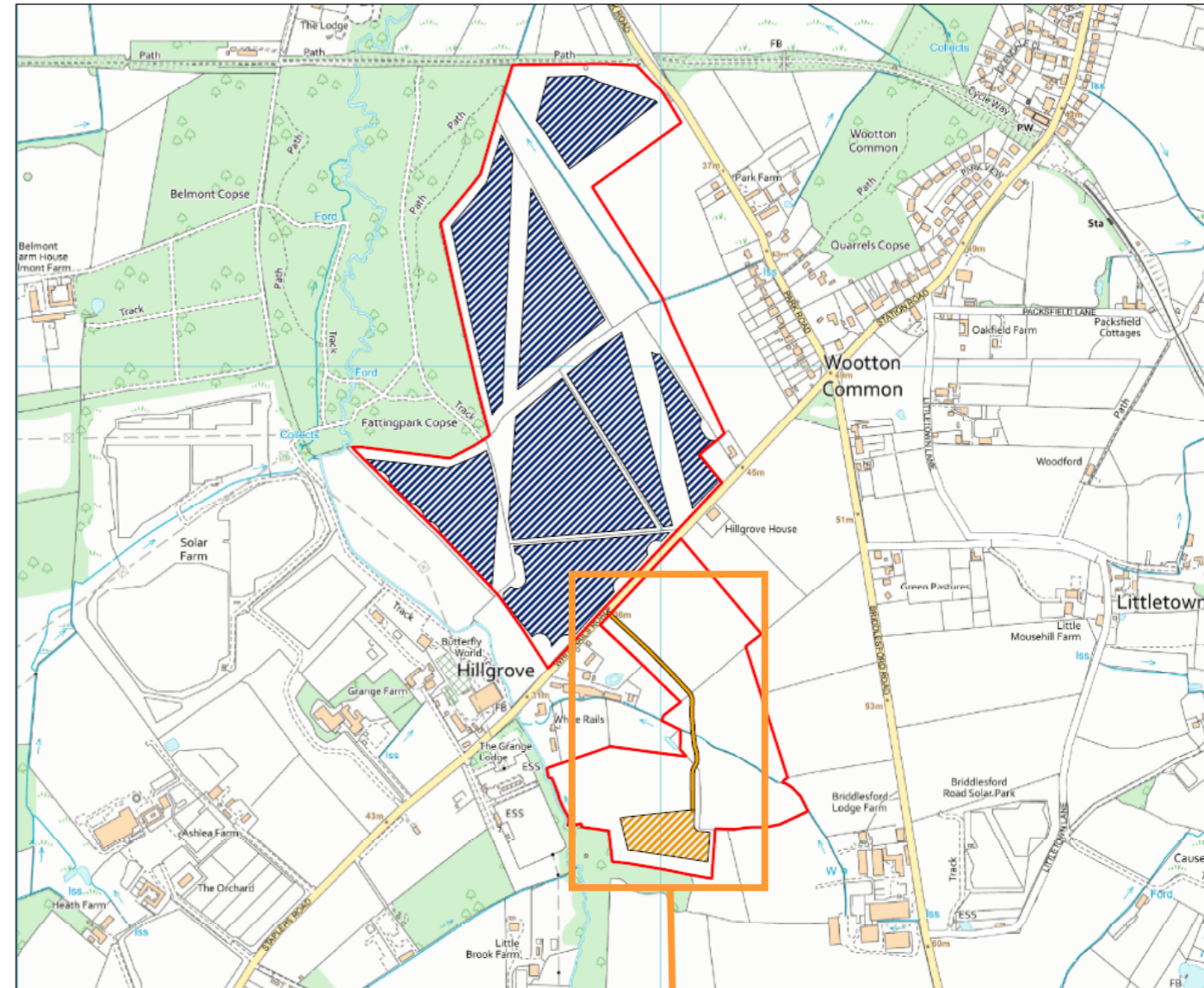
# INFORMATIVE DESIGN APPROACH - FIRST ITERATION

First Iteration - Figure 6

The developable areas, as a result of undertaking a 'constraints first' approach (figure 4) led to the first iteration layout (figure 6). That layout considered all principle constraints but without deep diving into further technical considerations and site specific requirements, and namely the results of detailed Arboricultural surveys to define the required buffer zones, root protection areas and shade patterns to protect and safeguard all trees.

The layout also was evolving against ecological and LVIA (Landscape and Visual) advice to ensure The Proposal was appropriate against those disciplines and what (if necessary and reasonable) mitigations were required which would influence future iterations. From that point, enhancements could then be approached.

The location of the BESS was also adjusted and located in a zonal approach, as per Figure 6.



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The BESS was considered to be accessed from Whiterails Road, via a new access. This subsequently changed. See 'Access Considerations'.

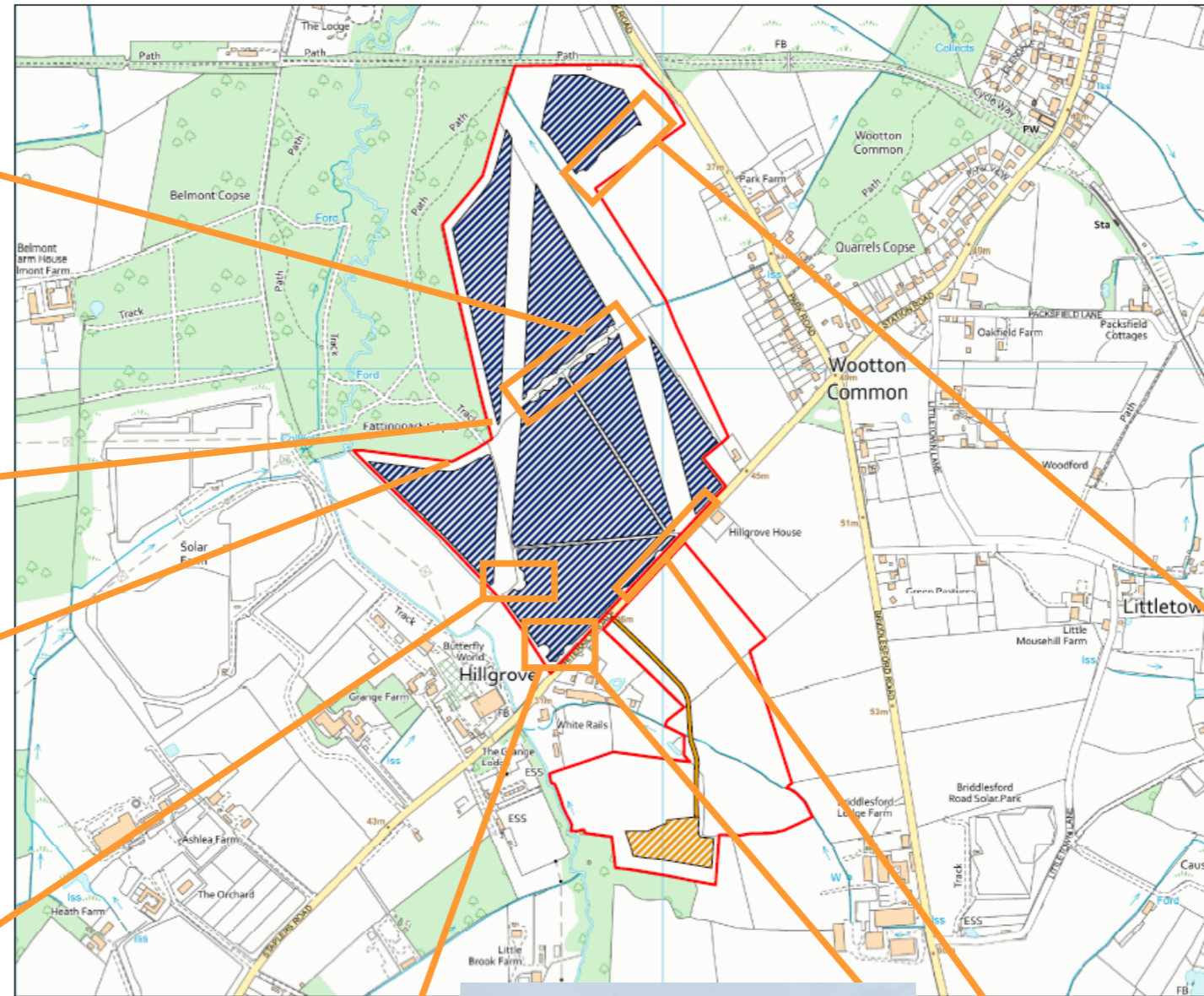


# INFORMATIVE DESIGN APPROACH - SECOND ITERATION

The second plan iteration evolved against extensive arboricultural (tree) surveys to define specific buffers (from the ASNW) and other woodland corridors (such as adjacent to the BESS) and all on site trees. Those surveys determined the protection areas required to safeguard and mitigate in accordance with BS 5837:2012.

The surveys set the parameters to fix the revised developable areas and engage with the Councils tree officer

Second Iteration - Figure 7



Fattingspark Copse ANSW Buffer





# INFORMATIVE DESIGN APPROACH - THIRD ITERATION



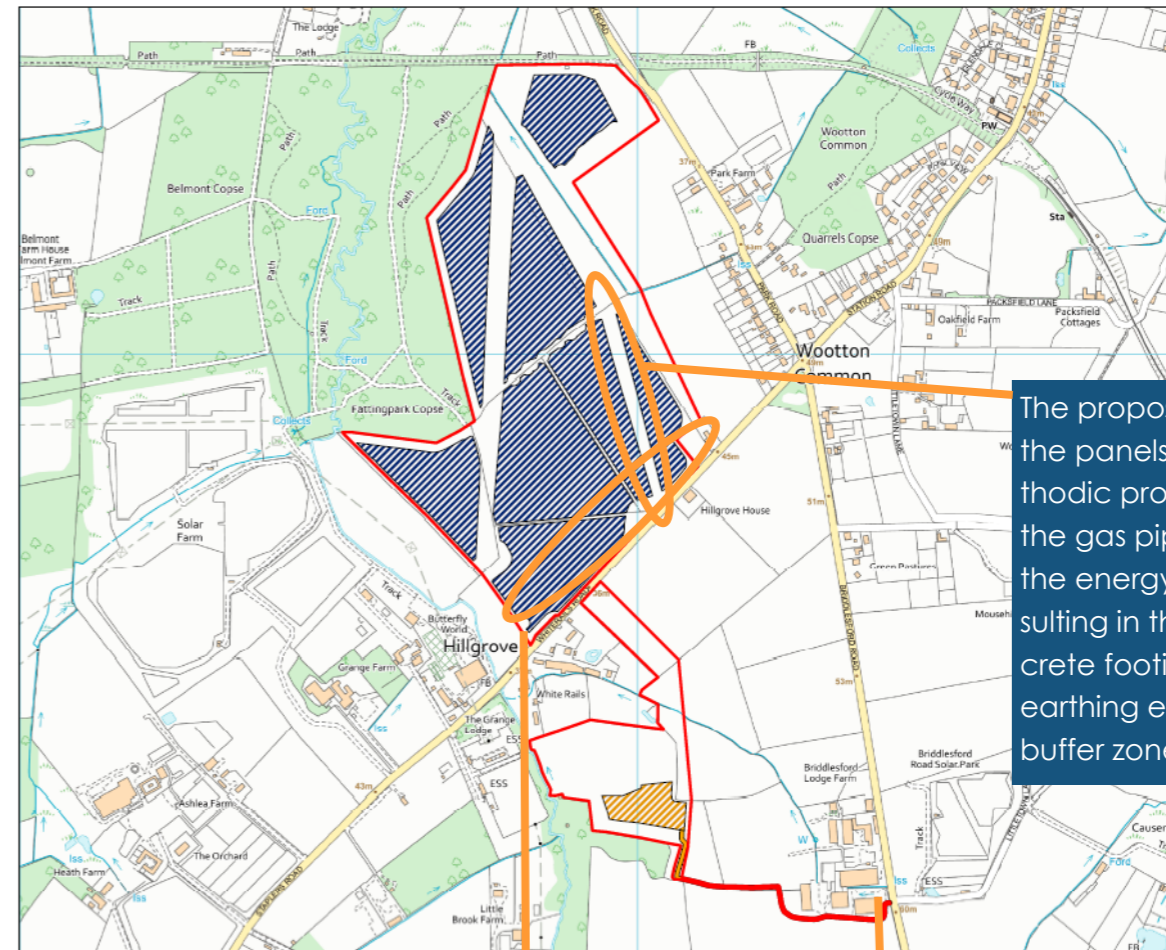
Field Gate Entrance to be closed with new hedgerow

Third Iteration (Constraints) - Figure 9

Area of Reinforced Landscaping

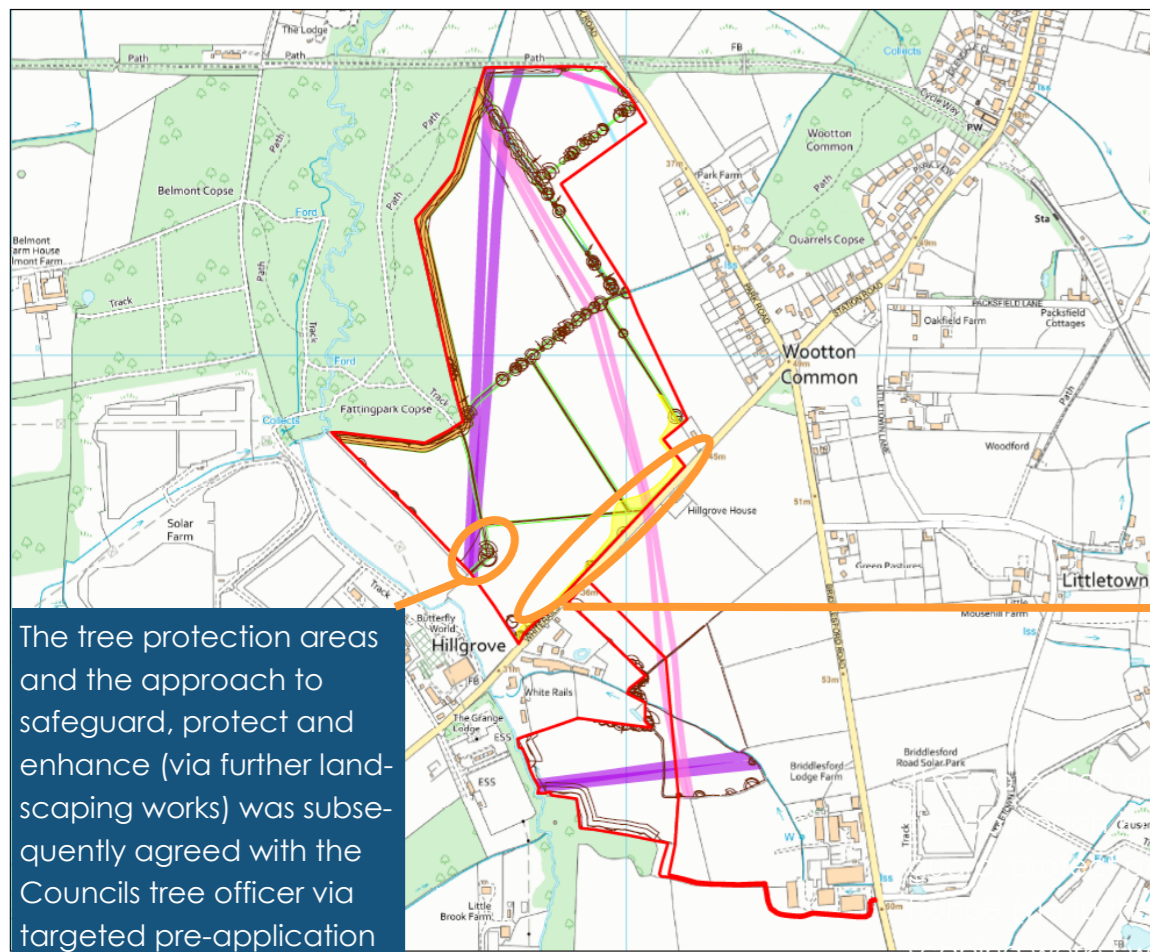


Third Iteration - Figure 8



- Legend**
- Indicative Application Boundary
  - Developable Areas Solar
  - Developable Area BESS & Substation (0.7ha)
  - Developable Areas BESS & Substation Access

The proposal also placed the panels within the cathodic protection buffer of the gas pipe to maximise the energy generation; resulting in the use of concrete footings and no earthing equipment in the buffer zone.



- Legend**
- Indicative Application Boundary
  - Proposed Landscape Enhancement
  - Arboricultural Constraints
  - Hedgerow buffer as identified in Arboricultural survey work
  - SGN Medium Pipeline 5m buffer
  - SGN Intermediate Pipeline 5m buffer
  - 33kV OHL 8m buffer
  - Sewage Pipe 3m buffer
  - Ancient Woodland 15m buffer



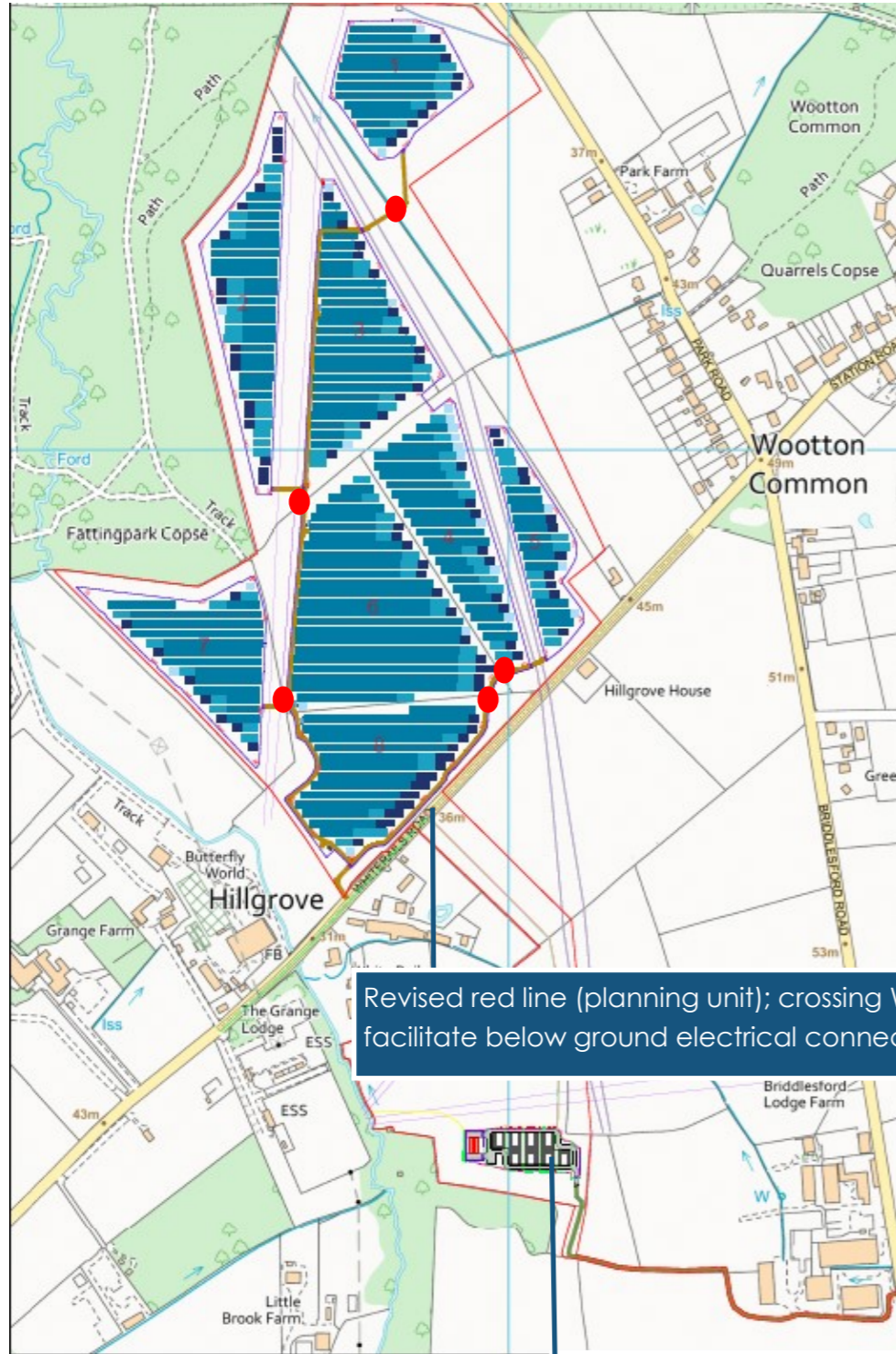
The tree protection areas and the approach to safeguard, protect and enhance (via further landscaping works) was subsequently agreed with the Councils tree officer via targeted pre-application consultation. As a result the protection areas around T8/T9 were en-

Responding to feedback from Island Roads, the Applicant identified an alternative access. Refer to 'Access Considerations.'

Upon further pre-application consultation (and site visit) with the Council there was a desire to provide more meaningful screening along the Whiterails Road frontage; particularly focussed at the intersection of where an existing field gate would be closed off (via a new hedgerow). It was agreed with the Council that an area of supplemental landscaping would be beneficial to limit views from this transitory receptor (Whiterails Road) and offering positive and meaningful landscape and ecological enhancements (as detailed by the LVIA).



# INFORMATIVE DESIGN APPROACH - FOURTH ITERATION (FINAL LAYOUT)



Revised red line (planning unit); crossing Whiterails Road to facilitate below ground electrical connections into the BESS

Fixed layout for the BESS



Internal access tracks plotted and assessed individually at limited hedgerow intersections where limited removal is required, and as assessed by the Hedgerow Survey.

## APPOXIMATE CAPACITY PER ZONE:

- Block 1 - 1.8MW
- Block 2 - 2.1MW
- Block 3 - 2.9MW
- Block 4 - 2.4MW
- Block 5 - 1.2MW
- Block 6 - 4.8MW
- Block 7 - 2.1MW
- Block 8 - 2.7MW



# PRE-APPLICATION CONSULTATION

As a design process The Proposal has evolved in close consultation with key statutory (IOWC) stakeholders including, archaeology, trees, ecology and highways.

The consultation conclusions are contained within specific technical reports; all of which have been favourable in the knowledge that the design has undertaken an iterative/thorough approach to ensure those material considerations are acceptable. Under the banner of 'access considerations' this DAS will duplicate the conclusions framed by Island Roads and the Access Statement.

Disbarring those technical disciplines, the Local Planning Authority (LPA) (and lead officers) were consulted. As a starting point the LPA confirmed:

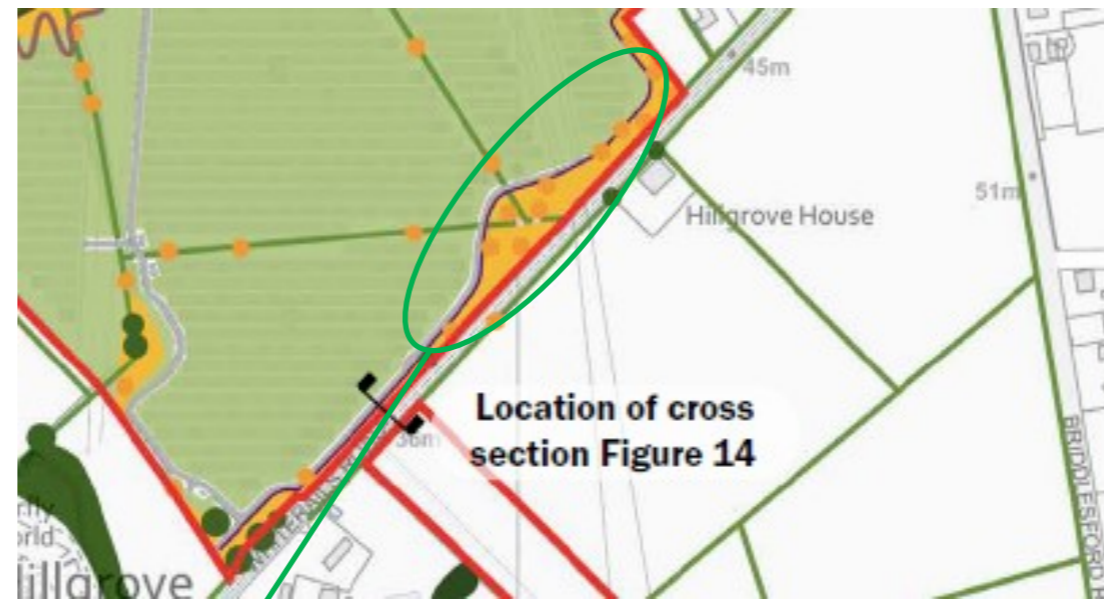
*"Such renewable energy schemes are strongly encouraged and the NPPF states that the planning system should play a key role in supporting the delivery of renewable energy. In addition, Policy SP6 of the Core Strategy explains that a range of renewable energies will be encouraged across the Island to meet the target of 100MW installed capacity as the on-shore contribution to becoming self-sufficient in renewable electricity production. Therefore, there is strong policy support for solar farm/panels here and therefore there is no principle objection to such a project."*

As part of that consultation the LPA did raise some initial concerns which are summarised as follows:

- The proximity of the panels against Whiterails Road and the proposed landscape approach.
- The potential of the proposal to visually consolidate with the adjacent solar park to the west of the site.

Subsequent to that response, a further site meeting with the LPA occurred; resulting in favourable conclusions. The LPA were satisfied that the proposal would not visually consolidate with the adjacent solar park to the west because of the spatial separation and intervening hedgerows and trees.

Combined with the landscaping approach defined by the LVIA, the LPA agreed (via landscaping recommendations which have been included) that the proximity of the panels along Whiterails Road was satisfactory when designing in a positive new landscape buffer to mitigate visual or landscape harm. As a result, that landscaping approach positively influenced the design and fixed the layout; leading to wider ecological enhancements and supporting substantial biodiversity net gain.



Areas devoted to enhanced landscaping for this specific area; although the same landscaping narrative is applied across the site and where indicated by the LVIA.



Example landscaping palette





# ACCESS CONSIDERATIONS

The Proposal is internally serviced by a network of existing permeable farm tracks. Those tracks will be improved, where necessary to be 4.5m wide, but still being permeable and covered with similar surface treatment. The Proposal will also rely on a network of new internal service tracks; all of which are detailed by the proposed plans. Those new internal service tracks will match the width, construction and surface treatment so the whole internal network is 'fit for purpose' and appropriate to the setting and character.

The means of access from the adopted highway (Whiterails Road and Briddlesford Road) is detailed by the Access Statement. The access points have undergone full consultation with Island Roads; with particular attention given to the access serving the BESS. Originally it was envisaged to service the BESS via a new access served off Whiterails Road; albeit due to the required visibility splays and required hedgerow removal the proposal took a considered approach to use a compliant (existing) access served off Briddlesford Road.



Splay North East



Splay South West



Splay North



Splay South



Example Farm Track Network

Briddlesford Road, currently serving barns at Briddlesford Lodge Farm just south of Bluebells Café. Visibility from this access, as shown on drawing referenced 25978/02 is in excess of 215 metres = Y, in both directions at an X distance of 2.4 metres. This is a full splay requirement for a derestricted, 60 mph speed limit road according to Design Manual for Roads & Bridges. This access has been determined to be acceptable by Island Roads to service the BESS and substation. It is that same access which has been implemented (and is compliant) with a planning consent at Briddlesford Lodge Farm (P/00078/11).

Existing Access off Whiterails Road, confirmed to be Acceptable by Island Roads, subject to confirmation of a traffic generation and as detailed by the Access Statement. This access will service the Ground Mount PV Arrays.



# CONCLUSION

- The Proposal has evolved by a robust design process and in accordance with extensive pre-application advice with the Council.
- As a result the proposal is strategically located in an area which is not:
  - Environmentally sensitive or,
  - Designated (as a landscape, ecological or heritage resource (or similar)).
- There are wider designations beyond the site which The Proposal does not harm.
- The Proposal has evolved with a clear understanding of all physical, social, economic, environmental and policy considerations. This DAS must be read in composite with other technical supporting reports to consider that clear understanding.
- From a land use consideration, The Proposal has understood the constraints to provide a suite of appropriate and robust mitigations to optimise the potential of the site. It was responded positively to those constraints and protected all key environmental features such as woodland buffers, trees and hedgerows (bar only essential hedgerow removal to service the internal access tracks).
- Through wider technical assessment and reporting the proposal has had regard to the views, landscape setting and character, ecology, trees and amenity of adjacent users so it integrates within the surroundings appropriately, while accepting change to take place.
- The Proposal, amongst other policy considerations (assessed by other technical reports) is compliant with the adopted Local Plan and in particular DM2 (Design Quality for New Development).
- From a design and access perspective The Proposal is suitable and supportable and this should be given significant material weight.

## DM2 Design Quality for New Development

The Council will support proposals for high quality and inclusive design to protect, conserve and enhance our existing environment whilst allowing change to take place. A robust design process with the use of skilled designers and pre-application discussions will be promoted.

Relevant information according to the site's size, location and context will be required in order for the Council to determine planning applications properly and quickly. All new development should respond to a clear understanding of physical, social, economic, environmental and policy context.

Development proposals will be expected to:

1. Provide an attractive, functional, accessible, safe and adaptable built environment with a sense of place.
2. Optimise the potential of the site but have regard to existing constraints such as adjacent buildings, topography, views, water courses, hedges, trees, wildlife corridors or other features which significantly contribute to the character of the area.
3. Be appropriately landscaped to provide an attractive setting for the development that integrates with the surroundings.
4. Complement the character of the surrounding area, particularly in Conservation Areas and AONB, as defined in Conservation Area Appraisals, Village Design Statements or other Supplementary Planning Documents that define locally distinctive areas.
5. Minimise the consumption of natural resources and the production of waste or pollution.





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