



The Abergelli Power Gas Fired Generating Station Order  
10.2 Design Principles Statement

Planning Act 2008  
The Infrastructure Planning (Applications: Prescribed Forms & Procedure) Regulations 2009

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Document Reference: 10.2  
Regulation Number: 5(2)(q)  
Author: Sheppard Robson

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1	May 2018	Submission version





# 1.1 Introduction

1.1.1. This document is the Design Principles Statement for the Abergelli Power Project. It has been prepared by Sheppard Robson on behalf of Abergelli Power Limited (APL).

1.1.2. APL are promoting a new thermal electricity generating station (hereafter referred to as the Project) on land located approximately 2 km north of junction 46 of the M4, approximately 1 km southeast of Felindre, and 1.4 km north of Llangyfelach. The Project would operate as a Open Cycle Gas Turbine (OCGT) peaking plant and would be designed to provide an electrical output of up to 299 Megawatts (MW). The plant would be fuelled by natural gas.

1.1.3. The Power Generation Plant comprises:

- Generating equipment including one Gas Turbine Generator with one exhaust gas flue stack and Balance of Plant (BOP) (together referred to as the Generating Equipment) which are located within the Generating Equipment Site;
- An Access Road to the Generating Equipment Site from the B4489 which lies to the west, formed by upgrading an existing access road between the B4489 junction and the Swansea North Substation (the Substation) and constructing a new section of access road from the Substation to the Generating Equipment Site;
- A temporary construction compound for the storage of materials, plant and equipment as well as containing

site accommodation and welfare facilities, temporary car parking and temporary fencing (the Laydown Area). A small area within the Laydown Area will be retained permanently (the Maintenance Compound).

- Ecological Mitigation Area – area for ecological enhancement within the Order Limits; and
- Permanent parking and drainage to include: a site foul, oily water and surface water drainage system

1.1.4. The Project will also require:

- a new Gas Connection to bring natural gas to the Generating Equipment from the National Transmission System; and
- a new Electrical Connection to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS).

1.1.5. As the Project is a generating station located in Wales but its generating capacity is under 350MW, 'associated development' under section 115 of the PA 2008 cannot be included within the DCO. Separate consents will be sought for the Gas Connection and the Electrical Connection under the Town and Country Planning Act 1990 or via permitted development rights.

1.1.6. However, APL is seeking authorisation for powers of compulsory acquisition over all land required to facilitate construction of the Power Generation

Plant, including the land and rights required for the construction and operation of the Gas Connection and Electrical Connection.

1.1.7. The Power Generation Plant, the Gas Connection and the Electrical Connection are together described in this Statement as the 'Project'.





## 1.2 Purpose of Document

1.2.1. As described in the Planning Statement (Document Reference 10.1.0) Section 104 of the Planning Act 2008 sets the statutory framework for determination of the application. Section 104 requires that the application must be determined in accordance with the relevant National Policy Statement (NPS), except where a number of exceptions apply, including where the adverse impact of the development would outweigh its benefits. Section 104 requires the Secretary of State to regard to the relevant national policy statements, any local impact report, and any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.

### 1.2.2. The relevant National Policy Statements.

For the Project these are:

- National Policy Statement EN-1 - The Overarching National Policy Statement for Energy;
- National Policy Statement EN-2 - National Policy Statement for Fossil Fuel Electricity Generating Infrastructure;
- National Policy Statement EN-4 - National Policy Statement for Gas Supply Infrastructure (relevant in respect of the Gas Connection);
- National Policy Statement EN-5 – National Policy Statement for Electricity Networks Infrastructure (relevant in relation to the consideration of alternatives).

1.2.3. **Other important and relevant considerations.** These are considered to include the Planning Policy Wales (PPW) and relevant local planning policy adopted or being prepared by City and County of Swansea Council (CCS), and local environmental constraints and stakeholder/consultee responses during the non-statutory and statutory consultation exercises. A more detailed discussion can be found in the Planning Statement (Document Reference 10.1.0).

1.2.4. Specifically in relation to design, paragraph 4.5.4 of NPS EN-1 requires applicants “demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected”.

1.2.5. The Project has been developed to respond suitably to all of the above considerations. The process by which this was conducted, and the reasons for key design choices, are documented in the Environmental Statement, in particular, Chapter 5 ‘Alternatives’ (Document Reference 6.1.0), and the Consultation Report, in particular chapter 5 (Document Reference 5.1.0). Chapter 5 of the Consultation Report explains, for each stage of the Project, the nature of consultation exercises, the responses received, and how these influenced the design.

1.2.6. The responses influenced a variety of important design changes (see section 11.1 of the Consultation Report Document reference: 5.1.0) including:

- A reduction in the number of stacks from up to five to one;
- Selection of an underground cable option as opposed to an overhead line option to export power from the Generating Equipment;
- Selection of a preferred Access Route Option: and
- Realignment of the new section of Access Road.

1.2.7. The visual impact of the stack, alignment of the access road and landscape treatment were amongst other design matters that were influenced by comments from consultees. In addition, other application documents such as the Environmental Statement Appendices (Document Reference 6.2.0) contain design process information and are referenced in this document under ‘Consideration of policy and context’.

1.2.8. The purpose of this Design Principles Statement is to draw together the findings of the various documents as they relate to design, and establish firm and deliverable commitments to Good Design. These commitments are secured by Requirement 2 of the Draft DCO (Document Reference 3.1) to the effect that implementation must be substantially in compliance with this Design Principles Statement.



## 1.2 Purpose of Document

### 1.2.9. Consideration of policy and context

Paragraph 4.5.1 of NPS EN-1 states that good design for energy infrastructure 'should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible.' However, paragraph 4.5.1 of NPS EN-1 also acknowledges that 'the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.'

1.2.10. In Wales, TAN 12 'Design' in conjunction with chapter 4 of Planning Policy Wales (PPW) may be of relevance to the determination of the DCO Application. This Technical Advice Note (TAN) sets out the objectives of good design and aims to encourage good design in all aspects of development, stating that: 'The way which development relates to its urban or rural landscape context is critical to its success'. The aim should be to achieve good design solutions, which maximise the natural landscape assets and minimise environmental impact on the landscape. It is particularly important that proposals to amend or create new landscape are not considered as an afterthought and that the long term impact of development on the landscape is understood.

1.2.11. Paragraph 4.5.3 of NPS EN-1 seeks that proposals are "sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards

such as flooding) as they can be". Further, Paragraph 4.5.3 of NPS EN-1 states that "Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation."

1.2.12. Paragraph 4.5.4 of NPS EN-1 seeks that the decision-maker takes into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy.

1.2.13. Paragraph 4.5.5 of NPS EN-1 states that "applicants are encouraged" to use Design Review services such as those by CABE. The equivalent body in Wales is the Design Commission for Wales (DCfW).

1.2.14. In summary, in accordance with paragraphs 4.5.1, 4.5.3 and 4.5.4 of NPS EN-1, and where relevant TAN 12, the applicant has:

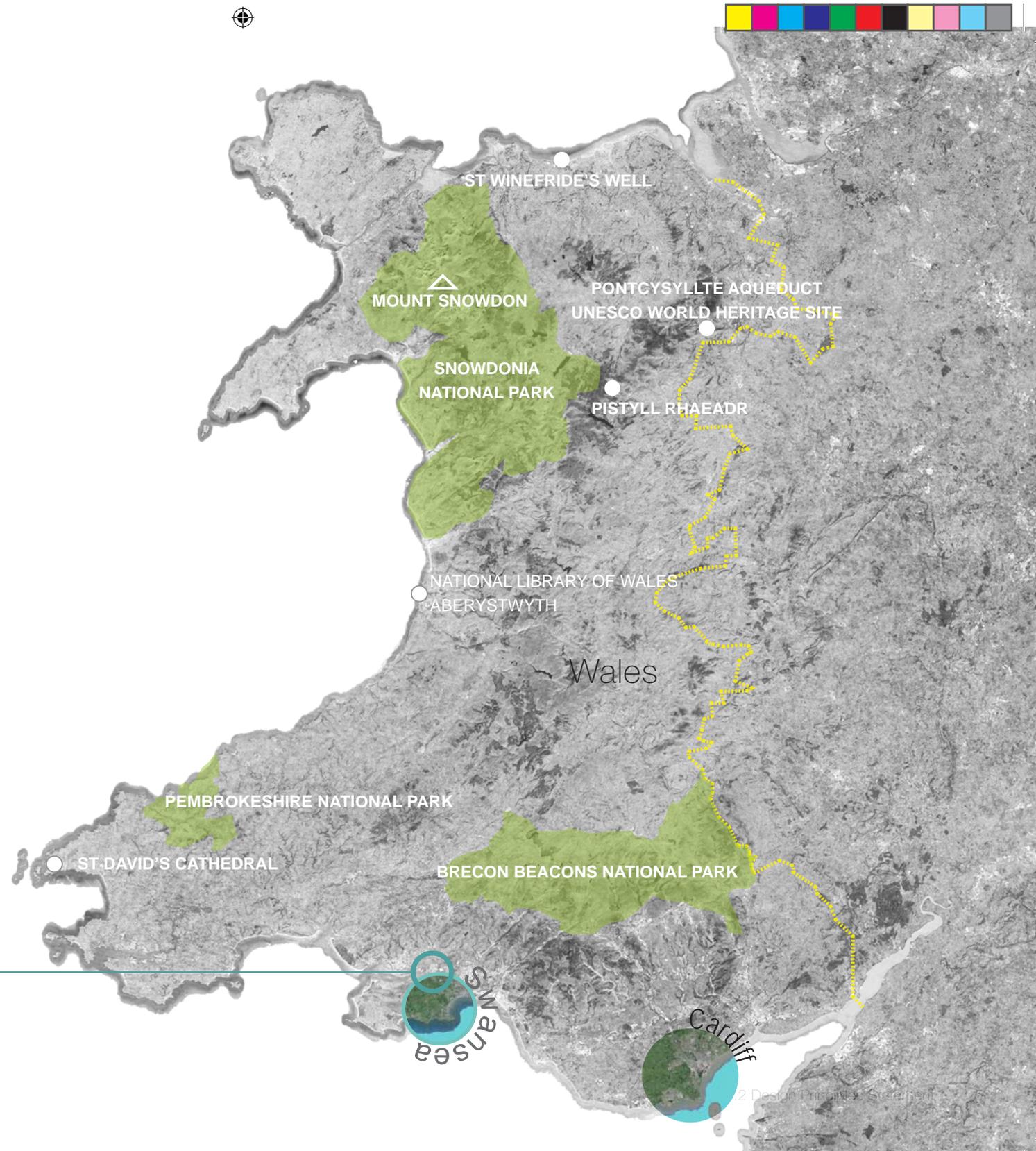
A. Undertaken suitable studies of the local habitats, accesses, heritage features and landscape to enable the design to respond to place. Siting, mitigation and enhancement to integrate the Project into its local ecological, water and landscape context. The process of designing in relation to place, natural resources and aesthetic, and reasons for design choices are set out in: Environmental Statement (Document Reference 6.1), specifically chapters 5, 8, 9, 11, 12, 13, and the Flood Consequences Assessment (ES

Appendix 9.1 (Document Reference 6.2, including Appendix E Outline Drainage Strategy), the Outline Construction Environment Management Plan (CEMP) (ES Appendix 3.1, Document Reference 6.2), the Outline Landscape and Ecology Mitigation Strategy (ES Appendix 3.4, Document Reference 6.2) and the Outline Landscape and Ecology Mitigation Plan (ES Figure 3.6, Document Reference 6.3).

B. Selected a site that minimises resources used in construction, and selected technology with low water use and which are durable for the proposed 25-year use and capable of being dismantled/recycled and the site restored; undertaken assessments and proposed layouts, finishes and screening that minimise impacts on adjacent land uses, accesses and habitats. In these respects the siting of the Project is considered to perform well on the range of sustainability related grounds. The process of designing a sustainable Project which is attractive, durable and adaptable, and the reasons for design choices are set out in Environmental Statement (Document Reference 6.1), specifically chapter 5 on alternative sites and connections; the Outline CEMP (ES Appendix 3.1, Document Reference 6.2) and the Outline Landscape and Ecology Mitigation Strategy (ES Figure 3.6, Document Reference 6.3); the Photographs and Photomontages (Document Reference 7.1); and the Consultation Report (Document Reference 5.1.0), specifically sections 10 and 11 documenting the influences of consultation responses on the design.



- C. Set out the main operational, safety and security requirements in the Environmental Statement (Document Reference 6.1.0). The work packages are designed to achieve an appropriate balance between the likely operational requirements (and thus a deliverable energy generation project) and minimising visual effects. The process of designing these and reasons for design choices are set out in: Environmental Statement (Document Reference 6.1.0) and the Grid Connection Statement (Document Reference 9.1) and Gas Connection Statement (Document Reference 9.2).
  
- D. Registered for a Design Review in October 2014 which was duly convened in December 2014. DCfW provided a detailed report (provided as Appendix 5.A III to the Consultation Report, Document Reference 5.1.3) summarising that "the Design Commission supports this well considered and well justified scheme, and believes that the design processes that the team are undertaking are guiding the project in the right direction". The process of designing and reasons for taking forward or otherwise DCfW's comments are set out in the Consultation Report (Document 5.1.0, chapters 10 and 11).



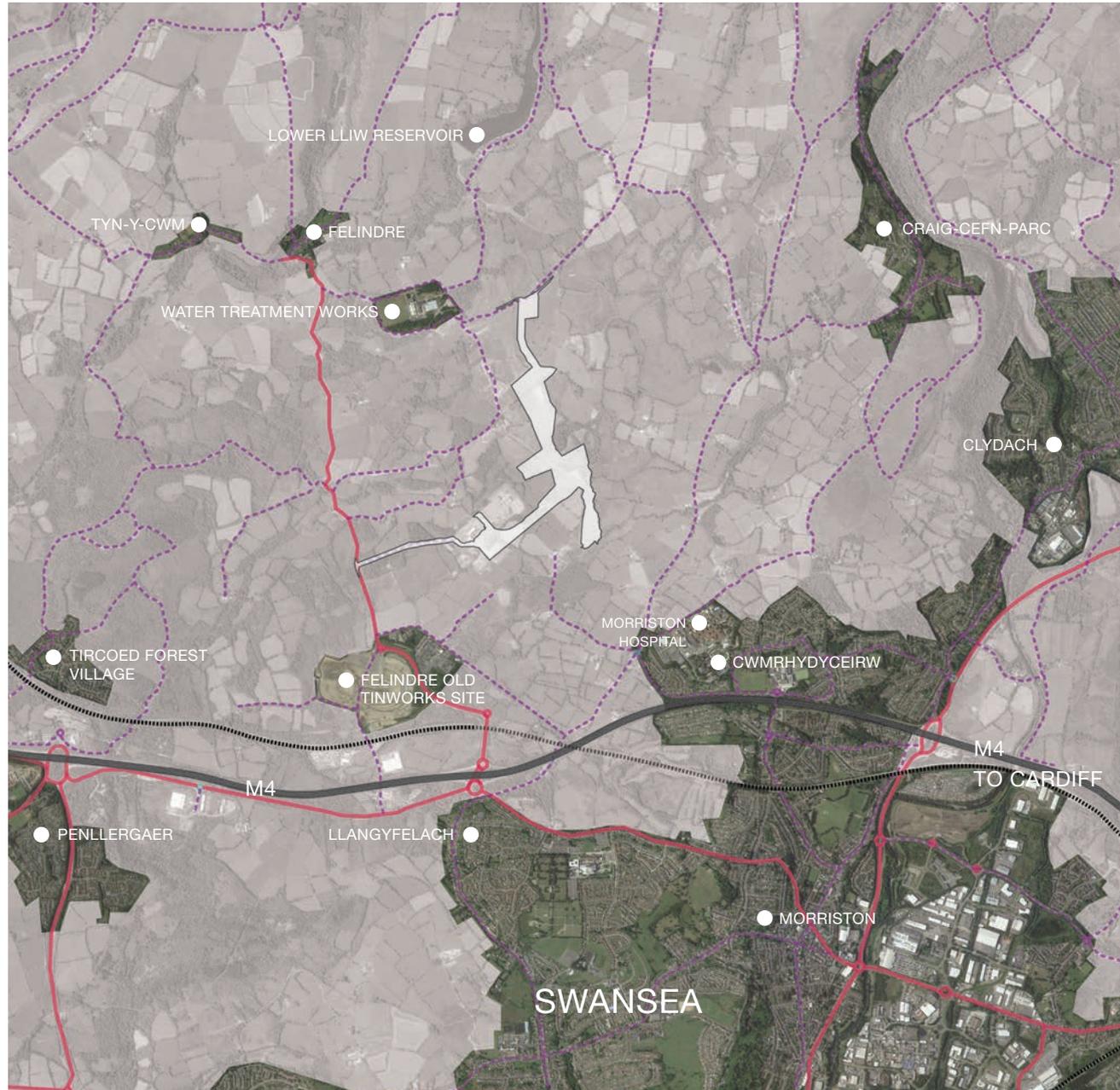
Abergelli





## 1.3 Project Site Location

- 1.3.1. The Project Site is situated on open land and will be accessed from Junction 46 of the M4 to the north of Swansea, in the administrative area of the City and County of Swansea Council. It is approximately 1 km southeast of Felindre and 1.4 km north of Llangyfelach.
- 1.3.2. The closest residential dwelling to the Generating Equipment Site is Maes-eglwys, 440m South of the Generating Equipment Site.
- 1.3.3. The area surrounding the Project Site is partly rural with some existing and planned urban fringe development (e.g. Park and Ride Facilities) together with a substantial amount of utilities infrastructure .
- 1.3.4. The current land use is predominantly agricultural, with sheep and horse grazing. The Generating Equipment Site is located primarily within fields used for grazing, bounded by a mixture of drainage ditches, fencing and poor quality hedgerows with substantial gaps in them.
- 1.3.5. The Gas Connection is located north of the Generating Equipment Site crossing open land. The Electrical Connection is located to the south west of the Generating Equipment Site linking in to the existing Swansea North Substation.
- 1.3.6. South of the Project Site lies the M4 motorway running in a west-east direction separating the Project Site and the northern extent of Greater Swansea. The M4 connects London and Llanelli via the major cities of South Wales, Swansea, Neath and Cardiff via Bristol and Heathrow airport.
- 1.3.7. From the M4 access to the Project Site is from the west via the B4489 utilising the existing National Grid road and then via agricultural land to the west of the Generating Equipment Site and land following the southern boundary of the Felindre Gas Compressor Station.
- 1.3.8. The approximate centre of the Project Site lies at grid reference 265284, 201431.



SITE LOCATION

KEY

-  Project Site Boundary
-  M4 Motorway
-  Main Road
-  Secondary Road
-  Railway Line





## 1.4 Project Site Context

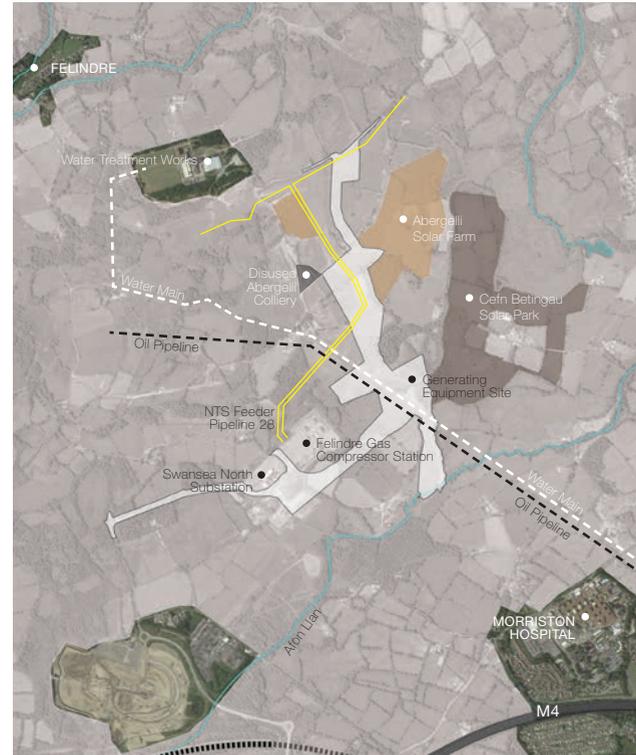
1.4.1. There is a substantial amount of utilities infrastructure in the area surrounding the Project Site. National Transmission System gas feeder pipeline 28 a Welsh Water water main, and decommissioned oil pipeline cross the Project Site, and there is also a network of electricity pylons which lead to and from National Grid's Swansea North Substation to the south of Abergelli Farm. Furthermore, a water treatment works is located to the northwest while the Cefn Betingau Solar Park and Abergelli Solar Farm are located to the east of the Project Site, and Felindre Gas Compressor Station to the south west of the generating site.

1.4.2. The closest residential dwellings to the Project Site are:

- Cefn Betingau approximately 650m to the east of Generating Equipment Site;
- Abergelli Farmhouse approximately 620m to the north of the Generating Equipment Site;
- Maes-eglwys approximately 440m to the south of the generating equipment site;

1.4.3. The former site of Abergelli Colliery is located immediately west of the Project Site.

1.4.4. Other features of the area include a number of existing public footpaths, and private tracks located in and around the Project Site, linking it to the wider area. In addition, within the Project Site there are a number of springs with their associated streams and drainage ditches which discharge into the Afon Llan.







## 1.5 Design Response : Overview

1.5.1. This Chapter sets out the Design Principles that have been developed under the following headings again:

- **Built Form, Uses & Activities;**
- **Movement & Connections;**
- **Landscape, Environment & Ecology**

1.5.2. These principles set the brief for the indicative design proposals which are described in Chapter 5 of this statement.

1.5.3. The following tables demonstrate how the Design Principles form the framework for the Project Site in terms of the three headings.





# 1.6 Design Response : Design Principles

## ANALYSIS



## DESIGN PRINCIPLE



## ABERGELLI POWER PRINCIPLE

Built Form, Uses & Activities

**01** Specify or design items of larger plant with consideration to their visual appearance in the local and wider landscape.

The proposed buildings, structures and perimeter security fencing shall be of high quality design. Materials used for cladding shall above all need to be durable and functional, as appropriate for 25 years operation in a power station environment.

The design should be such that it minimises visual impact and blends with the background and foreground as far as possible, with recessive colouring.

Consideration should be given to cladding in scale & grades of colour appropriate to the local surrounding backdrop, to minimise visibility from medium distance views and beyond.

Stack height shall be minimised to 35m -45m and will not be illuminated or contain signage unless for safety / operational requirements.

Built Form, Uses & Activities

**02** Site layout of larger plant with consideration to their visual appearance in the local and wider landscape.

Arrangement should take cognisance of larger plant such as water tanks to ensure that they are located within the hinterland of the Generating Equipment Site to benefit from screening either from landscaping or stack.

Consolidation of the Generating Equipment Site in one location to the north of the Welsh Water water main.

Built Form, Uses & Activities

**03** Site layout will take account of neighbouring land and property uses.

The layout of the Generating Equipment Site is suitably set back from the Welsh Water 66" water main and the woodland and Ancient Woodland to the northeast.

The Gas Connection point (the Above Ground Installation (AGI)) is positioned on the National Transmission System gas Feeder 28 and adjacent to existing road access.

All Project components have been situated so as not to prevent access along existing public footpaths.





## ANALYSIS



## DESIGN PRINCIPLE



## ABERGELLI POWER PRINCIPLE

Built Form, Uses & Activities

**04** Stack should be designed at a height which causes minimum visual impact whilst also allowing for adequate dispersion of stack emissions.

The height of all plant should be minimised. The design of the project utilises technology (OGCT) that allows a significant reduction in stack height compared to other technology types. Stack shall be minimised to 35m - 45m and shall not be illuminated or contain signage or branding unless necessary for a recognised safety / operational requirement.

Built Form, Uses & Activities

**05** Lighting shall be appropriate to the local context and avoid lighting impacts upon identified habitats, neighbouring occupiers, and the wider landscape.

The overarching philosophy underpinning the design of the lighting for the project during its operation is to maintain the existing rural, low brightness lighting zone. Only critical light sources such as emergency exit illumination and security lighting at low level will remain on during the night. Surrounding screening and a scheme of lighting in accordance with the Outline Lighting Strategy shall minimise detrimental visual and environmental impacts. This will include appropriate placing, directionality, and technology of lighting and a preference for a greater number of lower level building mounted lamps over a fewer number of taller lamps.

During construction, use of artificial lighting shall be minimised but safety shall be paramount. The outline CEMP shall govern the provision of lighting and mitigation of temporary lighting impacts.

Dark area around existing tree and shrub planting along northern boundaries of Generating Equipment Site to provide commuting habitat for bats and other nocturnal species.

Built Form, Uses & Activities

**06** The Power Generation Plant Site shall be laid out and maintained in a safe and attractive manner and which supports a positive public perception of the operation.

The main entrance shall have clear but unobtrusive signage in keeping with the rural surroundings.

Vehicle parking, storage areas and smaller structures shall be laid out and screened so as to minimise visual impact to local footpath users and improve the safety and perception of safety of the site operation.

The CEMP shall include measures for the maintenance of a tidy and contained site compound during construction.



Design Principles





**ANALYSIS**



**DESIGN PRINCIPLE**



**ABERGELLI POWER PRINCIPLE**

Built Form, Uses & Activities

**07** Plant items and built form shall consider the need to minimise noise and vibration impacts on the wider area.

Inherently quiet plant items shall be selected wherever practicable. Again, where practical, silencers shall be used, and consideration will be given to housing plant items in acoustic enclosures.

Built Form, Uses & Activities

**08** Consideration shall be given to the most appropriate choice of materials. Materials should be agreed with the local planning authority.

Materials chosen shall be robust, high quality and cost-effective. The architectural design, use of cladding materials and colours of the buildings and structures at the Project Site shall be designed to reduce glare and blend into the surrounding landscape.

**ANALYSIS**



**DESIGN PRINCIPLE**



**ABERGELLI POWER PRINCIPLE**

Movement, Connections & Access

**01** Design safety and operation of access roads and internal site roads.

Access routes and internal road layouts shall be designed to allow safe and efficient operation. Vehicle parking and turning shall be adequate for suppliers, workers and visitors to the project site and shall include a fully accessible space for a disabled worker or visitor, and be proximate to buildings they serve.

Movement, Connections & Access

**02** Design safety and operation of access roads and internal site roads.

Design of the Access Road where it crosses the Welsh Water water main must be safe and afford Welsh Water unfettered access to the water main at all times.

Movement, Connections & Access

**03** Ensure that access routes are appropriate for the vehicles that shall use them during site construction and operation.

Upgrade the existing access road from the B4489 to Swansea North Substation in order to provide adequate construction, operational and safety access to the Project Site, as well as access to Swansea North Substation and Felindre Gas Compressor Station, both of which are owned by National Grid.  
  
Three footpaths (LC34, LC35B and LC117) which will be temporarily stopped up during construction of the Project will be reinstated to adequate and appropriate standards.



## ANALYSIS



## DESIGN PRINCIPLE



## ABERGELLI POWER PRINCIPLE

Landscape, Environment & Ecology

**01** Minimise impacts on existing habitats and species within the Project Site.

The design of landscape planting should enhance the area's biodiversity through: the retention and reinforcement of existing trees and bushes where practical; the planting of belts of broadleaved woodland and hedgerow to increase the amount of natural green landscape in the area; and careful management of soils.

New or replacement ponds and other water features shall be maintained during construction and operation.

Landscape, Environment & Ecology

**02** Reinstatement the routes of the Gas Pipeline with appropriate planting for their wider and local landscape and habitat setting, taking into account the need to avoid damage from roots.

In the vicinity of the final route of the Gas Pipeline, reinstatement planting shall follow National Grid guidance "Trees and Vegetation near Gas Pipelines" and shall comprise only shallow-rooting tree/shrub species should be used in order to avoid interfering with the installed Gas Pipeline.

Landscape, Environment & Ecology

**03** The use of soft landscaping should be maximised within the Power Generation Plant Site where safety and operational considerations allow.

Planting within the Power Generation Plant Site should be used to enhance and reinforce the character of the surrounding area.

Screen planting to be created to the west of the Generating Equipment Site.

The design of perimeter planting and security fencing along the south side of the Generating Equipment Site should provide a 'soft' edge and screen potential views from surrounding footpaths.

Mixed hedgerow and tree planting to the south of the new section of Access Road will provide vegetation structure and commuting corridors for bats, as well as integrating the new Access Road into the immediate landscape structure.



Design Principles



**ANALYSIS**



**DESIGN PRINCIPLE**



**ABERGELLI POWER PRINCIPLE**

Landscape, Environment & Ecology

**04** Impacts on Ancient Woodland shall be avoided through careful siting.

The Project shall not affect semi-natural Ancient Woodland to the north-east of the Generating Equipment Site through suitable set back.

Semi-natural Ancient Woodland along part of the north side of the new section of Access Road shall be avoided routing the new section of access road to the south of the woodland.

Landscape, Environment & Ecology

**05** The layout and landscaping design to take cognisance of established topography and landscape pattern.

Layout of the Generating Equipment Site and the Laydown Area shall, where possible, integrate with the existing landscape and respect existing field boundaries.

Tree lines to be reinstated where existing lines are severed by the Access Road and Electrical Connection.

Landscape, Environment & Ecology

**06** Consideration of species for planting to be appropriate to location.

Planting proposals shall have regard to the surrounding vegetation pattern, and local/native species shall be selected for the majority of planting.

Ecological Mitigation Area to be planted with native trees along western edge, grading eastwards into scrub and a matrix of semi-improved grassland and marshy grassland.



# 1.7 Design Response : Initial Design Approach

1.7.1. At the outset of the Project, a number of different engineering and plant options were considered. The initial design response in absence of a finalised engineering solution was to consider (as is typical of many similar NSIP projects of this nature) a development “envelope” enclosure for the various plant components. This approach would provide a degree of flexibility to arrange the components with the Order Limits. It would also allow engineering optioneering to continue and broad concepts for visual screening to be developed.

1.7.2. The design concept graphics adjacent indicate the initial approach adopted to address and minimise the visual impact of an enclosure within an integrated design landscape to mitigate/filter views. The architectural design intention visually was that the building colour, materiality and texture would be informed by features in the surrounding and distance landscape.

1.7.3. Sheppard Robson carried out a detailed study of the landscape character not only in the near vicinity of the Project Site, but also in a wider study area taking in Felindre, Llangyfelach, Cwmrhydyceirw and

stretching out further in all directions to investigate and more closely understand the texture and mix of colour and tones in the environment that could then be translated into the enclosure elevations. The mixture of tones and colours would also have to be representative, as much as possible, of the changing seasons in and around the site. The graphics (to the right) demonstrate in more detail how this analysis translates into colour contrast and tones.

1.7.4. Various surrounding and long distance photographs were taken, then broken down into a pixelation of the representative colours. From this, the predominant and highlight colours were established, along with matching tones that could then be tested in the facade cladding of the proposed enclosure. Not only colour combinations were investigated, but also the orientation of panels, and size of panels to achieve a scale and harmony with the existing backdrop landscape.





View of proposed site.



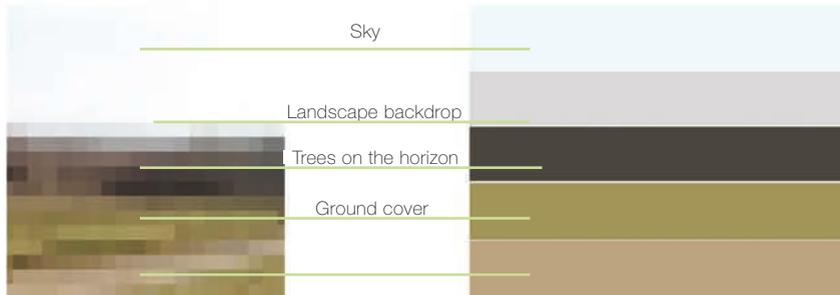
Building cladding panels arrangement as response to horizontal strata in the landscape.



Pixelated image of surrounding landscape translated into colour tones.



Defined horizontality on building elevation in response to horizontal landscape strata & backdrop.



Colour palette - horizontal rural landscape translated into zones of cladding.



Building cladding panels as response to horizontal landscape backdrop of sky.



## 1.8 Design Response : Built Form

1.8.1. As the continual review of various engineering/ plant options progressed through the early design development stages, the necessity for design flexibility became a primary consideration. As a consequence of this, the decision was taken to pursue a 'Rochdale Envelope' type engineering solution approach. This approach requires that the various plant and buildings are strategically planned out on the site and negate the requirement to house everything in an envelope enclosure. The various plant as indicated on the adjacent page range in scale and type from gas turbine generator and stack, to water tanks and other small scale buildings.

1.8.2. This siting of the various items of plant and buildings has to ensure efficient and safe working arrangements and direct routes for gas and electrical connections with minimum disruption. At the same time, the strategic siting of the various different items of plant and buildings can be planned to address a number of other environmental and visual impact type criteria. As the various plant and buildings are planned and separated out on the site as opposed to the large envelope enclosure approach, the visual impact is reduced immediately and the ability to address any other key issues such as noise sensitive receptors is improved. Interrupted views towards the site and beyond can be minimised by this separating out and careful planning of the larger pieces of engineering plant such as the gas turbine stack.

1.8.3. The design concept intention developed for the 'envelope enclosure' approach would be maintained but then adopted for the various buildings and engineering plant components around the site.

1.8.4. The colour response would take reference from the immediate rural surroundings and more distant landscape context. From this sampling, the horizontal strata and bands of landscape colour are established, taken from foreground all the way to the backdrop of the distant hills and sky.

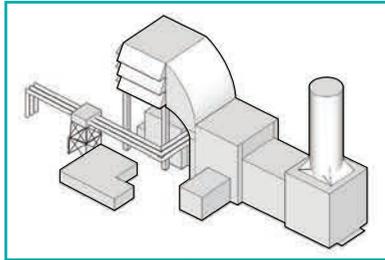
1.8.5. Detailed studies of the landscape were undertaken as indicated on the previous pages (19, 20). These studies were then translated into elevational studies. The mixture of tones would also be representative of changing seasons in and around the wider area of Abergelli and Felindre.

1.8.6. The graphics demonstrate how this analysis translates into colour contrast and tones. Particular photographs were taken from within the Project Site looking out to the countryside then broken this into a pixilation of the colours. From these colours along with colour matching, horizontal strata were established that can be applied to the various plant components from base to top.

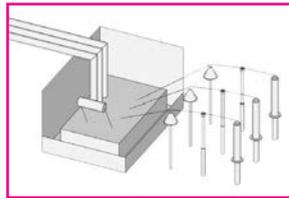




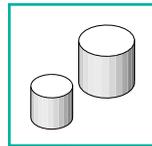
Gas Turbine Generator



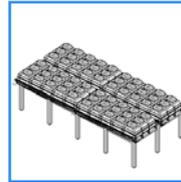
Transformer



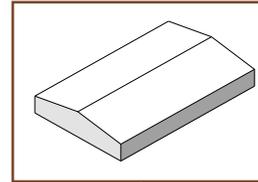
Water Tanks



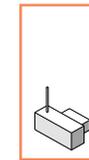
Finfan Cooler



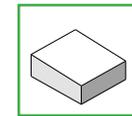
Workshop



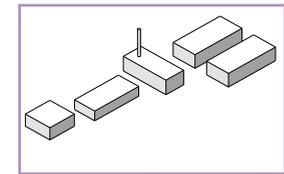
Emergency Generator



Gatehouse



Gas Receiving Station



At least 35m High

35m

30m

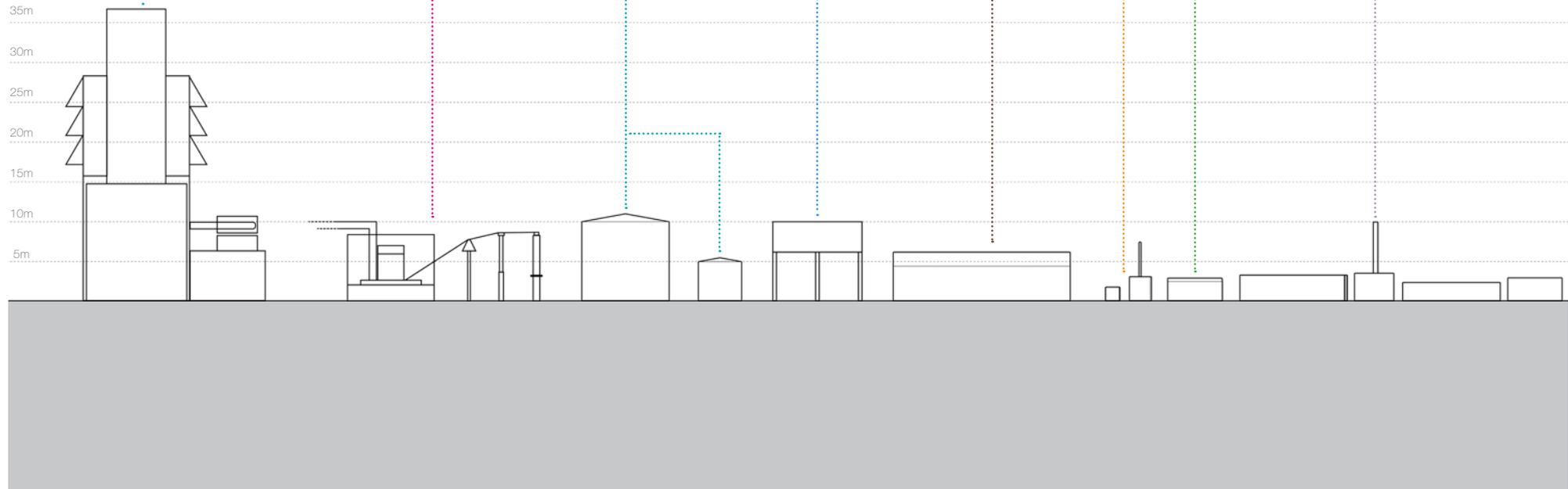
25m

20m

15m

10m

5m

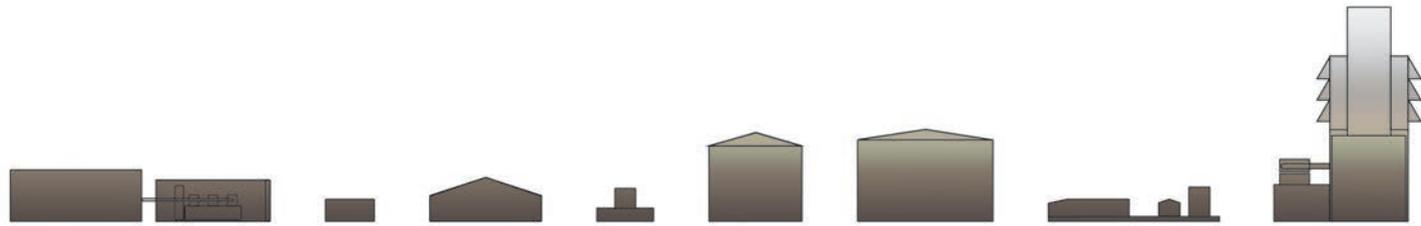




# 1.9 Design Response : Proposed Design Approach



Design Principles





At least 35m High

35m

30m

25m

20m

15m

10m

5m

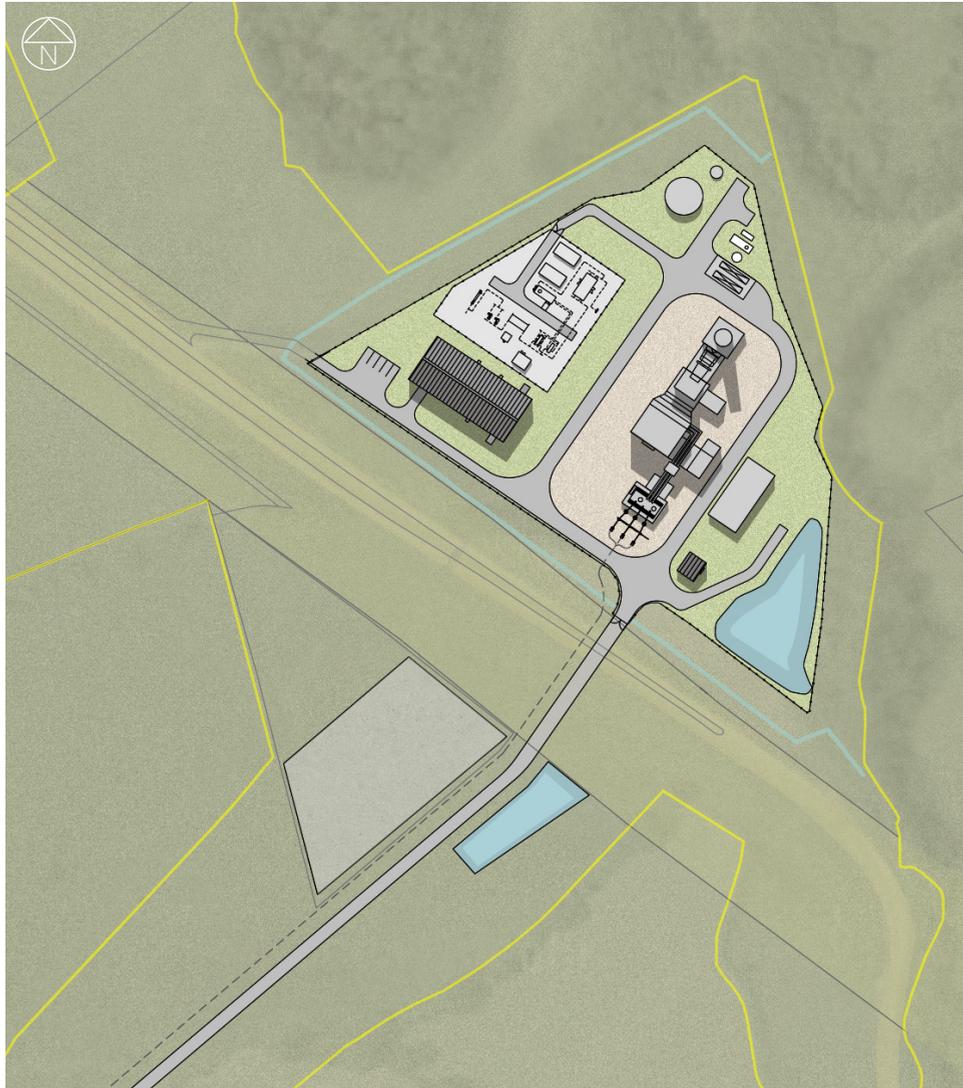


Stack height shown 35m, proposed stack height 35m - 45m

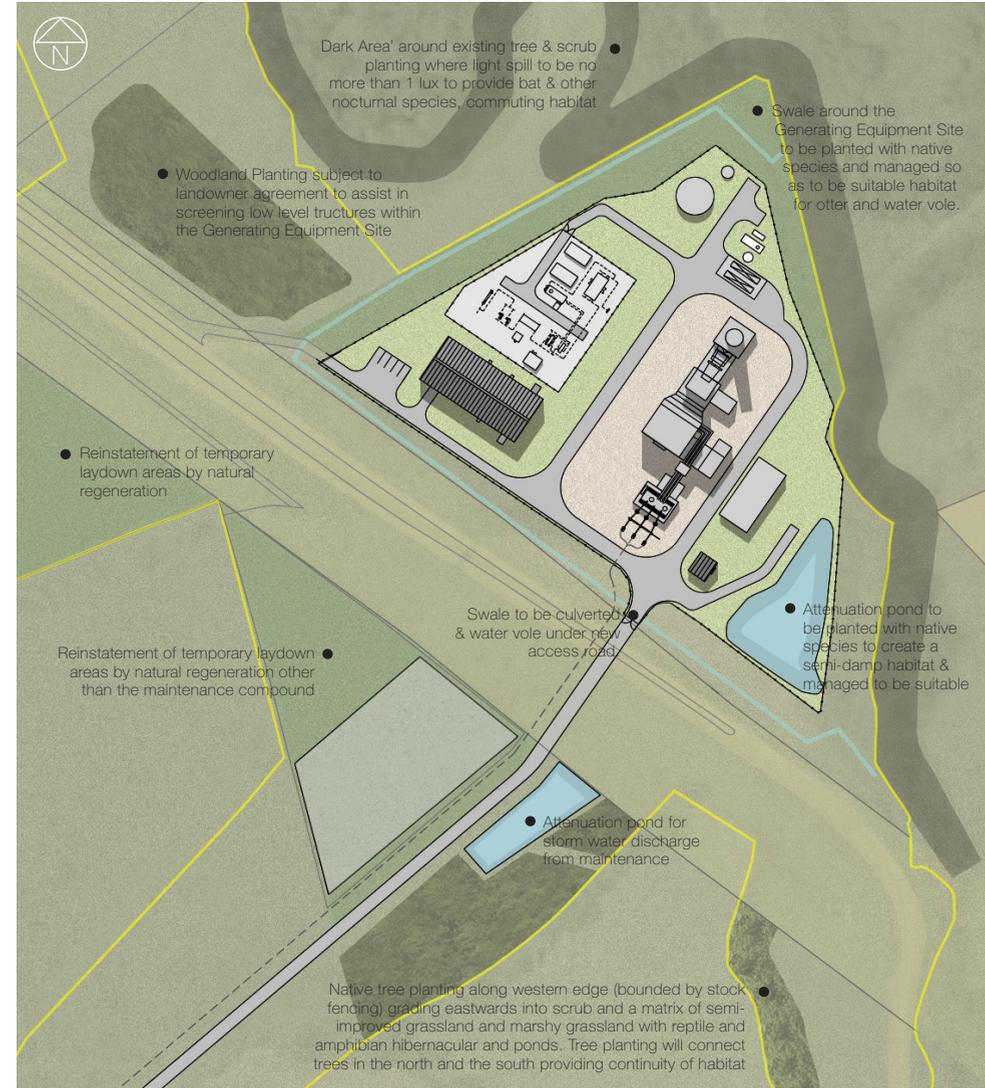


# 1.10 Indicative Development Proposals : Layout

## Indicative Site Layout



## Landscape Mitigation





Site Components



KEY

-  Project Site Boundary
-  Control Room / Office / Workshop
-  Gate House
-  Transformer
-  Raw/ Fire Water Tank
-  Demineralised Water Tank
-  Emergency Generator
-  Diesel Tank
-  Natural Gas Receiving Station
-  Stack
-  Gas Turbine Generator
-  Fin Fan Cooler(s)
-  Site Fence
-  Tanker Unloading Station
-  Maintenance Compound



# 1.11 Indicative Development Proposals : Axonometric View



Design Principles





# 1.12 Indicative Development Proposals : Views





# 1.13 Indicative Development Proposals : Visual Impact



View from southeast looking towards Abergelli Farm





View from PRoW LC117 Maes-eglwys farm





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