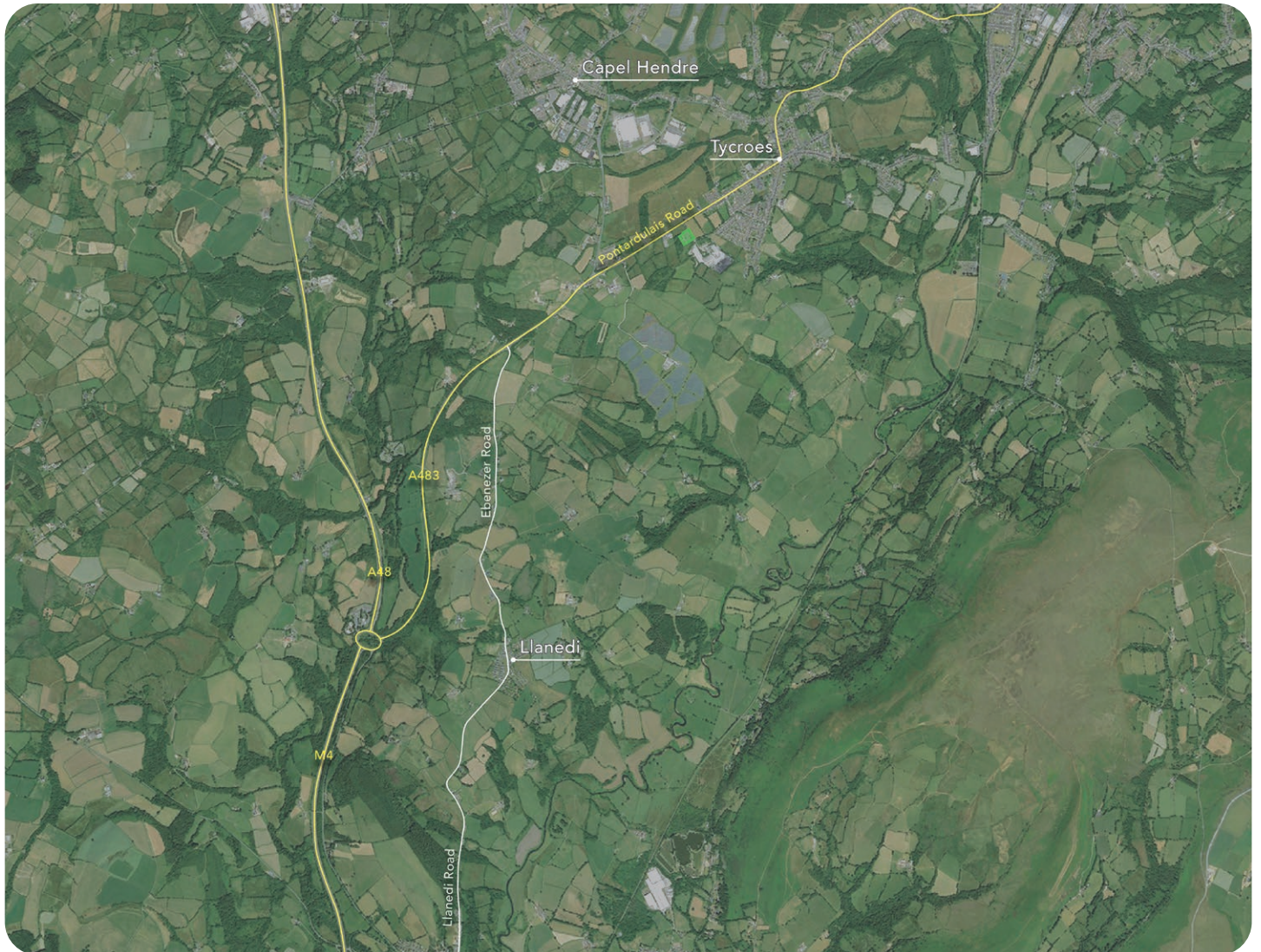


# Brynrhyd Solar Farm



Environmental Statement

Non-Technical Summary

APPLICATION SUBMISSION

SEPTEMBER 2021

**Pegasus**  
Group



# **BRYNRHYD SOLAR FARM**

## **ENVIRONMENTAL STATEMENT**

### **NON-TECHNICAL SUMMARY**

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**PLANNING** | **DESIGN** | **ENVIRONMENT** | **ECONOMICS**

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APPENDIX 1:	SITE LOCATION PLAN
APPENDIX 2	PROPOSED LAYOUT

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## **1. INTRODUCTION**

- 1.1 This Environmental Statement Non-Technical Summary has been coordinated by Pegasus Group on behalf of Brynrhyd Solar Farm UK Ltd [the applicant and developer] and forms part of a suite of documents supporting a planning application for development of national significance for the construction, operation, management and subsequent decommission of a solar farm at land at and surrounding Bryn-y-Rhyd Farm, near Llanedi, Carmarthenshire, Wales, SA18 3PL
- 1.2 The main element of the scheme is the installation of ground mounted solar panels. There will also be electrical connection infrastructure and the point of connection into the local electricity grid is located to the north of the site at Western Power Distribution Ammanford Primary substation which is located to the south of Ty Croes. By virtue of its potential export capacity, which stands at 30MW, this project constitutes a Development of National Significance ["DNS"]. Therefore, instead of applying to the Local Planning Authority for Planning Permission, the application must be made to the Welsh Government for determination.
- 1.3 On 2 October 2020, the applicant submitted to the Planning Inspectorate a request, made under regulation 31(1) of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended) ["the Regulations"], for the Welsh Ministers to make a screening direction as to whether or not the development proposed is "EIA Development" within the meaning of the Regulations. On 4 November 2020, the Planning Inspectorate released its screening direction which deemed the development to be EIA development. The assessment concluded that *"The proposed solar farm is in an area where there may be cumulative impacts with other solar developments. There are also sensitive ecological receptors within the site and in the area. The information provided in the Screening Request shows that the north western fields within the site contain priority habitat, i.e. species rich grassland which may support marsh fritillary butterfly, breeding skylark and meadow pipit. The evidence before me shows that further investigation is required and on balance, I find that there are likely significant effects in regards to cumulative landscape and visual impacts and ecology. Having carefully considered the screening request and the consultation responses, I find that this proposal is EIA development."*

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## **What is Environmental Impact Assessment (EIA) and Environmental Statement**

- 1.4 An Environmental Statement is a document that sets out the findings of an Environmental Impact Assessment [“EIA”]. An EIA is a process for identifying the likely significance of environmental effects (beneficial or adverse) arising from a Proposed Development, by comparing the existing environmental conditions prior to development (the baseline) with the environmental conditions during/following the construction, operational and decommissioning phases of a development should it proceed. The EIA has been carried out prior to the submission of a planning application.
- 1.5 The statutory requirements for carrying out an EIA, the contents of the Environmental Statement and the procedures for determining planning applications for ‘EIA Development’ are set out within the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. In order to determine the extent, or ‘scope’, of issues to be considered in the assessment and reported in the Environmental Statement, the Planning Inspectorate was asked for its formal opinion on the scope of the information to be provided in the Environmental Statement. The Environmental Statement has been prepared in line with the scoping direction.
- 1.6 This NTS covers all disciplines assessed in the Environmental Statement. The Environmental Impact Assessment upon which it has been based has been undertaken by Pegasus Group (coordination of EIA, general and miscellaneous Environmental Statement chapters, landscape and visual, socio economic, and heritage and archaeology); Clarkson & Woods Ecological Consultants (ecology); Integral (ground conditions); and Ion Acoustics (noise and vibration).

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## **2. DEVELOPMENT SITE**

- 2.1 The development site is centrally located on land at Bryn-y-rhyd Farm, Llanedi, Pontarddulais. The site is positioned within undulating pastoral farmland in the surroundings of Bryn-y-rhyd Farm, Bryn Awel Farm, Tirgwaid and Gelli Organ Farm on the western slopes of the Llŵchwr/Loughor valley between the settlements of Tycroes and Llaendi. The cable route for the development travels along with the local road network to the northeast and connects to a point of connection on the southern edge of Tycroes within the existing DNO substation.
- 2.2 The development site is divided by a rural lane, Heol Troeon Bach, which extends between Tycroes and Llaendi on the middle slopes of the valley between the existing Clawdddu Solar Farm, Penrhiw Cottage, the Old School Yard, Gelli Organ Farm, Sychnant Farm, Pentre-Hardd and Llanedi. The site to the east of the rural lane extends downslope towards Erw-wastad-fawr Farm in the lower valley.
- 2.3 Field boundaries within the site are formed of well-established hedgerow vegetation which frequently includes hedgerow trees. The eastern boundary of the near Erw-wastad fawr Farm is contained by a dense meandering tree belt, which continues around the periphery of the site as it passes by the farm. Beyond the southern boundary of the site, a length of Ancient Woodland stretches between Erw-wastad-fawr Farm, past Blaen-Cwn-Bychan finishing near Tirgwald.
- 2.4 Clawdd du Farm, an operational solar development is located approximately 0.18km to the northeast of the application site at its closest point. Llŵchwr Valley Special Landscape Area (SLA) covers part of the site.

### **3. DEVELOPMENT PROPOSAL**

3.1 The main element of the proposal is the installation of a ground mounted solar park with a maximum export capacity of 30MW. An operational lifespan of 40 years would be sought linked to the first export date from the development. The development proposal can be split into four key components, these are: -

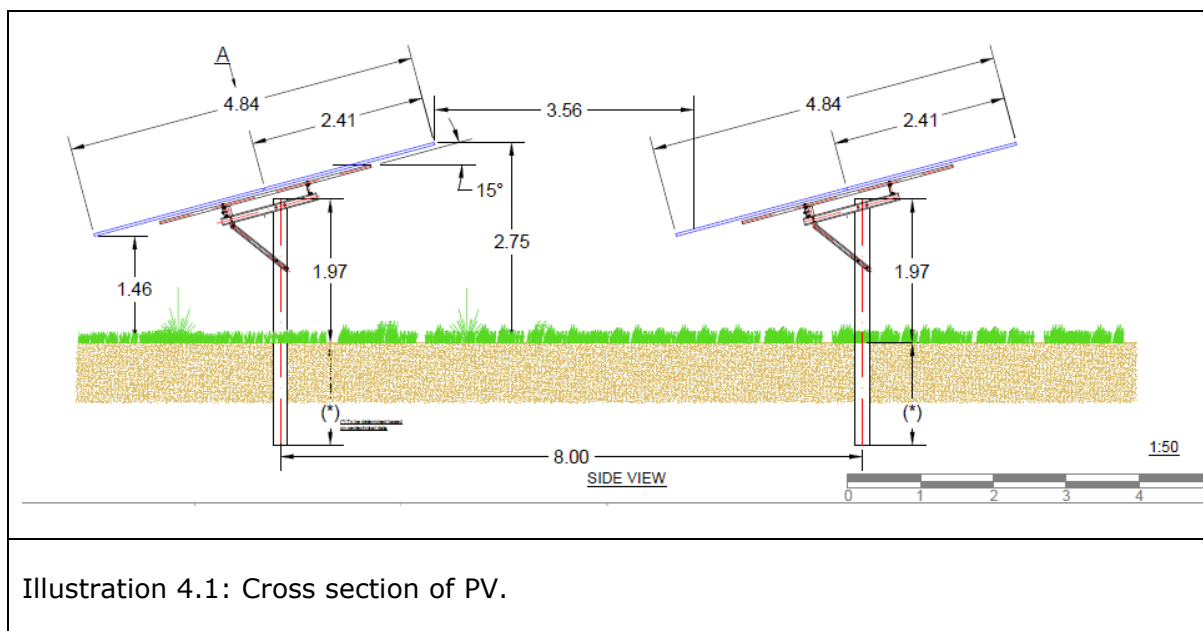
- Ground mounted solar photovoltaic arrays
- Ecological and Biodiversity Management Strategy
- Substation Compound and Cable Route
- Temporary Construction Compound

#### **Ground Mounted Solar Photovoltaic Arrays**

3.2 The design principles of the solar modules are: -

- The maximum top height of the solar panels fixed onto the framework would be 3.0m.
- The minimum height of the lowest part of the framework will be 0.7m.
- All modules will be south facing.
- PV modules would be dark blue, grey or black in colour.
- PV module frame would be constructed of anodized aluminium alloy.
- Indicative slope of solar PV from horizontal would be 15 degrees.
- Internal access track of permeable construction.
- Typical minimum distance between edge of panels and the 2m high perimeter stock fencing would be 2m.
- A galvanised steel post mounting system will support the PV module frame which in turn supports the PV modules.
- Biodiversity would be promoted around and under the arrays.
- CCTV positioned along the perimeter of the solar arrays on 3m high poles.

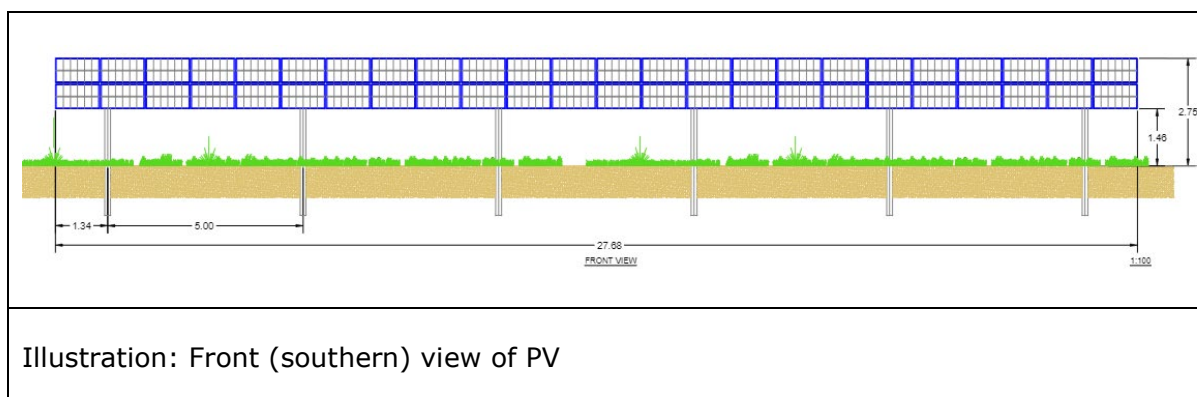
- 3.3 The solar PV modules would convert solar irradiance into direct current (DC) electricity. A solar PV module consists of a layer of silicon cells, an anodised aluminium frame, a glass casing, and various wiring to allow current to flow from the silicon cells. Silicon is a non-metal with conductive properties that allow 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<sup>1</sup>. The photovoltaic modules would be mounted on south facing aluminium metal racks. The racks will be laid out in multiple parallel rows running east to west across the various field enclosures. The framework and arrays would be static. The distance between the arrays would respond to topography but would typically be from 3.56m. Land between and beneath the panels would be used for biodiversity enhancements and seasonal sheep grazing.
- 3.4 The top north edges of the panels would be up to 3.0 metres above ground level and the lower edges of the panels would be approximately 1.40m metres above ground level. The candidate's design shows a panel top height of 2.75m. The indicative slope of the solar PV modules from horizontal would be c. 15 degrees.



<sup>1</sup> It was first discovered in 1839 by Edmond Becquerel and can be generally thought of as a characteristic of certain materials (known as semiconductors) that allows them to generate an electric current when exposed to sunlight.



3.5 The mounting system will be supported at intervals by single mounted posts set approximately 5m apart. The posts will be driven into the ground with a small plant rig by impaction to depths between 1m to 2m and this will be guided by localised ground conditions.



### **Ecology & biodiversity**

3.6 The development proposal is an example of a development which presents considerable opportunity for landscape and biodiversity mitigation and enhancement. The Landscape and Biodiversity proposal are discussed in detail in the supporting Outline Landscape and Ecological Management Plan. The objectives are: -

- To create new grassland habitats through seeding existing arable land with of locally appropriate native species
- Hedgerow planting
- To manage the grassland to establish a diverse sward beneath the solar panel arrays
- To manage grassland outside the array for wildlife
- To manage areas to provide suitable conditions for arable flora
- To manage hedgerows to provide habitat for a range of species
- To manage aquatic habitats as necessary
- To provide sheltering features around the site for nearby populations of bats, birds and other notable faunal species

- To assess the need and implement any additional planting required along the outer edge of the development resulting from any significant felling of woodland located outside the boundary of the site.
- To monitor the site and assess the success of management and adherence to the prescribed management.

### **Substation Compound**

- 3.7 A new substation compound will be required for the development and this will be constructed at the start of the development. The function of the substation will be to take power from the solar arrays and then run this along an underground cable into the Ammanford substation, which is located along Heol Ddu, south of Ty Croes.
- 3.8 The substation yard would comprise a gated compound with a WPD switchroom, a meter room and a single communications tower. Two alternative options for the communication tower are presented in the application, namely a 25m lattice tower or a 15m lattice tower. The final tower selection will be informed by WPD's operational requirements. A third option is the provision of an underground communications cable which may be utilised in place of the tower arrangement. Under normal conditions the development would be unmanned. Visual checks will be undertaken on a monthly inspection visit to the development. Whilst external lighting will be installed at the substation for emergency work during hours of darkness, the substation will not normally be lit. The cable trench would be dug entirely along and within the local roads that connect the site to Ammanford Primary Substation, if required the trench would also include the communications cable. The development includes the cable run up-to the existing primary substation, the final connection works within the primary substation would be undertaken by Western Power Distribution.

### **Temporary Construction and Decommissioning Compound**

- 3.9 Construction of Brynrhyd Solar farm is expected to be carried out in a single phase of development. Prior to commencement of development, a Construction Environmental Management Plan, a Landscape Ecological Management Plan and a detailed Construction Traffic Management Plan, which builds upon the Outline CEMP, the Outline LEMP and CTMP, would be submitted to and approved by the Local Planning Authority and this would be secured by condition.

- 3.10 The construction period would be approximately 6 months and around 844 vehicle movements would be required to deliver the necessary plant and machinery to site. For a 6 month construction period this would equate to circa 5 deliveries per day by the largest vehicle, a 15.4 meter articulated.
- 3.11 Construction activities will be carried out Monday to Friday 07:00-20:00 and between 08:00 and 13:30 on Saturdays. Deliveries to the construction compound will be outside of the traditional weekday peak hours at all accesses. Deliveries will be made between 10:00-16:00 and 18:00-20:00 Monday to Friday, with Saturday deliveries between 10:00-13:00.
- 3.12 During the construction phase (or phases) one main construction compound will serve the development and this will be located off the main site entrance, thus reducing the distance delivery vehicles will need to travel after reaching the site's entrance.

### **Operational Lifespan**

- 3.13 The development would export renewable energy to the grid for a minimum of 40 years.

### **Renewable Energy and Carbon Displacement**

- 3.14 The solar farm would generate clean renewable energy for the equivalent of around 10,600 homes a year. The anticipated CO<sub>2</sub> displacement is around 15,000 tonnes per annum.

### **Access**

- 3.15 It is proposed that the main vehicular access to the site will be via the existing junction served from the B4297 Ebenezer Road, which is located to the northwest of the site. The junction serves access to an access track which routes into the site. A secondary access to the eastern portion of the site is proposed off Heol Troeon Bach via an existing farm access.
- 3.16 The existing junction currently provides access to Bryn-y-Rhyd Farm for large agricultural vehicles. It is therefore considered to be appropriate to be used on a temporary basis by HGVs associated with the construction of the solar farm.

3.17 Access to the eastern portion of the site is proposed through the western portion of the solar farm, exiting on Heol Troeon Bach via an upgraded gated farm access in the north-eastern corner of the western portion of the site. Construction vehicles would travel along Heol Troeon Bach for circa 115m, turning right into the existing farm access junction which serves Gelli Organ Farm. The existing junction currently provides access to Gelli Organ Farm for large agricultural vehicles. It is therefore considered to be appropriate to be used on a temporary basis by HGVs associated with the construction of the solar farm. In order to accommodate the largest construction vehicles associated with the proposed development, improvements will be required to alter the existing access junction.

### **Routing**

3.18 Heavy Goods Vehicles will access the site from the B4297 Ebenezer Road. The designated route for all traffic associated with construction of the solar farm is via the M4/A48 Junction 49/ A482 gyratory roundabout west of the site, the A48 B4297 Ebenezer Road and the access track. Vehicles exiting the site will route north from the site access, routing along the B4297 Ebenezer Road and utilising the left turn westbound slip road onto the A483, where the vehicles will be routed back to the M4/A48 Junction 49/ A482 gyratory roundabout.

### **Biodiversity Enhancements**

3.19 Land between and beneath the panels would be used for biodiversity enhancements and seasonal sheep grazing. Tree planting would be introduced to bolster screening.

3.20 The application proposal would also include a package of landscape, ecological and biodiversity benefits that could include the installation of bird nesting boxes, bee hives, log piles and other hibernacula such as small buried rubble piles suitable for reptile species, amphibians and insect life.

### **Site Selection**

3.21 One of the biggest constraints which has to be considered when developing renewable led energy scheme is gaining a viable point of access to the utilities network. Gaining grid connection is very difficult and problematic and for energy proposals sourcing a site with viable grid connection is a reasonable constraint to take into account. Increasingly, electrical connections are being forced back to

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substations and Bulk Supply Points as the amount of renewable generation connected within the electrical lines has grown. The proposed development will be served by an electrical connection to the existing Western Power Distribution's Ammanford Substation located to the north of the main site. The developer has accepted the grid offer from Western Power Distribution and secured the 30MW export capacity required for a project of this size. The grid offer accepted can only be used for the Brynrhyd development and cannot be transferred to any other site, as this would be deemed by the District Network Operator as a significant alteration to the original application. Accordingly, all energy scheme searches start with grid proximity and capacity availability with the incumbent, as this determines where a development can connect to the electricity grid.

### **Alternatives**

- 3.22 In terms of comparative alternatives when considering agricultural land take, the production of energy from solar panels is far more efficient than alternative forms of energy production gained from cropping the land.

#### **4. CLIMATE CHANGE, ENERGY, PLANNING POLICY & GUIDANCE**

- 4.1 The explicit need to introduce a step change in how the country deals with the climate change has been recognised by the UK Government who, on 1 May 2019, declared an Environmental and Climate Change Emergency. This was following the finding of the Inter-governmental Panel on Climate Change that to avoid more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050. Through the declaration, the Government recognises a need to move swiftly to capture economic opportunities and green jobs in the low carbon economy while managing risks for workers and communities currently reliant on carbon intensive sectors. The Welsh Government made its climate change declaration in April 2019, the declaration sends a clear signal that the Welsh Government will not allow the process of leaving the EU to detract from the challenge of climate change, which threatens our health, economy, infrastructure and our natural environment.
- 4.2 The Climate Change Act 2008 (2050 Target Amendment) Order 2019, SI 2019/1056 (the order), came into force on 27 June 2019 and amended the legally binding target to reduce greenhouse gas (GHG) emissions set in section 1 of the Climate Change Act 2008 (CCA 2008) from 80% to 100%, or net zero.
- 4.3 On 12 June 2019, as a direct response to the Climate Change Emergency Declaration, the Prime Minister announced that the UK will eradicate its net contribution to climate change by 2050 and The Secretary of State for Business, Energy and Industrial Strategy, MP Greg Clark, tabled the draft affirmative statutory instrument to implement the changes, the Draft Climate Change Act 2008 (2050 target Amendment) Order 2019. The amendment in the Order changes the minimum percentage by which the net UK carbon account for the year 2050 must be lower than the 1990 baseline and is increased from 80% to 100%.
- 4.4 At a local level, Carmarthenshire County Council made its own Climate Change Emergency Declaration during its full council meeting on 20 February 2019.

#### **Future Wales - The National Plan 2040**

- 4.5 In September 2020 the Minister for Housing and Local Government laid the draft National Development Framework in the Senedd for a 60-day scrutiny period. Page 47 of the document identifies how "Wales can become a world leader in renewable energy technologies. Our wind and tidal resources, our potential for solar

generation, our support for both large and community scaled projects and our commitment to ensuring the planning system provides a strong lead for renewable energy development, mean we are well placed to support the renewable sector, attract new investment and reduce carbon emissions". In determining planning applications for renewable and low carbon energy development, Policy 17 requires the decision-makers to give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency.

## **5. LANDSCAPE AND VISUAL**

- 5.1 The likely effects of the development on landscape character, landscape feature and elements within and in the immediate vicinity of the development have been assessed.

### **Effects on Landscape Elements**

- 5.2 The Proposed Development would not significantly harm the existing positive landscape elements associated with the application site. The existing landform of the application site would remain largely unchanged except possibly at a localised level during the construction and decommissioning period. Existing field hedgerows will be retained intact and protected during the construction phase and managed during the operational period of the Proposed Development. Proposals include the planting of boundary hedgerows, which would reinforce and enhance landscape elements.

### **Effects on Landscape Character**

- 5.3 Opportunities to enhance the local distinctiveness, character and biodiversity of the area have been introduced as part of the proposed mitigation measures and are outlined within the LEMP. These will allow for the planting of hedgerow with local native species and implementation of grassland, wildflower meadow mixes and also the management of existing hedgerows and grassland beneath the panels.
- 5.4 Following decommissioning at the end of the operational life of the panels, the application site can be returned to its current condition. There would be minor long-term benefits to the local landscape character arising from the mitigation measures and the enhancements to landscape features within the application site.

### **Effects on Visual Amenity**

- 5.5 The visual assessment shows that visibility would be restricted by a combination of the landform, distance from the application site and the enclosure provided by intervening vegetation surrounding the application site. Due to the low profile of the panels, they would not be easily perceptible in most distant views from publicly available viewpoints, including from PRoW.
- 5.6 Except for those PRoW routes that are located within the application site, effects would be limited to less than 2km of the application site with the adverse visual



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effects on construction and completion being mostly limited to PRoW footpath between Gelli Organ Farm and Pen-crug-isaf. The access point and PRoW footpath to Bryn Awel Farm, PRoW footpath near B4297 Heol Ebenezer and Pant y Blodau, on Site PRoW footpath near Bryn-y-rhyd Farm, residents of Forge Villa and from locations along St Illtyds Walk.

### **Summary**

- 5.7 The Proposed Development could be successfully accommodated within the existing landscape pattern and could be assimilated into the surrounding landscape without causing any long-term harm to the landscape character, visual amenity or existing landscape attributes of the area.

## **6. ECOLOGY AND NATURE CONSERVATION**

- 6.1 The likely effects of the development on ecology have been assessed. Ecological impacts cannot be confirmed for decommissioning as the ecological constraints at the point of decommissioning are extremely difficult to predict at this stage. The salient points are identified below.
- 6.2 The ecological survey identified a range of habitats on/immediately adjacent to the site, however, many of these habitats were of low ecological value. The habitats within and adjacent to the site were assessed as being suitable for a variety of notable and protected species.
- 6.3 A total of 22 “Important Ecological Features” (IEFs) were identified: Caeau Mynydd Mawr Special Area of Conservation, Caeau Afon Gwili SSSI, Felinfach Meadows, Cwmgwili SSSI, Broad Oak and Thornhill Meadows SSSI, Caeau Ffos Fach SSSI, Caeau Blaenau-Mawr SSSI and Caeau Lotwen SSSI, river Loughor SINC, ancient woodland, NRW Priority Area – Heathland and Grassland, hedgerows and woodland edges, ditches and watercourses, badgers, bats, otters and water voles, dormice, birds, widespread amphibians, reptiles, invertebrates and invasive species.
- 6.4 Impacts were considered at both the construction and operational phases of the project. Key sources of impacts during construction were identified to be habitat loss, fragmentation, disturbance of species through noise and vibration, degradation of habitats by pollution or dust deposition and the incidental mortality of species during construction. Fewer operational phase effects were noted as post construction activity at the site would be minimal. However, the loss or modification of the habitat during operation which will occur during the construction phase will persist for certain species throughout the operational phase, potentially having long-term adverse effects. These would be managed by way of a Construction Ecological Management Plan and Landscape and Ecological Management Plan. Conversely for other species and habitats the long-term operation of the site is anticipated to be beneficial.
- 6.5 A Landscape and Ecological Management Plan has been prepared in support of the application and this outlines how the site will be managed post construction in order to maximise its ecological value. This includes conservation management of grassland to increase its species richness and management of hedgerows to maximise their value for wildlife. Other enhancements for the site include the

creation of tussocky grassland at the field margins to attract a variety of invertebrates, small mammals, reptiles, amphibians, bats and birds.

6.6 With the successful implementation of the mitigation measures proposed as part of the development adverse impacts upon the ecological features identified can largely be reduced to a non-significant level.

## **7. SOCIO ECONOMIC**

7.1 In respect of the construction phase, the assessment indicates that the Proposed Development will have the following temporary effects:

- 67 direct and indirect/induced construction jobs and indirect/induced supply chain jobs over the eight-month construction programme.
- £4.5million of gross value added over the eight-month construction programme.
- £24million of direct capital investment during the eight-month construction programme.

7.2 In EIA terms, these impacts are considered to have a minor beneficial effect in the short-term.

7.3 In respect of the operational phase, the assessment suggests that the Proposed Development will have the following permanent effects:

- 5 net additional jobs in the Carmarthenshire economy.
- £0.5million of gross value added per annum, or £3.9million over ten years (present value).

7.4 The significance of the permanent effect is therefore considered to be a long-term moderate positive impact. There are no identified negative effects associated with the Proposed Development. When the Proposed Development is considered in isolation it may generate a small number of additional commuting flows although this is considered to be outweighed by the other positive effects that the Proposed Development would have on the economy. Overall, the Proposed Development is considered to provide significant positive effects.

## **8. Archaeology and Cultural Heritage**

- 8.1 There are no designated historic assets located within the application site.
- 8.2 Known and potential non-designated historic assets located within the application site comprise a possible prehistoric ring ditch feature in the centre of the application site; earthworks of a possible medieval field system in the western part of the application site; former post-medieval buildings to the north-west of Bryn-Y-Rhyd and to the north and south-west of Gelli Organ; and evidence of historic land use, such as ridge and furrow, former field boundaries, and drainage ditches across the application site.
- 8.3 There is currently nothing to suggest that any such remains would be of the highest heritage significance in and of themselves.
- 8.4 It has been established that the application site makes no contribution through setting to the heritage significance of any designated historic asset within its environs, including the Scheduled Monument of Bryn-Y-Rhyd Standing Stone to the north-west of the application site and the Scheduled Monuments on Graig Fawr to the south-east of the application site.
- 8.5 No significant effects have been identified, either as a result of direct truncation of archaeological remains or indirectly as a result of changes to setting.
- 8.6 Mitigation would be required to counter the likely impacts of construction activities upon the known and potential buried archaeological resource of the application site. No enhancement has been identified.
- 8.7 The Environmental Statement concludes that the proposed development would be acceptable in respect of archaeology and cultural heritage.

## **9. Ground Conditions**

- 9.1 The application area is locally mantled in superficial deposits; Glacial Till (Boulder Clay) overlies much of the northwestern half, and is locally absent in the south/southeast. Discrete areas of Peat are reported centrally and in the northwest. The site comprises agricultural fields, mantled in topsoil of unknown thickness.
- 9.2 The bedrock geology comprises interbedded mudstone, siltstone and sandstone of the Rhondda Member of the Upper Coal Measures. The older, Llynfi Member (of similar bedrock type), outcrops in the northwest. Coal Measures strata dip

southeast. Two coal seams outcrop within the application site, dipping southeast. Older Seams will be present at greater depth.

- 9.3 While most of the application site is beyond any coal mining high risk areas, Development High Risk Area (DHRA) are identified as 3 linear features trending southwest to northeast, and include 5 mine entries within the application site. Records of backfilling are unknown, and the CA have ascribed a departure radius around the known shafts of 8-10m. The majority of the application site falls beyond the DHRA's.
- 9.4 The proposed layout has been designed to avoid coal mine entries. Targeted investigation will be required to confirm their location and inform design/layout or mitigation measures. Once complete, design changes and/or mitigation measures can be developed to mitigate the risks to not significant or negligible.
- 9.5 The risk of unforeseen or non-identified mining features remaining following construction remains low. Given the proposed usage, the proposed redevelopment is likely to have an overall negligible effect with regard to ground conditions.

## **10. Noise and Vibration**

- 10.1 Noise during the construction phase is not considered to be significant. The calculated noise from the establishment of the frame supports would fall below the appropriate daytime noise limits. The overall increase in traffic flow during the construction phase is unlikely to result in any significant change in road traffic noise. To that end, noise associated with construction phase traffic movements is considered to be 'not significant'.
- 10.2 Assessment of the operational phase assumes that all equipment is operating at 100% during the assessment period. Under this assumption, noise levels at the nearest noise sensitive receptors would fall well below the appropriate noise limits. As such, noise during the operational phase is considered to be 'not significant'.
- 10.3 Consideration of the potential cumulative effects arising from the combination of the Brynryhyd Solar Farm and other, consented developments in the area concluded that any resultant effects from developments in the area would be 'not significant'.
- 10.4 The design of the site and proposed construction phase activities include a number of inherent mitigation measures which help ameliorate noise impacts arising from

the development. These measures have been included in the overall assessment and are included in the derivation of significance above.

10.5 No additional mitigation measures or enhancements are required.

## **11. MISCELLANEOUS MATTER**

### **Accidents or Disasters**

11.1 The development is not considered likely to cause a significant accident or disaster risk during either the construction, operation or decommissioning phases. The risk both to construction workers and the general public is low and not significant during the construction and decommissioning phases. This would be regulated by the Health and Safety Regulations and the construction (Design and Management) Regulations 2015. The construction of the Development would be managed in accordance with the Health and Safety at Work Act 1974 and would comply with all other relevant Health and Safety Regulations, including the Construction (Health, Safety and Welfare) Regulations 1996 and Electricity Safety, Quality and Continuity Regulations 2002. When operational, the majority of the development comprises solar PV modules which are inert. Electrical infrastructure will be located across the Development, in the form of inverters, transformers and cabling, all of which will be subject to routine maintenance such that it is not considered to pose a significant risk to creating an accident or disaster.

11.2 The substation compound will have a concentration of electrical infrastructure which will include the substation and transformers all of which will be adopted by the DNO once developed and subject to their routine maintenance regime. Accordingly, it is not considered to pose a significant risk of creating an accident or disaster.

### **Climate Change**

11.3 With regards to vulnerability to climate change, the solar modules are designed to capture the sun's energy and therefore built to withstand extreme climatic conditions and are purposefully located in open locations. The site is not located within a coastal location and as such is not at risk to any changes to the sea level. The framework holding the modules are driven into the ground at an appropriate depth which responds to site specific ground conditions and are designed to accommodate the predicted relatively small change in wind speed during the lifespan of the development.

## **Waste Arisings**

11.4 The predicted quantities are set out below and are based on the construction waste management records of a 25MW solar scheme. This is presented at Table 12.1. The management of construction waste is discussed at Section 14 of the Outline Construction Environmental Management Plan (Appendix 4.1).

11.5 Table: Predicted waste arising from construction.

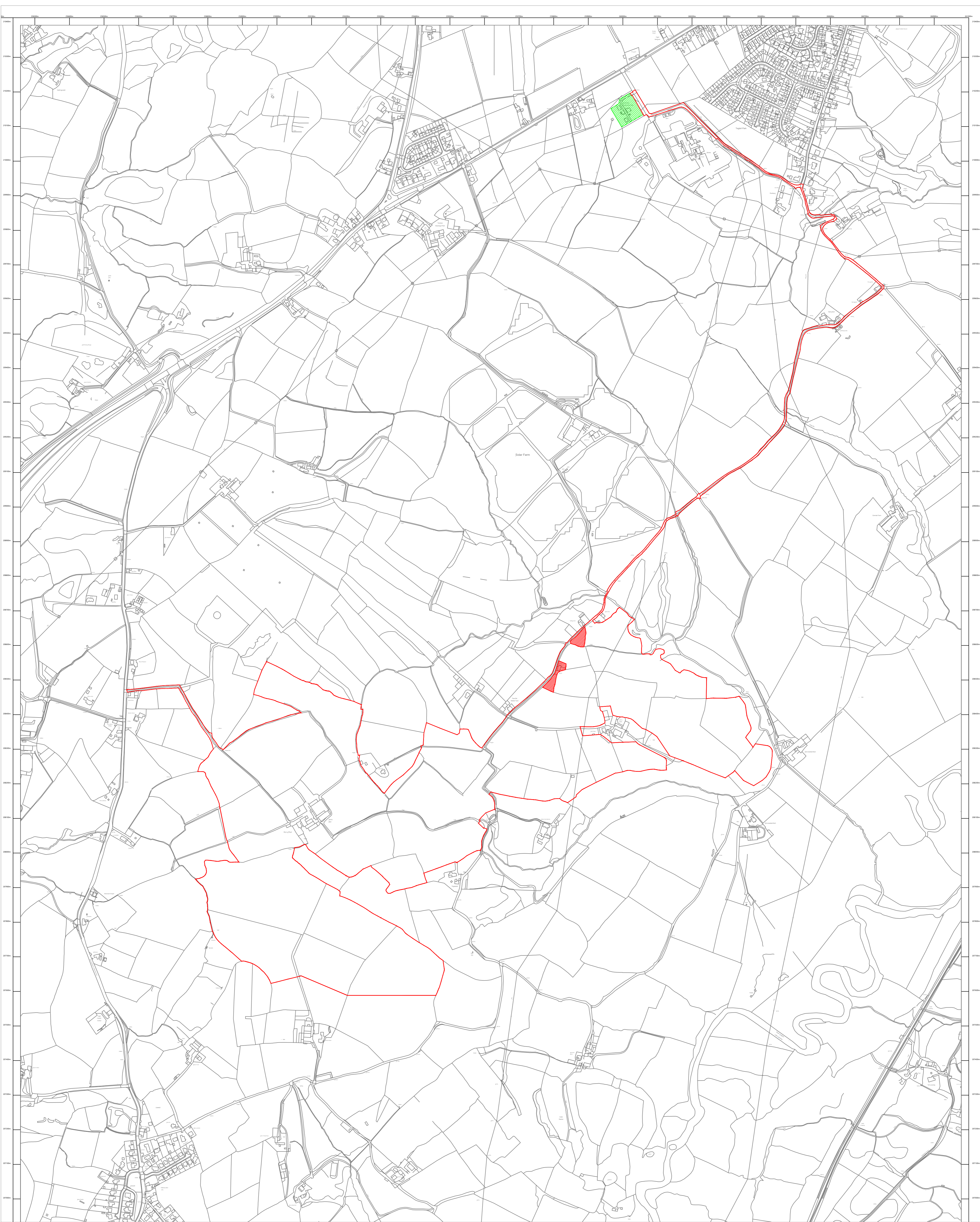
<b>Category</b>	<b>Type</b>	<b>Waste arising recorded from a 25MW solar scheme.</b>	<b>Predicted estimates for a 30MW scheme</b>
General Waste Exchange	12 yard skip	12	15
General Waste Exchange	RoRo – 20 yard skip	23	28
Timber Exchange	RoRo- - 20 yard skip	33	40
Card / Paper exchange	RoRo – 20 yard skip	12	15
Metal waste exchange	RoRo – 20 yard	6	8
Recyclable plastics	12 yard skip	2	3
<b>Total skips</b>		<b>88</b>	<b>109</b>

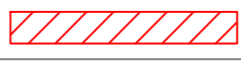
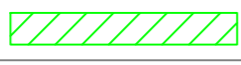
11.6 All waste transported offsite will be delivered to the appropriately licenced receivers of such materials. Given that operators receiving any waste materials resulting from the Development will be subject to their own consenting procedures. During the operational phase of the development, waste arisings are expected to be substantially less that during the construction phase, and so effects are not assessed.

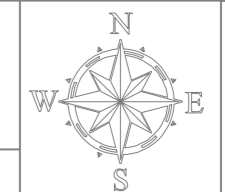
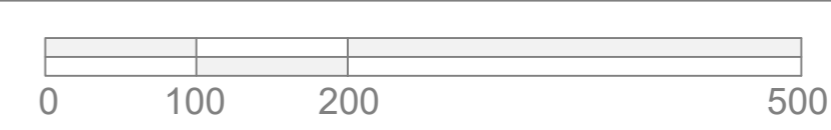
11.7 At the end of the generation period the development would then enter a decommissioning stage. This is anticipated to take up to 6 months. The land shall be restored in accordance with a scheme of decommissioning work and land restoration that shall have been first submitted to and approved in writing by the relevant planning authority.

**APPENDIX 1**  
**SITE LOCATION PLAN**





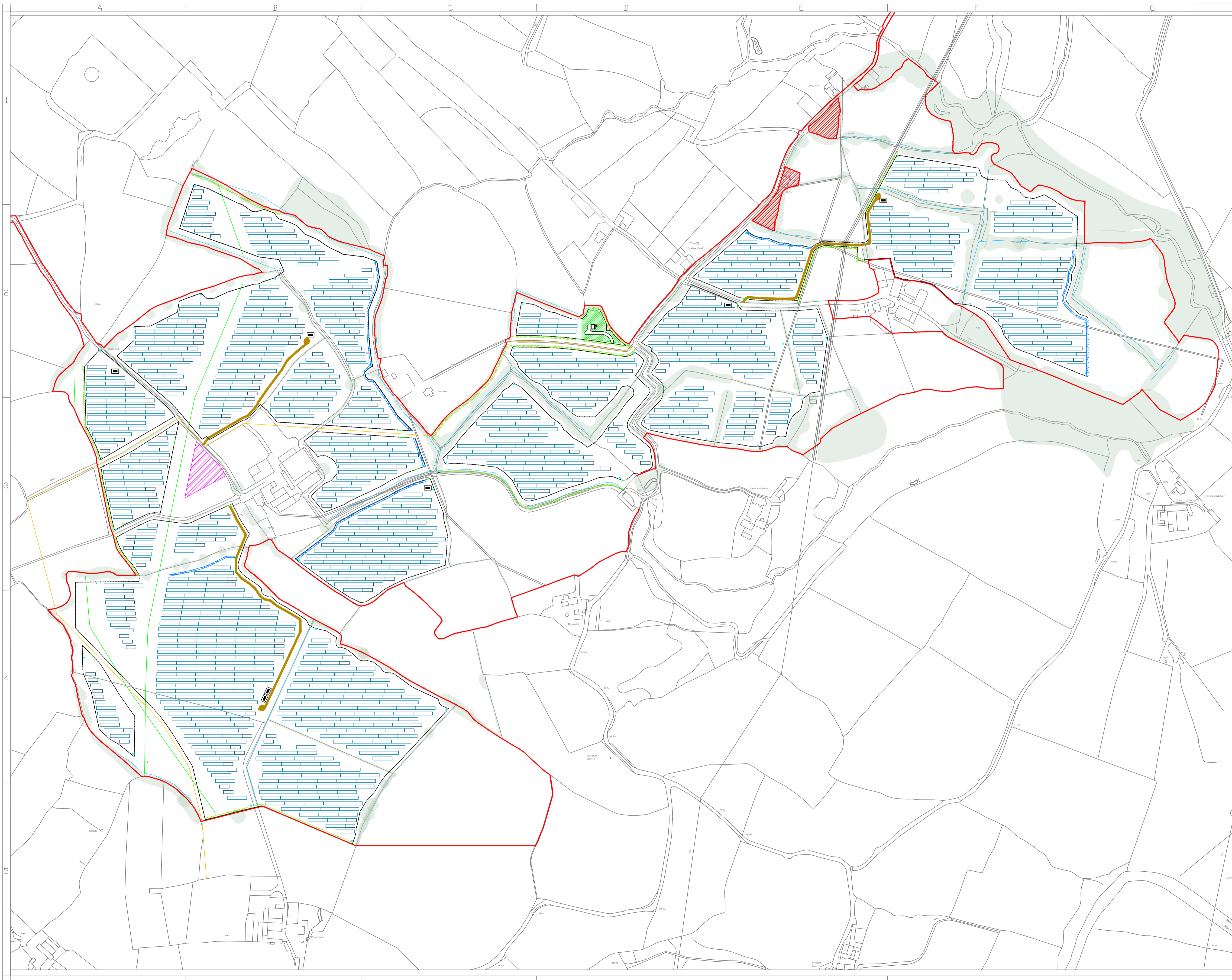
Project:	Bryn - Y - Rhyd PV Solar Farm	<b>Descriptive Legend</b>	
Document Project Location:	Llanedi, Pontardulais, Wales, SA4 0FD		
Document Title:	Site location plan		Site application boundary
Scale:	1:5000		Area not part of development boundary
Sheet Number:	A1 "841 x 594"		Point of connection
Sheet Count:	1		
Company Name:	Island Green Power UK Limited		
Company Address:	Alessio Aru, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW		
Date:	09/06/2021		



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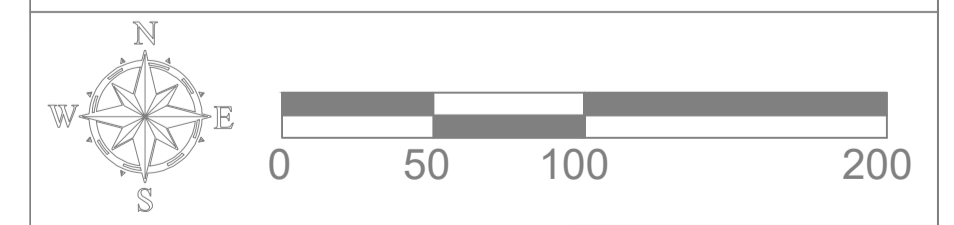
## **APPENDIX 2**

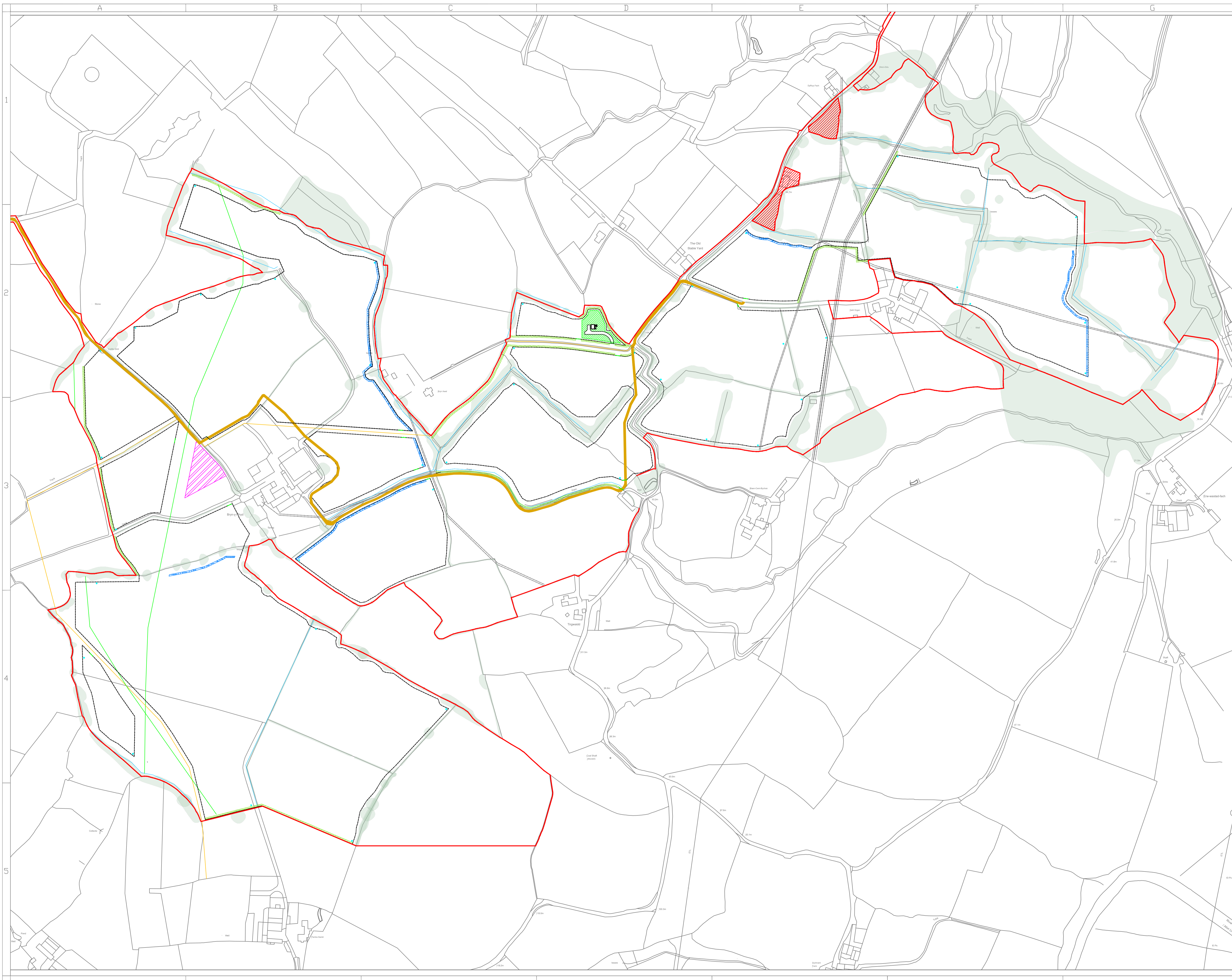
### **PROPOSED LAYOUT**



Project:	Bryn - Y - Rhyd PV Solar Farm
Project Location:	Llanedi, Pontardulais South Wales, SA4 0FD
Document Title:	Site layout plan
Scale:	1:2500
Sheet Format:	A1 "594 x 841"
Drawing Number:	3
Company:	Island Green Power UK Limited
Designer:	MN, AA, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW
Date:	09/06/2021

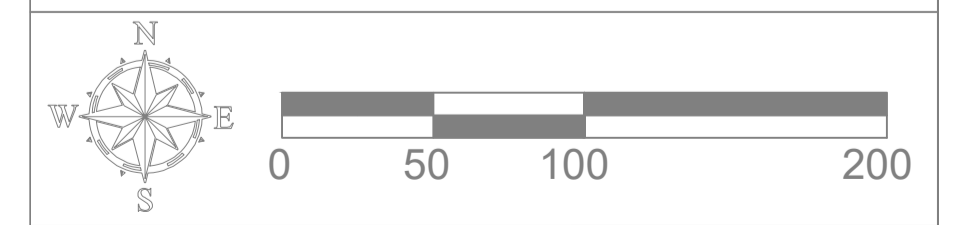
Descriptive Legend	
	Application boundary
	Security Fence
	Mounting Structures
	Conversion Unit
	Maintenance Tracks
	Gates
	CCTV
	Substation Area
	Building compound
	Public Footpath
	Gas Pipelines
	Tree-Hedge Canopies
	Ditches
	Indicative Planting
	Swale
	WPD Power Lines





Project:	Bryn - Y - Rhyd PV Solar Farm
Project Location:	Llanedi, Pontardulais South Wales, SA4 0FD
Document Title:	Construction Access
Scale:	1:2500
Sheet Format:	A1 "594 x 841"
Drawing Number:	4
Company:	Island Green Power UK Limited
Designer:	MN, AA, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW
Date:	09/06/2021

Descriptive Legend	
	Application boundary
	Security Fence
	Construction Access
	Gates
	CCTV
	Substation Area
	Building compound
	Public Footpath
	Gas Pipelines
	Tree-Hedge Canopies
	Ditches
	Indicative Planting
	Swale
	WPD Power Lines



Bryn - Y - Rhyd PV Solar Farm

Llanedi, Pontardulais  
South Wales, SA4 0FD

Mounting structure elevation details

Varies

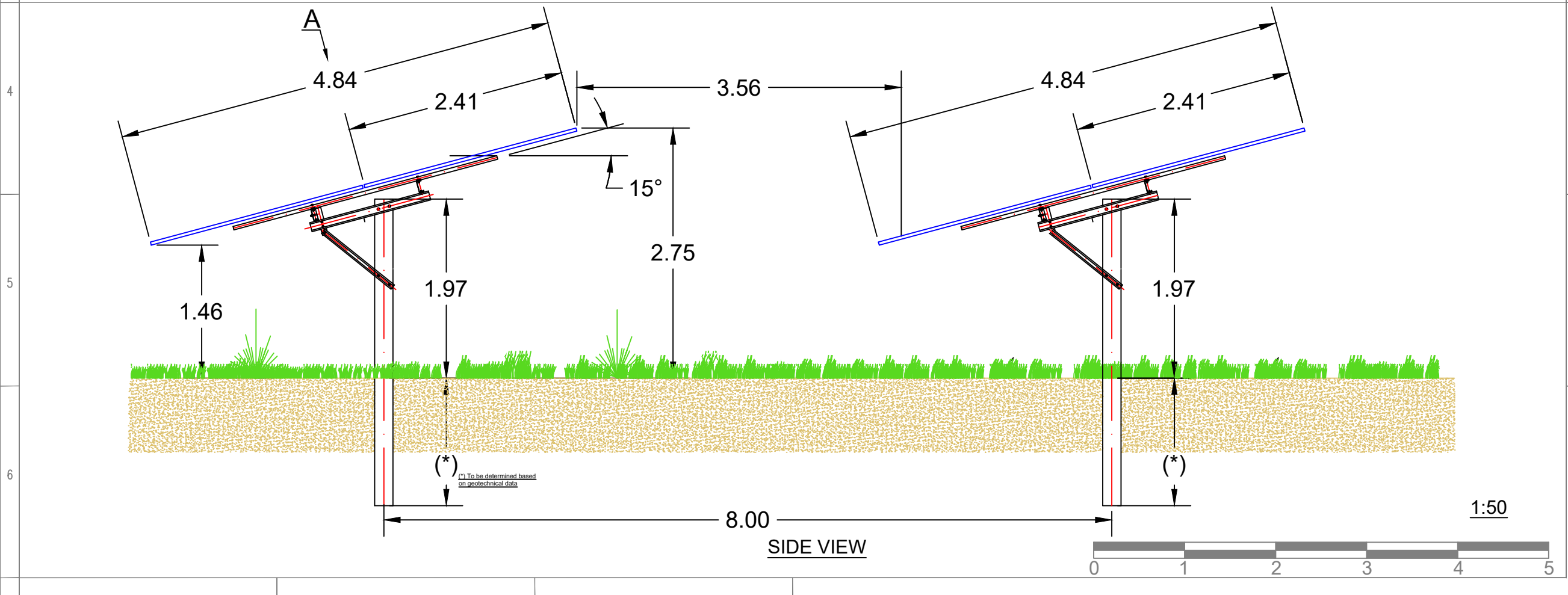
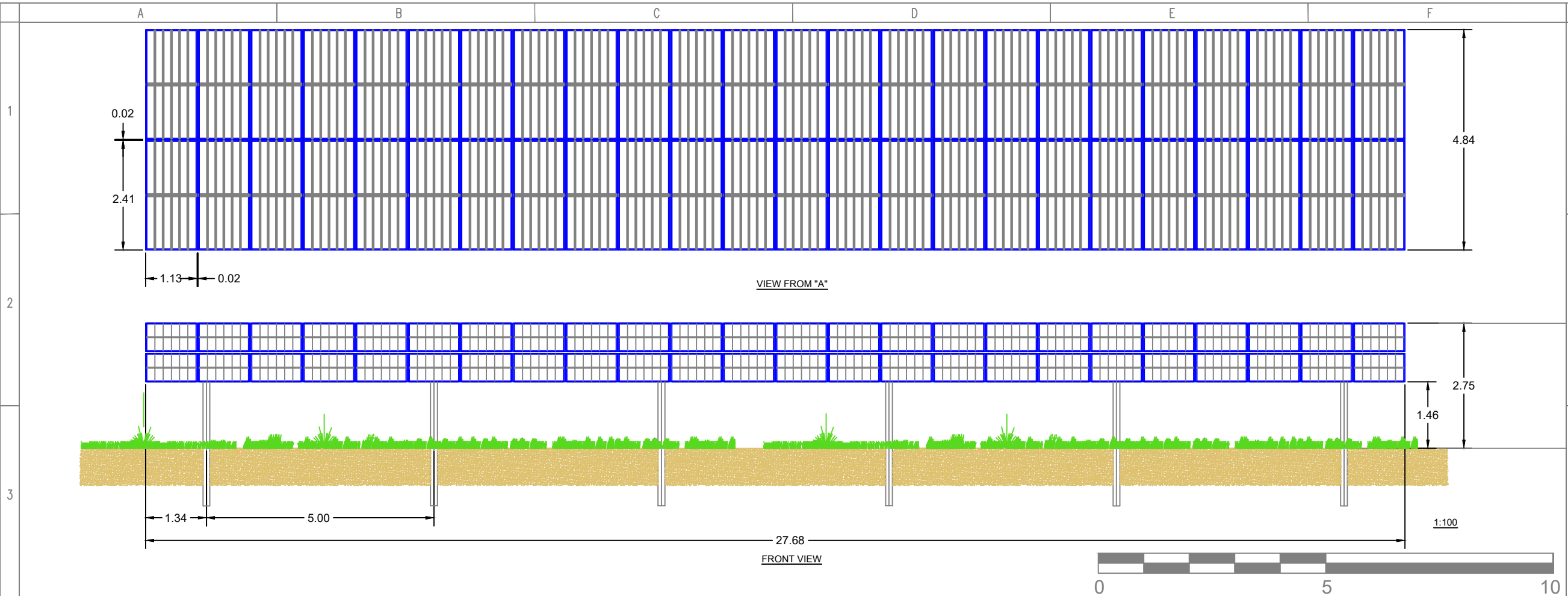
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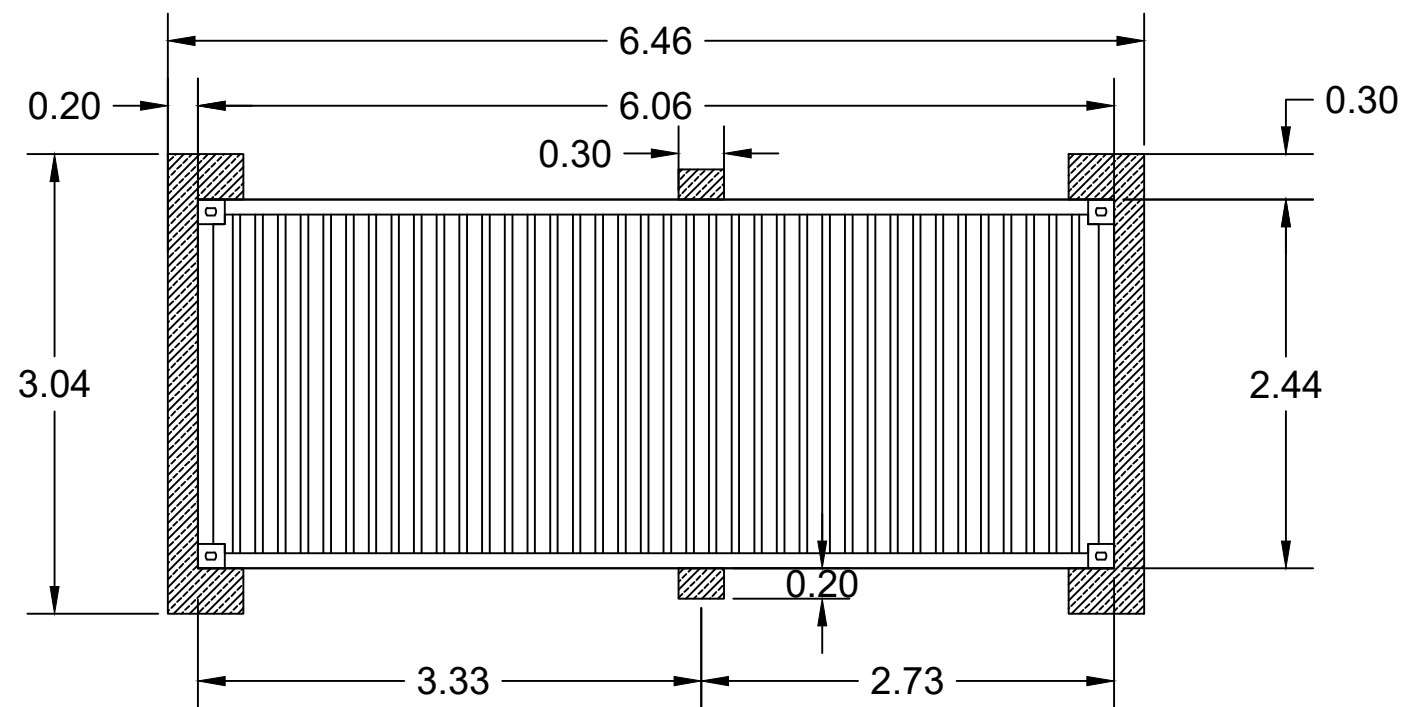
Island Green Power UK Limited

Alessio Aru, Unit 20.2, Coda Studios  
189 Munster Road, London SW6 6AW

17/05/2021

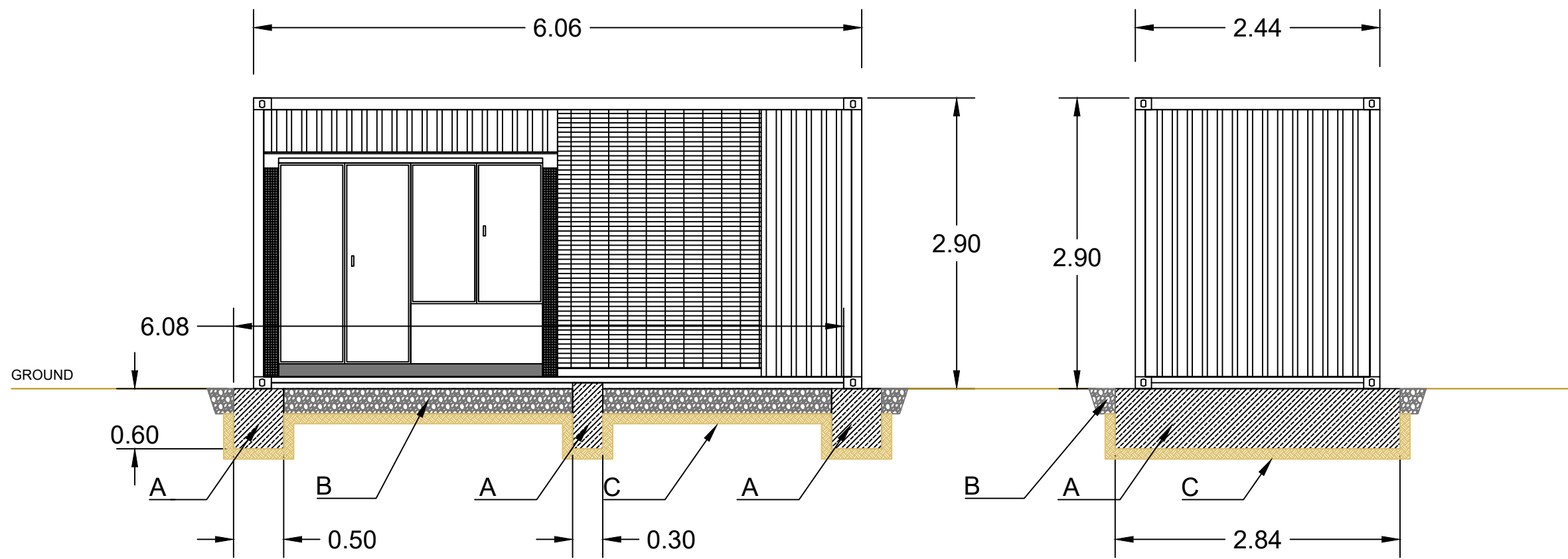


A B C D E F



TOP VIEW

A	Strip foundation
B	Pea gravel ground
C	Solid ground e.g., gravel



FRONT VIEW

SIDE VIEW



Bryn - Y - Rhyd PV Solar Farm

Llanedi, Pontardulais  
South Wales, SA4 0FD

Conversion unit details

1:50

A3 "420 x 297"

6

Island Green Power UK Limited

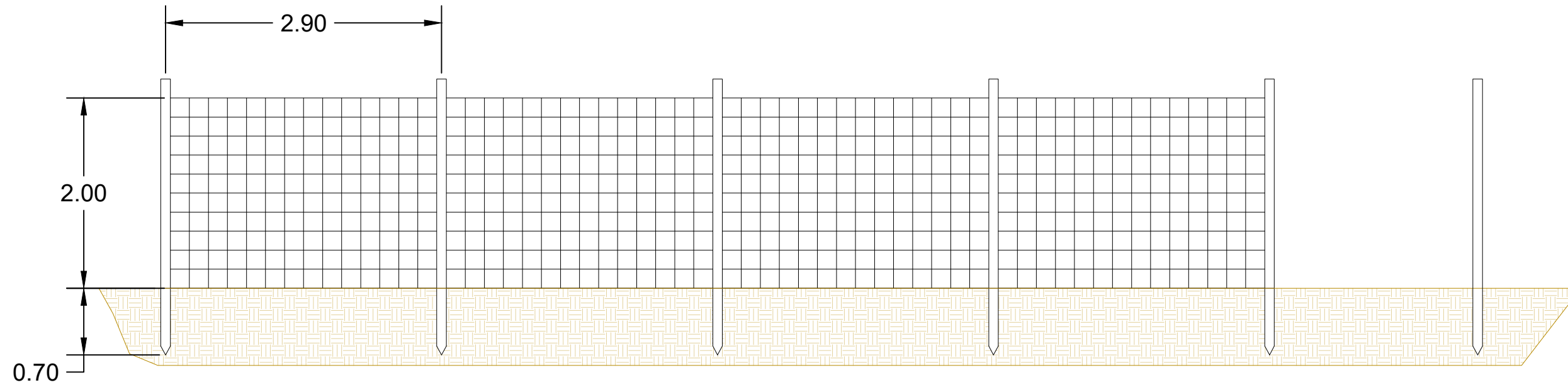
Alessio Aru, Unit 20.2, Coda Studios  
189 Munster Road, London SW6 6AW

17/05/2021

# 2m high Deer Fencing

Front view

Side view



Project:	Bryn - Y - Rhyd PV Solar Farm
Project Location:	Llanedi, Pontardulais South Wales, SA4 0FD
Document Title:	Security fence details
Scale:	1:50
Sheet Format:	A3 "420 x 297"
Drawing Number:	8
Company:	Island Green Power UK Limited
Project Designer:	Alessio Aru, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW
Date:	17/05/2021

A

B

C

1

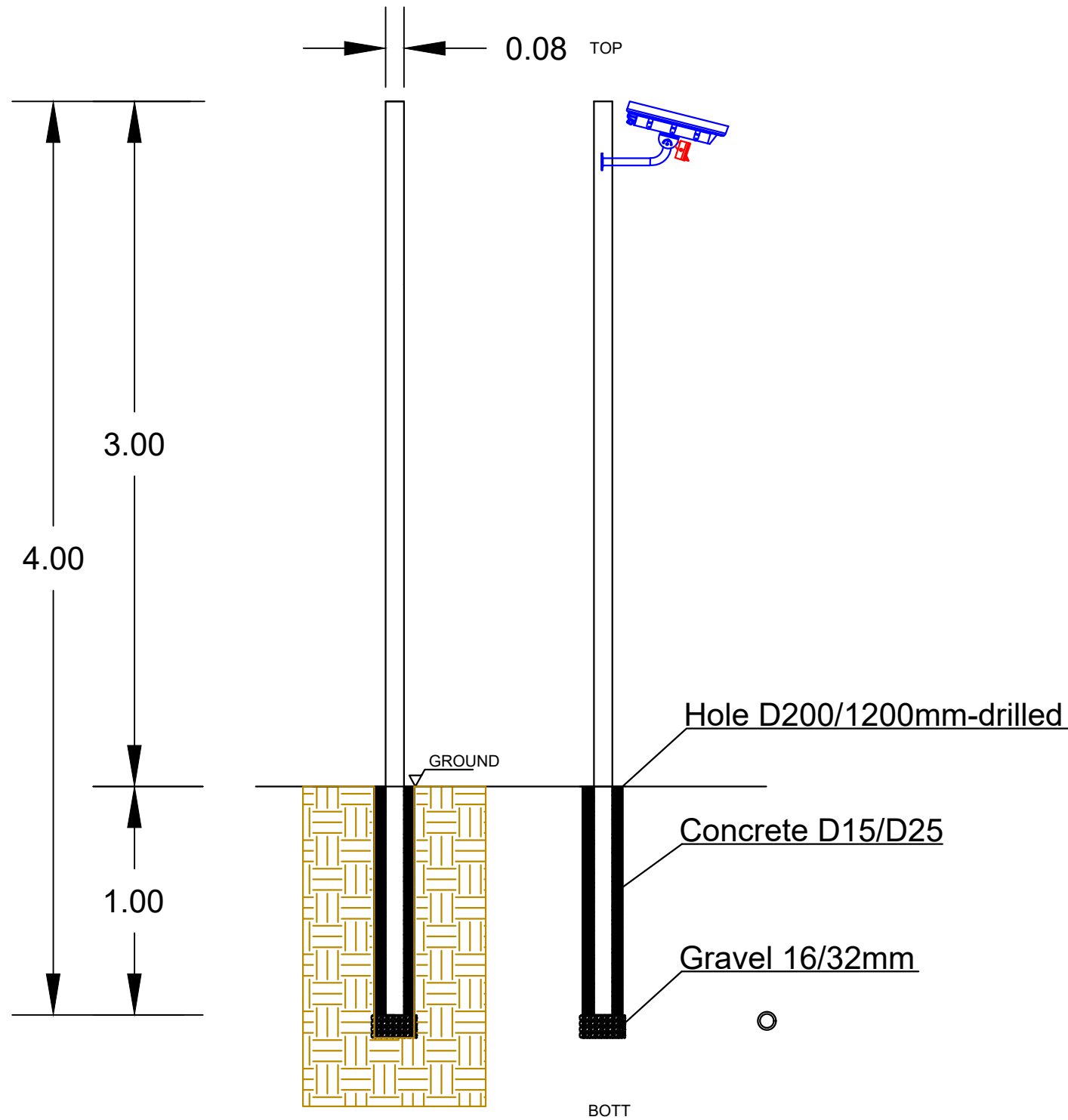
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3

4

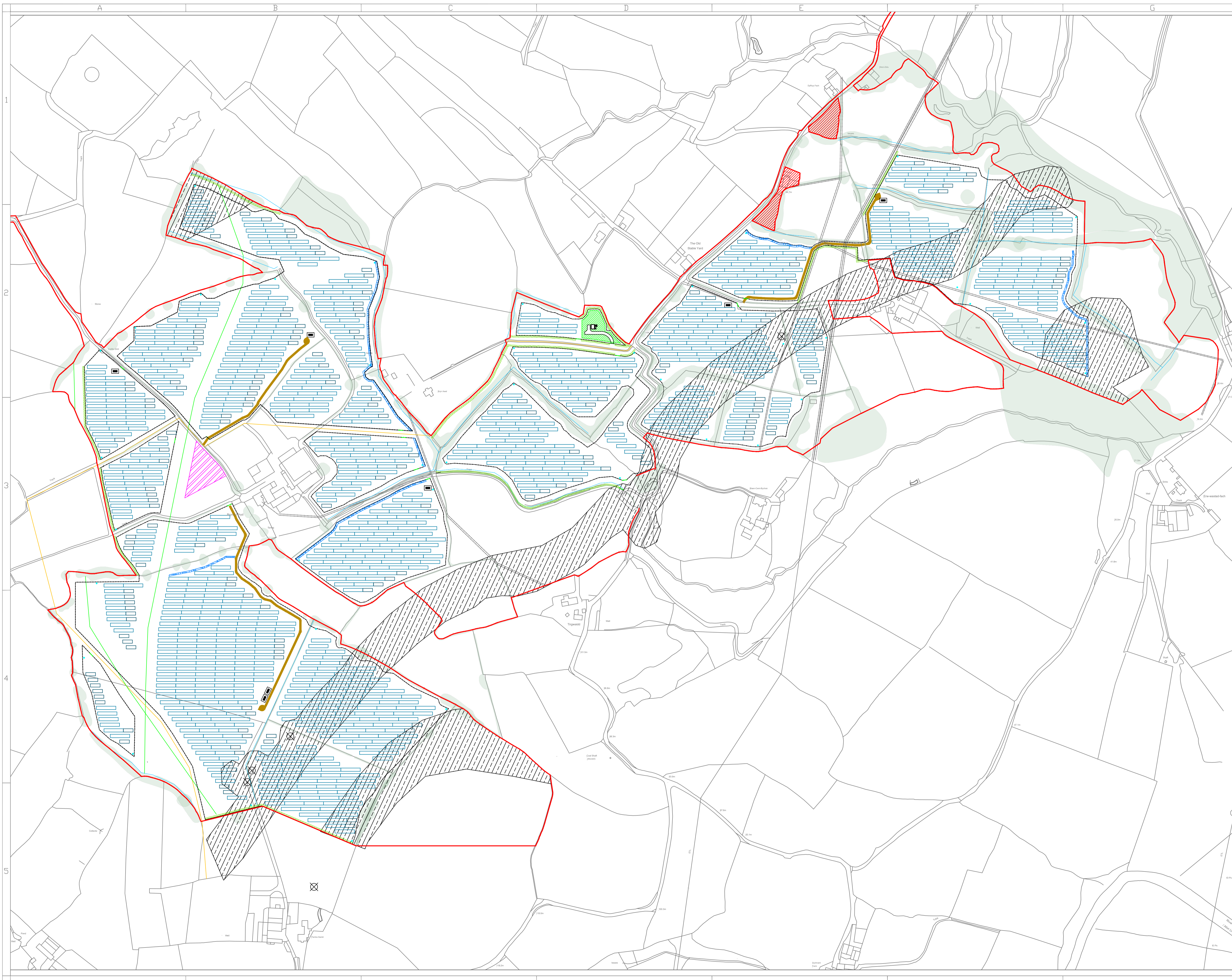
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6



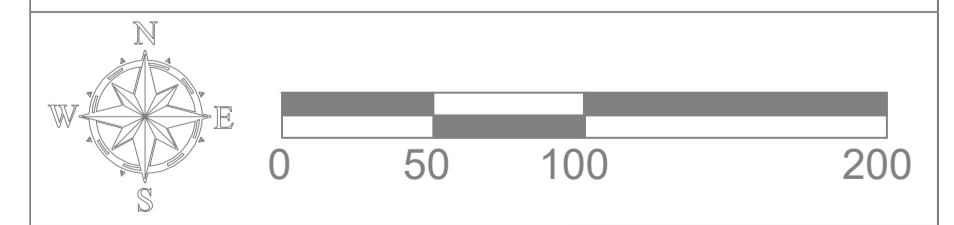
Project:	Bryn - Y - Rhyd PV Solar Farm
Project Location:	Llanedi, Pontardulais South Wales, SA4 0FD
Document Title:	CCTV system details
Scale:	1:25
Sheet Format:	A3 "420 x 297"
Drawing Number:	8
Company:	Island Green Power UK Limited
Project Designer:	Alessio Aru, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW
Date:	02/06/2021

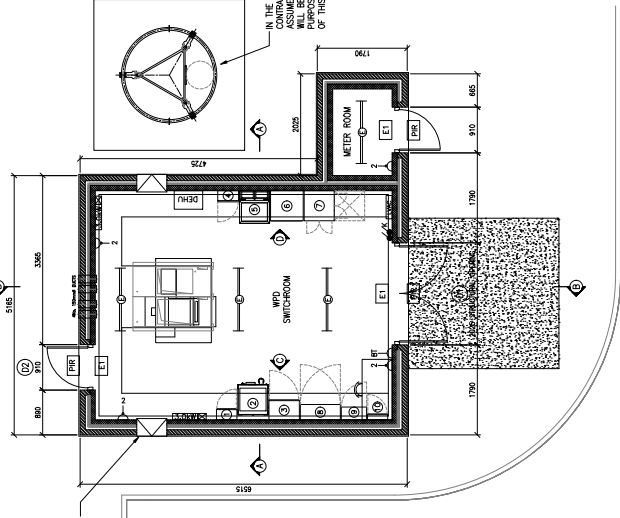
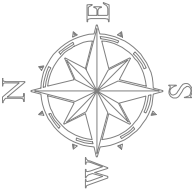




Project:	Bryn - Y - Rhyd PV Solar Farm
Project Location:	Llanedi, Pontardulais South Wales, SA4 0FD
Document Title:	Site layout plan & coal mining areas
Scale:	1:2500
Sheet Format:	A1 "594 x 841"
Drawing Number:	9
Company:	Island Green Power UK Limited
Designer:	MN, AA, Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW
Date:	09/06/2021

Descriptive Legend	
	Application boundary
	Security Fence
	Mounting Structures
	Conversion Unit
	Maintenance Tracks
	Gates
	CCTV
	Substation Area
	Building compound
	Public Footpath
	Gas Pipelines
	Tree-Hedge Canopies
	Ditches
	Indicative Planting
	Swale
	WPD Power Lines
	High Risk Zone
	Shafts



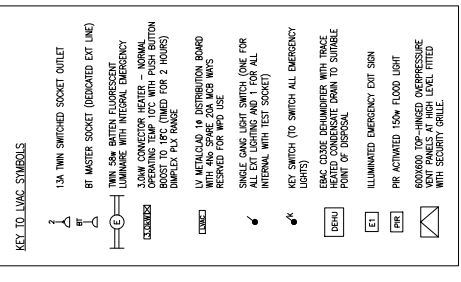


IN THE ABSENCE OF DATA TO THE CONTRARY, IT SHALL BE ASSUMED THAT A COMMERCIAL TOWER SHALL BE USED FOR THE MOUNTING OF THIS TOWER. THE HEIGHT OF THIS TOWER WILL BE 15m.

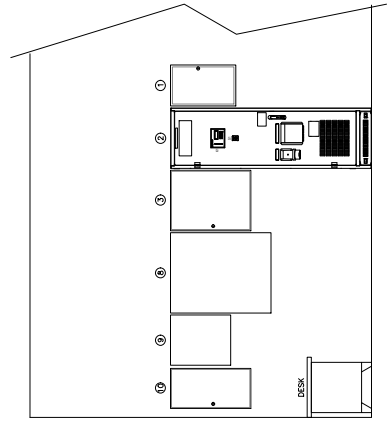
REF	DESCRIPTION	DIMENSIONS (mm)	WEIGHT*	COMESTIBLE / NON COMESTIBLE
1	24/48V 6 WAY DISTRIBUTION BOARD	410(W)X220(D)X85(H) WALL MOUNTED	25kg	C
2	24/48V BATTERY CHARGER & BATTERY	600(W)X500(D)X200(H) FLOOR MOUNTED	334kg	C
3	TELECONTROL OUTSTATION (TCO)	600(W)X400(D)X800(H) WALL MOUNTED	50kg	NC
4	110V 6 WAY DISTRIBUTION BOARD	410(W)X220(D)X85(H) WALL MOUNTED	25kg	C
5	110V BATTERY CHARGER & BATTERY	600(W)X500(D)X180(H) FLOOR MOUNTED	488kg	C
6	INTERFACING DP-5000 PANEL	600(W)X400(D)X225(H) FLOOR MOUNTED	220kg	NC
7	TELECOMS MULTIPLEXER PANEL	600(W)X1000(D)X200(H) WALL MOUNTED	20kg	NC
8	GCP INTERFACE PANEL	500(W)X600(D)X250(H) WALL MOUNTED	20kg	C
9	AMM PANEL	400(W)X200(D)X80(H) WALL MOUNTED	20kg	NC
10	AMM PANEL	400(W)X200(D)X80(H) WALL MOUNTED	20kg	NC

\* THESE WEIGHTS ARE INDICATED FOR COMESTIBLE APPARATUS. THEY RELATE TO THOSE OF WPD UNITS & MAY BE ACCOUNTED IF NOT APPLICABLE.

**NOTES:**  
 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WPD DOCUMENT '33W INDOOR METERED CONNECTION - SUBCABLE FOR SUBSTATION LEASURES'.  
 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SHEET 2.  
 THE DRAWING SETS OUT THE SPATIAL REQUIREMENTS FOR A SINGLE WPD UNIT TO BE INSTALLED IN A SUBSTATION. IT SHALL NOT BE CONSIDERED A CONSTRUCTION DOCUMENT BUT MAY BE USED BY DESIGNERS WORKING ON THE DESIGN OF A SUBSTATION. THE DESIGNERS SHOULD BE AWARE OF THE USUAL SUBSTATION PRACTICES ASSOCIATED WITH SUCH A CONNECTION.

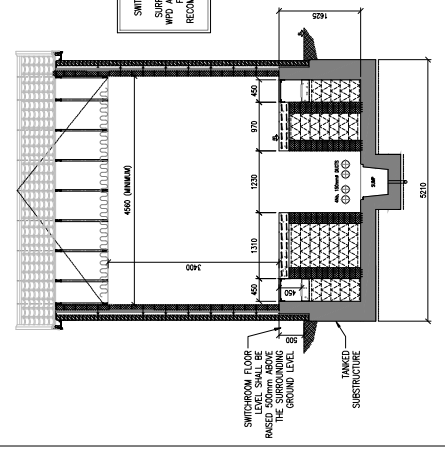


ELEVATION 'C'  
SCALE 1:50



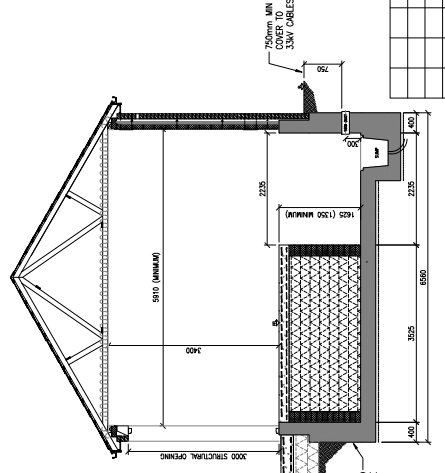
ELEVATION 'D'  
SCALE 1:50

SECTION A-A  
SCALE 1:50



GENERAL NOTE: SWITCHROOM SHALL BE RAISED 500mm ABOVE THE SURROUNDING GROUND LEVEL UNLESS WPD FLOOD RISK ASSESSMENT RECOMMENDS AN ALTERNATIVE APPROACH TO FLOOD RESISTANCE.

SECTION B-B  
SCALE 1:50



ORIGINAL ISSUE	Date	Drawn	By	Checked	Approved	Scale	Title
7	15/08/20	LF	LF	LF	LF	1:50	SECTION A-A & B-B CORRECTED.
6	15/08/20	LF	LF	LF	LF	1:50	DRAWING UPDATED & RE-ISSUED.

CHANGING SHEET SIZE: A1

WESTERN POWER DISTRIBUTION  
 Design Department  
 Lamby Way, Rumney, Cardiff CF3 2PQ  
 TYPICAL 33W INDOOR METERED SUBSTATION BUILDING  
 DRAWING TITLE  
 SHEET 1 OF 2  
 Dwg. No. GCS0015-1  
 Rev. No. 7

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WPD DOCUMENT '33W INDOOR METERED CONNECTION - SUBCABLE FOR SUBSTATION LEASURES'. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SHEET 2.

**PLANTING SCHEDULE**

**Native Tree Planting**

Quantity	Species	Form	Birth	Height cm	Clear Stem	Root Condition
12	Acer campestre	Heavy Standard	12-14	350-425	200cm min.	85L
12	Fagus sylvatica	Heavy Standard	12-14	350-425	175-200cm min.	85L
7	Quercus robur	Heavy Standard	12-14	350-425	175-200cm min.	85L

**Proposed Hedgerow Planting** - approximately 2023 linear metres

To be planted at 5 per linear metre in a double staggered row, rows will be 40cm apart.

Quantity	Species	Common Name	Percentage in Mix %	Height/Spread cm	Form	Age / Times Transplanted	Root Condition
506	Acer campestre	Field Maple	5	100-125	Transplant	1-2	B
4046	Crataegus monogyna	Common Hawthorn	40	100-125	Transplant	1-2	B
506	Cornus sanguinea	Dogwood	5	100-125	Transplant	1-2	B
1012	Corylus avellana	Hazel	10	100-125	Transplant	1-2	B
2023	Fagus sylvatica	Common Beech	20	100-125	Transplant	1-2	B
506	Ilex aquifolium	Holly	5	80-100	Leader with laterals	-	10L
506	Prunus spinosa	Blackthorn	5	100-125	Transplant	1-2	B
1012	Quercus robur	Common Oak	10	100-125	Transplant	1-2	B

**PLANTING SPECIFICATION**

These implementation and maintenance guidelines are for planning purposes only to indicate the level of workmanship to be specified and do not constitute a detailed specification.

**1. GENERAL**

- All landscape operatives will be appropriately trained, certified and qualified to undertake the tasks required. When required, the relevant certificates will be made available for inspection. All work is to be carried out in accordance with the relevant British Standards, Codes of Practice and Legislation.
- All plants shall conform to BS 3938 and be in accordance with the National Plant Specification. Supplying nurseries shall be registered under the HTA Nursery Certification Scheme. All plants shall be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.
- Planting shall not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds. All bare-root planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the roots from drying out. Tree handling, storage and planting shall be in accordance with BS 8545 Chapters 9 to 10 and Annexes E to F.
- The landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. All stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost.
- A minimum intervention approach will be used in terms of weed control. In areas of transplant tree/shrub or ornamental shrub planting this is to be achieved by using mulch mats and hand-weeding. Weed killer and other chemicals will be used as little as possible on site. Spot removal of weeds will be carried out by hand removal as necessary.
- Grassland Restoration and Enhancement is to be carried out in accordance with Objective PR1 of the Landscape and Ecological Management Plan (LEMP).

**2. TREE PLANTING**

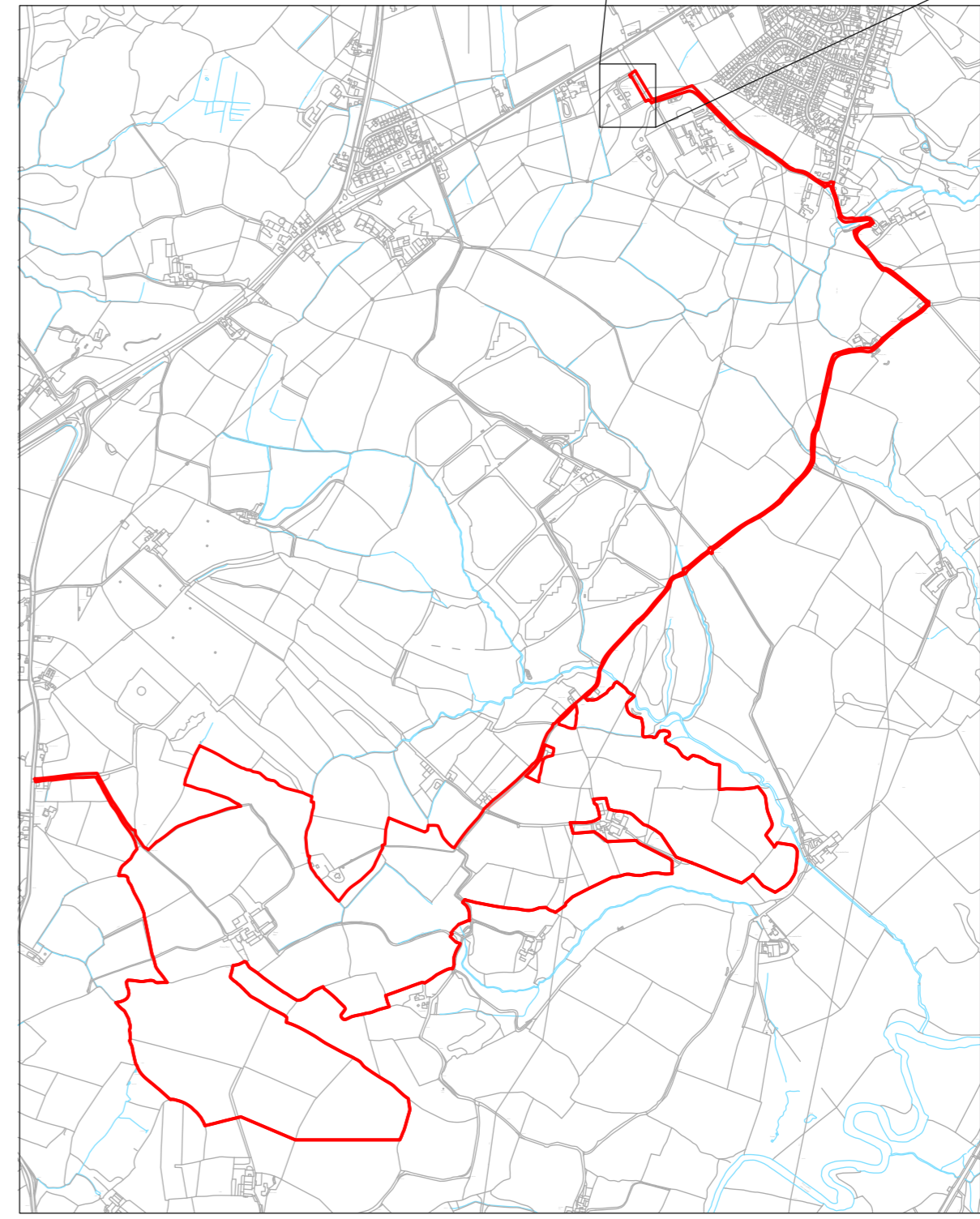
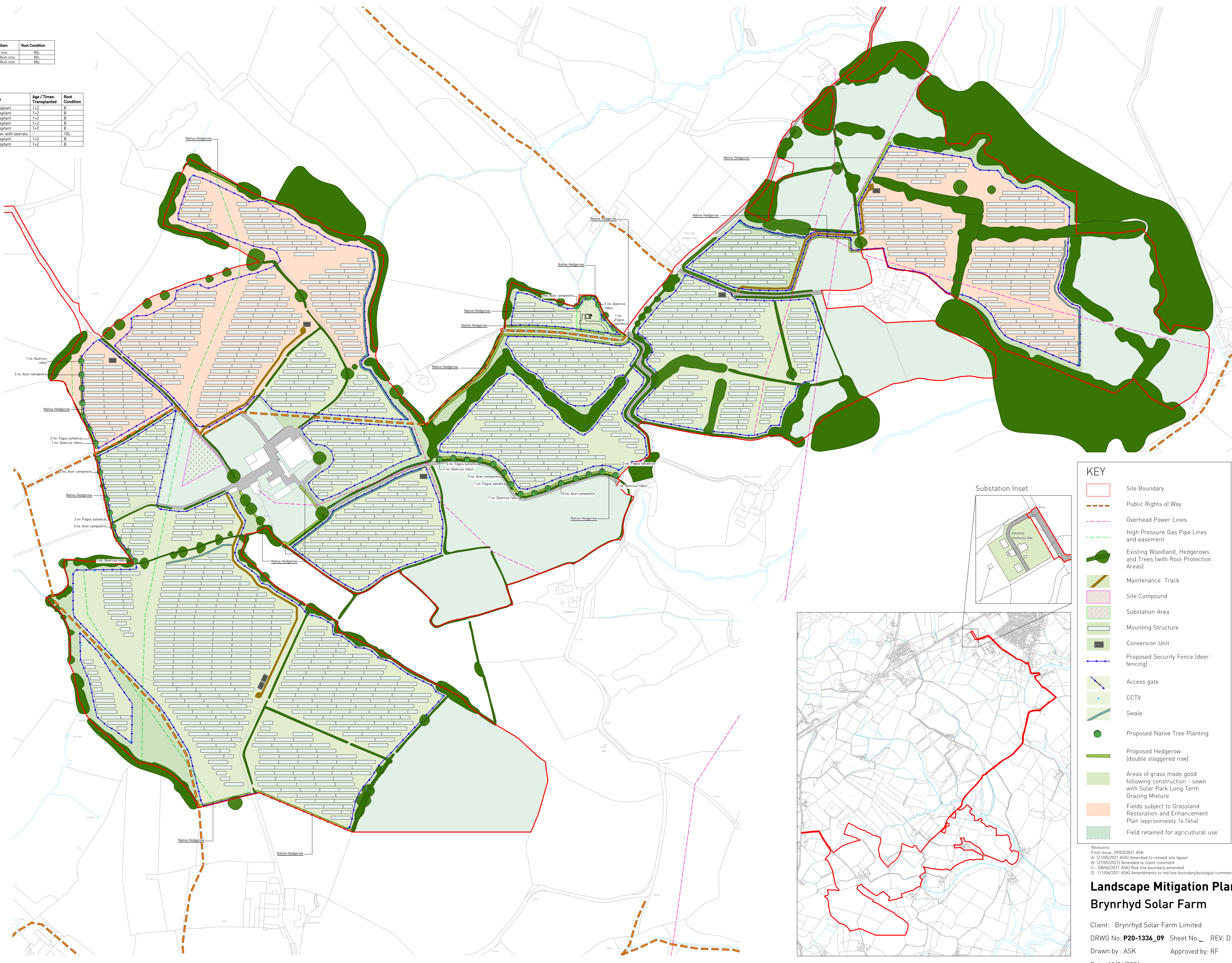
- Ground Preparation and Tree Pit Excavation**
- Where necessary remove existing weeds by hand. Chemical removal using a glyphosate based herbicide will be avoided unless large areas need clearing - following which allow a suitable period to elapse, as recommended by the manufacturer, for the herbicide to take effect.
  - Tree pits of at least 75mm diameter greater than the root system and no deeper than the rootball / container depth are to be excavated and the sides well scarified to prevent slumping. All extraneous matter such as plastic, wood, metal and stones greater than 50mm in any dimension shall be removed from site.
  - During excavation of the pit, the soil dug should be placed to one side separating topsoil and subsoil as far as is practical.
- Tree Planting**
- Trees shall be planted as per the planting arrangement as set out on the planting plan and plant schedule.
  - The typical rooting depth for trees is 900mm. The first 300mm shall be made up of topsoil; it shall be ensured that a suitable subsoil provides the remainder of the minimum rooting depth.
  - The root system of the tree should be settled prior to planting. The tree should be planted at the correct depth taking into account the position of the root flare and the finished level - the rootball or root stem transition should be level with the existing host soil or surface. The base of the rootball should typically sit on subsoil, for larger rootballs the subsoil will sit around the lower portion of the rootball.
  - Tree pits should be backfilled with the excavated topsoil. If the original topsoil is not available or deemed unsuitable, a multi-purpose topsoil should be used. Any subsoil excavated should be discarded and the subsoil depth (beyond 300mm deep) backfilled with a high sand content subsoil. Backfill should be added gradually, in layers of 150mm to 200mm depth, ensuring the tree is held upright. At each stage the fill should be firmed in to eliminate all air pockets under and around the root system, but with care being taken not to excessively compact the soil. The final layer should not be consolidated.
  - General-purpose slow release fertiliser (at the rate of 75g/m<sup>2</sup>) and Tree Planting and Mulching Compost at the rate of 220t/m<sup>2</sup> are to be incorporated into the top 150mm of topsoil during final cultivation.
  - All heavy standard size trees are to be double staked with 75mm dia stakes. Stakes should be driven at least 300mm into undisturbed ground before planting the tree, taking care to avoid underground services and cables etc. and should typically be one third the height of the tree stem above ground.
  - Staked trees shall be secured to stakes with suitable proprietary rubber tree ties and spacers.
  - Immediately after planting, but before applying the below bark mulch, all trees should be saturated to field capacity.
  - Ornamental composted bark mulch will be spread to a depth of 75mm across a 0.8m dia circle around individual trees, ensuring that the root flare and base of the stem are not buried.

**3. HEDGEROW PLANTING**

- Ground Preparation**
- Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.
  - All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.
- Planting**
- The planting arrangement shall be as set out in the plant schedule on the relevant planting plan.
  - Bare-root hedge plants shall be notch planted in a treble staggered row at the rate of 5 plants per linear metre using 's' shaped notched using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4208 (1989).
  - Container-grown hedge plants will be planted into a pit dug 1.5x the diameter of the root mass, with the bottom and sides of the planting pit broken up to aid root expansion. The plants will be planted so that the root collar is exactly level with the ground surface.
  - All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer.
  - All container-grown shrubs will be protected from rabbit damage using approved proprietary 600mm plastic shrub shelters, supported with 0.9m x 32 mm x 32mm softwood stakes as advised by the manufacturer.
- Maintenance during first growing season**
- All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.
  - The planting area will be kept weed free throughout the maintenance period using approved herbicides in April, June and August.

**4. GENERAL MAINTENANCE**

- The Landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. All stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost. The site is to be visited monthly throughout the year to undertake the following operations:
    - Weed clearance: All planting areas to be kept weed free by hand weeding or herbicide treatment.
    - Litter clearance: All litter is to be removed from planting beds.
    - Watering: All planted areas are to be watered for the first two years from May to September following any dry periods of 7 days.
- Trees and Shrubs**
- All trees are to be watered weekly from May to the end of September unless unnecessary due to heavy rain, to receive 20 gallons of water. All shrubs are to be watered for the first two years from May to September following any dry periods of 7 days. All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced. Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens. Native shrubs - Using approved herbicides a 1m diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. Stakes may be removed from Year 2 if plant is fully established and if shelter is suppressing further growth.
- Hedges**
- Hedge lines shall be kept mulched until established. At the end of the Defects Liability Period / First Year's Maintenance the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season at the contractor's expense.



**KEY**

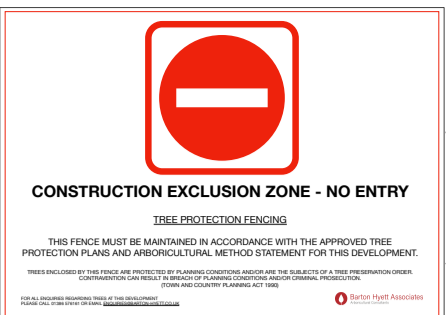
- Site Boundary
- Public Rights of Way
- Overhead Power Lines
- High Pressure Gas Pipe Lines and easement
- Existing Woodland, Hedgerows and Trees (with Root Protection Areas)
- Maintenance Track
- Site Compound
- Substation Area
- Mounting Structure
- Conversion Unit
- Proposed Security Fence (deer fencing)
- Access gate
- CCTV
- Swale
- Proposed Native Tree Planting
- Proposed Hedgerow (double staggered row)
- Areas of grass made good following construction - sown with Solar Park Long Term Grazing Mixture
- Fields subject to Grassland Restoration and Enhancement Plan (approximately 14.74ha)
- Field retained for agricultural use

Revisions:  
 First Issue: 09/03/2021 ASK  
 A- (21/05/2021 ASK) Amended to revised site layout  
 B- (27/05/2021) Amended to client comment  
 C- (08/06/2021 ASK) Red line boundary amended  
 D- (11/06/2021 ASK) Amendments to red line boundary/ecologist comments

**Landscape Mitigation Plan  
Brynryhd Solar Farm**

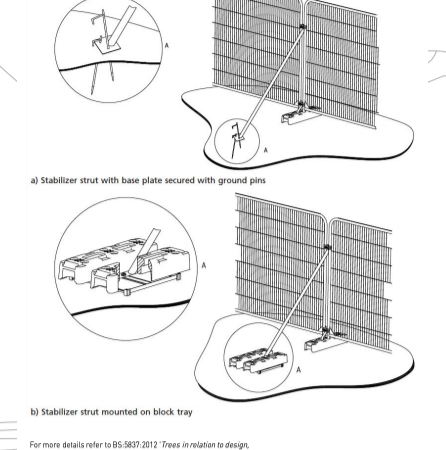
Client: Brynryhd Solar Farm Limited  
 DRWG No: **P20-1336\_09** Sheet No: REV: D  
 Drawn by: ASK Approved by: RF  
 Date: 11/06/2021  
 Scale: 1:2500 @A1





**CONSTRUCTION EXCLUSION ZONE - NO ENTRY**  
 THIS SIGNAGE MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED TREE PROTECTION PLAN AND CONSTRUCTION METHODOLOGY STATEMENT FOR THE DURATION OF THE CONSTRUCTION PERIOD.

The protective measures specified on this Tree Protection Plan must be used in combination with an approved Arboricultural Method Statement, and with reference to the overarching conditions of planning consent.



For any additional information, please contact the project manager.

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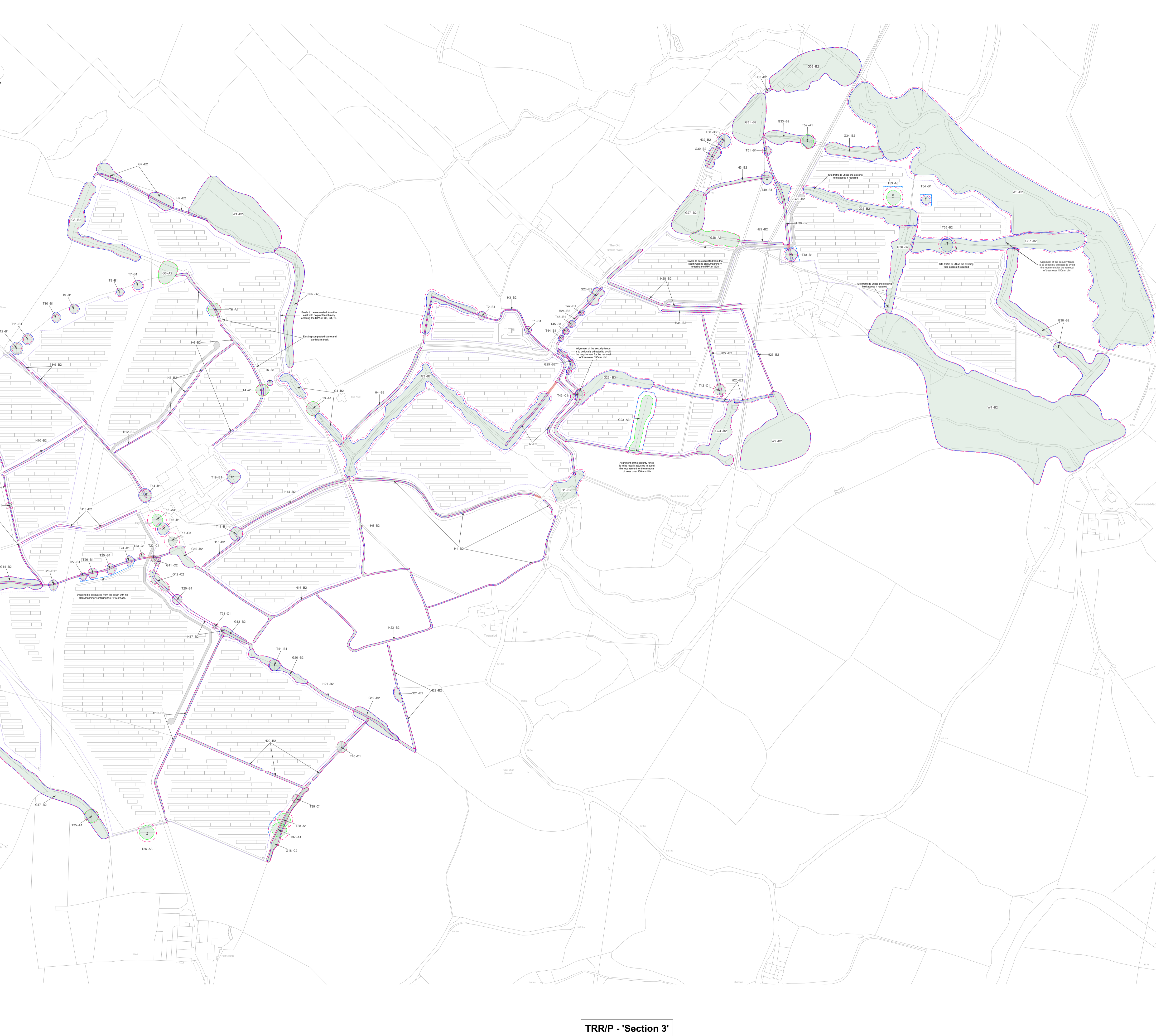
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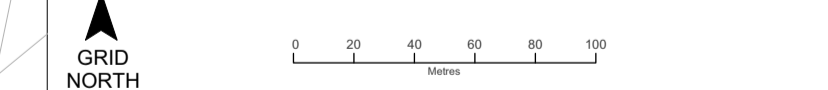


**KEY**

- Category A Tree - High quality (Retention highly desirable)
- Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
- Category B Tree - Moderate quality (Retention desirable)
- Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
- Category C Tree - Low quality (May be retained but should not constrain development)
- Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
- Category U Tree - Very low quality (Mostly unsuitable for retention)
- Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
- Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
- Shrub massifs/area (tree/outline of scope) (OOS)
- Tree / Hedgerow / Group to be removed
- Tree Protection Barrier

Tree No.	(in)	(m)	Species	Tr. Size	RPA Radius (m)	RPA Area (sqm)
T1	7		Common oak	SM	4.8	72
T2	8		Common oak	EM	5.8	104
T3	16		Common oak	M	9.8	290
T4	14		Common oak	M	8.4	222
T5	7		Common ash	SM	4.2	56
T6	12.5		Common oak	M	9.4	275
T7	8		Common oak	EM	6	203
T8	7		Common oak	EM	6	113
T9	8		Common oak	EM	6	113
T10	8		Common oak	EM	4.8	72
T11	8		Common oak	EM	6	113
T12	13		Holly	SM	6.6	137
T13	6		Holly	EM	4.8	76
T14	13		Common oak	M	8.4	222
T15	15		Sycamore	M	10.2	347
T16	16		Sycamore	M	10.2	327
T17	13		Common oak	M	10.8	366
T18	13		Common oak	M	9	255
T19	14.5		Common oak	M	9.8	304
T20	14		Common ash	SM	7	152
T21	7		Common ash	SM	4.2	56
T22	8		Common oak	SM	4.8	61
T23	11		Common oak	SM	4.2	56
T24	12		Common oak	EM	7	102
T25	16.5		Common oak	EM	7	102
T26	9		Common oak	EM	6.6	137
T27	9		Common oak	EM	6.6	137
T28	9		Common oak	EM	6.6	137
T29	9		Common oak	SM	4.2	56
T30	9		Common oak	SM	4.2	56
T31	8		Common oak	SM	5.2	64
T32	8		Common oak	SM	3.3	35
T33	8		Common oak	SM	3.8	48
T34	8		Common oak	SM	3.7	43
T35	17		Common oak	M	9.6	290
T36	17		Common oak	M	10.2	347
T37	17		Common oak	M	12	452
T38	13		Common ash	SM	4.8	72
T39	7		Common oak	SM	4.2	56
T40	12		Common ash	M	7.8	191
T41	14		Common ash	EM	8.4	222
T42	17		Common oak	EM	9	255
T43	8		Common oak	M	8.2	209
T44	7		Common oak	SM	3.3	35
T45	6		Common oak	SM	3.6	41
T46	7		Common oak	SM	4.2	56
T47	7		Common oak	SM	3	28
T48	15		Common oak	M	9.6	290
T49	15		Common oak	M	9.6	290
T50	15		Common oak	M	10.8	366
T51	14		Common oak	EM	8	184
T52	11		Common oak	M	10.2	327
T53	17		Common oak	M	10.2	366
T54	16		Willow	M	10.2	366
T55	15		Common oak	M	7.2	163
T56	15		Common oak	SM	9	255
T57	15		Common oak	SM	9	255
T58	15		Common oak	SM	9	255
T59	15		Common oak	SM	9	255
T60	15		Common oak	SM	9	255
T61	15		Common oak	SM	9	255
T62	15		Common oak	SM	9	255
T63	15		Common oak	SM	9	255
T64	15		Common oak	SM	9	255
T65	15		Common oak	SM	9	255
T66	15		Common oak	SM	9	255
T67	15		Common oak	SM	9	255
T68	15		Common oak	SM	9	255
T69	15		Common oak	SM	9	255
T70	15		Common oak	SM	9	255
T71	15		Common oak	SM	9	255
T72	15		Common oak	SM	9	255
T73	15		Common oak	SM	9	255
T74	15		Common oak	SM	9	255
T75	15		Common oak	SM	9	255
T76	15		Common oak	SM	9	255
T77	15		Common oak	SM	9	255
T78	15		Common oak	SM	9	255
T79	15		Common oak	SM	9	255
T80	15		Common oak	SM	9	255
T81	15		Common oak	SM	9	255
T82	15		Common oak	SM	9	255
T83	15		Common oak	SM	9	255
T84	15		Common oak	SM	9	255
T85	15		Common oak	SM	9	255
T86	15		Common oak	SM	9	255
T87	15		Common oak	SM	9	255
T88	15		Common oak	SM	9	255
T89	15		Common oak	SM	9	255
T90	15		Common oak	SM	9	255
T91	15		Common oak	SM	9	255
T92	15		Common oak	SM	9	255
T93	15		Common oak	SM	9	255
T94	15		Common oak	SM	9	255
T95	15		Common oak	SM	9	255
T96	15		Common oak	SM	9	255
T97	15		Common oak	SM	9	255
T98	15		Common oak	SM	9	255
T99	15		Common oak	SM	9	255
T100	15		Common oak	SM	9	255

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice.



PROJECT TITLE  
**Brynrhyd Solar Park**

DRAWING TITLE  
**Tree Retention, Removal & Protection Plan**

SCALE	1:2500 @ A1	DRAWING NUMBER	BHA_791_02
DRAWN BY	SD	APPROVED BY	IH
REVISION	A	SHEET	14/06/2021

LAYOUT USED WITHIN DRAWING  
**Brynrhyd Layout 09-06-2021**

CLIENT  
**Island Green Power**

COORDINATE SYSTEM / DATUM  
**British National Grid / Newlyn Datum (AOD)**

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