Design and Access Statement

DOC 01

Development of National Significance

Alaw Môn Solar Farm

Land west of the B5112, 415m south of Llyn Alaw, 500m east of Llantrisant and 1.5km west of Llannerch-y-Medd, Anglesey

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1. INTRODUCTION

1.1. Pegasus Group has been appointed by Wylfa Green Ltd (herein referred to as "the applicant") to prepare a Design and Access Statement for a renewable energy scheme comprising ground mounted solar and ancillary battery storage facility on land on the west of the B5112 and is located 415m to the south of Llyn Alaw, 500m to the east of the small hamlet of Llantrisant, and 1.5km to the west of the village of Llannerch-y-Medd.

1.2. The proposed development is called 'Alaw Mon Solar Farm'. By virtue of its potential generating capacity, which stands at up to 160MW [Megawatts], the proposed development constitutes a Development of National Significance ("DNS"). Therefore, instead of applying to the Local Planning Authority, Isle of Anglesey County Council ("IACC"), for Planning Permission, the application will be made to the Planning and Environment Decision Wales (PEDW). The application process is managed by PEDW on behalf of the Welsh Minister

1.3. The statutory requirement for a Design and Access Statement to accompany an application for a DNS is set out in article 14 of the Developments of National Significance (Procedure) (Wales) Order 2016. This document has been prepared in line with the Planning (Wales) Act 2015 and The Design and Access Statements in Wales: Why, What and How (Welsh Government 2017). These documents set out the requirements regarding the contents of a Design and Access Statement and reflect the objectives of good design as championed by Future Wales, Planning Policy Wales (PPW), and Technical Advice Note 12: Design (TAN 12).

1.4. This Design and Access Statement should be read in conjunction with the other documents that support the application submission. Notwithstanding the above, this Design and Access Statement is designed to be read as a standalone document if required.

2. REGULATORY BACKGROUND

2.1. Part 5 of the Planning (Wales) Act 2015 ("Act") established a new category of development named Development of National Significance (DNS). Provision in the Act came into force in March 2016 which requires the Welsh Ministers to determine DNS projects, with applications being made directly to them. . The process for applying for a Development of National Significance is set out by the Development of National Significance (Procedure) (Wales) Order 2016 and subsequent Regulations.

2.2. The DNS application process is managed by PEDW on behalf of the Welsh Minsters. Decisions are made in the context of the Welsh Government's national planning policy, for renewable energy development this specifically relates to Policies 17 and 18 of Future Wales: The National Plan 2040. In the context of the proposed development and given its location the relevant polices of the Anglesey and Gwynedd Joint Local Development Plan 2011-2026 and Planning Policy Wales (edition 12) would also be a material consideration. The relevant polices are described and assessed within the supporting Planning Statement.

2.3. The purpose of the DNS process is to ensure timely decisions are made on development proposals that are of the greatest significance to Wales because of their potential benefits and impacts.

2.4. Following the acceptance of a planning application, PEDW will then carry out a 5 week consultation period. An Inspector will also be appointed to examine the application. The Inspector will consider evidence and representations from the applicant, local communities, the local planning authority and other statutory consultees and interested parties, submitted both in writing and, if required, at targeted hearing or inquiry sessions, which are held in public. Following their consideration of the evidence, the Inspector will write a report to the Welsh Ministers, setting out their conclusions and making a recommendation as to whether or not the application should be granted planning permission. The Welsh Ministers will then decide the application.

3. SITE ASSESSMENT

3.1. The site is located on the Isle of Anglesey and extends to 268.77 hectares ('ha'). The site is located approximately 500m to the south east of the small hamlet of Llantrisant and approximately 1.5km to the west of the village of Llannerch-y-medd. It is also to the west of the B5112 and approximately 415m to the south of Llyn Alaw. The site includes land within the adopted highway of local roads that runs from the main part of the site to the point of connection to the National Grid Substation at Wylfa.

3.2. The topography of the landscape within which the site is located is rolling, and to the north, the site extends over and down a local ridgeline that defines the south-eastern edge of the Afon Alaw valley. Llyn Alaw reservoir is a large waterbody to the north of the site, with the rivers Afon Alaw and Cory-y-bol flowing south-west towards the coast. There are a number of smaller watercourses and drains through and between the site, including a tributary of the Cors-y-bol; a pond within the site, drainage ditches, and a number of ponds in the immediate vicinity of the site.

3.3. The site is irregularly shaped. Within the central part of the site, several farm buildings at Nantanog are present, which are encompassed by, but located outside of, the site boundary. Other properties in the vicinity of the site include a cluster of houses in the hamlet of Carmel to the south of the site.

3.4. The site comprises predominantly agricultural fields, currently utilised for grazing purposes. The agricultural fields are typically bound by hedgerows. Within the central part of the site, several farm houses at Nantanog and associated buildings are present, which are encompassed by, but located outside of, the site boundary.

3.5. The Nantanog Site of Special Scientific Interest (SSSI) is designated for its nationally important geological exposure and is within the site boundary. The site is also approximately 415 metres south of Llyn Alaw, which is designated as a SSSI. A Local Wildlife Site (LWS), Cors y Bol, is present in the western part of the site

3.6. The site is intersected by several Public Rights of Way (PRoW) and the National Cycle Route (NCR) 5 dissects the site in an east-west orientation.

Landscape

3.7. With regards to the National Landscape Character Areas (NLCA), the application site is covered by NLCA 02: Central Anglesey and key characteristics that are relevant to the application and its setting include:

- A distinctive geological grain follows a north-east to south-west ‘grain’;
- A classic ‘basket of eggs’ rolling drumlin landscape, especially in the north-west;

- Lowland pastoral grazing land bounded by a strongly geometric pattern of medium to large scale and, more occasionally, small scale fields;
- A number of minor rivers and streams cross the landscape, whose alignment is influenced by the north-east to south-west trend. There are many shallow hollows and fens with wetland features including rush pasture and valley mires;
- This is a generally rolling, open landscape with a well-established pattern of field boundaries, predominantly of hedgerows but with cloddiau in some areas;
- Woodlands larger than a small copse are an exception and other than in sheltered areas, individual trees are few;
- The only urban settlement is the county town of Llangefni. There are only a few villages, but numerous scattered hamlets and farms;
- Ritual and funerary monuments including cairns and round barrows, Iron Age hill forts and Early Christian churches, burial grounds and inscribed stones;
- Historic windmill towers;
- Modern wind farms; and
- The large reservoir, Llyn Alaw, is nearly 3 miles long and a notable visual feature.

3.8. At a more detailed level, LANDMAP divides Wales into discrete geographical areas known as aspect areas. The 5 LANDMAP datasets are called the Geological Landscape, Landscape Habitats, Visual and Sensory, Historic Landscape and Cultural Landscape. The Visual and Sensory dataset locates the application site within Aspect Areas North West Drumlins and Central Smooth Belt. The areas are described as:

- Central Smooth Belt - This is a very extensive area, stretching from Moelfre on the east coast, to Aberffraw on the west coast. It appears fairly flat in the west, but more undulating and higher in the east. It is primarily pasture, with some arable land, and medium to large sized fields with hedges, some hedgebanks and stone walls. It is criss-crossed by a network of mainly small roads, with many scattered houses and farms, hamlets and small villages. Generally it feels settled and prosperous, with a quiet rural feeling.
- North West Drumlins - This extensive area, covering most of eastern part of north Anglesey, stretches from Cemaes and Llyn Alaw in the east to the north-west coast and the A55 in the west. The basket of eggs glacial landscape of smooth oval hillocks and damp hollows is typically covered with regular medium-sized fields with hedges, mainly pasture for sheep and cattle, with some arable land. There are numerous small villages, hamlets and scattered farms, linked with small roads, giving a settled character to this quiet, unremarkable but pleasant landscape, seen from the busy A55.

3.9. The Landscape Habitats Aspect Area is "Farmland - West Anglesey", described as:

- 'An area of improved grassland dominated farmland with an arable element to a certain limited degree. Also present are a scattering of other habitats with small areas of woodland and houses being scattered sparsely throughout the Aspect Area.'

3.10. The quality of the area is described as moderate, with the aim to 'preserve that areas of semi-natural habitat.'

3.11. The Anglesey Area of Outstanding Natural Beauty (AONB) is approx. 5.8km to the east of the application site at its closest point. There are no Registered Parks and Garden's, Registered Historic Landscapes, located within or immediately surrounding the application site.

Vegetation and Land Use

3.12. There are no areas of Ancient Woodland within 2km of the site boundary.

3.13. The application site is crossed by several hedgerows, creating a medium sized field pattern of mixed grazing pasture and arable land. Some of the varying field sizes of the application site appear larger than the fields of the surrounding agricultural landscape. Hedgerows are generally managed at a relatively low height (typical of the area) in the northern part of the application site with some exceptions. This is one of the least wooded lowland landscapes in Wales. Though there are few trees, the hedgerows and various small copses and areas of scrub act to counter the exposure and provide much shelter from the prevailing south westerly winds.

Settlements

3.14. The application site is located outside of settlement areas. The small hamlet of Llantrisant is 500 metres to the south of the application site, and 1.5km to the west is the village of Llannerch-y-Medd. Several farm houses at Nantanog and associated buildings are present, which are encompassed by, but located outside of, the Site boundary.

Geology

3.15. The Nantanog Site of Special Scientific Interest (SSSI) is designated for its nationally important geological exposure and is within the site boundary. This is not an ecological receptor. The site contains exposed rock and scree occurs within the Nantanog SSSI, a small rocky ravine, which Is adjacent to the site boundary and surrounded by the Site.

Biodiversity

3.16. The site is approximately 325 metres south of Llyn Alaw which is designated as a SSSI. A Local Wildlife Site (LWS), Cors-y-Bol, is present in the western part of the site. Table below lists all the designations within 2km of the application site, with an extended search for international designations within 10km of the application site.

Site Name	Designation	Category	Distance from Site Boundary
Anglesey Terns / Morwenoliaid Ynys Môn	SPA	International	Site wide
Nantanog	SSSI	National	On site
Tir Pori Traian	LWS	Local – Non statutory	Adjacent to site
Cors-y-Bol	LWS	Local – Non statutory	Adjacent to site
Llyn Alaw	SSSI	National	325m
Cors Tre'r Ddol	LWS	Local – Non statutory	1040m
Tyddyn Gyrfer	SSSI	National	1530m
Llyn Llywenan	SSSI	National	2100m
Corsydd Mon / Anglesey Fens	SAC	International	6000m
Corsydd Môn a Llyn / Anglesey and Llyn Fens	Ramsar	International	6000m
Llyn Dinam	SAC	International	9500m
North Anglesey Marine / Gogledd Môn Forol	SAC	International	9500m

3.17. Within 2km of the application site boundary there no designated woodland areas.

Hydrology

3.18. A number of 'main rivers' and 'ordinary watercourses' are located throughout the site and surrounding area.

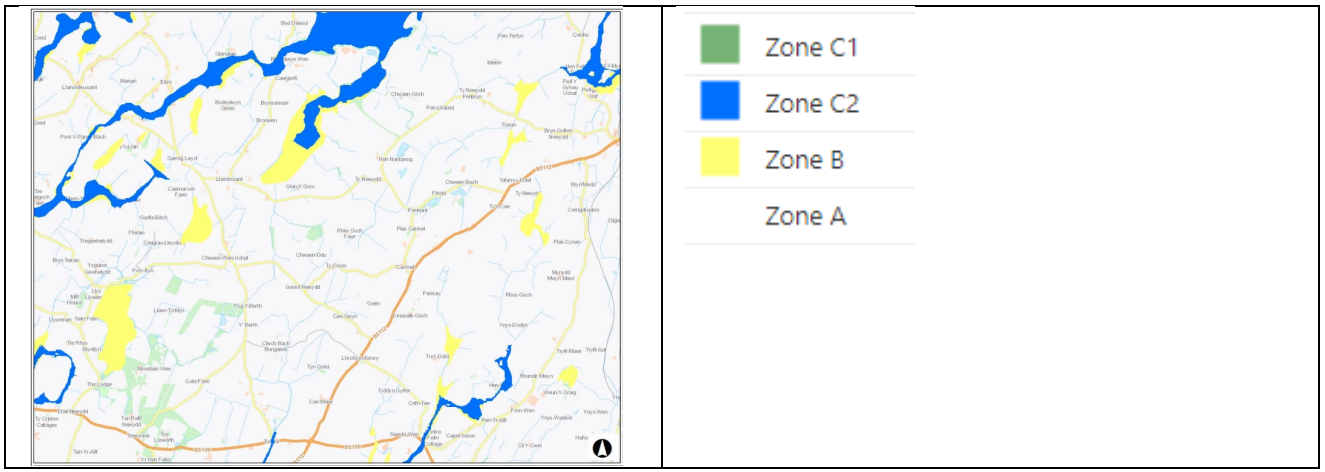
3.19. Geological data held by the British Geological Survey (BGS) indicates that the majority of the Site is underlain by superficial deposits of the Till Devensian, compromising Diamicton . The land along the eastern boundary of Field 62 and along the western boundaries of fields 2, 9, and 21 of the site is underlain by Alluvium, comprising clay, silt, sand, and gravels. An area the eastern boundary of field 62, and an area along the access road leading to field 63 is underlain by the bedrock the superficial Glaciofluvial Deposits comprising sand and gravel.

3.20. The Till Devensian superficial geology is classified as a 'Secondary Undifferentiated Aquifer' and the Alluvium and Glaciofluvial Deposits is classified as a 'Secondary A Aquifer'.

3.21. When reviewing NRW flood maps, most of the site is located within fluvial Flood Zone A. According to TAN15 of the NRW Zone A is considered to be at little to no risk of fluvial or tidal/coastal flooding. There are limited areas along the western boundary and north-eastern corner is in Fluvial Flood Zone B. Zone B is defined as areas known to have been flooded in the past. A very limited area along the western boundary is in Fluvial Flood Zone C2, associated with Cors y Boi. Zone C is based on the extreme flood outline, equal to or greater than 0.1% Annual Exceedance Probability. In addition, Flood Zone C2 is defined as areas of the floodplain without significant flood defence infrastructure.

3.22. The development is deemed to be 'Safe' and that it would not increase flood risk elsewhere. The risk of external flooding as a result of the development is considered to be 'negligible'.

Figure: NRW Flooding Map



3.23. The Surface Water (Pluvial) Flood Map indicates that the application site is at a very low risk from surface water flooding for the majority of the application site with some small pockets of land shown to be at high risk.

Cultural Heritage

3.24. Several prehistoric monuments are recorded within a 2km radius of the site boundary These comprise Bronze Age burial mounds, numerous Bronze Age standing stones, possible Bronze Age burnt mounds, Iron Ages hillforts and possible Bronze and/or Iron Age settlement and associated stock enclosures and field systems.

3.25. Evidence of early medieval and medieval activity recorded within a 2km radius of the site boundary comprises only inscribed stones and cists and grave-cut burials.

3.26. Study of historic maps dated 1821, 1844, 1865, 1889, and 1900 suggests that the present layout of the site is predominantly of late 19th-century date and has superseded earlier field systems.

3.27. The ruined buildings of Tyddyn-Bach are the only buildings located within the site and were subject to a basic level of historic building records.

3.28. The Scheduled Monument of Cors-y-Bol Bronze Age burial Mound abuts the north-western part of the boundary, compromises a low circular bank up to 20m in diameter, with some stones visible at the surface on the north side and a possible raised area at the centre.

3.29. Two Scheduled Monuments are located within 2km of the application site, these are:-

- Cors-y-Bol Bronze Age Burial Mound;
- Y Werthyr Iron Age Hillfort;

3.30. No World Heritage Sites, Registered Historic Landscapes, Registered Historic Parks and Gardens, or Conservation Areas are located within 2km of the application site.

Agricultural Circumstances

3.31. There are four farm businesses within the site.

3.32. Nantanog - Nantanog was a dairy farm in the 1950's and 1960's, but dairy farming ceased in 1965. The farm has, since then, been a livestock holding. The farm extends to approximately 197 ha. Since 2000 the land has been let on short-term arrangements to other farmers and is used for silage and grazing livestock. The farmhouse has fallen into disrepair, as have the traditional buildings, and it is intended that income from the solar panels could be used for their restoration. The large agricultural building is still in agricultural use in connection with the grazier's agricultural activities.

3.33. Chwaen Goch - The principal holding extends to 152 ha, and the farm rents a further 144 ha in three parcels. The farm is run by two generations of the same family. The normal stocking involves about 100 suckler cows, with offspring in-wintered at the different holdings and offspring finished in the spring. There are about 300-350 head of cattle. The farm runs a breeding flock of about 400 breeding ewes, finishing most at grass. Some years 15 ha of arable crops are grown, principally for the straw, but the arable land is not within the site.

3.34. Tan Rallt is a small farm of approximately 36 ha. The farm is run on an extensive stocking agreement and is let for summer mowing or grazing.

3.35. Chwaen Bach is a grassland holding of 78 ha, with a further 16 ha rented. The farm runs a breeding flock of 600-650 crossbred ewes, finishing most lambs.

Agricultural Land

3.36. A detailed ALC survey was carried out in April 2021, using the MAFF methodology. The results are provided in the table below: -

ALC Grade/Sensitivity of Receptor	Total Area Identified in Survey (Ha)	Total (% of the Site)
Grade 1 (Excellent) – Very High Sensitivity	0	0
Grade 2 (Very Good) – Very High Sensitivity	36.7	13.7%
Subgrade 3a (Good) – High Sensitivity	122.3	45.5%
Subgrade 3b (Moderate) – Medium Sensitivity	87.5	32.6%
Grade 4 (Poor) – Low Sensitivity	6.5	2.4%
Grade 5 (Very Poor) low Sensitivity	0	0
Other Land / Disturbed Land	7.2	2.7%
Grid Corridor (consisting of non-agricultural/temporary reversible)	8.6	3.2%
Total	**268.8**	**100**

3.37. The terrain, despite the ALC grade, is suited to grassland and grazing rather than to arable production. Rock outcrops, rocks close to the surface, steep slopes and small gateways all provide challenges to mechanical activity, such as the examples below. Many fields have a variety of land classifications within each field, reflecting limitations. There are many areas where surface rocks will significantly limit mechanical use.

3.38. Grade 2 agricultural land (high sensitivity) is limited by (i) an overall climate limitation, (ii) exposure to wind in the western parts of the site, and by (iii) soil wetness where well drained soil profiles (Wetness Class) have medium clay loam or medium silty clay loam topsoils. This grade of land generally occurs at higher elevations in the western, southern and eastern parts of the site. Subgrade 3a agricultural land (high sensitivity) is limited by soil wetness, where soil profiles with medium clay loam or medium silty clay loam topsoils are slightly seasonally waterlogged (Wetness Class II) or seasonally waterlogged (Wetness Class III). This grade of land generally occurs on upper and middle slopes across the Solar PV site. Subgrade 3b agricultural land (medium sensitivity) is limited by (i) slopes with gradients between 7° and 11°, and (ii) soil wetness, where soil profiles with medium clay loam or medium silty clay loam topsoils are slowly permeable and seasonally waterlogged for long periods over the winter (Wetness Class IV). This grade of land tends to occur at the base of slopes and in the bottom of valleys. It is readily identified on the site by the presence of many soft rushes in the grassland.

3.39. Grade 4 agricultural land (low sensitivity) is limited by (i) soil wetness in the western end of the site, where there are some soil profiles with heavy silty clay loam topsoil in Wetness Class IV, and (ii) by slopes with gradients between 11° and 18° in the south-western part of the Site.

4. DESIGN PARAMETERS AND DESIGN SOLUTION

The Proposed Development and Design Principles

4.1. The applicant's design brief for the project was to design a cohesive scheme which maximises the potential energy yield available; whilst achieving a layout which relates and takes into account the surrounding landscapes designations and delivers on green infrastructure requirements.

4.2. The design of the development has developed thorough a multidisciplinary design process guided from the following five sources:-

- the physical opportunities and constraints the application site provides;
- the physical needs (and land take requirements) of the proposed development;
- the policy context which surrounds the proposed development;
- consultative process - technical and design comments provided by statutory and specialist consultees as part of the various informal consultation undertaken by the applicant; and
- advice put forward by the applicant and their multidisciplinary design team.

Design Solution

4.3. The application proposal relates to the construction, operation, maintenance and decommissioning of a ground mounted solar power and battery storage facility. An operational lifespan of 40 years is sought after which the proposed development will be decommissioned and restored. The site area extends to 268.77 hectares. In terms of development footprint, the solar, battery and transformers would occupy 187.64 ha of the main application site. The remaining areas of the field enclosures would provide green infrastructure. The fields would also be made available for sheep grazing.

4.4. The development proposal can be split into the following key components:-

- Ground Mounted Solar PV Arrays;
- Battery Energy Storage System & Substation Compound;
- Ecological Enhancement
- Cable Route and point of connection at Wylfa.

Development Constraints

4.5. Appropriate design and siting required to take account of:

- Established built form and other physical constraints within the farmstead (including overhead electricity cables, underground utilities pipes and the Public Right of Way)
- Established field boundaries, river, ditches and site-specific ecological sensitivities which guide the step-wise approach[1]
- Proximity to nearby residential receptors
- A very limited area along the western boundary is in Fluvial Flood Zone C2, associated with Cors y Boi
- Two scheduled monuments located within 2km of the main development site
- The ruined buildings of Tyddyn-Bach located within the site and subject to a basic level of historic building records

Development Opportunities

- Continued agricultural use of the application by sheep grazing
- Land take requirement – the application site is an appropriate size for the development proposal
- Primary point of access to the application site is served by appropriate agricultural vehicular access.
- Biodiversity gains – ground mounted solar development provide opportunities for significant biodiversity gains
- Sunlight intensity levels – the site is well located geographically for solar gain and is free of any buildings or landscape features that could cause overshadowing
- Contribute to the provision of renewables and low carbon energy
- Contribute towards regional energy strategy which seeks to speed up the move from using fossil fuels to renewable energy.

[1] The step-wise approach is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity. In doing so, determining authority must also take account of and promote the resilience of ecosystems, in particular the following attributes, known as the DECCA Framework: diversity between and within ecosystems; the extent or scale of ecosystems; the condition of ecosystems including their structure and functioning; the connections between and within ecosystems; and adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example.

- Rural diversification to four farming enterprises. Energy diversification is an established practice for farm businesses within this part of Anglesey, such as the Trysglwyn Windfarm and Llyn Alaw Windfarm.

Design Flexibility

4.6. The proposed development has employed a 'maximum design scenario' approach which reflects the Rochdale Envelope approach.

4.7. The Rochdale Envelope is employed where the nature of the proposed development means that some details of the whole project have not been confirmed and flexibility is sought to address uncertainty. It provides a 'maximum design' scenario approach to the impact of a project and allows for a broad definition of the project to be framed within a number of set parameters. This approach allows for a project to be assessed on the basis of maximum project design parameters in order to provide flexibility, while ensuring all potentially significant effects (positive or adverse) are assessed within the planning application. The need for flexibility in design, layout and technology is required to address uncertainties inherent to the development. This is very pertinent to solar development due to the rapid pace of change in module technology and commercial availability. As technology advances, it is possible that modules could become more efficient which would result in a potential reduction in total module area required to deliver the same amount of generation. This in turn could require the micro-siting of ancillary equipment to reflect such changes, i.e., the final locations of cabling and inverters. Accordingly, a final build plan would be submitted to the Local Planning Authority as part of a pre-commencement condition. The final build plan would demonstrate how the final 'as-built' design remains within the parameters of the forthcoming DNS application submission. This approach is consistence with good practice applied at other recently permitted DNS energy schemes.

4.8. Flexibility is also required for the cable route; the layout shows the development will connect to the electricity grid via the National Grid Substation at Wylfa.

Ground Mounted Solar PV Arrays

4.9. The design principles of the solar modules are:

- Photovoltaic (PV) arrays , which would be a maximum of 3m in height about existing ground levels
- A number of inverter and transformer block at various locations around the arrays
- Boundary fencing (e.g deer/stock fencing)
- A CCTV system, pole mounted, located at strategic points around the site
- Storage container(s) for spare parts etc
- Relevant communications and monitoring equipment

- Provision of permeable internal access tracks and improvement of existing vehicular accesses for the construction, operation and decommissioning phases of the development

4.10. The solar PV modules would convert solar irradiance into Direct Current (DC) electricity. The proposed PV panels may also be bifacial (such that they will collect light both on the front and the rear sides of the panel as it captures sunlight reflected from the grass surface under the solar framework).

4.11. The PV modules would be mounted on south facing galvanised steel and anodised 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 posts supporting the framework would be pushed into the ground to a suitable depth based on site ground conditions. The framework is designed to hold panels secure in high winds and will be designed according to the relevant codes and standards. The solar panels are of a 'fixed' design. This means that the supporting metal framework is installed at 15° to 30° from horizontal having a maximum height of 3 m above existing ground levels in long linear rows running from east-west. The panels face south. The installed angle (°) is dependent on the existing ground topography and spacing between solar rows.

4.12. Land between and beneath the panels would be used for biodiversity enhancements and/or seasonal sheep grazing. This is discussed in detail below.

4.13. The arrays would be set within a 2.0m high security fence. Cables linking the rows of panels will be buried in the ground within trenches, typically up to 1.2m in depth.

4.14. Internal access tracks will be required and involves the laying of permeable aggregate.

Battery Energy Storage System

4.15. The battery energy storage system consists of containerised battery units that can store energy and are able to release or absorb energy from the power network. Being able to absorb and release energy, the battery energy storage system at the proposed development can be used to contribute towards the frequency balancing services, where the power is being generated or absorbed statically or dynamically depending on the system frequency. When there is not enough power, batteries are discharged to balance under frequency preventing black and brown outs. To balance over frequency batteries are charged to prevent dangerous spikes across electricity infrastructure.

4.16. Under normal working conditions, the battery energy storage system would be unmanned. Visual checks will be undertaken during maintenance visits to the proposed development.

4.17. The equipment and infrastructure to be installed at the battery energy storage system include:

- Battery storage system contained within a 2.4m high gated compound

- 42No. battery containers measuring 12.2m by 2.4m and a height of 2.9m
- The battery containers could be dark green or similar in colour
- Retaining wall
- Internal access tracks
- Vehicular parking
- Transformers and inverters
- The battery compound will be surfaced with chippings.

4.18. Earthworks would be required to create two platforms for the battery compound. A Safety Management Plan accompanies the application submission and is presented as Technical Appendix 2.3 of the accompanying Environmental Statement.

Substation Compound

4.19. A new substation compound will be required for the proposed development, and this will be positioned next to the battery energy storage system. The function of the substation will be to take power from the solar arrays, and this would then run within an underground cable to the point of connection at Wylfa. Whilst external lighting will be installed at the substation for emergency work during hours of darkness, the substation will not normally be lit.

4.20. The main design principles of the substation compound are: -

- Substation located within a secure 2.4m high gated compound
- LV control room, switch rooms & 132kv Relay Room
- Earthing Transformer, Transformer bund, High level connectors; circuit breaker, low level disconnectors; and anchor blocks
- Car parking
- Access Road
- Maintenance strip

- Emergency lighting and CCTV

4.21. As with the battery energy storage system, the substation compound will require cut and fill earthworks profiling to create a level surface.

Cable Route and Point of Connection

4.22. The Development will connect to the electricity network via the National Grid Substation at Wylfa. Connection will be provided by underground cabling located within the existing adopted highway or it its footpath / verge.

4.23. The development includes an underground cable route which runs from the main part of the site along the public highway to the National Grid Substation at Wylfa, located approximately 9.5km north of the main part of the Site. The cable route will be underground and will follow the road network. The construction activities for the installation of the cable route will be temporary in nature. A separate licence under the New Roads and Street Works Act will be secured at the appropriate time, and prior to construction, to allow the Applicant to carry out road excavations in the highway. There may be some localised delay to drivers whilst this occurs.

Landscape & Biodiversity Mitigation & Enhancements Proposals

4.24. Measures have been specifically designed to enhance habitats after intensive grazing and provide a gain in biodiversity at the site post-development.

4.25. Green infrastructure provision delivered as part of the proposed development will include: -

- 6.21 ha of new woodland planting,
- 1.69 ha of new native scrub planting,
- 6.85 ha of meadow grassland,
- 52.59 ha Grassland around the perimeter develop a taller sward, with some tussocks allowed to develop,
- 4,304 m of additional hedgerow (both infilling gaps and new sections of hedgerow),
- 14 (0.23ha) of new ponds and wetland/marginal vegetation.

4.26. Existing grassland will be retained within the solar PV arrays Habitat conservation, creation and enhancement measures are proposed across the entire application site in order to increase the extent and quality of habitat along key corridors within and through the

application site, notably for specific landscape management areas have been introduced to the scheme. These are discussed in detail within chapter 6 of this statement.

Construction Phase

4.27. It is anticipated that the construction phase of the Development would last approximately 12 months (52 weeks), subject to gaining planning permission.

4.28. The construction of the solar farm element of the Development would include the preparation of the Site, installation of the access tracks, erection of security fencing / CCTV, assembly and erection of the photovoltaic arrays, and the installation of the inverters/transformers and grid connection and underground cables.

4.29. The construction of the battery energy storage system element of the development would include the preparation of the site, installation of the access roads, erection of security fencing, assembly of the battery system, and installation of the switch-room and grid connection.

4.30. Construction activities and deliveries will be carried out Monday to Friday 08:00-18:00 and between 08:00 and 13:30 on Saturdays. No construction activities or deliveries will occur on Sundays or Public Holidays. Where possible, construction deliveries will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00). it is expected that there will be approximately 10 HGVs accessing the Site per day on average over the construction period.

4.31. All construction traffic will route to the site from the A55, via the B5112. To the north of Carmel, vehicles will turn left off the B5122 onto an unnamed road, before turning right into the main Site access, where the site compound is to be located. Other routes to the Site have been reviewed and this route is considered the most appropriate following a site visit and traffic count surveys.

4.32. All deliveries will be unloaded in the site compound, with smaller vehicles (maximum 10m rigid) then transporting materials to the respective land parcels.

Operational Lifespan

4.33. A temporary operational lifespan of 40 years would be sought for the entire development and linked to the first export date of electrical energy from the development. During the operational phase, the activities on the application site would amount to servicing and maintenance of plant and equipment and vegetation management.

4.34. Traffic impacts from the operational phase of the proposed development will only consist of one or two Light Goods Vehicles per month.

Decommissioning

4.35. After a 40 year period the proposal would be decommissioned with all electricity generating equipment and built structures associated with the proposed development removed from the application site and the land returned to agricultural use.

4.36. A decommissioning plan would be prepared prior to the decommissioning commencing. The application site will be surveyed by an appropriately qualified ecologist to identify any ecological constraints arising from decommissioning activities.

4.37. It cannot reasonably be foreseen what legislative protection will be afforded to particular wildlife species at the end of the scheme's lifespan. Further surveys for protected species which could be impacted by decommissioning would also be expected. Where possible and when electrical items have an ongoing life-span they will be removed from the application site in whole units and re-used in current form. Where units do not have an ongoing life-cycle they will be placed into a suitable re-cycling skip or container and then removed from the application site to a suitable waste recycling centre. Following decommissioning, there may be a period of soil management aftercare.

Legacy Community Benefits

4.38. As part of the legacy community benefits associated with the application proposal, the applicant has pledged a legacy community benefit fund, that would be paid annually for the lifetime of the development. The Applicant intention is set out in a draft Deed of Gift which accompanies the submission. Depending on the structure of the fund, the annual payment based on the candidate layout would be approximately £32,000 per annum. This equates to approximately £1.28 million over the lifetime of the project. The Applicant anticipates that Menter Mon would act as the fund administrator and be responsible for managing and distributing the funds to the local communities.

5. DESIGN EVOLUTION

5.1. Over the course of the design process, the applicant has continuously refined the design of the proposed development to encompass the Council's and other stakeholders' feedback at numerous junctures.

5.2. Chapter 5 of the Environmental Statement explains the design evolution. It explains how the initial concept designs were prepared and refined as the development boundary and proposals were progressed in its formulative stages up to the 'design freeze' for the pre-application consultation and then the application submission. Within the original site boundary, representing all land within the land assembled, the area and layout was initially defined based on the optimal solar PV arrangement considering the most efficient layout and orientation within the land holding that would maximise the output of the solar farm within the land assembled. From this position, the site boundary and application proposal was refined, considering environmental constraints and opportunities. Numerous iterations to the Site layout, and more generally to specific elements of the design, have occurred as the application proposal has evolved since conception. The site boundary has been amended to reflect design changes since the request for a Scoping Direction was submitted to Planning Inspectorate Wales (now Planning and Environmental Decisions Wales).

5.3. The early layout iterations for the development were prepared without inverters, access roads and associated infrastructure to allow for subsequent design inputs and amendments resulting from feedback from the consultant team, consultees and design team. The additional plant and equipment were added later in consideration of opportunities and constraints specific to the location of associated infrastructure (i.e. visual, noise or access). The Site boundary was considered and amended to reduce impacts of the development, including consideration of opportunities and constraints. The local environment, and the character of the surrounding area and landscape, have informed the design of the development inclusive of the embedded mitigation incorporated into the design.

5.4. The evolution of the design of the development since March 2021 is shown on Illustrations 5.1 to 5.5. The submission layout for the application proposal is shown on Illustration 5.6. Examples of the changes to the site boundary include changes (reduction) in the total site extent, inclusion of the grid connection route, inclusion of landscape margin and internal cable route and removal of fields from development. Examples of the changes to the development include relocation of the battery energy storage system and substation compound, adjustment to panel offsets and buffers for landscape, ecology, residential amenity and other technical design constraints. These changes also included the removal of fields from development and adjustment of the internal arrangements (notably fence line and access roads). The layout was amended to achieve opportunities identified and address findings of studies/reports prepared to support the Environmental Statement including residential amenity and, where possible, addressing consultee and public comments made during the two community consultations held in July 2021 and July 2023..

Illustration 5.1 – Preliminary Inception Design – March 2021

5.5. The inception design was established in March 2021. Within the original site boundary, representing all land within the land assembled, the area and layout was initially defined based on the optimal solar PV arrangement considering the most efficient layout and orientation within the land holding that would maximise the output of the solar farm within the land assembled.

Illustration 5.1 Preliminary Layout – Design A

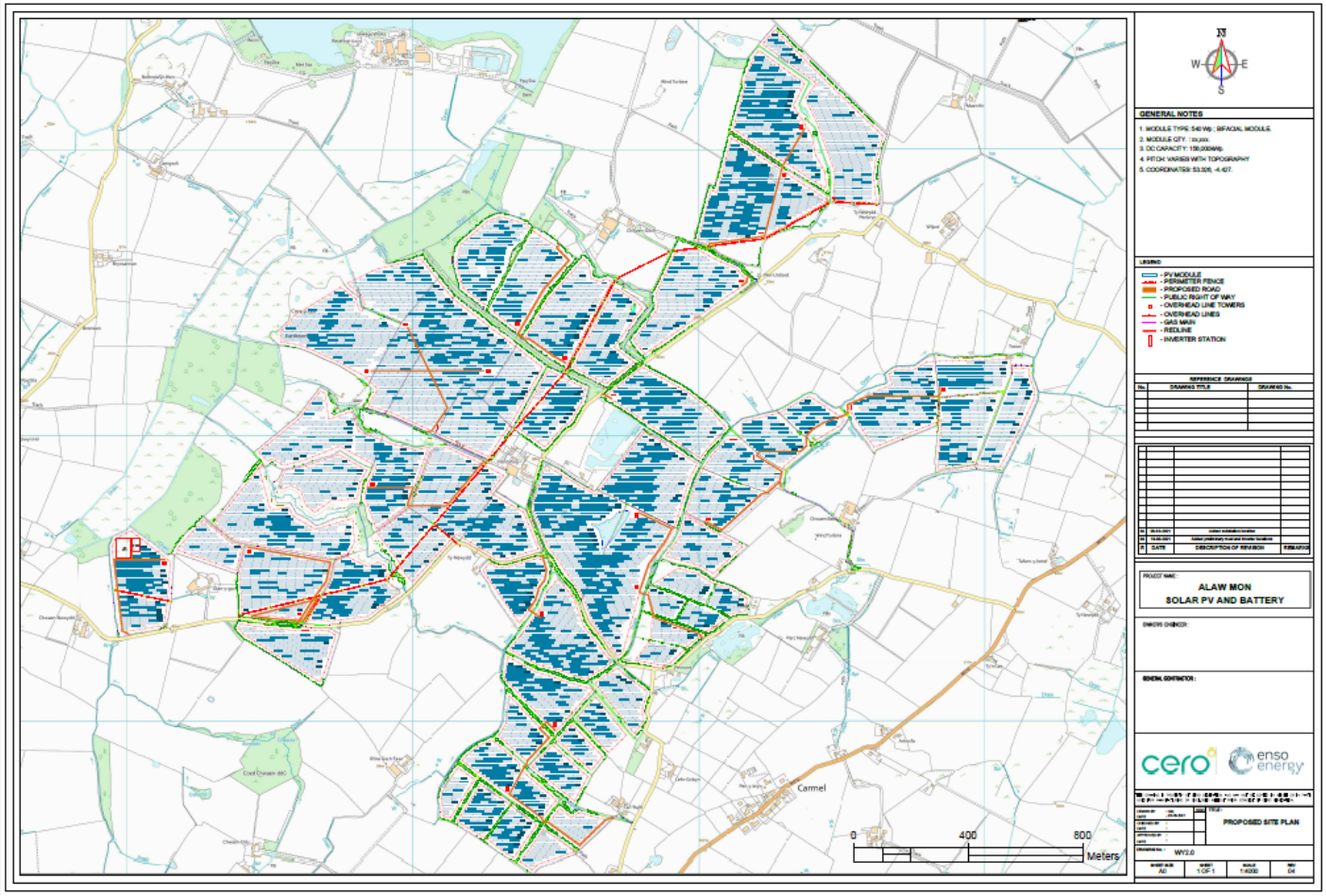


Illustration 5.2 Working Layout - Design B – for July 2021 consultation with IACC

5.6. Following a technical review by the applicant, the proposed design and land take was amended. Modifications included changes to the site boundary, including a reduction in the total site extent, inclusion of landscape margin and internal cable route & access tracks and removal of fields from development.

Working Layout – Design B

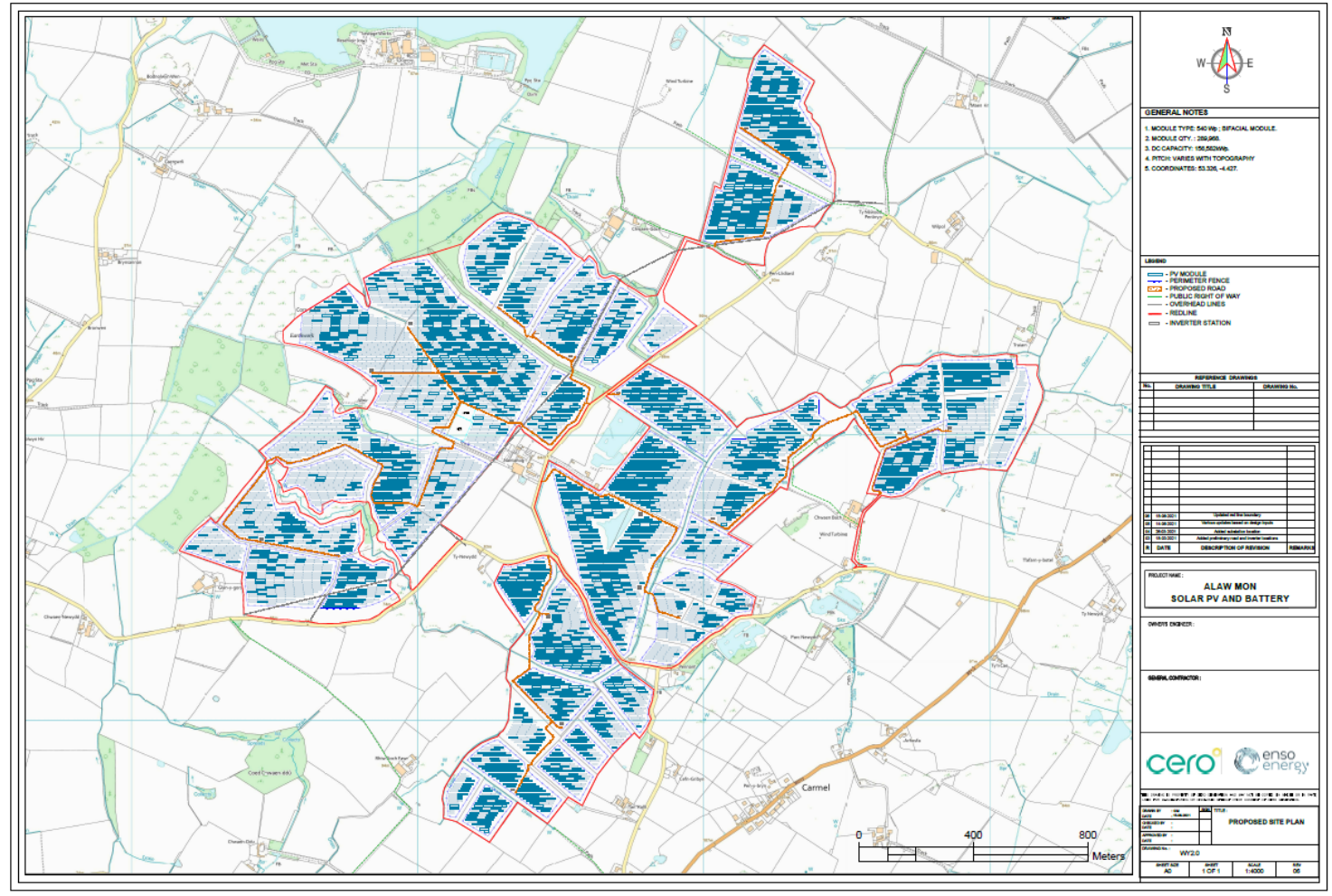


Illustration 5.3 Working Layout – Design C August 2021

5.7. Refinement to layout comprising changes to access details, internal access tracks and development buffer to SSSI.

Working Layout – Design C

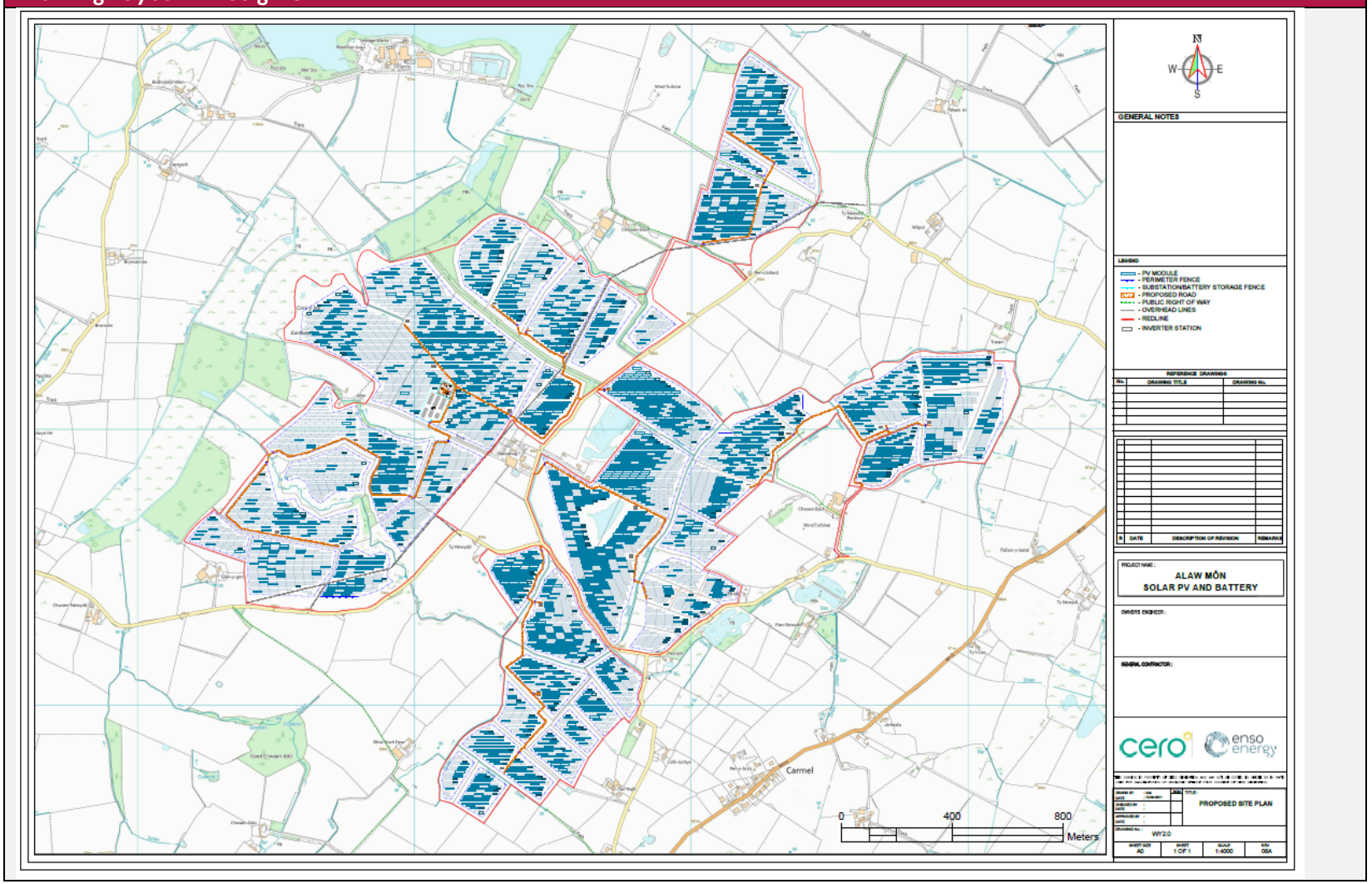


Illustration 5.4 Preliminary Design D – for Summer 2023 Community Consultation

5.8. Following a technical review by the applicant, the proposed design was modified, the key changes included a refinement (draw back) of arrays within the central development area.

Working Layout – Design D

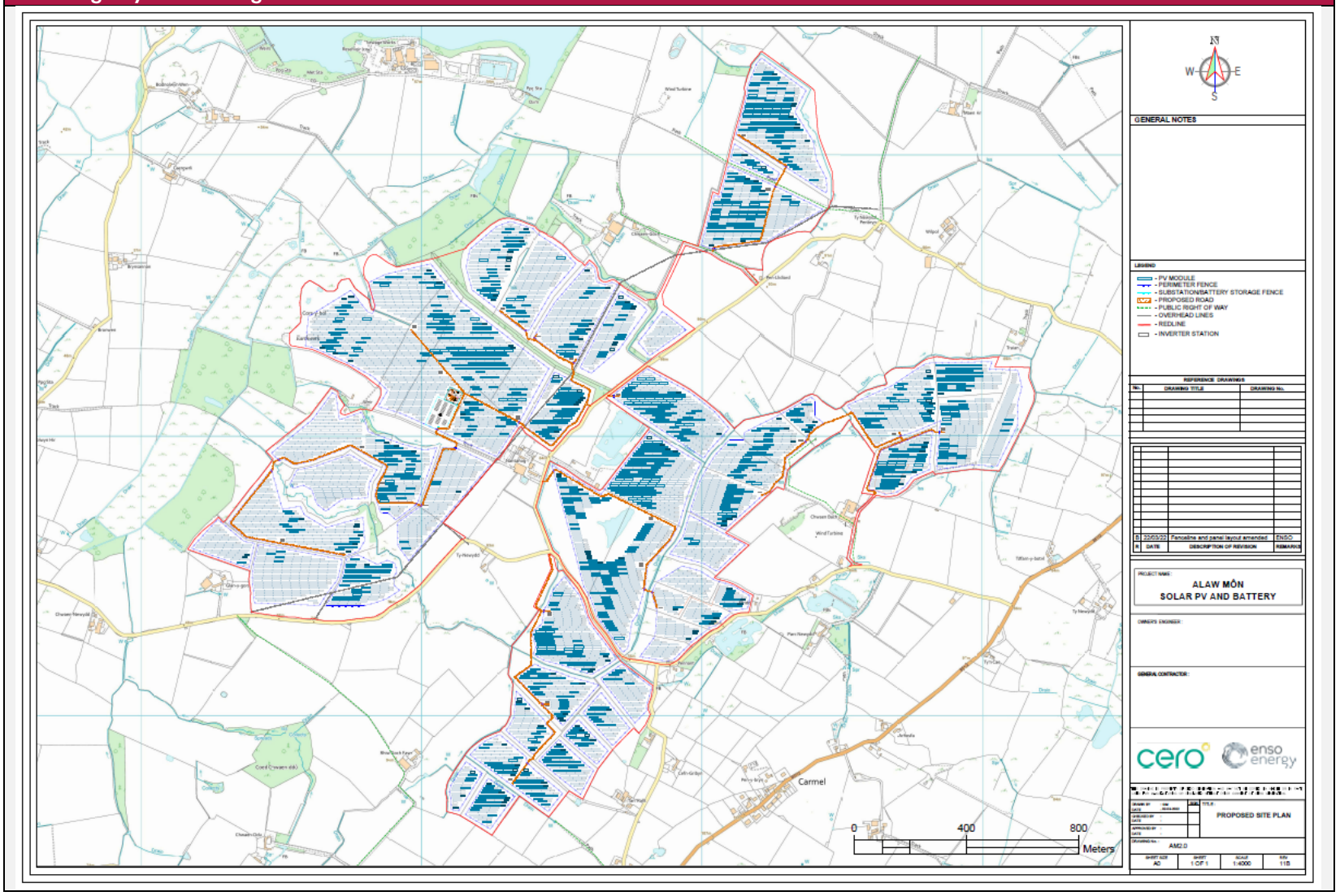


Illustration 5.5 Statutory Pre-application Consultation Layout – November 2023

5.9. For the statutory pre-application consultation, the layout was modified to include greater setbacks (buffers) between the development and the nearest residential receptors together with identification of the cable run along the adopted highway to Wylfa. The setbacks were informed by the work undertaken as part of the Residential Visual Amenity Assessment.

Layout – presented for the statutory pre-application consultation

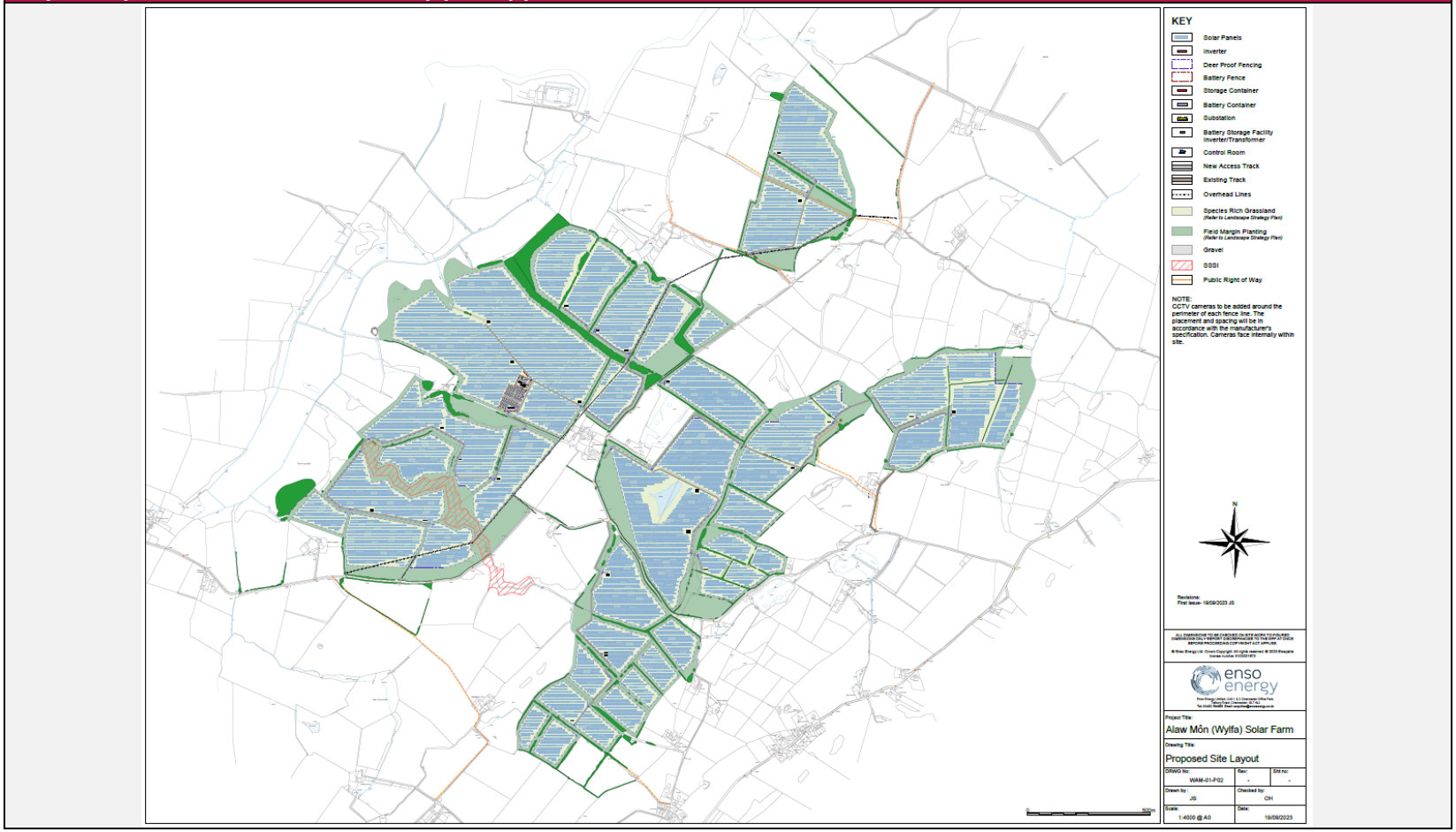
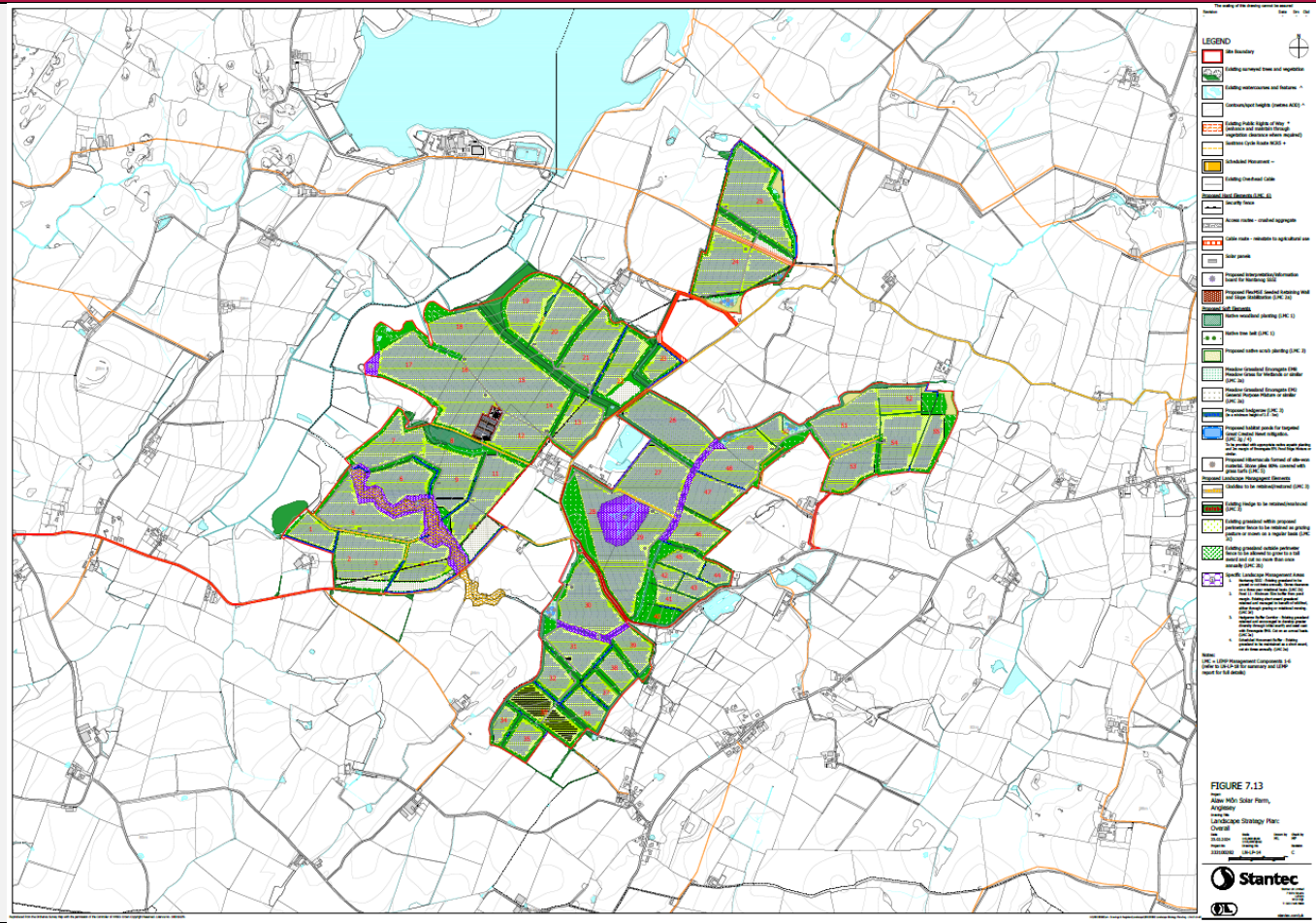


Illustration 5.6 – Application Submission Layout – February 2024

5.10. For the submission layout, the applicant was able to replicate the PV layout presented at the statutory pre-application consultation stage. This demonstrates the diligent approach adopted by the applicant in seeking to resolve and overcome technical matters put forward by consultees and community before undertaken the statutory consultation.

Application Submission Layout



6. CONSTRUCTION

6.1. Details regarding the construction programme and delivery vehicle types have been provided by the applicant based on experience in supporting the development of similar sites elsewhere in the UK whilst taking into account the specifics of the application site.

6.2. It is anticipated that the construction phase of the Development would last approximately 12 months (52 weeks).

6.3. The construction of the solar farm element of the Development would include the preparation of the Site, installation of the access tracks, erection of security fencing / CCTV, assembly and erection of the photovoltaic arrays, and the installation of the inverters/transformers and grid connection and underground cables.

6.4. The construction of the battery energy storage system element of the Development would include the preparation of the Site, installation of the access roads, erection of security fencing, assembly of the battery system, and installation of the switch-room and grid connection.

6.5. Construction activities and deliveries will be carried out Monday to Friday 08:00-18:00 and between 08:00 and 13:30 on Saturdays. No construction activities or deliveries will occur on Sundays or Public Holidays. Where possible, construction deliveries will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00). It is expected that there will be approximately 10 HGVs accessing the Site per day on average over the construction period.

6.6. All construction traffic will route to the site from the A55, via the B5112. To the north of Carmel, vehicles will turn left off the B5122 onto an unnamed road, before turning right into the main Site access, where the site compound is to be located. Other routes to the Site have been reviewed and this route is considered the most appropriate following a site visit and traffic count surveys. Passing bay and traffic management are proposed along the access route.

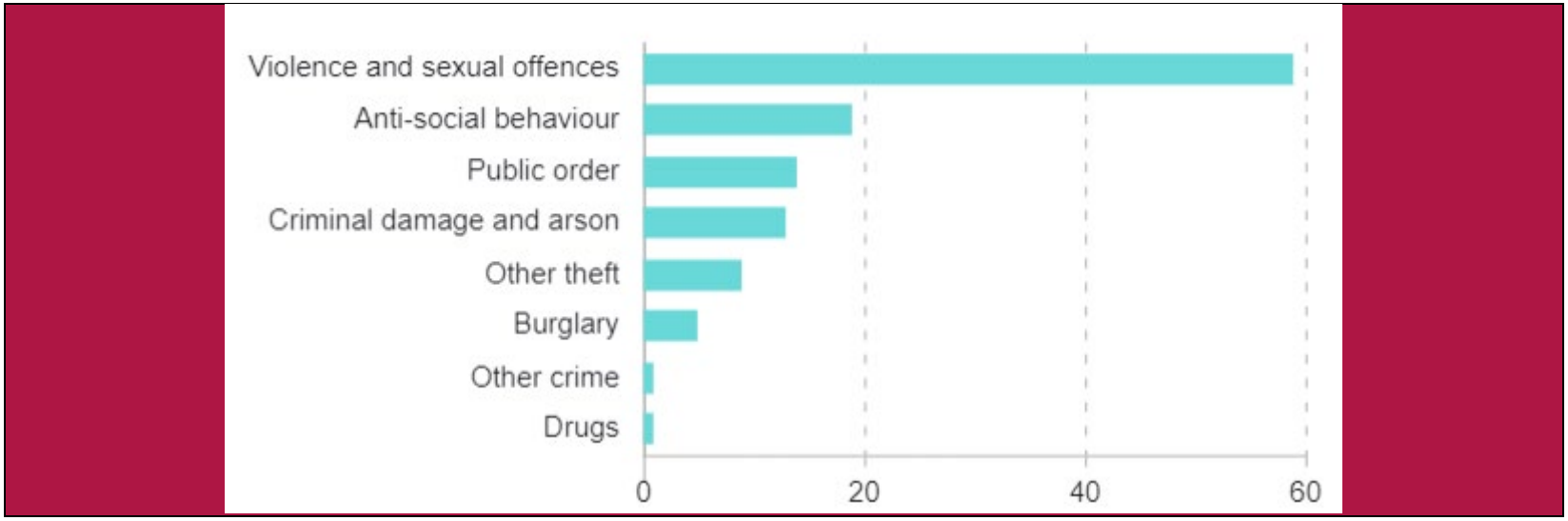
6.7. Up to 100 construction workers are anticipated to be on-Site during an average day throughout the construction period. A temporary construction compound will be provided and will provide storage, parking for contractors and turning for HGVs. The location of where staff will travel from is unknown at this stage, as this will depend on the appointed contractor. However, it is envisaged that a number of the non-local workforce will stay at local accommodation and be transported to the Site by minibuses to minimise the impact on the strategic and local highway network. As a robust judgement, it is assumed that there could be 50 vehicle arrivals and 50 vehicle departures associated with construction workers per day by car/LGV (100 two-way trips). A Construction Worker Travel Plan would be provided and agreed with Isle of Anglesey County Council before any works start on Site.

7. CRIME AND IMPACT ASSESSMENT

7.1. This section of the Design and Access Statement deals with the issue of crime. The Crime Impact Assessment process involves identifying, evaluating and mitigating the crime and disorder effects of a development proposal early in the design process.

7.2. The goal is to reduce the developments vulnerability to crime by taking into account the analysis of the proposed development context and the crime issues in the area.

7.3. The www.police.uk website provides data on crime levels. For the catchment area of Llannerch-y-medd & Tref Alaw, between 5 to 19 crime incidents have been reported to the Police per month over the last 12 months (June 2022 to May 2023). No crime has been recorded within the demise of the application site over the last 12 months. A breakdown of crime types is displayed in the table below.



General Risk Assessment

7.4. The typical security issues for a development of this nature are:

- Acts of criminal damage during the construction period;
- Theft of components during the construction phase;
- Criminal damage during operational phase;

- Theft of components during the operational phase;
- Theft of components during site restoration.

Construction Site Risk Assessment

7.5. A secure temporary construction compound will be used to store materials and ancillary welfare facilities during the construction period. Security teams are likely to be detailed to additionally secure the application site.

Design, Layout and Security Requirements

7.6. Taking into account the low level of recorded crime for the locality, the following security measures are considered to be appropriate to combat potential criminal activity and unauthorised access into the arrays:

- A 2.0 m high stock fence will encompass the fields containing the solar panels;
- Cameras with external perimeter intruder detection (PID) may be fitted at appropriate intervals within the stock fence.

8. CONCLUSIONS

8.1. Matters pertaining to design, access and crime for the proposed development have been explored and presented within this Design and Access Statement. The application site is deemed to be appropriate in that it can accommodate the proposed solar scheme with a capacity of up to 160MW with co-located battery storage. The applicant duly considers that the application site can suitably accommodate the development proposal without causing any unacceptable impact on the local environment.

8.2. The benefits of the development are multiple:

- Alaw Mon Solar Farm would make a significant contribution towards Wales' 70% target of electrical consumption from renewables by 2030, which is a relatively short time away.
- It would deliver biodiversity net gain, and this would be managed and maintained during the lifetime of the proposed development.
- Development is time limited and would be decommissioned and removed from site after 40 years.
- As part of the applicant's contribution towards community benefits, the applicant is proposing a legacy community benefit fund
- Rural diversification for four farming enterprises
- Economic benefits would be secured in terms of construction and less so operational management of the application proposal. The application proposal will provide employment and business opportunities for component suppliers / installers and those involved in grid connection, transport and logistics. Local businesses will be contracted for relevant parts of the scope of works over the period of construction, operation and maintenance, such as landscaping, plant hire, aggregates and security where possible (See employment and skills plan). There will be additional induced impacts during the construction period with any incoming construction workers (engineers, project managers etc) spending their wages at a local level (restaurants, retail stores etc) and using local accommodation.

8.3. The time limited and reversible nature of the proposed development, together with the measures that are to be taken to enhance and encourage the ecological diversity of the application site will ensure that in the long term the application site can not only be restored to its current use, but will also have been improved. The wider environmental benefits and sustainability credentials associated with the increased production of energy from renewable sources represents a significant case in favour of the development proposals. This Statement demonstrates how the application proposal accords with the relevant design policies set out in Future Wales, namely Policies 17 and 18. Compliance with these policies demonstrates the applicant's commitment towards good design.

APPENDIX 1 – SITE LOCATION PLAN

KEY

Site Boundary

Revisions:
First Issue- 16/03/2022 JS

N

0 1km

ALL DIMENSIONS TO BE CHECKED ON SITE
WORK TO FIGURED DIMENSIONS ONLY
REPORT DISCREPANCIES TO THE GFP
AT ONCE BEFORE PROCEEDING
COPYRIGHT ACT APPLIES

enso energy
Top Floor, The Priory, Dursley, Gloucestershire, GL11 4HR
Tel: 01452 764685

Project Title:

Alaw Môn (Wylfa) Solar Farm

Drawing Title:

Site Location Plan - Overall

DRWG No:	Rev:	Sht No:
ENSO-11-01	-	1/4
Drawn by : JS	Checked by: RS	
Scale: 1:12,500 @ A0	Date: 16/03/2022	

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