Design and Access Statement for Solar Development and Associated Works.

Land at Chimmens Solar Farm, Mussenden Lane.

On behalf of RES Ltd.

Date: October 2023 | Pegasus Ref: R002v3_PL

Document Management.

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1. INTRODUCTION

1.1. This Design and Access Statement (DAS) has been prepared by Pegasus Group on behalf of RES Ltd (The 'Applicant') to support a full planning application for a Solar Farm with associated equipment and infrastructure on Land at Chimmens Solar Farm, Mussenden Lane.

1.2. The application seeks full Planning Permission for ground-mounted solar photovoltaic (PV) development with the following description of development:

"Construction and operation of a solar farm with all associated works, equipment, necessary infrastructure and biodiversity net gains."

1.3. The Proposed Development would have an export capacity of 49.9MW and will provide a reliable source of clean renewable energy. The main element of the Proposed Development comprises the construction, operation, management and decommissioning of a grid connected solar farm with associated infrastructure. Planning Permission is sought for a temporary period of 40 years from the date of first exportation of electricity from the Site.

1.4. The purpose of this document is to demonstrate that the Applicant has fully considered the design and access issues as part of the comprehensive preparation of the scheme prior to the submission of the planning application. This report therefore covers the following matters:

- Use;
- Amount;
- Layout;
- Scale;
- Landscape;
- Appearance;
- Access.

1.5. This Statement will detail the process behind the design and indicate how through good design, the proposals can be delivered in a sustainable manner to meet local and national objectives of climate change, energy security, biodiversity enhancement, and a prosperous rural economy.

1.6. Whilst the DAS is set out to be read as a standalone document, it should be read in conjunction with the entire application submission in order to fully understand the Proposed Development, its potential impacts and planning merits. The accompanying Planning Statement sets out the planning policy context relevant to the design and access issues of this application's proposal.

1.7. The purpose of the Proposed Development is to support resiliency and sustainability objectives at both the local and national level. The National Planning Policy Framework (NPPF), National Planning Practice Guidance (NPPG), and the Sevenoaks Core Strategy Development Plan (2011) and the Allocations and Development Management Plan (2015) in principle support the delivery of renewable energy infrastructure. NPPF Section 14 sets out how the planning system should support a transition to a low carbon future in a changing climate and states that Local Planning Authorities (LPA's) should approve applications for renewable and low carbon development is the impacts are (or can be made) acceptable. For further information please see the accompanying Planning Statement.

2. APPLICATION SITE AND CONTEXT

2.1. The site is location on land between Mussenden Lane and the M20 (Figure 1 - Site Location and Context Plan below). Chimmens Solar Farm includes approximately 99 hectares of agricultural land.

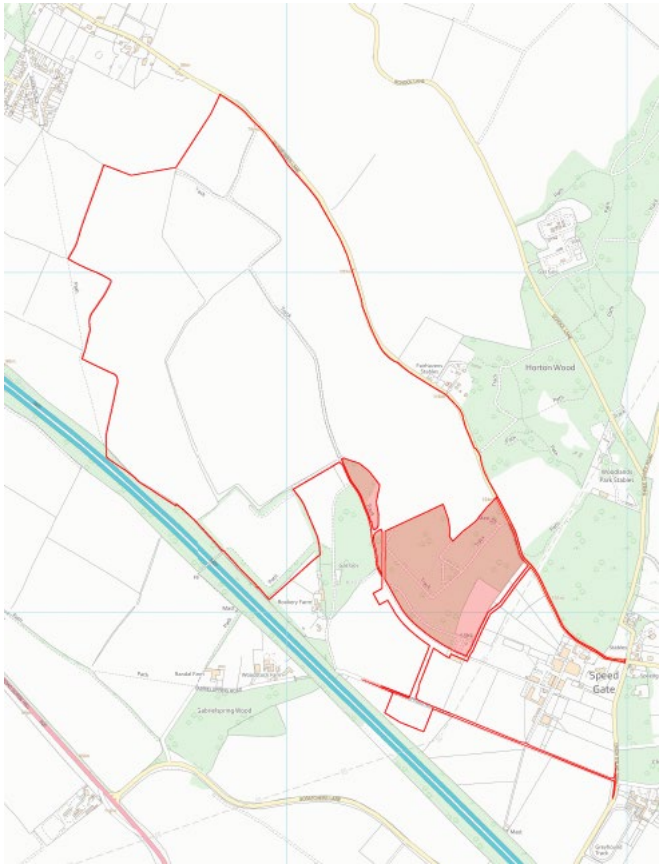


Figure 1 - Site Location and Context Plan

2.2. The site has been assessed for its suitability and has available grid capacity with a connection proposed within the site to the existing 132kv grid infrastructure. Furthermore, it is considered that the site is suitable for renewable development following initial feasibility works with an engaged landowner.

2.3. There are no nationally designated sites within or adjacent to the proposed site. The Farningham Wood SSSI is located approximately 1.5km to the west of the site.

2.4. There are treed areas within the site, Horton Wood is located immediately adjacent to the proposed development. This is an ancient woodland and a Local Wildlife Site identified in the Local Plan. Policy SP11 of the Core Strategy states that sites designated for biodiversity value will be protected to the highest level of protection given to nationally designated Sites of Special Scientific Interest, followed by Local Wildlife Sites and sites of local importance for biodiversity. Designated sites will be managed with the primary objective of promoting biodiversity whilst also providing for appropriate levels of public access.

2.5. The site lies outside of a nationally designated landscape (National Parks, AONBs), with the Kent Downs AONB lying within around 1km to the west of the site. The site also lies outside of any locally designated landscapes.

2.6. The site is traversed by a network of minor narrow roads, including Mussenden Lane which passes through the site area to the north and Gabriel Spring Road to the south-east, both of which feature high hedgerows either side of the route. School Lane also follows the northern most site boundary and also features high hedgerows either side of its route. Public Rights of Way (PROW) also cross the site to the south-east, as well as being located to the west of the site, however, most of the site is not publicly accessible. The M20 motorway forms a notable feature in the landscape immediately to the south of the site, with the Brands Hatch racing circuit lying a little further to the south.

2.7. The site is located predominantly within Flood Zone 1, an area identified as being at lowest risk of flooding.

2.8. There are no designated assets (listed buildings, conservation areas, scheduled monuments, world heritage sites, registered battlefields, registered parks and gardens) located within the site. It is however acknowledged that there are a number of designated assets in proximity to the site boundary, summarised below.

2.9. Located 377m northwest of the site boundary, adjacent to Mussenden Lane are a group of four grade II listed buildings forming the Mussenden Farmhouse complex.

2.10. 427m west of the site boundary adjacent to Eglantine Lane are a grouping of four grade II listed buildings, three forming the Eglantine Farm complex and one which is a cottage. On the opposite side of Eglantine Lane is the eastern boundary of the grade II registered park and garden (RPG) of Franks Hall which contains a number of designated heritage assets including the grade I listed Franks Hall which is over 1km from the site boundary. Within the RPG is the scheduled monument of a medieval moated site with associated fishponds, which was the earliest iteration of Franks Hall. This is located approximately 970m northwest of the site boundary.

2.11. There is a scheduled monument of a Roman villa and Iron Age settlement located 1km to the west of the site, on the western bank of the River Darent.

2.12. There are three grade II listed buildings located approximately 680m northwest of the site, all forming part of the Reynolds Place group of buildings and structures.

2.13. Located approximately 870m northwest of the proposed site boundary is the settlement of Horton Kirby which contains a Conservation Area, a number of listed buildings and a scheduled monument. The scheduled monument is the site of a Roman granary located on the banks of the River Darent. The listed buildings within the settlement are all Grade II with the exception of the Grade II* Parish Church of St. Mary.

2.14. Further details of the Application Site including the planning policy context are contained within the Planning Statement which accompanies this submission to Sevenoaks Council.

3. DESIGN

3.1. A considerable number of factors have contributed towards the design and layout of the Solar Farm that is proposed in this application. These are now discussed against the various aspects of design highlighted within the former CABE's guidance document regarding the production of Design and Access Statements.

3.2. An important factor in finalising the proposals has been consultation with the community and local stakeholders. This process is summarised in the accompanying Statement of Community Involvement.

Layout

Scheme Evolution

3.3. A thorough constraints analysis was undertaken to inform the final scheme.

3.4. In proposing the general layout of the development, great consideration was given to the retention of the established field boundaries on site along with planting of native hedgerows and trees. This helps to ensure that the development is well contained both physically and visually. In addition, a number of other constraints were considered, and appropriate offsets applied where necessary. The initial constraints mapping and subsequent design amendment works are shown on the below plan extracts. The constraints and their consideration as part of the design scheme are as follows:

Constraint		Consideration as Part of Design
1	Site Access	Access from the public highway has been designed to avoid local villages and therefore avoid traffic disruption during construction. The final design allows for construction materials to be delivered from Three Gates Road and Gabriel Spring Road East connecting to existing internal access tracks. During operation, the solar site will be unmanned and therefore operational traffic is minimal. The access strategy has been consulted with Kent Highways. Within the site, existing field entrances have been used for internal access tracks. Where necessary, field entrances may require marginal widening to accommodate construction vehicles. The access strategy has been developed with the transport engineers, ecologist and arboricultural surveyors who ensured that all impacts on the existing hedgerows and trees were minimised.
2	Trees and Hedgerows	A tree survey has been undertaken on the site and appropriate root protection zones have been accounted for within the scheme. Appropriate offsets have been given to hedgerow protection and ecological enhancements incorporated with the finalised scheme.

Constraint		Consideration as Part of Design
3	Ancient Woodland	It is acknowledged that Horton Wood adjacent to the southern boundary of the site is designated as Ancient Woodland and a Local Wildlife Site. As such, an appropriate buffer of 15m has been applied to the scheme and no development is located within these areas.
4	Public Rights of Way	There is a Public Right of Way (Footpath Ref: SD333) within the southern boundary of the proposed development (Appendix 3, Field 9). There is also a PROW (Footpath Ref: SD156) located outside the western boundary of the proposed development. Appropriate buffers have been applied to the Public Rights of Way in order protect and enhance public access and amenity.
5	Inverters and battery storage units	Inverters and associated battery storage units have been located within areas considered to be least visually intrusive as a result of the Landscape and Visual Assessment (LVA) and in many locations, benefit from existing vegetation screening. Additional landscape planting mitigation has been proposed to further mitigate against any visual impacts to local residential receptors. The surfacing of the inverter locations has also been reviewed to ensure adequate access and drainage.
6	Substation location and fencing design	The location of the substation has aligned with the location for grid connection to the existing grid infrastructure. The siting of the substation has also taken into consideration the construction health and safety requirements when working in close proximity to Horton Wood, existing overhead lines (OHL) and the M20 Motorway. Furthermore, in order to mitigate against the visual impact of the proposed fencing strategy, it was determined that palisade fencing for security purposes was too visually intrusive. As such, a weld mesh fence detail has been proposed which is more transparent within the landscape and within the Green Belt setting.
7	Existing Ecological Features	A number of existing ecological features have been identified on the site. An appropriate buffer from these features has been applied as part of the design.
8	Utilities	High pressure gas pipelines are located underground within the site, running southwest to northeast and south to north. Following consultation with National Grid, a buffer of 24.4m has been applied to routes of underground gas pipelines where no solar infrastructure is proposed.
9	Noise	A Noise Impact Assessment has been undertaken, the results of which are detailed within the submitted report and summarised within the Planning Statement. The locations of the inverters, battery storage units and associated ancillary equipment have been strategically located away from residential receptors and it is considered that there will be no adverse impacts as a result of this scheme.
10	Skylark Habitat Creation	Breeding Bird Surveys undertaken as part of the scheme design and ecology surveys have identified skylark within the site and the surrounding area. The proposed scheme will provide approximately 35 acres of skylark habitat creation both within the site and on land immediately adjacent to the scheme. In combination with the landscaping provided by the scheme, these habitat areas are anticipated to improve nesting and foraging habitat for skylark in the wider area.

Final Scheme

3.5. The final scheme as submitted is detailed on the Infrastructure Layout (Figure 4 – Drawing Number 05009-RES-LAY-DR-PT-003 Rev 2). The submitted plan outlines the positions of all infrastructure within the site and accompanying drawings set out their dimensions.

3.6. A network of internal tracks around the solar panels will be laid to allow vehicle access to the supporting equipment (mainly inverters and the substation) to allow for maintenance. Access tracks will be kept to a minimum around the site and will be 4.5m wide and made of gravel over a crushed rock capping although these details are to be confirmed during the detailed design. The layout and extent of the roads is limited to that necessary to provide access and maximises efficiency.

3.7. The associated equipment siting has also considered the impact on the appearance of the area and adjustments have been made to sensitively site equipment away from the boundaries of the fields, ensuring that there is separation from the existing vegetation and any sensitive ecological features. The existing and proposed mitigation planting will contribute towards visual screening of the site.

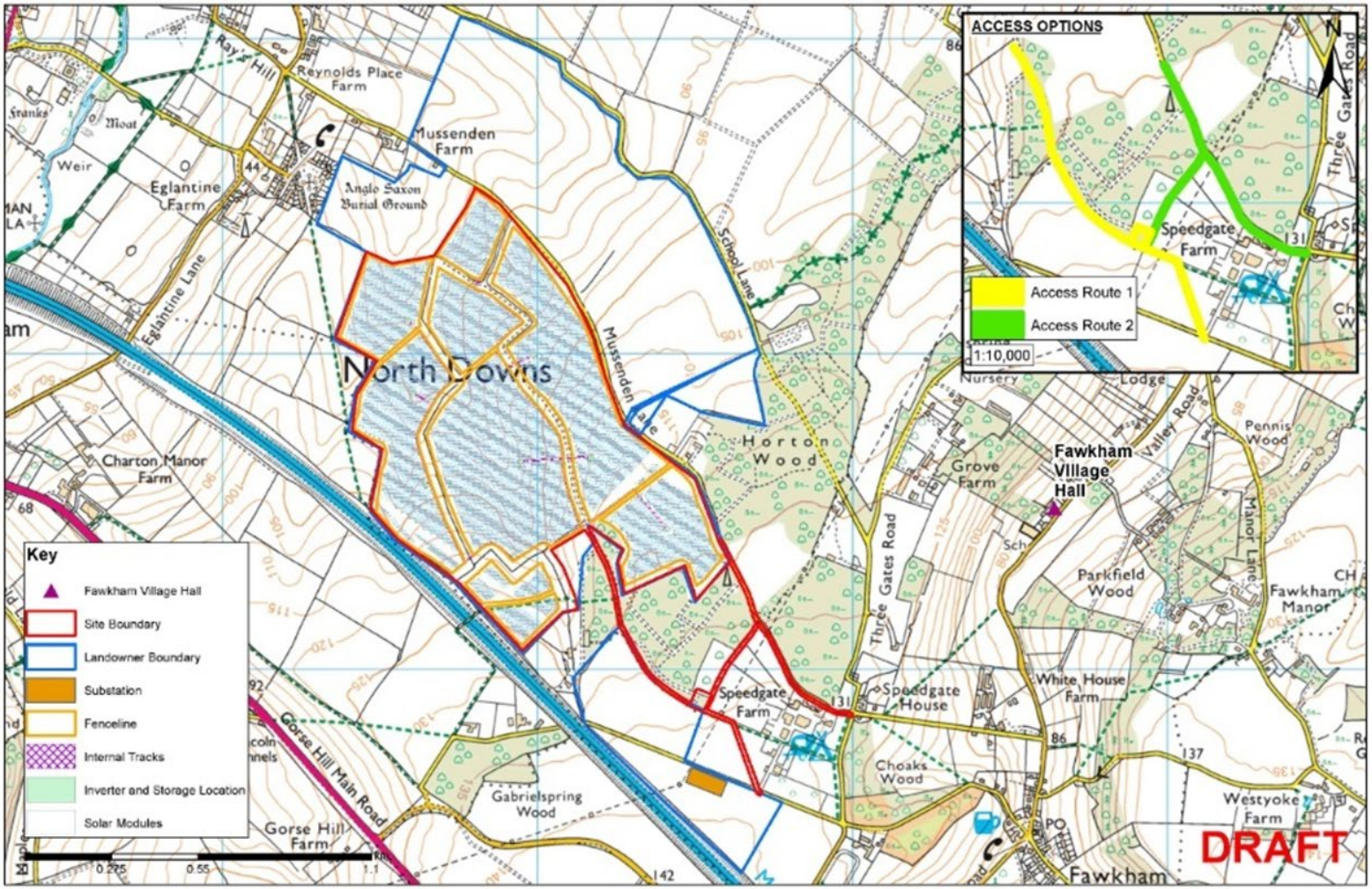


Image 1 Preliminary Design shown at Public Exhibition

Image 2 Initial Constraints Mapping - Post Public Exhibition

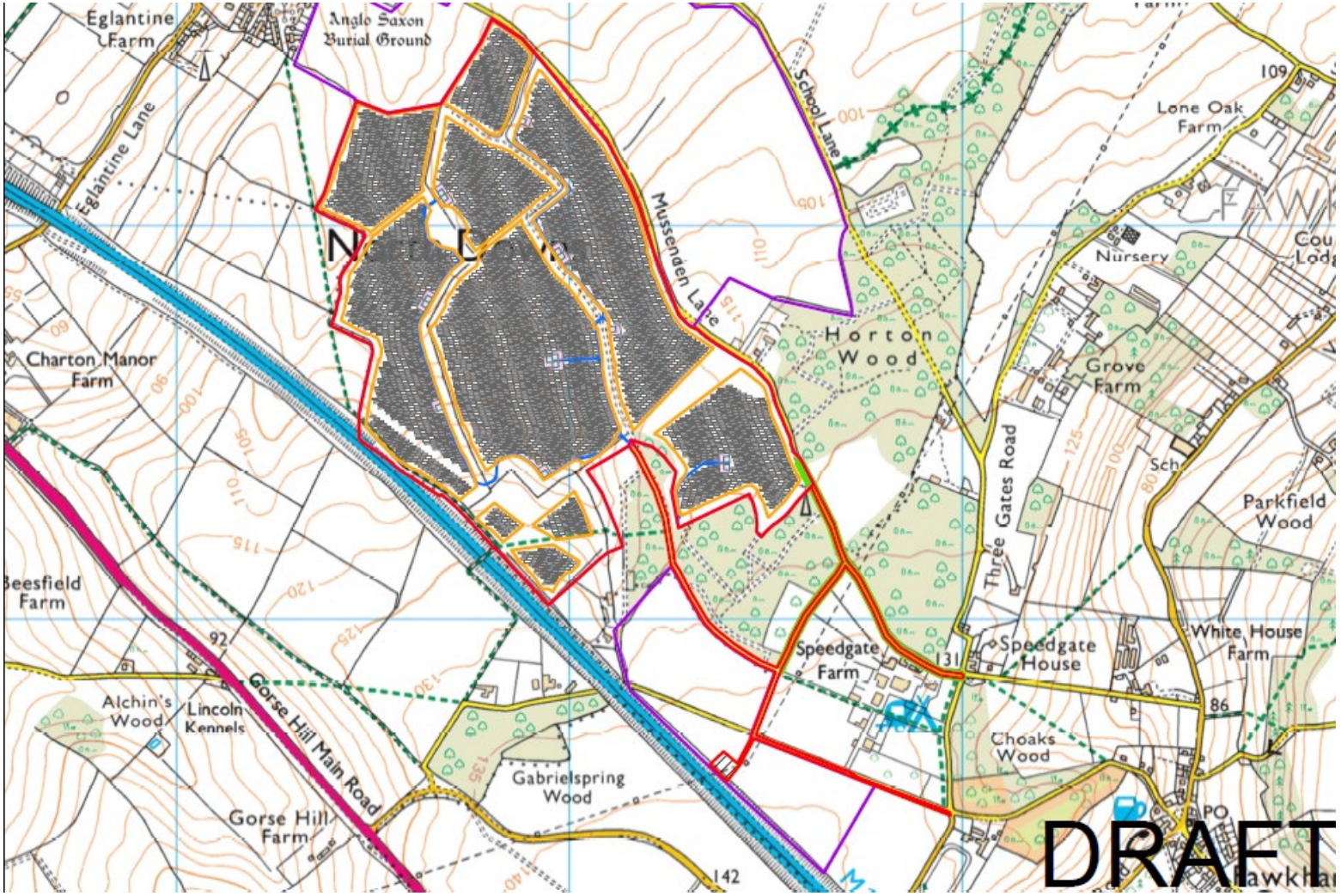


Image 3 Design Chill Layout

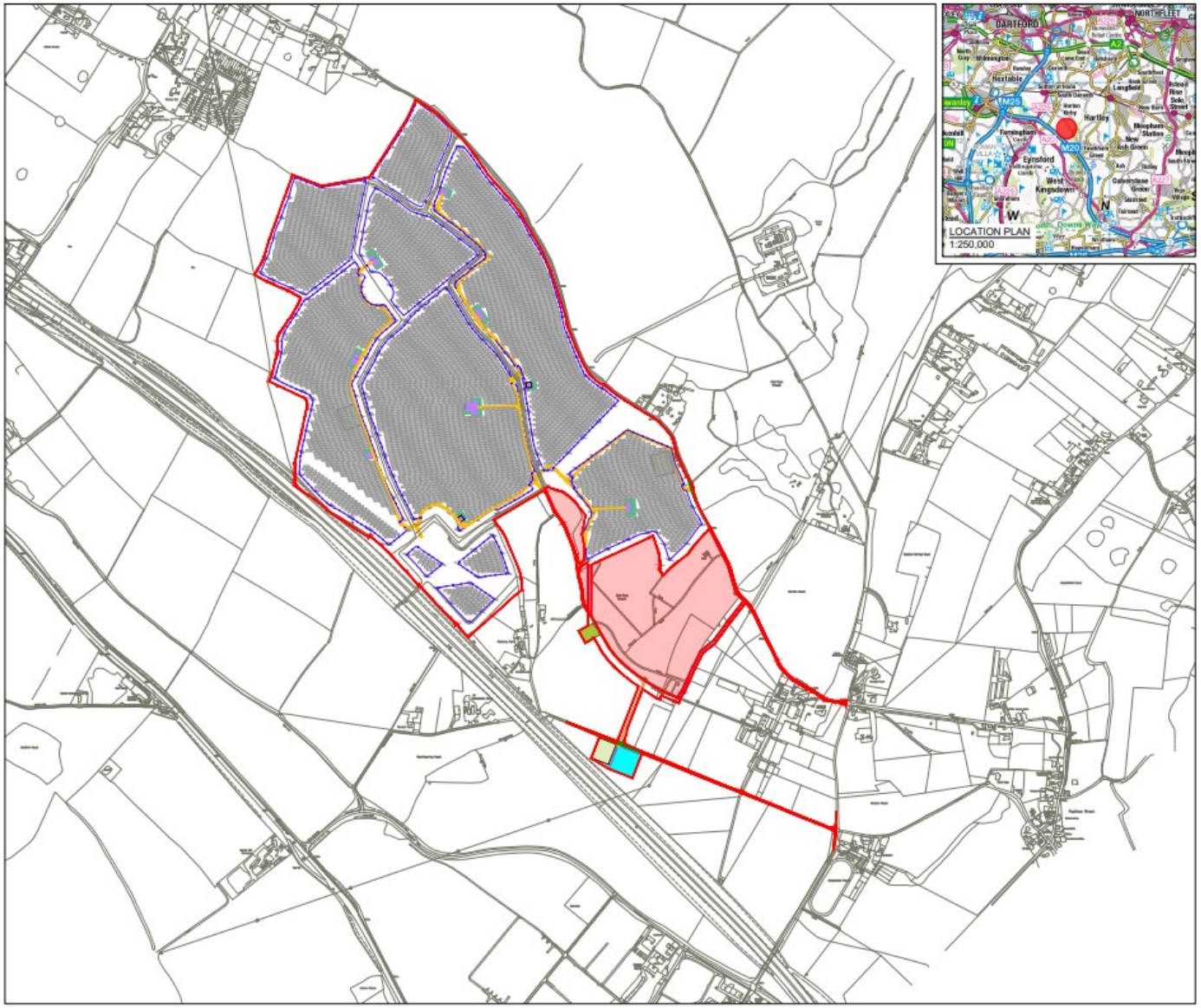


Image 4 Final Submitted Scheme

Scale

3.8. The scale of the development on site has been determined by the equipment necessary to efficiently and viably generate renewable energy. All of the plant buildings on site will be at or below single storey level (i.e approximately at or below 3m in height). When viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (i.e lack of movement and external illumination).

3.9. Each array of panels within the field will be mounted on a simple metal framework and have a maximum height of no more than 3.6m above existing ground level. The main purpose of the mounting structure is to hold the modules in the required position without undue stress. It is capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading.

3.10. The proposed ancillary buildings are designed to be as small as possible while still being capable of undertaking their required electrical function within the site. Such structures will not be prominent within the surroundings and will be smaller than many isolated stores and barns typically found in the countryside environment.

Biodiversity

3.11. The Environmental Enhancement Strategy sets out a number of biodiversity enhancements throughout the site. Habitat creation and enhancement measures within the site include:

3.12. The supporting Ecological Appraisal outlines the biodiversity net gains that can be achieved on site. The delivered net gain is significantly more than the required net gain of 10%. The total number of biodiversity units in the proposed layout post development are 415.31 units of area habitats and 105.24 units of hedgerow. This equates to a 45.15% net gain in area habitats and a 39.93% net gain in hedgerow habitats, as a result of the proposed development.

3.13. Appropriate offsets from existing features on site have been reflected within the design of the scheme. It is considered that necessary mitigation has been reflected in the scheme. Where necessary a Construction Environment Management Plan (CEMP) can be conditioned to any planning consent.

Landscape

3.14. The impact upon the local landscape has been given careful consideration in putting forward the proposed scheme. While a scheme of this size will inevitably be visible and have an effect on landscape character as set out in the Landscape and Visual Assessment (LVA) which forms part of the submission, the development has been located so to minimise effects as far as possible.

3.15. Landscape mitigation proposals, include the following where practicably possible:

- Offsetting from the existing field boundaries and hedgerow to avoid impact on the root protection areas. A minimum of 5m buffer has been incorporated to allow for maintenance.
- Management and enhancement of all existing field boundary hedgerows.
- Creation of over 4000m of new native hedgerow lengths, accompanied with new native tree planting along hedgerow lengths.
- Creation of 5m wide woodland buffer planting belt to north of proposals creates a strong, new landscaped edge.
- Physical offsets to be provided from the Public Rights of Way that cross the site, for example, PROW SD333 which crosses the southern section of the site, benefits from 11.5m corridor.

3.16. The site layout and landscape strategy plan (P22-1211_EN_0012 Rev A), illustrates that sections of the boundary vegetation will be infilled and strengthened including the planting of native tree species which would restrict any potential views from outside the site.

3.17. Further consideration of the landscape and visual effects is contained within the LVA.

Use

3.18. It is proposed that the use of the application site will be for the construction, operation and maintenance and decommissioning of a ground mounted 49.9MW solar farm, comprising solar PV panels and associated infrastructure.

3.19. The solar photovoltaic modules would convert sunlight into electricity. The modules do this by capturing photons, or particles of light, and using their energy to knock electrons free from their bonds, thus allowing them to move again and generate a flow of current. A solar PV module consists of a layer of silicon cells, and anodised aluminium frame, a glass casing, and various wiring to allow current to flow from the silicon cells. Silicon is a non-metal with conductive properties that allows it to absorb and convert sunlight into electricity. When light interacts with a silicon cell, it causes electrons to be set into motion, which initiates a flow of electric current.

3.20. The addition of battery storage units as part of the proposed development, is to help increase the flexibility and generation opportunities for Chimmens Solar Farm. It would enable excess generation from the solar farm to be stored, then released back to the grid network during times of no or low generation from the solar panels.

3.21. The proposed Solar Farm will result in an additional land use during the temporary 40-year period. Due to the nature of the development, such as the raised panels and separation distance between each row of panels, the land can be grazed by sheep, therefore allowing a dual use for both farming and renewable electricity production to occur in tandem. Due to the temporary and reversible nature of the development the agricultural use will also be retained in the long term.

3.22. As noted above, the site will be capable of dual use farming during its operational period, with small livestock (such as sheep) able to graze the land between and amongst the panels.

3.23. In addition, the minimal physical intrusion of the development itself will mean that the panels can be removed after their 40-year lifetime and the land will revert swiftly to full agricultural use. In this respect, the proposed scheme will result in a less permanent impact than most other forms of development, including some alternative methods of renewable energy production.

3.24. Due to the land required for such projects, these will generally need to be located outside of urban areas and within the countryside, where the capacity to accommodate such development exists. At end of the 40-year period the land is not considered 'Brownfield' or Previously Developed Land.

3.25. This Design and Access Statement, and the accompanying documents including the Site Alternatives Study set out why it is considered that this particular Site is well suited to accommodate the proposed use.

Amount and Fabrication

3.26. The extent of the proposed development has been refined and finalised having consideration of potential environmental effects. A thorough constraint analysis has been undertaken for the site and informed the final layout, the result of this constraint analysis at Appendix 4. The proposed development benefits from landscape and ecological enhancements, including new and in-filled hedgerow planting. New lengths of hedgerows along footpaths have also been proposed as well as accommodating the routes a Green Infrastructure Enhancement Corridor to benefit a range of wildlife including invertebrates and foraging bats as well as birds and small mammals. Species rich grassland is proposed on the land beneath and surrounding the panels. Furthermore, provision of bat roost boxes, bird nest boxes, ban owl boxes and habitat piles features within the development would ensure that the resident populations are accommodated, and further species move into the site.

3.27. The proposed development on the site will consist primarily of a steel framework to support the panels. In addition, inverter and battery storage units, substation, weld mesh fencing to the substation and deer fencing are proposed with CCTV system to restrict access and protect the scheme from theft and vandalism, as described below.

3.28. The design principles of the solar farm are:

- The solar panels would be laid out in straight arrays from east-west across the field enclosures.
- The maximum top height of the solar panels would be 3.6m. Full panel details are shown on the submitted Typical PV Module and Rack Details (Figure 8 - Drawing Number 05009-RES-SOL-DR-PT-001 Rev 2).
- The panel framework will be driven into the soil removing the need for deep foundation. Such supporting systems are reversible.

- Individual rows are separated by a minimum of 2m to prevent shading.
- The solar panel modules are bi-facial ground mounted solar photovoltaic (PV) panels which are black in colour.
- The solar panel module frame would be constructed of anodized aluminium alloy.
- A galvanised steel post mounting system will support the solar array.
- Centralised inverters are used and are situated across the site, as shown on the submitted Infrastructure Layout (Figure 4 - Drawing Number 05009-RES-LAY-DR-PT-003) and Typical Inverter Substation (Figure 13 – Drawing Number 05009-RES-SOL-DR-PT-003 Rev 1).
- 2 x battery storage containers each measuring 6m x 2.5m x 3m (length x width x height) are located at each inverter location (Figure 14 – Drawing Number 05009-RES-BAT-DR-PT-001 Rev 1).

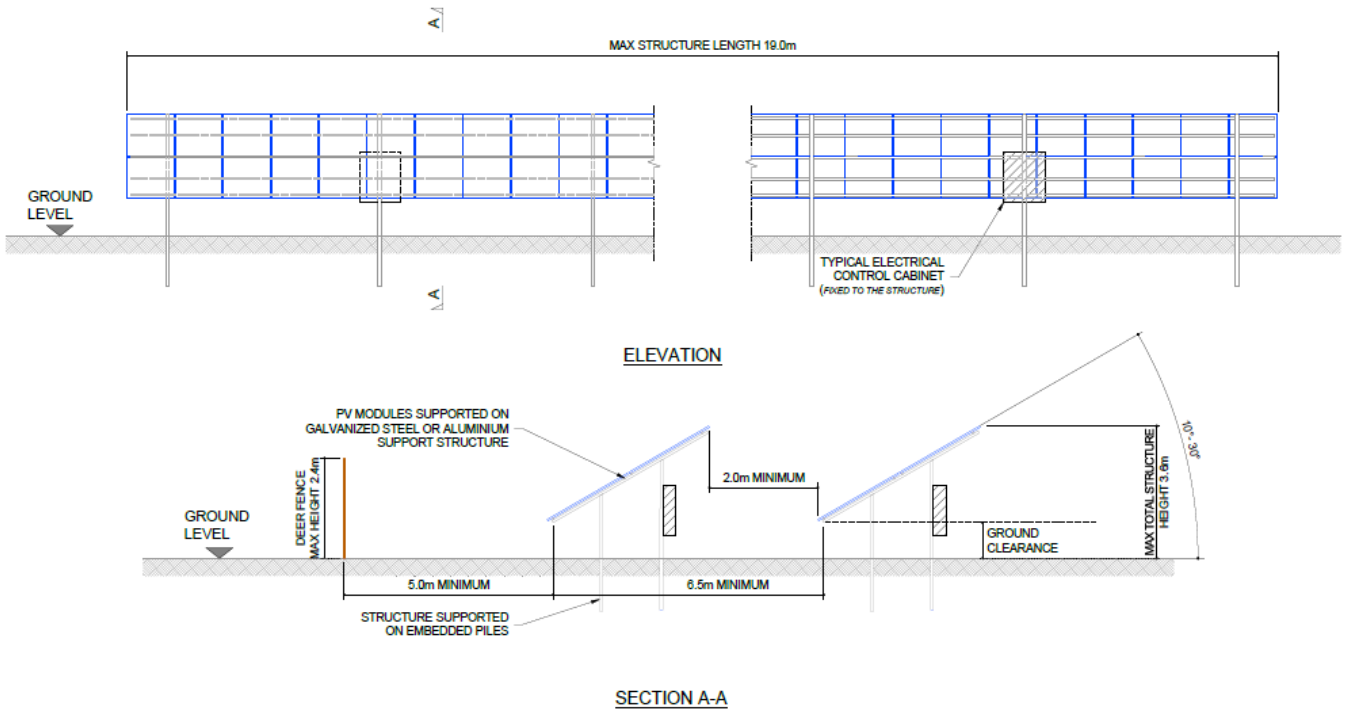


Image 4 – Typical panel detail

Inverters and Transformers

3.29. A series of inverters are proposed through the Site. The inverters convert direct current (DC) generated by the PV panels into alternating current (AC). Transformers then convert low voltage output from the inverters to high voltage suitable for feeding into the network.

3.30. Typically, the inverters are housed in prefabricated metal containers, finished in either a grey or green colour. The containerised solution makes their removal at the end of the operational life easier. Each unit measures c. 5m x 3m x 3m (L x W x H) and would be positioned on a hardcore based on top of blocks as detailed on the Typical Inverter Substation (Figure 13 – Drawing Number 05009-RES-SOL-DR-PT-001 Rev 1).

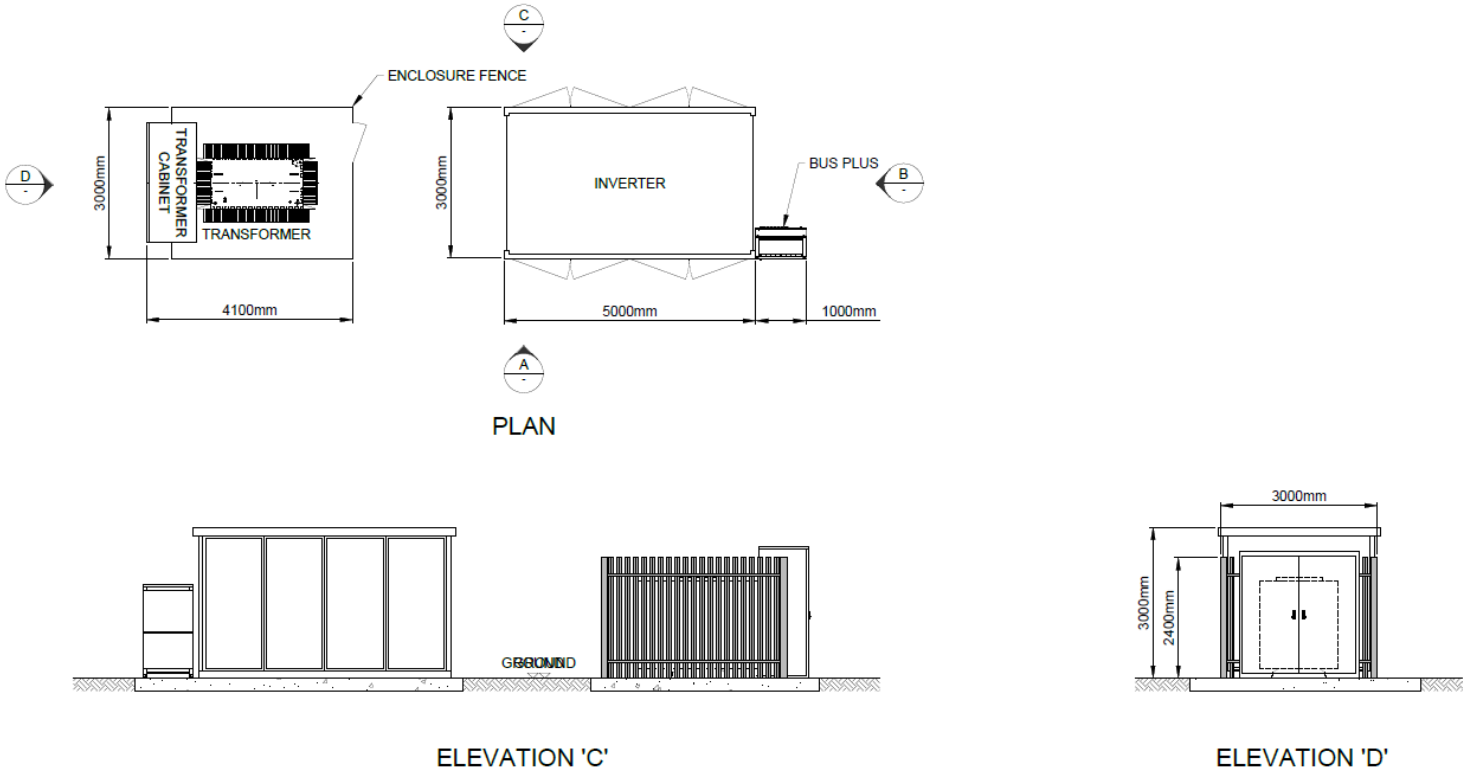


Image 6 – Inverter detail

Battery Storage Containers

3.31. It is proposed to include 2 x battery storage containers each measuring 6m x 2.5m x 3m (length x width x height) at each inverter location. Each inverter location will include the following equipment:

- Hardstanding (for set down);
- 1 x inverter which includes: inverter and busplus cabinet, and transformer. Each inverter is approx. 3m width x 5m length x 3m height;

- 4 x DC Converter cabinets; and
- 2 x battery storage containers (with HVAC) attached at the short end. Each container is approx. 2.5m width x 6.5m length x 3m height.

3.32. The battery containers are typically modified ISO-style shipping containers set on concrete foundations, with heating ventilation and air conditioning (HVAC) units. The containers are generally finished in a shade of white or grey.

3.33. The addition of battery storage units would enable excess generation from the solar farm to be stored, then released back to the grid network during times of no or low generation from the solar panels.

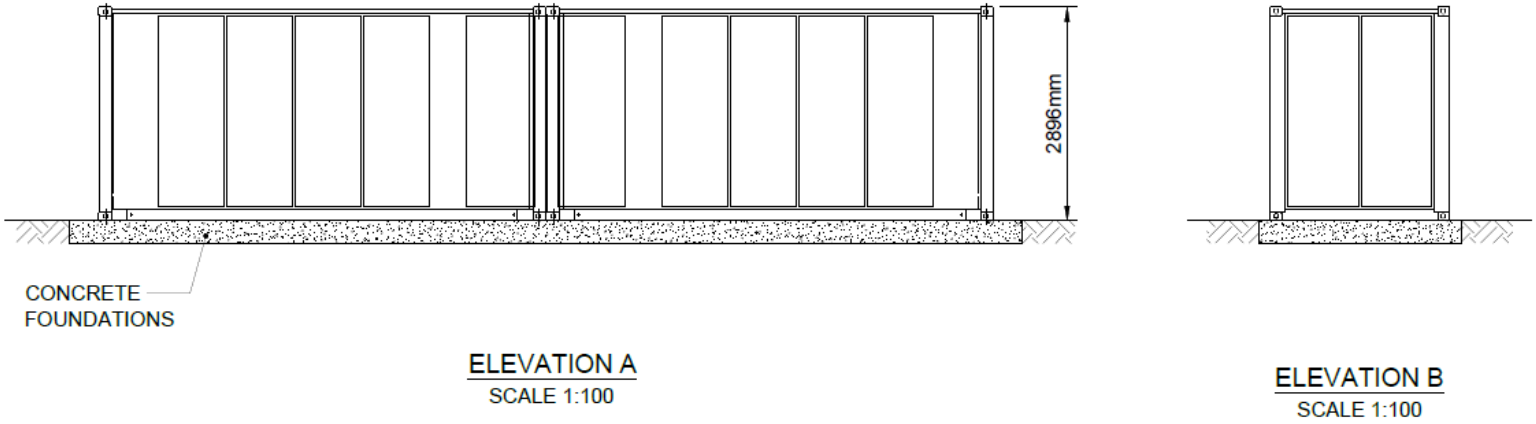


Image 7 – Battery Unit Elevations

Point of Connection

3.34. The point of connection is located to the southwest of the site. Cabling will run from the inverter stations to the substation, where the electricity will be run through the transformer and exported to the existing 132kV overhead line.

3.35. The insulated DC cables from the solar modules will be routed in channels fixed on the underside of the framework. The DC string cables will run along the entire underside of each row. The electrical cabling from each array will be concealed through shallow trenches linking the modules to the inverter substations and then to the main substation. The cable trench may also carry earthing and communications cables and will be backfilled with fine sands and excavated materials to the original ground level.

3.36. The indicative grid connection route for the electrical cabling work is detailed on submitted Figure 18 – Drawing Number 05009-RES-CBL-DR-PT-001 Rev 1. Outside of the Ancient Woodland the cables will be installed in a trench. Trenches will be excavated using a mini digger. Edge protection will be provided. Where necessary shoring will be provided. The bottom of trench will be levelled and well compacted. Excavated material will be stockpiled away from the excavation area for reuse. Sand bedding will be placed at bottom of trench prior to installation of cable ducts. Ducts will be laid over sand bedding, and sand layer shall be laid over ducts. Excavated soil will be backfilled above the cable duct/sand layers.

3.37. Where the cable is routed below the Ancient Woodland, horizontal directional drilling (HDD) will be applied at a depth of a minimum of 7.5m to avoid tree roots. A bund will be set up around the drilling machine to collect and store drilling mud for disposal. Drilling mud will be removed to a bunded temporary storage and containment area prior to removal and disposal at an approved and licenced waste facility. All necessary precautions will be taken to prevent any discharge into the environment. Any deviations from the drilling programme, or unplanned/unexpected events will signal a stop on the drilling activity.

Perimeter Fencing and Security

3.38. The solar farm would be set within deer fencing up to 2m in height with wooden supporting posts placed at intervals as detailed on the submitted Perimeter Deer Fence (Figure 10 – Drawing Number 05009-RES-SEC-DR-PT-002 Rev 1). The deer fencing would follow the outer field boundaries containing the solar panels. Small mammal access points will be prescribed at various locations along any fencing to allow the passage of wildlife across the site.

3.39. In addition to fencing, it is proposed that 3.5m high pole mounted CCTV security cameras as detailed on the submitted CCTV Typical Details (Figure 11 – Drawing Reference 05009-RES-SEC-DR-PT-003 Rev 1) would be positioned at intervals along the inside edge of the fencing (between the fence and the arrays), to capture activity within and along the fence line.

3.40. The 2m high perimeter fencing and pole-mounted CCTV system serves an important purpose in protecting the valuable equipment within the application site. The CCTV system proposed (as detailed on Figure 11) will be capable of recording clear images that will meet the standards as set out in the Home Office Publication 28/09 CCTV Operational Requirement Manual 2009 as well as the UK Police Requirement for Digital CCTV Systems 09/05.

3.41. At the substation, the fencing would comprise a 2.4m high wire mesh fence. This type of fencing has been selected as it is deemed to be less visually intrusive than a palisade fence. Full details of this fence are provided on Typical Security Fence Detail (Figure 9 – Drawing Number 05009-RES-SEC-DR-PT-001 Rev 2).

3.42. The distance between the proposed fencing and existing vegetation would vary across the site. For example, fencing is located 15m from Horton Wood and in other areas of the site, fencing is located 5m from existing hedgerow lengths.

Appearance

3.43. Visual effects of the proposed development have been assessed in the LVA. In addition to this existing vegetation, as part of the landscape enhancement proposals for the site, sections of existing hedgerow are to be strengthened to further restrict and prevent views of the proposed development. In the longer term, as a result of the mitigation planting, visual effects would be reduced. As it establishes, the layering effect of the vegetation will successfully integrate the proposed development into the landscape, particularly during the initial summer months.

3.44. The bi-facial solar panels themselves have a dark blue face with a matte silver-coloured anodized aluminium frame. The purpose of the panels is to absorb and not reflect light. Modern PV panels benefit from an anti-reflective coating to limit the glint and glare associated with much earlier versions of the technology. The panels are mounted on a steel or aluminium framework that is galvanized and does not glint or gleam in the light.

3.45. The appearance of the solar farm and the associated equipment are, in the most part, dictated by their electrical function and purpose.

Other Matters

Fire Risk and Management

3.46. It is proposed to use Lithium-ion battery technology which has already been deployed on multiple storage projects across the UK and in a wide range of other uses including electric vehicles to smartphones.

3.47. The fire risk associated with Lithium-ion battery technology is called "Thermal Runaway" which is a self-perpetuating chain reaction in which excessive heat keeps creating more heat, potentially resulting in fire. There is, however, significant control measures in place to reduce risk considerably. These include:

- Battery technology must pass an industry test standard (U L9540A) which ensures there is no likelihood of explosion, fire would be contained within the affected battery rack and wall surfaces around the affected battery rack would not reach temperatures 60 degrees above existing temperature.
- All RES-designed battery systems must also comply with a European Standard (IEC 62485-5:2020) containing tests to ensure no external fires are allowed outside of the affected battery rack.
- Fire suppression systems fitted on each battery container.
- 24/7 monitoring from an offsite control centre.
- Battery enclosures would have a fire rating of a minimum of 90 minutes.

- Any battery failures are repaired offsite with a new sealed module to replace the faulty module.
- A fire management response plan will be prepared in conjunction with the battery supplier and the local Fire Service, if the scheme is consented.

4. ACCESS

4.1. Construction access will be provided on Gabriel Spring Road East via a simple priority junction. It is proposed that all construction traffic would route to the site from the M20 and the M25 to the Swanley Interchange Junction before heading east towards Brands Hatch and West Kingston. Once on Gabriel Spring Road East, the Primary Construction Route will route across the field to the north via a temporary road before joining existing tracks and proceeding west towards the site.

4.2. It is proposed that holding areas within the site and a delivery management plan will be utilised to prevent construction vehicles from meeting on Gabriel Spring Road East and with a view to minimising vegetation removal where possible. The use of the temporary construction access from Gabriel Spring Road (East) will be stopped following the construction period.

4.3. The components which are required to construct the scheme will arrive on Heavy Good Vehicles (HGVs). The level of traffic during the temporary construction period would equate to approximately 40 two-way movements per day. The construction route is suitable to accommodate larger vehicle trips.

4.4. A maximum of up to 25 construction operatives are forecast to be onsite during peak times of the construction period. A temporary car parking area will be provided on the site within the contractor's compound. Parking will therefore be contained within the site and no parking will occur on the local highway.

4.5. A detailed Constriction Traffic Management Plan (CTMP) has been prepared to demonstrate how the site will be accessed during the construction period.

4.6. Operational access for the purpose of maintenance visits will be provided via an existing agricultural access off Mussenden Lane to the north of the site to the solar farm and via Gabriel Spring Road East to the substation.

4.7. After commissioning, there is anticipated to be around 15 Light Goods Vehicles (LGVs) accessing the site per year, equating to 30 two-way trips. These would typically be made by a light van or 4x4 type vehicle. Whilst the contractor's compound will have been removed, space will remain within the site for such a vehicle to turn around to ensure that reversing will not occur onto the local highway network.

5. SUMMARY AND CONCLUSIONS

5.1. The Design and Access arrangements of the proposed development have been assessed. It is considered that due to the appearance of the scheme and the natural screening afforded to the site alongside the landscape and ecological enhancements proposed, the development proposals will not have an unacceptable adverse effect on the visual amenity value of the wider countryside.

5.2. The site and extent of development have been carefully selected. It is naturally screened and supplemented by additional planting which will result in only limited view of the site being possible. Landscape considerations are outlined within the submitted Landscape and Visual Assessment.

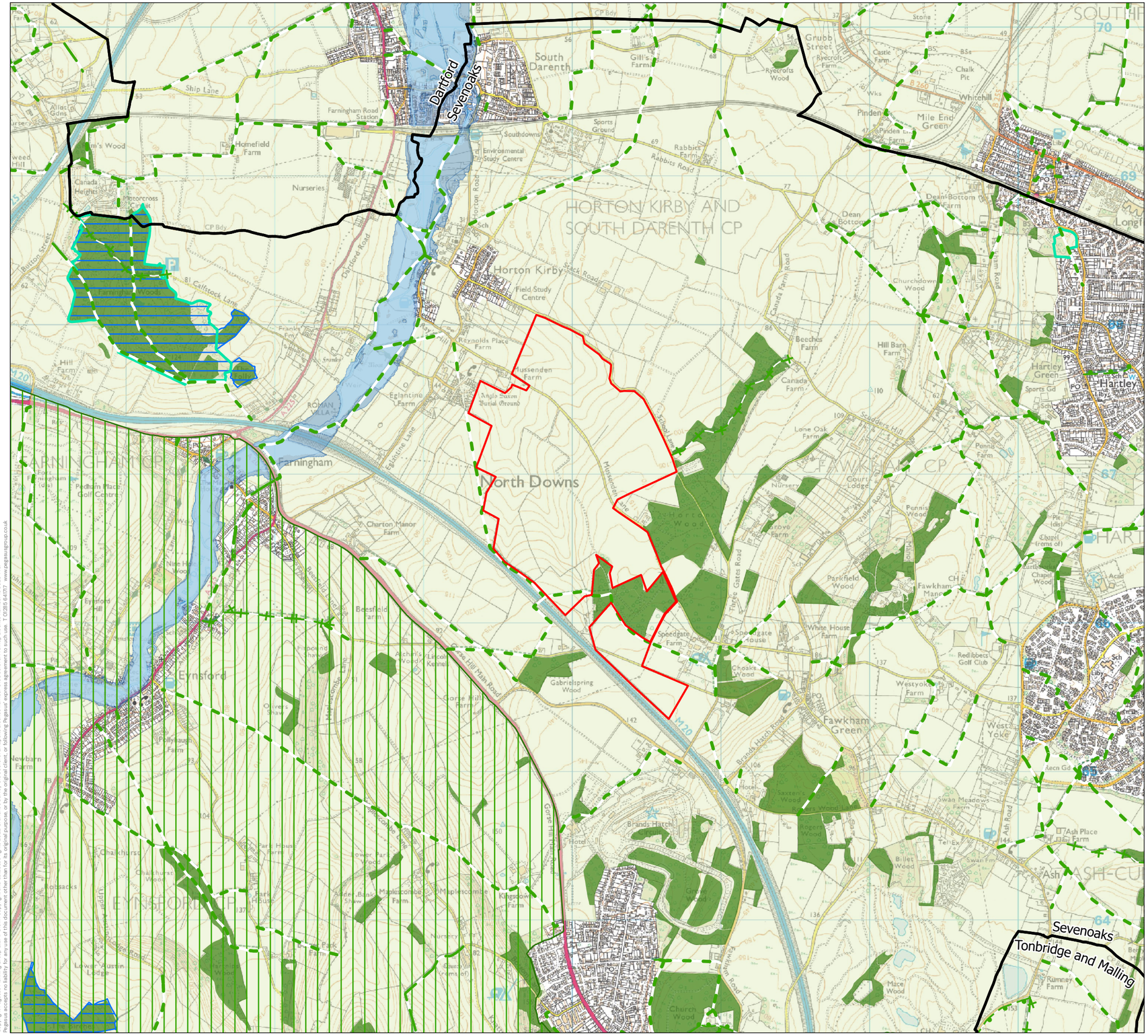
5.3. The equipment forming the development proposals have been selected on the basis of maximising efficiency and productivity, but also to minimise visual effect where possible.

5.4. Safe access can be taken into the site from the public highway off the Gabriel Spring Road East and Mussenden Lane on existing access roads established to the site, those to be implemented on a temporary basis will be removed following the conclusion of the construction phase. Mitigation measures will be employed to ensure construction traffic is managed appropriately as outlined within the submitted Construction Traffic Management Plan.

5.5. Overall, the proposals are appropriate in terms of design and access and the development represents a necessary step towards meeting the UK's legally binding climate change and renewable energy obligations. It is therefore considered that the application before Sevenoaks Council is to be supported and Planning Permission granted.

Appendices

Appendix 1 – Environmental Designations



KEY

- Site Boundary
- District Boundary
- Public Footpaths
- Public Bridleways
- Restricted Byway
- Public Byway open to all traffic
- CRoW Access Land
- Areas of Outstanding Natural Beauty
- Local Nature Reserves
- Sites of Special Scientific Interest
- Ancient Woodland
- Green Belt
- EA Flood Zone 3
- EA Flood Zone 2

NOTES:
REVISIONS:

Figure 3: Environmental Designation Plan

Land at Speedgate Farm

CLIENT			
RES Ltd.			
DATE	DRAWN	APPROVED	SCALE
15/12/2022	NC	ER	1:25,000@A3
SHEET	REVISION	DRAWING NUMBER	
-	-	P22-1221_EN_04	

N 0 1 km

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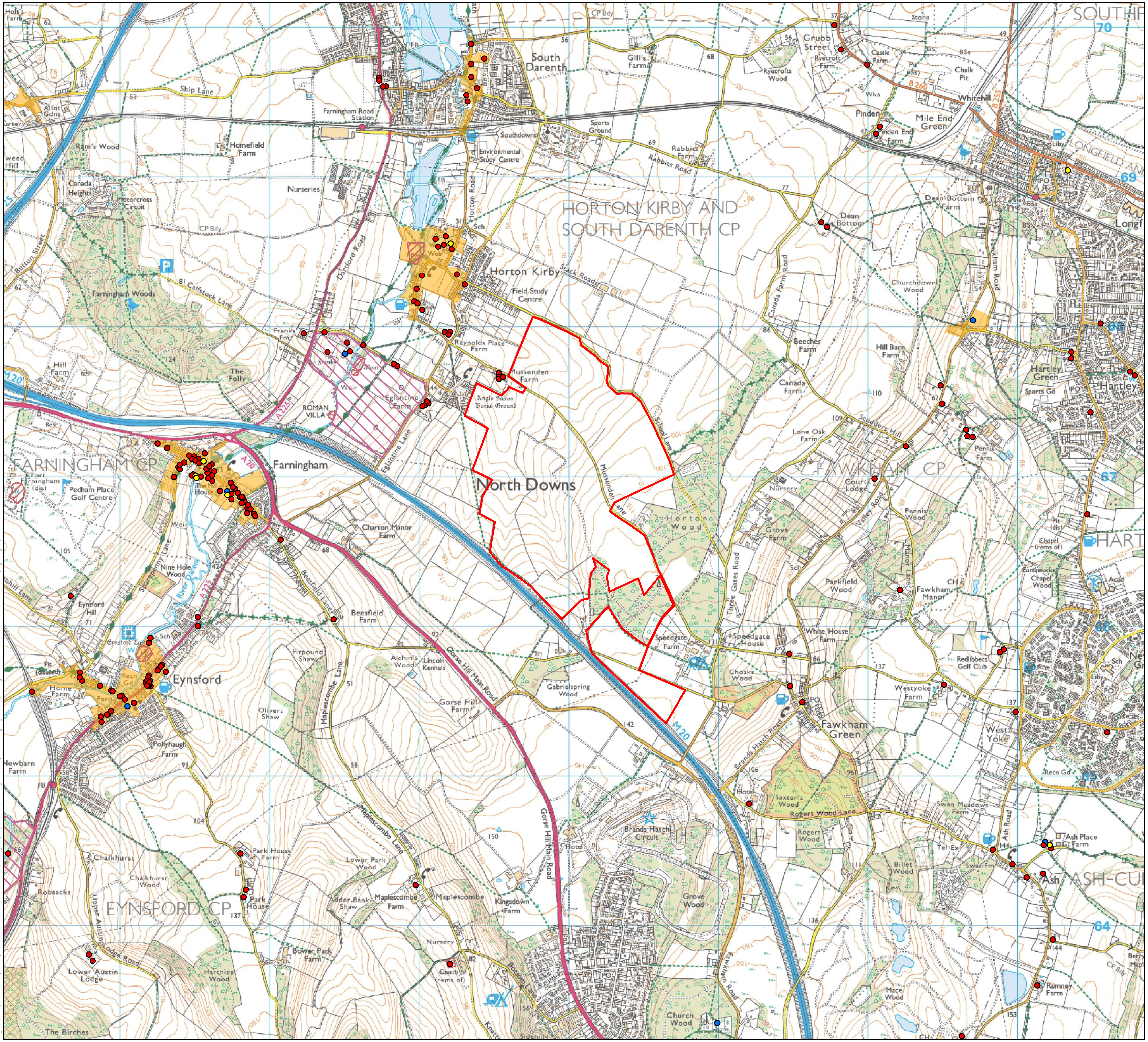
Appendix 2 – Designated Heritage Assets



KEY

Site Boundary

Listed Building Grade

- I
- II*
- II

Country Parks

Registered Parks and Gardens

Scheduled Monuments

Conservation Area

NOTES:
REVISIONS:

Figure 2: Designated Heritage Assets

Land at Speedgate Farm

CLIENT
RES Ltd.

DATE	DRAWN	APPROVED	SCALE
15/12/2022	NC	ER	1:25,000@A3

SHEET	REVISION	DRAWING NUMBER
-	-	P22-1221_EN_03

N

0 1 km

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Appendix 3 – Field Boundary/Numbers Plan

Site Boundary

Landowner Boundary

1	IB	16/10/23	PM	16/10/23	FIRST ISSUE
ISSUE	DRAWN	DATE	APPD	DATE	REVISION NOTES

LAYOUT DWG: N/A

LAYOUT NO.: N/A

DRAWING NUMBER: 05009-RES-MAP-DR-PT-003

COORDS: British National Grid

PURPOSE: PERMITTING

SCALE: 1:10,500

ORIGINAL PLOT SIZE: A3

PROJECT TITLE: CHIMMENS SOLAR FARM

DRAWING TITLE: FIGURE 3

BEAUFORT COURT
EGG FARM LANE
KINGS LANGLEY
HERTFORDSHIRE
WD4 8LR
TEL +44 (0) 1923 299200

Appendix 4 – Initial Constraint Analysis

KEY

- Site Boundary
- 250m Site Buffer

Constraint Layers

- Poles Towers (132kV)
- HV Substation
- Overhead Lines
- Gas Pipe (12pt2m)
- Field Ditch (3m Easement)
- Tree Protection Order
- Public Right of Way
- Slope Over 10 Degrees
- Risk of Surface Water Flooding Depths (1 in 1000 year)
- Ancient Woodland 15m Buffer
- [redacted]
- [redacted]
- [redacted]
- Baseline Habitats
- Baseline Hedgerow
- Baseline Hedgerow 5m Buffer
- Woodland 15m Buffer
- AS geo_int_ferr
- AS geo_int_pipe_e
- AS geo_int_uncertain
- AS geo_int_agri
- AS geo_int_mag dist
- AS geo_int_green waste
- AS geo_int_poss
- AS geo_int_arch
- AS geo extents

Agricultural Land Classification

- Grade 2
- Grade 3a
- Grade 3b

Tree Survey

- Trees
- Tree RPAs
- Hedgerow RPAs
- Woodland RPAs
- Hedgerow Extents 5m Buffer
- Woodland Extents 10m Buffer

CONSTRAINT ANALYSIS

Chimmens Solar Farm

CLIENT
RES Ltd.

DATE	DRAWN	APPROVED	SCALE
18/07/2023	EH	ER	1:10,000@A3

SHEET	REVISION	DRAWING NUMBER
-	**B**	P22-1221_EN_05

N 0 0.4 km

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Town & Country Planning Act 1990 (as amended)
Planning and Compulsory Purchase Act 2004

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