Appendix KCC1

Welsh Government Guidance Note

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

Guidance Note
Version 2.1 - May 2021.

Llywodraeth Cymru
Welsh Government

Contents:

How to Determine the Grade of Agricultural Land:

1. Introduction:

Planning Policy Wales (PPW11) paragraph 3.58 and 3.59 outlines national policy towards conserving Wales' Best and Most Versatile (BMV) agricultural land. Further guidance is provided in Technical Advice Note (TAN) 6, including the consultation arrangements with the Welsh Government included at Annex B.

Best and most versatile (BMV) agricultural land is defined in Planning Policy Wales as Grades 1, 2 and 3a. This is excellent to good quality land which is able to best deliver the food and non-food crops.

The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It is the only approved system for grading agricultural land quality in England and Wales.

The Agricultural Land Classification Grade should be determined in order to be able to apply Planning Policy in development management decisions. Wales does not have a national survey programme. To survey the whole of Wales at a detailed level is not a realistic prospect, due to cost and time restraints.

The drive for natural resource management and better evidence provision by the Welsh Government has provided the impetus to produce a Predictive Agricultural Land Classification Map.

The Predictive Agricultural Land Classification Map uses the best available information to predict the Grade of land on national basis. It has been designed to help Local Planning Authorities, Developers, Surveyors and Land Use Managers make informed long term decisions over the use of land in the planning system and to target survey work to the most appropriate locations.

Further detail concerning the Agricultural Land Classification System can be found in the Frequently Asked Questions section of the Welsh Government website.

2. Using the Predictive Agricultural Land Classification Map:

The Predictive Agricultural Land Classification Map is the first step in gathering evidence to inform the user as to whether or not Planning Policy Wales (PPW) paragraph 3.58 and 3.59 should to be taken into account.

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

The Predictive Agricultural Land Classification Map is not intended to replace the need for Agricultural Land Classification survey work. The Map will assist the user in targeting survey work to the most appropriate locations.

It remains the case that the only way to determine the grade of land is by commissioning an agricultural land classification survey. Planning applications and Local Development Plans are expected to be supported by survey evidence where BMV agricultural land is an issue for consideration.

3. When to Commission a Survey:

In spatial assessments and development management decisions the grade of land must be known. The flowchart below sets out the decision process.

Where the Predictive Agricultural Land Classification Map identifies grades 1, 2 or 3a, a survey will be required to determine Grades present and in what proportion.

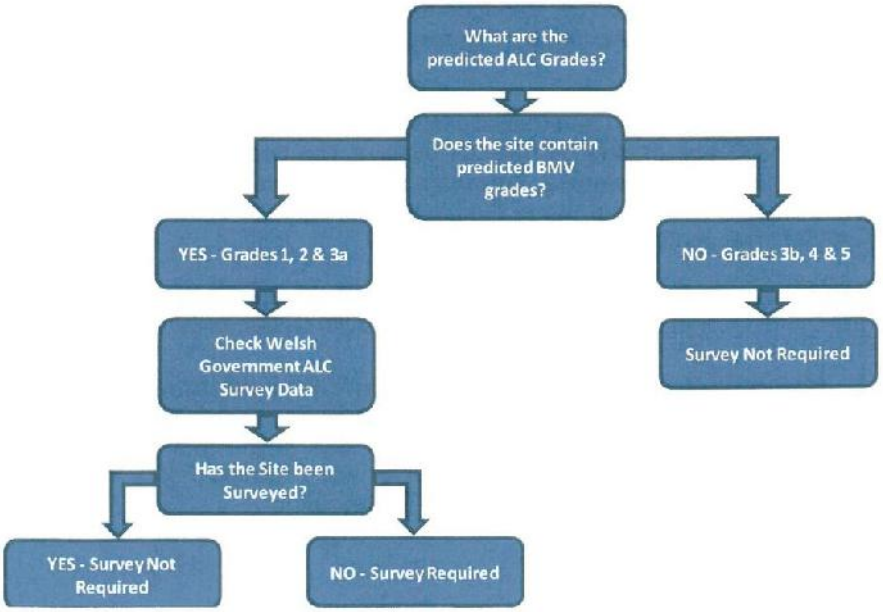
The Welsh Government has also published existing survey data. Before commissioning a survey, these records should be checked to see if the site(s) in question has already been assessed in detail.

If there is no survey record for the site(s) or part remains un-surveyed, an Agricultural Land Classification survey should be commissioned.

The Land Quality Advisory Service will provide advice on survey requirements and validate agricultural land classification surveys for Local Planning Authorities free of charge. This service allows the Authority to have confidence in the information being presented.

Should any party refuse or neglect to commission a survey, or the survey is not accepted by the Welsh Government, the Predictive Map Grade should be accepted as the best available information.

4. Survey Decision Flowchart:



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The Hollington Map

5. Map Creation and Use – Key Points:

- The Predictive Agricultural Land Classification Map replaces the Welsh 'Provisional' 1:250,000 Series of maps produced between 1967 and 1974.

- The 'Provisional' 1:250,000 Series maps were withdrawn in Wales on 27th November 2017 and should not to be used to support any planning proposal or as an evidence base for Local Development Plans (LDP)_.

- Should there be any confusion over which Agricultural Land Classification map to use, please contact LQAS@gov.wales for further guidance.

- The Predictive Agricultural Land Classification Map for Wales is based on the principles of the Agricultural Land Classification System of England & Wales, the Revised Guidelines & Criteria for Grading the Quality of Agricultural Land (MAFF 1988).

- Version 2 (released 2020) of the Predictive Agricultural Land Classification (ALC) Map represents the first significant update since its launch in 2017. The developments are focused on 2 specific areas – inclusion of detailed soil series data were available and an updated ALC survey layer.

  Soil Data:

  Where more detailed mapped soil series information is available, it now replaces the 1:250,000 national soil map (Cranfield University). This represents approximately 50% of Wales' surface area with a focus on lowland areas and parts of the Brecon Beacons. The detailed mapping includes scales of 1:25,000; 1:50,000; and, 1:63,000.

  Where more detailed mapping is available, soil series phases have been include for shallow and rocky areas.

  Where evidence is available, the properties of some soil series have been amended. This is a result of survey work, auger samples, wetness class changes, surveyor knowledge, and recognised mistakes in the mapping digitisation / transcription process

  ALC Survey Layer:

  Surveys commissioned, validated and accepted by Welsh Government since 2017 have been added.

  The Welsh Government survey layer has been updated for surveys commissioned between 1988 and 2017 following a comprehensive file scanning exercise.

  Surveys include those completed by the Welsh Government, the Welsh Office Agricultural Department, ADAS Statutory and commercial organisations. Commercial surveys have only been included when validated by the Welsh Government.

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

- The Predictive Agricultural Land Classification Map has been designed on a 50m raster (gridded squares). Please note the reliability of background data (especially soils) will vary. The map is a *modelled prediction and not definitive*, albeit based on best available data. For each 50m square the following individual criteria were assessed, and the most limited factor assigned:

  Agricultural Land Classification - Climate
  Agricultural Land Classification - Soil Depth
  Agricultural Land Classification - Slope
  Agricultural Land Classification - Soil Wetness
  Agricultural Land Classification - Drought
  Agricultural Land Classification - Stones
  Agricultural Land Classification - Wind Exposure
  Agricultural Land Classification - Other (Surveyor Experience)

- The Predictive Agricultural Land Classification Map does not take into account the following Agricultural Land Classification criteria.
  Flooding
  Pattern Limitation
  Micro-relief
  Frost
  Chemical Limitations

  Expert advice will need to be sought to assess the risk of these factors imposing a long term limitation on a site by site basis.

- The Predictive Agricultural Land Classification Map has **not** been designed for, and the Welsh Government does not approve of, the following uses:

  Valuing agricultural land
  Assigning agricultural rents
  Allocating financial support

- There are significant differences in the distribution of Agricultural Land Classification Grades between the 'Provisional' and 'Predictive' map products. This is because the Provisional Map is based on criteria pre-dating the introduction of the current 'Revised Guidelines and Criteria for Grading the Quality of Agricultural Land'. (MAFF 1988) and the National Soil Map. The 1988 guidelines are well established in planning, so the grading system used is not new.

- In cases where the predicted grade has been revised from that stated on the Provisional Map, and it is felt this has led to a financial disadvantage or otherwise, the Welsh Government accepts no liability. It is long established that the Agricultural Land Classification system forms the basis for advice given by the Welsh Government on land use planning matters; not for any other uses such as the valuation of land.

- The Welsh Government intends to review and update the Predictive ALC Map as better information becomes available.

- Should it be felt the predicted grade for an area does not fairly reflect agricultural land quality, the Welsh Government will only accept an Agricultural Land Classification survey as evidence the Grade should be changed. The

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

Welsh Government shall not be liable for any cost incurred. Changes to the Predictive Map are at the discretion of the Welsh Government. Should the Welsh Government accept the proposed changes, these will follow when the Predictive Map is updated.

- The Predictive Agricultural Land Classification Map is available as a GIS layer showing Grades 1-5. This has been made available under Open Government Licence.

- The Predictive Agricultural Land Classification (ALC) Map is derived from soils data which remain the property of Cranfield University. (Soil data © Cranfield University (NSRI) and for the Controller of HMSO 2019).

- For further information, advice and survey validation, please contact the Land Quality Advice Service:

  Email: LQAS@gov.wales

  Web: Agricultural Land Classification Information

5

Appendix KCC2

Welsh Government's Frequently Asked Questions

Agricultural Land Classification
Frequently Asked Questions
May 2021.

Llywodraeth Cymru
Welsh Government

General Background Questions

What is the ALC system?
The Agricultural Land Classification (ALC) system provides a method for assessing the quality of farmland in England and Wales. The ALC system classifies land into five grades, with 1 being the best and 5 being the worst and Grade 3 subdivided into Subgrades 3a and 3b. The current grading methodology is described in The Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988) sometimes referred to as 'The Blue Book'.

What is agricultural land?
Agricultural land is land which is capable of being used for agricultural purposes (e.g. cropping).The current use of the land does not affect the grade or agricultural potential of the land. Where the potential for agriculture has been irreversibly lost (e.g. through housing development) the land should no longer be classed as agricultural. For planning purposes, it is recommended that the Local Planning Authority is contacted to confirm the status of the land. Also see: Can land be high grade if it is not cropped or is used for grazing?

What is ALC used for?
The ALC is used to grade the quality of agricultural land so that informed decisions can be made over its future use within the planning system. The planning systems in England and Wales seek to conserve the 'Best and Most Versatile (BMV) agricultural land. Government policies in **Wales** with regard to BMV land can be found on the Welsh Government ALC webpages at: Welsh Government Web Topic - Agricultural Land Classification BMV policies in **England** are set out in the National Planning Policy Framework.

What is Best and Most Versatile agricultural land?
National planning policy defines the Best and Most Versatile agricultural land as land within grades 1, 2 and 3a. This is good to excellent quality land which can best deliver the food and non-food crops for the future.

How does the Agricultural Land Classification system grade land?
The criteria for grading are based on the long term physical limitations of land for agricultural use, such as **climate** (temperature, rainfall, aspect, exposure and frost risk), **site** (gradient, micro-relief and flood risk) **and soil** (texture, structure, depth and stoniness, and also chemical properties which cannot be corrected), and interactions between these factors such as soil wetness, droughtiness and erosion. Field survey to obtain site and soil data is required. The current grading methodology is described in: The Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988)

What do the different grades mean?

Generalised Description of the Agricultural Land Classification Grades

Grade & standard colour notations	Description of agricultural land	Detail
1	Excellent quality	No or very minor limitations on agricultural use. Wide range of agricultural and horticultural crops can be grown. High yielding and consistent.
2	Very good	Minor Limitations on crop yield, cultivations or harvesting. Wide range of crops but limitations on demanding crops (e.g. winter harvested veg). Yield high but lower than Grade 1.
3 (subdivided)	Good to moderate	Moderate limitations on crop choice, timing and type of cultivation, harvesting or level of yield. Yields lower and more variable than Grade 2.
3a	Good	Moderate to high yields of narrow range of arable crops (e.g. cereals), or moderate yields of grass, oilseed rape, potatoes, sugar beet and less demanding horticultural crops.
3b	Moderate	Moderate yields of cereals, grass and lower yields other crops. High yields of grass for grazing/ harvesting.
4	Poor	Severe limitations which restrict range and/or level of yields. Mostly grass and occasional arable (cereals and forage), but highly variable yields. Very droughty arable land included.
5	Very poor	Severe limitations which restrict use to permanent pasture or rough grazing except for pioneering forage crops.

A full description of the grades can be found in Appendix 1.

Can land be high grade if it is not cropped or is used for grazing?
The current land use does not affect the grade or longer term agricultural potential of the land. Land use is an economic and management choice of the land manager. The ALC grade describes what the land is potentially capable of, not what it is currently used for.

Can the ALC grading be changed by farming practices?
Normal agricultural land management will rarely, if ever, affect the ALC grading of land. The grading is based on the long term physical and chemical limitations of land for agricultural use. The current or historic agricultural management, or intensity of use, does not affect the ALC grade. ALC grading could potentially only be improved by very major and expensive interventions, well beyond the scope of normal agricultural works. Examples could include major new drainage schemes, new flood defence systems or infilling / levelling of highly uneven land. It is extremely unlikely that an ALC grading would drop because of neglect or poor agricultural management.

Will fertilizer improve the grade?
Applications of fertiliser or lime are part of the normal management of agricultural land and do not affect the grade. Normal fertiliser levels in the soil have no bearing on ALC grade. Chemical limitations in ALC relate to major long term problems that cannot easily be remediated. These can include extreme acidity, saline environments and presence of toxic elements.

What can I grow on my land? (Crop suitability)
The suitability of land for certain crops is determined by a variety of factors. The ALC Grade of the land doesn't determine what can be grown, but indicates the type of crops that are generally suited to land of that quality and versatility. Typical crops are given in Appendix 1.

Are land values determined by ALC grade?
The ALC system was developed to inform land use planning decisions. The use of the ALC system for land valuation has never been intended and should not be used for this purpose.

Grade and Map Questions

What is the grade of my land?
The only way to accurately determine the agricultural grade of land is by way of a detailed field survey in accordance with the current ALC 1988 guidelines. What does a detailed field survey involve?

In **Wales**, the Welsh Government holds detailed field survey information for selected areas and a predictive map which can be found at http://lle.gov.wales/map/alc2. For further information please contact LQAS@gov.wales.

The most up-to-date information on ALC Grades in **England** can be found on www.Magic.gov.uk/ (Landscape tab). Detailed field surveys (Post 1988 ALC layer on the Magic website) are available for selected areas. Also see: What about strategic maps showing the likely occurrence of best and most versatile land mentioned in TIN049?

Why do different maps show different grades for the same area?
ALC assessments became more field based and site specific from 1976, partly due to limitations of the Provisional mapping. On 1 January 1989, the current system of ALC grading was introduced: (*The Revised guidelines and criteria for grading the quality of agricultural land*: MAFF 1988). The guidelines provide the most definitive ALC grading and normally supersede any earlier surveys. In some areas there will be several different levels of detail of ALC data. Soils are variable and the grade of the land can vary over small distances. The ability to map this variation depends on the scale of the survey and the associated scale of mapping. The most detailed survey will usually represent the most definitive grading.

What are the 'Revised Guidelines'?
The ALC was devised and introduced in the 1960s and Technical Report 11 (MAFF, 1966: Technical Report 11, Agricultural Land Classification of England and Wales) outlined the national system. Following a review of the system, criteria for the sub-division of Grade 3 (3a, 3b & 3c) were published in 1976 and Technical Report 11/1 (MAFF, 1976: Technical Report 11/1, Agricultural Land Classification of England and Wales. The definition and identification of Sub-grades within Grade 3) outlined the updated.

The new and most up-to-date guidance was issued in 1988 "The *Revised guidelines and criteria for grading the quality of agricultural land*". This was implemented from 1 January 1989. The 1988 Revised guidelines were developed and tested with the aim of updating the system without changing the original concepts. This recognises two subgrades within in Grade 3: Subgrade 3a and Subgrade 3b, the latter being a combination of the previous Subgrades 3b and 3c. Consequently, modern ALC surveys are sometimes referred to as 'post 1988' or post revision. Any surveys carried out using the old guidelines (sometimes referred to as pre 1988 surveys or pre revision) would need to be reassessed under the current criteria.

Survey Related Questions

There is no detailed survey of my land, is a field survey required?
It depends why you want to know the grade of your land. For a planning purpose you should contact your local planning authority for advice.

What does a detailed field survey involve?
ALC surveys are undertaken, according to the published Guidelines by field surveyors using hand held augers to examine soils to a depth of 1.2 metres. This usually consists of one boring per hectare, supplemented by digging occasional small pits (usually by hand) to inspect the soil profile at representative locations to provide more detailed information about soil conditions to depths up to 1.2 metres. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report, which will normally include individual soil profile and pit descriptions, and written explanations to support the grading applied. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey. It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions.

Can you recommend an ALC surveyor?
The Institute of Professional Soil Scientists (the professional body of the British Society of Soil Science) maintains a register of competent soil surveyors who have experience of carrying out ALC surveys. www.soils.org.uk. Other professional bodies may also maintain lists of their members who undertake ALC work. It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions.

Is urban land subject to ALC surveys?
Urban land may be shown on ALC survey maps. It will normally not be surveyed because the land has relatively little potential for return to agricultural use. The full definition of urban and other non-agricultural categories in the ALC system can be found in Appendix 1. You should contact your local planning authority for advice on whether an ALC survey is required to support a planning application.

Does the Welsh Government carry out ALC (detailed field) surveys?
Yes. The Welsh Government does carry out detailed Agricultural Land Classification (detailed field) surveys. These surveys are undertaken largely in response to requests from Local Planning Authorities for individual sites or areas at the urban edge which are being considered for development. The Welsh Government also holds copies of detailed individual Agricultural Land Classification (ALC) surveys carried out by them, as well as the former Welsh Office or Welsh Assembly Government. In addition the Welsh Government also provides a site survey validation service for Local Planning Authorities providing a technical assessment of submitted reports and enables them to fully consider land quality in the decision making process.

Does Natural England carry out ALC surveys?
Natural England provides advice to Local Planning Authorities on ALC matters, but does not carry out ALC field surveys. Natural England holds copies of detailed individual Agricultural Land Classification (ALC) surveys carried out by the former Ministry of Agriculture, Fisheries and Food until the late 1990s. These surveys were undertaken largely in response to requests from Local Planning Authorities for individual sites or areas at the urban edge which were to be considered for development; not all agricultural land was surveyed at the time. There is no longer a national programme to survey all areas in detail and since the late the 1990's, the Government no longer undertakes detailed field surveys itself. Specialist consultants are engaged by developers, Local Planning Authorities, landowners and others

to carry out detailed Agricultural land Classification surveys for local plans and other development proposals.

What sampling density should I use in my ALC field survey?
There is no prescribed guidance on the sample density of field surveys; however, most experienced ALC surveyors use an average density of 1 sample point per hectare (carried out on the Ordinance Survey 100m grid). Soil pits are also useful to obtain further information about soil structure, porosity and stone content, rock layers etc. to enable confirmation of the grading found on site. The number of soil pits is difficult to specify in advance of starting field survey work. In general, one soil pit is dug for each of the main grades or soil types on the site, though not necessarily for each map unit, but it should be left to the professional judgement of the surveyor as to the appropriate minimum number required.

Surveys at this detailed level can also enable an assessment of the soil resources in line with the Defra Code of Practice for the Sustainable Use of Soils on Construction Sites and will allow users to present the land quality case to public inquiry level if required.

Depending upon the type of development, location, scale, purpose of the survey, availability of existing ALC data etc., less detailed surveys (or sometimes more detailed) surveys may be undertaken, but expert advice must be sought from a soil scientist or other practitioner experienced in undertaking ALC survey work. All data captured in ALC surveys is done to the same standard (i.e. standard recording of soil colour, texture etc. plus pits). The only difference in a less detailed survey is the grid spacing, not the quality or detail of data capture at the points examined.

It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions. The British Society of Soil Scientists run training courses and has a competency scheme, ***Working with Soil***, covering aspects of soil survey and the ALC system.

What climate data is used for ALC?

The definitive climatic data used for assessing the overall climatic limitation (and for the wetness and droughtiness limitations) are obtained from a series of grid point datasets compiled specifically for ALC (Meteorological Office 1989: Climatological Data for Agricultural Land Classification). They provide long term average values of the required variables on a 5km grid covering the whole of England and Wales. These variables are interpolated for the location (grid reference) and altitude for intermediate sites.

I am a consultant/soil scientist undertaking a detailed ALC site survey and the land benefits from irrigation. Should I be taking this into account in my grading assessment?
No. The advice that irrigation should be removed from the ALC assessment was expressed in a consultation on the ALC system in 1996.

APPENDIX 1: AGRICULTURAL LAND CLASSIFICATION (ALC)

Descriptions of the Grades and Subgrades

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics. The grading guidance and cut-offs for limitation factors in the MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land enable land to be ranked in accordance with these general descriptions.

Descriptions are also given of other land categories which may be used on ALC maps.

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

> Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

> Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Descriptions of other land categories used on ALC maps

Urban
Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural
'Soft' uses where most of the land could be returned relatively easily to agriculture, including: golf courses, private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/ airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland
Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland. Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (e.g. polythene tunnels erected for lambing) may be ignored.

Open water
Includes lakes, ponds and rivers as map scale permits.

Land not surveyed
Agricultural land which has not been surveyed. Where the land use includes more than one of the above land cover types, e.g. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will usually be shown.

Source: Section 2: MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.

Appendix KCC3

Agricultural Land Classification Report

AGRICULTURAL LAND CLASSIFICATION

1. This section of the report outlines the findings of a detailed Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology, and soil in conjunction with a soil survey. The ALC Study Area, which measures approximately 1.9-hectares (ha) in area, is shown in **Plan KCC3658/01**.

Methodology

2 The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F. I. Soil Sci) of the British Society of Soil Science (BSSS). This ALC survey has been carried out by a soil scientist who meets the requirements of the BSSS Professional Competency Standard (PSC) scheme for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'[1]). The BSSS PSC scheme is endorsed, amongst others, by the Welsh Government, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).

3 This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF)[2] '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October 1988 (henceforth referred to as the 'the ALC Guidelines').

4 The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'.

5 The WG's Predictive ALC Map Version 2 online predicts that agricultural land within the Study Area is Subgrade 3a.

6 The ALC survey involved the examination of the soil's physical properties at a density of one auger bore per hectare (ha) of agricultural land within the Study Area, as shown in

[1] British Society of Soil Science. Professional Competency Scheme Document 2 'Agricultural Land Classification of England and Wales'. Available online @ https://www.soils.org.uk/sites/default/files/events/flyers/ipss-competency-doc2.pdf Last accessed April 2024

[2] The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in 2001

KCC3658/01. One soil pit was excavated near auger bore 2 with a spade to examine specific soil physical properties, such as stone content and subsoil structure, in more detail (see **KCC3658/01** also). One soil sample, from auger point 2, was sent for laboratory analysis for particle size distribution.

7 The sample locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary.

8 The soil profile was examined at each sample location to a maximum depth of approximately 1.2 m by hand with the use of a 5 cm diameter Dutch (Edleman) soil auger. The soil profile at each sample location was described using the '*Soil Survey Field Handbook: Describing and Sampling Soil Profiles*' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed a grade following the ALC Guidelines.

9 As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:

- climate;
- site;
- soil; and
- interactive limitations.

10 These factors are considered in turn below.

Climate

11 Interpolated climate data relevant to determining the ALC grade of land at the Study Area is given in Table 1 below.

Table 1: ALC Climate Data for Eglwyswrw, Pembrokeshire

Climate Parameter	**Grid Ref:** SN141383
Average Altitude (m)	141
Average Annual Rainfall (mm)	1300
Accumulated Temperature above 0˚C (January – June)	1393
Field Capacity Days (FCD)	258
Moisture Deficit (mm) Wheat	62
Moisture Deficit (mm) Potatoes	42
Grade according to climate	3a

12 Agricultural land quality at the Study Area suffers a climate limitation with reference to Figure 1 '*Grade according to climate*' on page 6 of the ALC Guidelines. In this case, agricultural land in the Study Area cannot be graded higher than Subgrade 3a due to an overriding climate limitation.

13 The soil profiles across the Study Area are predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for approximately 258 Field Capacity Days (FCD) per year, mainly over the late autumn, winter and early spring. The climate interacts with soil physical properties, i.e., soil texture and wetness class. It can limit agricultural land quality due to soil wetness as per Table 6 of the ALC Guideline 'Grade according to soil wetness'. The number of FCD in this Study Area falls in the >225 FCD category, which significantly affects the grade's determination according to soil wetness.

Site

14 As shown in **KCC3658/02**, the Study Area is located on the southwestern urban edge of Eglwyswrw. The Study Area is located at National Grid Reference SN141383. It is bordered by the B4332 along the eastern boundary, by residential development to the northeast and southeast, and by agricultural land on all other sides. The land was under grassland at the time of the survey, but no livestock were present. The eastern half of the Study Area was a building site under construction.

15 With regard to the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:

- gradient;
- micro-relief (i.e., where complex change in slope angle over short distances, or the presence of boulders or rock outcrops, even on level ground or gentle slopes, can severely limit the use of agricultural machinery); and
- risk of flooding.

Gradient and Micro-Relief

16 The Study Area is located on a gentle north-facing slope, with the highest elevation in the south at approximately 141 metres (m) Above Ordnance Datum (AOD), and the lowest ground in the north at approximately 134mAOD. The quality of agricultural land in the Study Area is not limited by gradient, as it does not exceed 7°. There are no 'micro-relief' limitations.

Risk of Flooding

17 From the Government Flood Map for Planning website[3], the Study Area has a very low risk of flooding, with <0.1% flood risk from rivers, the sea, surface water, and small watercourses. There is no evidence to show that agricultural land in any part of the Study Area is limited by flooding, according to the criteria for frequency and/or duration in Table

[3] Welsh Government Flood Map website. Available online @ Geocortex Viewer for HTML5 (cyfoethnaturiolcymru.gov.uk) Last accessed February 2024

2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*' of the ALC Guidelines.

Soil

18 **Geology/Soil Parent Material.** From British Geological Survey (BGS) maps at 1:50,000 scale, the land in the Study Area is underlain by Nantmel Mudstones Formation. The bedrock in the Study Area is not covered by any superficial deposits.

19 **Published Information on Soil.** Soil information on the National Soil[4] indicates that land in the Study Area is covered by soils in the Manod Association.

20 As described by the Soil Survey of England and Wales (SSEW)[5], the Manod Association consists mainly of free draining fine loamy soils over Palaeozoic mudstone, siltstone or slate. It is widespread in Wales and occurs in Northern and South West England and the Midlands. Although some is level or gently sloping, much is steeper than 11 degrees. Typical brown podzolic soils, mainly Manod series, predominate and typical brown earths such as the Denbigh series occupy a fifth of the land. The Powys soils, loamy rankers, are locally common where bedrock is close to the surface. The Manod series has solid or shattered rock within 80 cm depth and is a permeable clay loam with dark topsoil over ochreous subsoil, usually with granular structure. Denbigh series differs in having a brownish subsoil with blocky structure; it usually occurs on gentler slopes and is more common on farmland. Powys soils, with solid or broken rock within 30 cm depth are most frequent in hilly country, on knolls and ridges or on slopes eroded by cultivation or solifluction. The main soils are permeable and well drained (Wetness Class I) but because of the climate, the soils remain moist throughout most years. Where average annual rainfall exceeds 1100 mm there is little or no drought restriction to grass growth on Manod and Denbigh soils. Grass on shallow very stony soils such as the Powys series can, however, suffer from drought. The soils readily absorb excess winter rainwater except on steep land or where bedrock is near the surface.

Soil Survey

21 The soil profiles recorded at each auger-bore location are given in **Attachment 1**. A detailed description of Soil Pit 1 is given in **Attachment 2**, as shown in **Plan KCC3658/01**. The soil survey determined dark greyish brown (Munsell colour 10YR4/2), very slightly stony medium silty clay loam topsoil over brown (7.5YR4/3), very slightly stony medium silty clay loam upper subsoil, and olive yellow (2.5Y6/6) gravelly medium

[4]Cranfield University (2024) Soil site report, Soil Report for location 212000E, 218894N, 1km x 1km, Cranfield University.
[5] Cranfield University (2023). *The Soils Guide.* Available: www.landis.org.uk. Cranfield University, UK Available online at https://www.landis.org.uk/soilsguide/index.cfm Last accessed April 2024

silty clay loam lower subsoil. The soil profile was impenetrable due to stones at approximately 55cm. They are well drained and placed in Wetness Class I.

Interactive Limitations

22 From the information above, together with the findings of the detailed soil survey (see Soil Profile Log given as **Attachment 1**), it has been determined that the quality of agricultural land at the Study Area is limited by soil wetness, as described below

23 **Soil Wetness.** From the ALC Guidelines, a soil wetness limitation exists where '*the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock*'. Agricultural land quality at the Study Area is limited by soil wetness as per Table 2 below (based on Table 6 'Grade According to Soil Wetness – Mineral Soils' in the ALC Guidelines):

Table 2: ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	>225 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	2
	Sandy Clay Loam/**Medium Silty Clay Loam /Medium Clay Loam***	**3a**
	Heavy Silty Clay Loam/Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	3b
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3a
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	3b
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3b
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	4
	Sandy Clay/Silty Clay/Clay	4
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3b
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	4
	Sandy Clay/Silty Clay/Clay	5
Key: * 18% to <27% clay; and ** 27% to 35% clay		

24 In a climate area with 258 FCD, soil profiles that are well drained (Wetness Class I) are limited by soil wetness to Subgrade 3a where the topsoil is medium silty clay loam.

25 It has been determined that the quality of agricultural land at the Study Area is limited by soil wetness to Subgrade 3a (i.e., 258 FCD/medium silty clay loam topsoil/Wetness Class I). The area and proportion of agricultural land in each ALC grade have been measured from an ALC map given in **Plan KCC3658/02.** The findings are reported in Table 3 below.

Table 3: Agricultural Land Classification – Eglwyswrw, Pembrokeshire

ALC Grade	**Area (Ha)**	**Area (%)**
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	0	0
Subgrade 3a (Good)	1.8	94
Subgrade 3b (Moderate)	0	0
Grade 4 (Poor)	0	0
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0.1	6
Total	**1.9**	**100**

Attachment 1

Soil Profile Log

Point	Grid ref.			Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix	Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1				Stones - type 2				Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC			
	NGR	X	Y					Top	Bttm	Thick	Munsell colour	Form	Munsell colour	Form	Munsell colour			%	> 2cm	> 6cm	Type	%	> 2cm	> 6cm	Type	Strength	Size	Shape					MBw	MBp	Gd	WC	Gw	Limitation 1	Limitation 2	Limitation 3	Grade
1	SN 14100	38300	214100	238300	141	≤7	Level	PGR	0	28	28	10YR4/2				No	MZCL - Silty clay loam (medium)	2	1	0	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	27	49	2	WC I	3a	Climate	Wetness		3a
									28	48	20	10YR4/3				No	MZCL - Silty clay loam (medium)	5			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
									48	54	6	2.5Y6/6				No	MZCL - Silty clay loam (medium)	36			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
2	SN 14200	38300	214200	238300	141	≤7	Level	PGR																																Non-Ag
3	SN 14100	38220	214100	238220	141	≤7	Level	PGR	0	26	26	10YR4/2				No	MCL - Clay loam (medium)	2	1	0	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	28	53	2	WC I	3a	Climate	Wetness		3a
									26	44	18	10YR4/3				No	MZCL - Silty clay loam (medium)	5			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
									44	60	16	2.5Y6/6				No	MZCL - Silty clay loam (medium)	40			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
4	SN 14200	38400	214200	238400	141	≤7	Level	PGR																																Non-Ag
	END																																						

Attachment 2

Description of Soil Pit

Soil Survey						Surveyor	RWA
Easting (X)	214100	Northing (Y)	238220	Alt (m)	141	Grid Reference	SN 14100 38220
Land Use	PGR	Reference	3 (Pit 1)	Slope °	≤7		
Bedrock	Nantmel Mudstones Formation - Sandstone	Superficial	None Recorded	Aspect	Level	Date	06/03/2024

Layer		Topsoil	2	3	4	5	6	7
Lower Depth (cm)		26	44	60				
Texture		MZCL - Silty clay	MZCL - Silty clay loam (me	MZCL - Silty clay loam (medium)				
Matrix Colour		10YR4/2	10YR4/3	2.5Y6/6				
Gley (Y/N)		No	No	No				
Ochreous Mottles	Form							
	Munsell Colour							
Grey Mottles	Form							
	Munsell Colour							
Manganese (Y/N)		No	No	No				
% Stones (type 1)		2	5	40				
Stones > 2cm		1						
Stones > 6cm		0						
Stone Type		HR - All hard roc	HR - All hard rocks or ston	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger				
% Stones (type 2)								
Stones > 2cm								
Stones > 6cm								
Stone Type								
CaCO3		NON - Non-calca	NON - Non-calcareous (<0.	NON - Non-calcareous (<0.5% CaCO3)				
Shape of Peds.		SAB - Subangular	AB - Angular Blocky	AB - Angular Blocky				
Size of Peds.		M - Medium	M - Medium	C - Coarse				
Subsoil Structure		Not Applicable	Moderate	Moderate				
Soil or Ped. Strength		Firm	Firm	Firm				
Degree of Ped. Development		M - Moderate	M - Moderate	M - Moderate				
Slowly Permeable Layer (Y/N)		No	No	No				

MDw	MDp	FCD
62	42	258

Wetness	Class (WC)	WC I
	Grade (WE)	3a

Notes	Calculated Moisture Balance (MB) Values: Wheat = 28mm; Potatoes = 53mm (Grade according to soil droughtiness = Grade 2)

Attachment 3

Laboratory Analysis

ANALYTICAL REPORT

Report Number	26190-24	P248	SARAH KERNON	Client	EGLWYSWRW
Date Received	07-MAR-2024		KERNON COUNTRYSIDE		PEMBROKESHIRE
Date Reported	15-APR-2024		CONSULTANTS LTD		
Project	KCC3658		GREENACRES BARN		
Reference	EGLWYSWRW PEMBROKE		PURTON STOKE		
Order Number	KCC3658		WILTSHIRE SN5 4LL		

Laboratory Reference		SOIL684932
Sample Reference		3 KCC3658
Determinand	**Unit**	**SOIL**
Sand 2.00-0.063mm	% w/w	33
Silt 0.063-0.002mm	% w/w	42
Clay <0.002mm	% w/w	25
Textural Class **		MCL

Notes

Analysis Notes
The sample submitted was of adequate size to complete all analysis requested.
The results as reported relate only to the item(s) submitted for testing.
The results are presented on a dry matter basis unless otherwise stipulated.

** Please see the attached document for the definition of textural classes.

Reported by

Teresa Clyne
Natural Resource Management, a trading division of Cawood Scientific Ltd.
Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS
Tel: 01344 886338
Fax: 01344 890972
email: enquiries@nrm.uk.com

Technical Information

ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand, loamy sand, sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

- vf Very Fine (more than 2/3's of sand less than 0.106 mm)
- f Fine (more than 2/3's of sand less than 0.212 mm)
- c Coarse (more than 1/3 of sand greater than 0.6 mm)
- m Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam classes* according to clay content are indicated as follows:

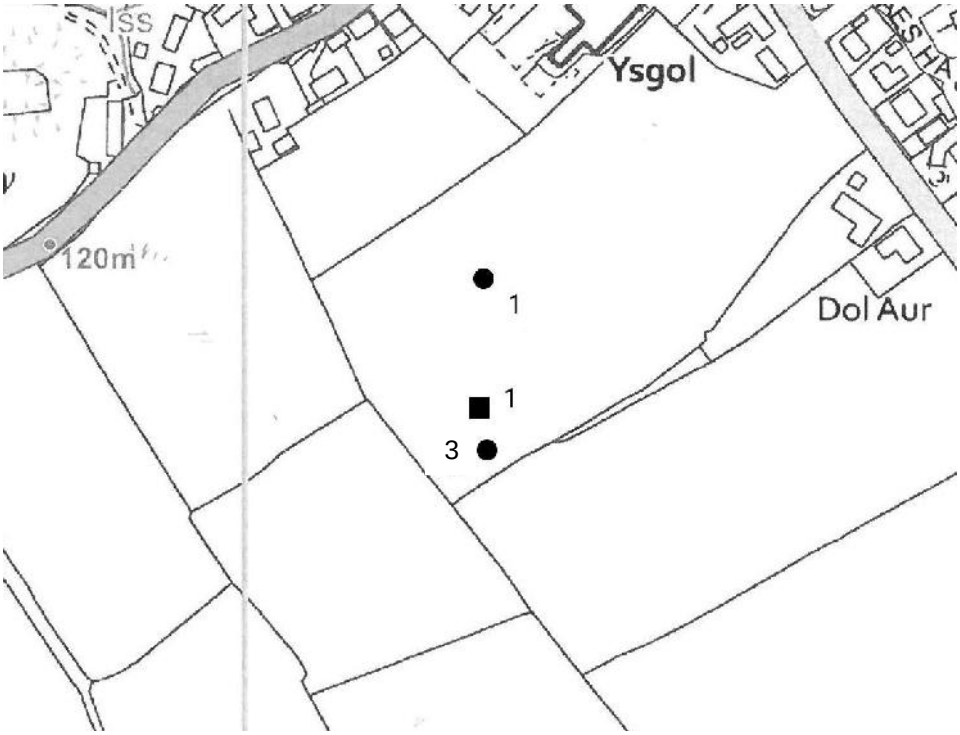
- M medium (less than 27% clay)
- H heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

Plan KCC3658/01

Auger Point Plan



KEY

- ● Auger sample location
- ○ Topsoil sample
- ■ Pit

PLAN	**KCC3658/01**		
TITLE	**Auger Points Plan**		
SITE	Land at Eglwyswrw, Crymych		
CLIENT	Wales and West Housing Association		
NUMBER	**KCC3658/01 04/24hr**		
DATE	April 2024	**SCALE**	NTS

KERNON COUNTRYSIDE CONSULTANTS LTD
GREENACRES BARN, PURTON STOKE, SWINDON,
WILTSHIRE SN5 4LL
Tel 01793 771 333 Email: info@kernon.co.uk

Plan KCC3658/02

Agricultural Land Classification Plan

KEY		Ha	%	PLAN	KCC3658/02		
	Grade 1			TITLE	Agricultural Land Classification		
	Grade 2			SITE	Land at Eglwyswrw, Crymych		
	Grade 3a	1.8	94	CLIENT	Wales and West Housing Association		
	Grade 3b			NUMBER	KCC3658/02 04/24hr		
	Grade 4			DATE	April 2024	SCALE	NTS
	Grade 5						
	Non-agricultural	0.1	6				
	Urban						
	Not surveyed						

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Ecological Appraisal Report:

Land at Heol yr Eglwys
Eglwyswrw,
Crymych,
Pembrokeshire,
SA41, 3UP.

Prepared by Leigh Murphy on behalf of I&G Ecological Consulting

Version Number	Date Issued
1.0	14/04/2024

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Office

[redacted]

Contents

Table of Figures

List of Tables

Summary

I & G Ecological Consulting Ltd were commissioned to undertake a preliminary ecological appraisal of an area of land, approximately 2.01 hectares in size, hereafter referred to as 'the site'. The site is located at Eglwyswrw, Crymych, Pembrokeshire, SA41, 3UP. The preliminary ecological appraisal was undertaken in order to determine the ecological baseline of the site, as well as to identify any ecological constraints, necessary for informing the design of an ongoing planning application.

A desk study was undertaken in April 2024, with the purpose of determining any existing ecological information pertaining to the proposed development, as well as surrounding habitats. A Phase 1 Habitat Survey was undertaken in April 2024, with the aim of identifying the habitats present on site and relating them to any relevant legislation.

The site predominantly consists of semi-improved grassland with a hedgerow boundary containing several large trees. This report presents the findings of the aforementioned desk study, and site appraisal undertaken in April 2024, with appropriate recommendations.

1. INTRODUCTION

1.1 Background

I & G Ecological Consulting Ltd were commissioned to undertake a preliminary ecological appraisal of an area of land, approximately 2.01 hectares in size, hereafter referred to as 'the site'. The site is located at Eglwyswrw, Crymych, Pembrokeshire, SA41, 3UP. The preliminary ecological appraisal was undertaken in order to determine the ecological baseline of the site, as well as to identify any ecological constraints, necessary for informing the design of an ongoing planning application.

This report presents the findings of both a desk study, and a site appraisal undertaken in April 2024. The report aims to identify any ecological constraints present in relation to the proposed development, such as the presence of protected species and habitats, whilst providing recommendations for further surveys and mitigation measures where required.

1.2 Site Details

The site is located to the south of Eglwyswrw, located centrally at SN 14165 38328, with agricultural land the dominant habitat in the surrounding area.

Figure 1. Site Location.

1.3 Proposed Development

The proposed development constitutes phase 2 of the development known as land at Heol yr Eglwys and consists of 42 dwellings with appropriate access roads and parking areas. The proposed site plans have been provided below.

Figure 2. Proposed Site Plan.

1.4 Relevant Planning Policy and Legislation

1.4.1 The Environment Wales Act (EWA) Section 6 (Welsh Government, 2016) places a duty on public authorities to 'seek to maintain and enhance biodiversity' and seek to 'promote the resilience of ecosystems'. The duty replaces the Section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. Section 7 lists both Priority Species and Habitats of Principle Importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

1.4.2 Furthermore, Edition 12 of Planning Policy Wales (PPW) (Welsh Government, 2011) establishes the land use planning policy for Wales, as set forth by the Welsh Government. It provides a structure for the effective formulation of Local Planning Authorities' development plans, supported by twenty-one Technical Advice Notes (TANs) organized around different topics. Specifically, TAN 5 - Nature Conservation and Planning gives guidance on how the land use planning system should support the safeguarding and enhancement of biodiversity and geological conservation.

PPW 12 aims to maintain and establish areas where:

- The role of landscapes, historic environments, habitats, biodiversity, and the unique characteristics of coastal, rural, or urban environments in contributing to natural and distinctive places are recognised, appreciated, protected, and improved.
- Further fragmentation of habitats is avoided wherever possible, and green networks, corridors, and habitat connections within developed areas are protected and improved.
- The features and characteristics of sites designated for their landscape or nature conservation significance are fully evaluated and safeguarded, while the network of sites is acknowledged as the foundation for improving the resilience of ecosystems.
- The opportunity to enhance the resilience of ecosystems is seized in all areas by addressing issues such as building on floodplains, diffuse pollution, soil compaction and sealing, ensuring the protection of peat resources, and improving coastal flood defense strategies in urban areas and coastal margins.

Paragraph 3.36 of PPW outlines the utilization of the Sustainable Management of Natural Resources (SMNR) methodology by the planning system, with the following identified as its primary components:

- Improving the resilience of ecosystems and ecological networks
- Halting and reserving the loss of biodiversity
- Maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits.

2. METHODOLOGY

2.1 Desk Study

A desk study was conducted with the purpose of determining any existing ecological information pertaining to the proposed development site, as well as surrounding habitats. A biological data request was sent to Local Environmental Records Centre (LERC) Wales via Aderyn (available at: https://aderyn.lercwales.org.uk/) and returned on the 9th April 2024, in order to obtain records of protected species within a 2km radius of the site, as well as designated sites for nature conservation. Additional species record data were obtained via the National Biodiversity Network (NBN) Atlas (available at: https://nbnatlas.org/) where possible. The Multi-Agency Geographical Information for the Countryside (MAGIC) website was also used to pull data on waterbodies within 0.25km of the site, following the guidance listed in the Great Crested Newt Conservation Handbook (Langton *et al.,* 2001).

2.2 Field Survey

2.2.1 Phase One Habitat Survey

A Phase One Habitat Survey was conducted by a suitably qualified ecologist on 7th February 2024, using the methodology outlined in the Handbook for Phase 1 habitat survey (JNCC, 2010). Additionally, the habitats present on site were assessed for their potential to support protected species, with visual surveys used to search for physical sightings, or incidental records of such species. The site boundary is included in Figure 2 below.

Target incidental may relate to the following:

- Evidence of badger – setts, well-worn paths and runs, snagged hair, latrines, sites and foraging.
- Evidence of otter - spraint marking, slides, hovers or sites.
- Evidence of dormouse – nests or foraged hazel nuts with characteristic round gnawing holes.
- Evidence of birds – nests.
- Evidence of bats – bat droppings or urine staining adjacent to a Potential Roost Feature (PRF).
- Evidence of reptile – sloughs.
- Evidence of amphibians – spawn.
- Evidence of water vole – droppings, latrines, foraging signs and footprints.
- Suitable habitat for marsh fritillary butterfly – the presence of Devil's bit scabious (*Succisa pratensis),* the marsh fritillary's food plant.

Any invasive non-native plant species listed under Schedule 9, Section 14 of the Wildlife and Countryside Act 1981 (as amended) were also noted and mapped during the site survey. These species include Japanese Knotweed (*Fallopia japonica*) and Himalayan Balsam (*Impatiens glandulifera*).

Figure 2. Approximate Site Boundary

2.3 Limitations

A species may be perceived as absent within the surrounding area during the desk study due to lack of records returned, however this is not the case, as it may be a consequence of lack of surveying in the search buffer area.

The findings presented within this report are valid for an 18-month period following the survey, in line with CIEEM (2019) guidance. Should the proposed development scope change in any way, then an updated Preliminary Ecological Appraisal will be required.

3. DESK STUDY

A number of protected and notable species records were returned within 2km of the centre of the proposed development site. All records will not be listed here, however the most significant, those which are considered to potentially be affected by the development of the site, will be briefly summarised. The full data are available upon request to those nominated on the request form, as some data may be classified as sensitive.

3.1 Birds

The data search returned entries of 8 bird species which are listed on Schedule 1 of the Wildlife and Countryside Act (1981) within 2km of the site, comprising of (organised from nearest to furthest): Barn Owl (Tyto alba), Goshawk (Accipiter gentilis), Red Kite (Milvus milvus), Fieldfare (Turdus pilaris), Redwing (Turdus iliacus), Woodlark (Lullula arborea), Peregrine (Falco peregrinus), Kingfisher (Alcedo atthis), The nearest records belonged to Barn Owl, located 0.33km from the site.

The data search returned entries of 22 bird species which are listed on Section 7 of Principal Importance under the Environment (Wales) Act 2016 within 2km of the site, comprising of (organised from nearest to furthest): Spotted Flycatcher (Muscicapa striata), Pied Flycatcher (Ficedula hypoleuca), Kestrel (Falco tinnunculus), Black-headed Gull (Chroicocephalus ridibundus), Bullfinch (Pyrrhula pyrrhula), Starling (Sturnus vulgaris), Linnet (Linaria cannabina), Yellowhammer (Emberiza citrinella), Skylark (Alauda arvensis), Song Thrush (Turdus philomelos), Herring Gull (Larus argentatus), House Sparrow (Passer domesticus), Dunnock (Prunella modularis), Willow Tit (Poecile montanus), Marsh Tit (Poecile palustris), Wood Warbler (Phylloscopus sibilatrix), Grasshopper Warbler (Locustella naevia), Lesser Redpoll (Acanthis cabaret), Cuckoo (Cuculus canorus), Lesser Spotted Woodpecker (Dryobates minor), Tree Pipit (Anthus trivialis), and Lapwing (Vanellus vanellus). The nearest records belonged to Spotted Flycatcher and Pied Flycatcher located 0.69km from the site.

3.2 Mammals

The data search returned 201 entries of mammals which are categorised as priority species within 2km of the site, such as (organised from nearest to furthest): Hedgehog (Erinaceus europaeus), Otter (Lutra lutra), Polecat (Mustela putorius), Western Barbastelle (Barbastella barbastellus), Badger (Meles meles), Soprano Pipistrelle (Pipistrellus pygmaeus), Brandt's Bat (Myotis brandtii), Common Pipistrelle (Pipistrellus pipistrellus), Brown Long-eared Bat (Plecotus auritus), Vesper Bat (Vespertilionidae Sp.), Hazel Dormouse (Muscardinus avellanarius), Whiskered Bat (Myotis mystacinus), Natterer's Bat (Myotis nattereri), Noctule Bat (Nyctalus noctule), Greater Horseshoe Bat (Rhinolophus ferrumequinum), Stoat (Mustela erminea), and Brown Hare (Lepus europaeus). The nearest records belonged to Hedgehog located 0.21km from the site.

3.3 Invertebrates

The data search returned 44 entries of moth which are listed in Section 7 of Principal Importance under the Environment (Wales) Act 2016 within 2km of the site, comprising of (organised from nearest to furthest): Blood-vein (Timandra comae), Small Phoenix (Ecliptopera silaceata), Brindled Beauty (Lycia hirtaria), White Ermine (Spilosoma lubricipeda), Rosy rustic (Hydraecia micacea), Buff Ermine (Spilosoma lutea), Dark-barred Twin-spot Carpet (Xanthorhoe ferrugata), Green-brindled Crescent (Allophyes oxyacanthae), Small Square-spot (Diarsia rubi), Dot Moth (Melanchra persicariae), Oblique Carpet (Orthonama vittate), Shaded Broad-bar (Scotopteryx chenopodiata), Cinnabar (Tyria jacobaeae), August Thorn (Ennomos quercinaria), Flounced Chestnut (Anchoscelis silaceata), Oak Hook-tip (Watsonalla binaria), Ghost Moth (Hepialus humuli), Dusky Thorn (Ennomos fuscantaria), and Garden Tiger (Arctica caja). The nearest records belonged to Blood-vein located 0.31km from the site.

3.4 Plants

The data search returned 9 entries of plants which are categorised as priority species under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) within 2km of the site, comprising of (organised from nearest to furthest): Bastard Balm (Melittis melissophyllum), Bluebell (Hyacinthoides non-scripta), and Cornflower (Centaurea cyanus). The nearest records belonged to Bastard Balm located 0.12km from the site.

3.5 Reptiles

The data search returned 4 entries of reptiles, which are categorised as priority species (listed in Schedule 5 of the Wildlife and Countryside Act, 1981, and Section 7 of Principal Importance under the Environment (Wales) Act 2016) within 2km of the site comprising of (organised from nearest to furthest): Common Lizard (Zootoca vivipara), and Adder (Vipera berus). The nearest records belonged to Common Lizard located 0.39km from the site.

3.6 Amphibians

The data search returned 18 entries of amphibian, which are categorised as priority species (listed in Schedule 5 of the Wildlife and Countryside Act, 1981, and Section 7 of Principal Importance under the Environment (Wales) Act 2016) within 2km of the site, comprising of (organised from nearest to furthest): Common Frog (Rana temporaria), Palmate Newt (Lissotriton helveticus), and Common Toad (Bufo bufo). The nearest records belonged to Common Frog located 0.48km from the site.

3.7 Invasive Non-native species

The data search returned 56 records of invasive non-native species, listed under Schedule 9 of the Wildlife and Countryside Act, 1981 within 2km of the site, comprising of: Heath Star Moss (Campylopus introflexus), Jenkins' Spire Snail (Potampyrgus antipodarum), Grey Squirrel (Sciurus carolinensis), Rhododendron ponticum, Canada Goose (Branta canadensis), Himalayan Balsam (Impatiens glandulifera), Giant Hogweed (Heracleum mantegazzianum),

Japanese Knotweed (Fallopia japonica), and American Mink (Neovison vison). The nearest records belonged to Heath Star Moss located 0.70km from the site.

3.8 Statutory Designated Sites

The desk study returned 3 records of statutory designated sites of environmental concern within 2km of the site, these include:

Site of Special Scientific Interest (SSSI):
- Pengelli Forest and Pant-teg Wood (0.82km northwest)

Special Area of Conservation (SAC):
- North Pembrokeshire Woodlands (0.82km Northwest)

National Nature Reserve:
- Pengelli Forest (0.82km Northwest)

3.9 Non-Statutory Designated Sites

The desk study returned 1 record of non-statutory designated sites of environmental concern within 2km of the site, these include:

Wildlife Trust Reserve:
- Pengelli Forest (0.82km Northwest)

3.10 NRW Priority Areas

Records of 18 NRW Priority Area were returned during the desk study, with 10 entries belonging to Ancient Semi Natural Woodland (ASNW), and 8 entries belonging to Restored Ancient Woodland Sites (RAWS). The nearest entry is for an area of ASNW located 0.25km west of the site.

3.11 Ancient Woodland Inventory

Records of 18 NRW Priority Area were returned during the desk study, with 10 entries belonging to Ancient Semi Natural Woodland (ASNW), and 8 entries belonging to Restored Ancient Woodland Sites (RAWS). The nearest woodland listed on the Ancient Woodland Inventory is an area of ASNW located 0.25km to the west of the site.

3.12 Waterbodies

Refer to Table 2 for a list of waterbodies / watercourses within 0.25km of the site.

Table 1. Waterbodies within 0.25km of the site

Waterbody / Watercourse ID	OS Grid Reference	Description
Nant Hafren	SN 14151 38586	A small stream located to the north of the site.

4. SITE APPRAISAL

The site predominantly consists of grassland with a hedgerow boundary and several large trees.

4.1 B6 Poor Semi-Improved Grassland

The majority of land on site consists of Semi-Improved Grassland (Photograph 1). Grass species include rye grass (Lolium perenne), cock's-foot (Dactylis glomerata), Yorkshire fog (Holcus lanatus) and Red Fescue (Festuca rubra), with common forbs including abundant creeping buttercup (Ranunculus repens), dandelions (Taraxaum sp.), bitter dock (Rumex obtusifolius), white clover (Trifolium repens), and common daisy (Bellis perennis) with frequent sticky chickweed (Cerastium glomeratum), spear thistle (Cirsium vulgare), and nettles (Urtica diocia). Occasional species include cuckoo flower (Cardamine pratensis), ragwort (Jacobaea vulgaris), Hoary willowherb (Epilobium parviflorum) and Common plantain (Plantago major). Numerous entrance holes measuring from 2-5cm in diameter can be observed within the grassland, indicating that the site has a large population of small mammals.

4.2 J2.3.1 Hedgerow and Trees

The site is bordered by a hedgerow with a number of large trees (Photograph 2). Species Include Blackthorn (Prunus spinosa), Hawthorn (Crataegus monogyna), Hazel (Corylus avellana), Goat Willow (Salix caprea), Holly (Ilex aquifolium), Gorse (Ulex europaeus), Ash (Fraxinus excelsior), and Chestnut (Castanea sativa), with abundant Ivy (Hedera helix), Nettles (Urtica diocia), cleavers (Galium aparine), and bramble (Rubus fruticosus) within the undergrowth. A large entrance hole measuring approximately 40cm was observed at the base of a large tree to the southwest of the site.

4.3 Protected Species Assessments

4.3.1 Incidental Records

No incidental records of protected species were noted on the day of the survey.

4.3.2 Invasive Non-Native Species

No incidental records of Invasive Non-Native Species were noted on the day of the survey.

5. ECOLOGICAL ASSESSMENTS

5.1 Designated Sites, Habitats, Flora and Fauna

Guidelines have been provided to assess the importance of an ecological feature value within a geographical context, as recommended within the CIEEM Guidelines for Ecological Impact Assessment (2016) and the CIEEM Guidelines for Ecological Report Writing (Dec. 2015). Please refer to Table 3 and 4 below. Refer to current proposed design.

Table 2. Ecological Value Assessments

Importance	Examples of features
International & European	European designated or proposed sites such as Ramsar Sites, Special Protection Areas, Special Areas of Conservation, World Heritage sites or Biosphere Reserves; or otherwise meeting criteria for European or International designation. Sites supporting populations of European important species. Species listed within the Annex's of The Conservation of Habitats & Species Regulations 2010
National	Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), areas of key habitats and species within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements. Species listed within the schedules of the Wildlife & Countryside Act 1981.
Regional	Sites containing viable areas of threatened habitats and species listed in a regional Biodiversity Action Plan, sites exceeding Site of Importance for Nature Conservation (SINC) criteria. Sites supporting viable populations of Nationally Scarce species or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.
High Local	Sites meeting the criteria for a county, vice county or metropolitan area designation (such as SINC), which may include amenity and educational criteria in urban areas. Ancient semi-natural woodland. Designated Local Nature Reserves. Sites containing viable areas of any key habitat type or species identified in the Local Biodiversity Action Plan (LBAP). Sites supporting viable breeding populations of species known to be county/metropolitan rarities e.g., featuring in county 'red data book' or LBAP, or supplying critical elements of their habitat requirements.
Moderate Local	Undesignated sites or features considered appreciably to enrich the habitat resource within the context of the Borough or District, or included in the Borough or District LBAP. Amenity and educational functions will be recognised in urban areas. Sites with viable breeding populations of species listed as rare in the District or Borough LBAP or supplying critical elements of their habitat requirements.
Low Local	Undesignated sites or features considered appreciably enriching the habitat resource within the context of the Parish or neighbourhood.
Negligible	Low-grade and widespread habitats.

Table 3. Impact level Criteria

Severe	Permanent impacts
Major	Loss of feature and/or quality and integrity of feature; severe damage to key characteristics, features or elements.
Moderate	Loss of feature, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
Minor	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements
Neutral	No impacts

5.2 Designated Sites

5.2.1 Statutory Designated Sites

The desk study returned 3 records of statutory designated sites within 2km of the site, the closest being Pengelli Forest and Pant-teg Wood designated as an SSSI and forms part of North Pembrokeshire Woodlands SAC located 0.82m to the northwest of site. Works on the site are not likely to impact the above statutory sites and as such, statutory designated sites will not be considered further in this report.

5.2.2 Non-Statutory Designated Sites

The desk study returned 1 record of non-statutory designated sites within 2km of the site, being Pengelli Forest designated as a Wildlife Trust Reserve, located 0.82km northwest of site and forms part of Pengelli Forest and Pant-Teg Wood SSSI. Works on the site are not likely to impact the above statutory sites and as such, statutory designated sites will not be considered further in this report.

5.2.3 Ancient Woodland Inventory

The closest woodland listed on the Ancient Woodland Inventory is an area of ASNW located 0.25km to the west of the site and borders the Pengelli Forest and Pant-Teg Wood SSSI. The work onsite will be relatively localised with little adverse effects on the ASNW mentioned above, however the hedgerow and trees onsite provide connectivity between a number of woodland sites, as such, works on the site have the potential to ***minorly*** impact on the ancient woodland sites without mitigation. Further recommendations are provided in Section 6.

5.3 Habitats

5.3.1 Poor Semi-Improved Grassland

The area of grassland may offer habitat for birds, invertebrates, terrestrial phase amphibians, reptiles and small mammals. Bats may forage on invertebrate populations which reside in this habitat. Terrestrial-phase amphibians may use the habitat when commuting and foraging. The habitat value has been assessed as ***low local*** as it is relatively low-grade and widespread in the surrounding landscape. Under the current proposed design, loss or damage to this habitat would be ***moderate*** without mitigation, as the proposed development would require the removal of the majority of grassland onsite. Further recommendations are provided in Section 6.

5.3.2 Hedgerow and Trees

The hedgerow and trees onsite provides nesting and foraging opportunities for a range bird, small mammal, and reptile species, and provides connectivity to the greater area providing flightlines for migrating bat species and refugia for a range of species including terrestrial phase amphibians, with a number of large trees showing moderate bat roost potential with dense ivy cover, as such the habitat value has been assessed as ***moderate local***, loss or

damage to this habitat would be ***moderate*** without mitigation. Under the proposed design loss or damage to this habitat would be ***minor***, as no removal of the trees is required and the current design incorporates an ecological buffer area. However, any construction activities may adversely impact the habitat and / or species using it. Any change in design may require an updated assessment by a qualified ecologist, with the removal of trees significantly increasing the potential loss or damage to this habitat without mitigation. Further recommendations are provided in Section 6.

5.4 UK BAP Priority Habitats and Species

UK BAP priority habitats and species were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). As a result of devolution, conservation action is now focused at a country-level rather than a UK-level, and the UK BAP was succeeded by the UK Post-2010 Biodiversity Framework in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species and habitats in the four countries of the UK.

The field survey identified the on-site habitats as having the potential to support the following groups in varying capacities, which are also listed under UK BAP: bats, birds, small mammals, and invertebrates.

5.5 Ecosystem Resilience

Area loss can cause populations of organisms to decline due to a decrease in habitat size. The grassland habitat present on site is relatively poor and widespread, however the hedgerow provides connectivity to the wider area and a number of trees show moderate bat roost potential. Therefore, if the proposed development site is cleared without any mitigation for development, the impact on ecosystem resilience is expected to be ***moderate.*** Should the results of any further surveys listed in Section 6 confirm the likely presence of any protected species, this assessment may require updating by a suitably qualified ecologist.

6. CONCLUSIONS AND RECOMMENDATIONS

The combination of desk and field surveys undertaken at the proposed development site identified that the site has a ***moderate local*** ecological value, with the hedgerow and trees forming part of an intricate series of wildlife corridors within the wider area. The dominant habitat of semi-improved grassland is of ***low local*** ecological value, providing foraging opportunities for a range of species.

Recommendations necessary for the informing of the design process are provided below, as well as recommendations for biodiversity enhancement in order to fulfil the Biodiversity and Resilience of the Ecosystems Duty (Section 6 Duty). Where a habitat or species has been omitted, they are not considered a constraint to the proposed development.

6.1 Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

6.1.1 The Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty) applicable to Local Authorities. This duty filters through to all those participating in the Planning process.

6.1.2 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.

6.1.3 It is therefore recommended, that in order to provide a net enhancement for the development, new native planting should be incorporated into the development using species of local provenance.

6.1.4 In order to provide a net benefit for biodiversity it is recommended appropriate trees in the surrounding area, as well as buildings in the proposed development, should incorporate artificial habitats such as bat bricks / boxes, bird boxes / bricks or Swift / swallow cups; the details of which should be agreed with the LA ecologist.

6.2 CEMP

6.2.1 Due to the large size of the development, it is recommended that a Construction Ecological Management Plan (CEMP) be produced by a suitably qualified Ecologist upon finalising the design in order to fully consider sensitive areas.

6.2.2 This should include a monitoring and reporting framework, allowing the client to assess the effectiveness of the implemented measures and ensure ongoing compliance with environmental requirements. This may involve regular site inspections, ecological surveys, and the collection of environmental data to track changes in the ecosystem over time.

6.2.3 The CEMP may utilise the information presented in this report to outline the strategies, measures, and guidelines for managing and minimising the environmental impact of the proposed development on the surrounding ecosystems. The CEMP should outline the applicable environmental laws, regulations, and permits that need to be adhered to during the construction process. This ensures that the project remains in compliance with local, regional, and national environmental requirements.

6.2.4 Furthermore, the CEMP should detail strategies and measures to mitigate and minimise the potential negative impacts on the environment. This can include measures to protect and preserve sensitive habitats, rare species, and important ecological features. It may involve implementing erosion and sediment control measures, managing stormwater runoff, and preventing pollution from construction activities. The plan should address reducing, reusing, and recycling construction materials to minimise waste generation. It may also outline protocols for the safe handling and disposal of hazardous materials. Appropriate guidelines, such as the Pollution Prevention Guidelines (PPG) (NetRegs, 2012) and the CIRIA C741 Environmental Good Practice on Site Guide (Charles and Edwards, 2015) should be adhered to at all times during the construction of the proposed development.

6.2.5 The CEMP may include provisions for habitat restoration and conservation. This could involve replanting native vegetation, creating wildlife corridors, or establishing protected areas to compensate for any habitat loss or fragmentation (refer to below Sections for further information).

6.3 Grassland

6.3.1 Mitigation for loss of habitat may, in part, take the form of improved management for biodiversity on the remaining areas of land within ownership.

6.3.2 Furthermore, subsequent management of the remaining on-site habitat should aim to achieve a good mosaic of sub-habitats, including areas of short turf, bare ground, long grass, and a limited amount of scrub.

6.4 Hedgerow and Trees

6.4.1 The retention and protection of the on-site trees and associated features to be managed as a landscape feature is advised. Any loss of habitat should be mitigated against with new planting of trees of local provenance and the inclusion of artificial habitats into new structures as detailed above.

6.5 Bats

6.5.1 The nearest record of bat returned in the desk study belonged to Western Barbastelle, located 0.37km from the site. A number of trees on site were assessed to have moderate bat roosting potential and with the hedgerow providing flightlines for migrating species, as such a bat survey is required if any trees are to be removed.

6.5.2 The lighting scheme of the site during construction, and after, should follow best practice to avoid disturbance of bats, and will be designed to maintain dark corridors for bats and other nocturnal animals. Lighting will be kept to a minimum and be away from adjacent trees and commuting features (hedgerow). Where artificial lighting is necessary, this should utilise a number of key design points to limit any impact, as follows:

- Low level lighting pointed towards the ground; LED bulbs to be used of 3000 Kelvin and below (warm white light and not daylight);
- Use of light shields and hoods to direct the light downwards and prevent vertical and horizontal light spill; and
- Use of passive infrared (PIR) motion sensors on timers to ensure lights only come on when necessary.
- Further information on bats and lighting can be found on the Bat Conservation Trust website (www.bats.org.uk) and the latest guidance in association with the Institution of Lighting Professionals can be found at: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

6.6 Birds

6.6.1 Copious records of birds were returned during the desk study. All nesting birds are protected under Section 1 of the Wildlife and Countryside Act of 1981. Therefore, all vegetation clearance should be planned outside the nesting bird season. If management works must commence any time between the 1st of March and the end of August, it is recommended that a nesting bird check will be undertaken on the site by a suitably experienced Ecologist. If an active bird nest is found, the nest area will be marked, and will be protected from disturbance or harm as advised by the Ecologist. Management procedures will not commence in the identified area until an Ecologist can confirm the young have fledge and the nest is vacant.

6.7 Badger

6.6.1 The nearest record of badger returned in the desk study belonged to was located 0.43km from the site. A potential badger sett entrance was observed at the base of a tree to the southwest of site, as such it is recommended a Phase II badger survey take place to determine if the sett is active, this may include the use of camera traps and are best undertaken between February and April or October to November.

7. LEGISLATION

7.1 Otters and the Law

7.1.1 The otter is a European Protected Species (EPS). It is against the law to damage or destroy an otter breeding site or resting place, or deliberately to capture, kill, injure or disturb an otter.

7.1.2 Otters are fully protected by the following pieces of legislation:

- The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects otters, making it **an offence to**: -
  - *Intentionally or deliberately capture, injure or kill an Otter.*
  - *Damage or destroy a breeding or resting place of an Otter, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection*
  - *Intentionally or recklessly disturb an Otter in a place used for shelter or protection, or deliberately disturb Otters in such a way as to be likely significantly to affect (i) the ability of any significant group of Otters to survive, breed, rear or nurture their young, or (ii) the local distribution or abundance.*
  - *Intentionally or recklessly obstruct access to a place used for shelter or protection.*
  - *Possess an Otter (alive or dead), or any part of an Otter*

- Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects otters, making it **an offence to: -**
  - *Intentionally or recklessly disturb any otter while it is occupying a structure or place which it uses for shelter or protection*
  - *Intentionally or recklessly obstructs access to any structure or place used by an otter for shelter or protection*
  - *Sell, offer or expose for sale any otter*

7.1.3 For any disturbance to occur a derogation or **EPS licence** must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;

i. granting the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.

ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.

iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

7.1.4 Otters are also protected by;

- Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016.
- Annex II Habitats Directive (protection through Special Areas of Conservation)
- UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales

7.2 Bats and the Law

7.2.1 Bats are protected by the following pieces of legislation:

- Schedule 5 and 6 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000)
- The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat is protected under this legislation as well as others.
- The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects all bats and their roosts, making it **an offence** *to deliberately kill*, *injure or capture* (take) bats; *to* deliberately *disturb bats; damage or destroy bat roosts* or resting places (this is considered an "Absolute Offence" as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost / resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.
- For any disturbance to occur a derogation or **EPS licence** must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;

    i. the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.

    ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.

    iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

7.2.2 Bats are also protected by;

- Appendix III of the Bern Convention
- Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe)
- Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016.
- All bats are listed in Annex IV of the EC Habitats Directive and the British species listed in Schedule 2 of the Habitats Regulations 1994 (as amended) and are therefore designated as *European Protected Species*. These *protected* species are afforded enhanced

protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone.

7.3 The Hazel Dormouse and the Law

7.3.1 The hazel dormouse is a European Protected Species (EPS). It is against the law to damage or destroy a dormouse breeding site or resting place (summer or hibernation nest), or deliberately to capture, kill, injure or disturb a dormouse.

7.3.2 Dormice are fully protected by the following pieces of legislation:

- The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects dormice, making it **an offence to**: -
    - *Intentionally or deliberately capture, injure or kill a dormouse.*
    - *Damage or destroy a breeding or resting place of a dormouse, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection*
    - *Intentionally or recklessly disturb a dormouse in a place used for shelter or protection, or deliberately disturb dormouse in such a way as to be likely significantly to affect (i) the ability to survive, breed, rear or nurture their young, and includes in the case of animals of a hibernating or migratory species, to hibernate or migrate or (ii) the local distribution or abundance.*
    - *Intentionally or recklessly obstruct access to a place used for shelter or protection.*
    - *Possess a dormouse (alive or dead), or any part of a dormouse*

- Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects dormice, making it **an offence to: -**
    - *Intentionally or recklessly disturb any dormouse while it is occupying a structure or place which it uses for shelter or protection*
    - *Intentionally or recklessly obstructs access to any structure or place used by a dormouse for shelter or protection*
    - *Sell, offer or expose for sale any dormouse*

7.3.3 For any disturbance to occur a derogation or **EPS licence** must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;

i. granting the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.

ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.

iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

7.3.4 Dormice are also protected by;

- Natural Environment and Rural Communities Act 2006 (England) and the Environment (Wales) Act 2016.
- Annex II Habitats Directive (protection through Special Areas of Conservation)
- UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales

7.4 Reptiles and the Law

7.4.1 All of the UK native reptiles are protected by law. The common species of reptiles found in this locality are common lizard, slow-worm, adder and grass snake. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended).

7.4.2 All native UK reptiles are considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

7.4.3 Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species (which includes all reptiles species) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.

7.5 Amphibians and the Law

7.5.1 All of the UK native amphibians are protected by law. The common species of amphibians in this locality are common frog, common toad, smooth newt and palmate newt. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended).

7.5.2 The common toad is considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its

functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

7.5.3 Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species) which includes the Common Toad) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.

7.6 Birds and the Law

7.6.1 All species of bird are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Protection was extended by the Countryside and Rights of Way (CRoW) Act 2000. Under the above legislation it is an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

7.6.2 Certain species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and receive protection under Sections 1(4) and 1(5). The protection was extended by the Countryside and Rights of Way (CRoW) Act 2000. There are special penalties where the offences listed above are committed for any Schedule 1 species and it is also an offence to intentionally or recklessly:

- disturb any such bird when it is building its nest or while it is in or near a nest containing dependant young; or
- disturb the dependant young of any such bird.

7.7 Badgers and the Law

7.7.1 The protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger, or interfere with a sett. In addition, they are listed on Schedule 6 of the Wildlife & Countryside Act 1981, which prohibits certain methods of killing and capture.

7.8 Water Voles and the Law

7.8.1 Water voles are listed under Schedule 5 of the Wildlife & Countryside Act 1981, receiving full protection since 2008. The Wildlife & Countryside Act 1981 (as amended), lists the following offences: -

- Intentionally kill, injure or take water voles (Section 9 (1)).
- Possess or control live or dead water voles or derivatives (Section 9 (2)).

- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection (Section 9 (4) (a & c)).
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose (Section 9 (4) (b)).
- Sell water voles or offer or expose for sale or transport for sale (Section 9 (5)).
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles (Section 9 (5)).

7.9 Environment Act (Wales) 2016

7.9.1 This act has replaced the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. It came into force in May 2016.

7.9.2 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In doing so, public authorities must also seek to 'promote the resilience of ecosystems'. Under Section 6, public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

7.9.3 Section 7 of the Act places a duty on public authorities to take steps to maintain and enhance biodiversity. This section replaces the duty in section 42 of the NERC Act 2006. The Section 7 Priority Species under this act is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The Section 7 Priority Habitats is a list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

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9. I&G ECOLOGICAL CONSULTING LEGAL DISCLAIMER

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We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work and prevailing site conditions.

Advice in this report is based on the judgement of I&G Ecological Consulting and the interpretation of data gathered during the course of their survey on the property named in this document.

The findings and advice given during the course of this survey is provided by employees of I&G Ecological Consulting acting only on behalf of I&G Ecological Consulting.

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Appendix A. LERC Data Search

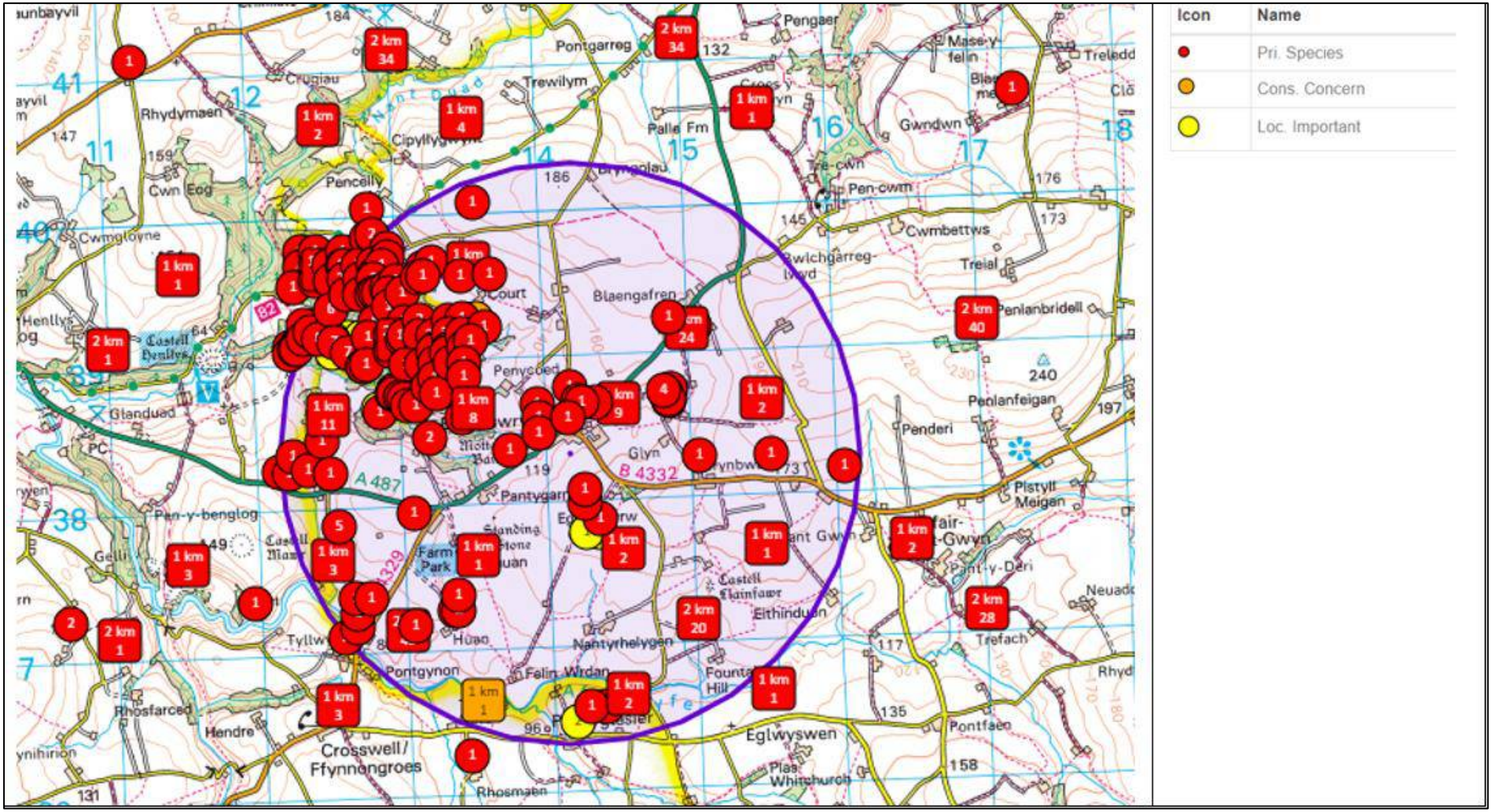

Figure 3. LERC Protected Species Data Search Records

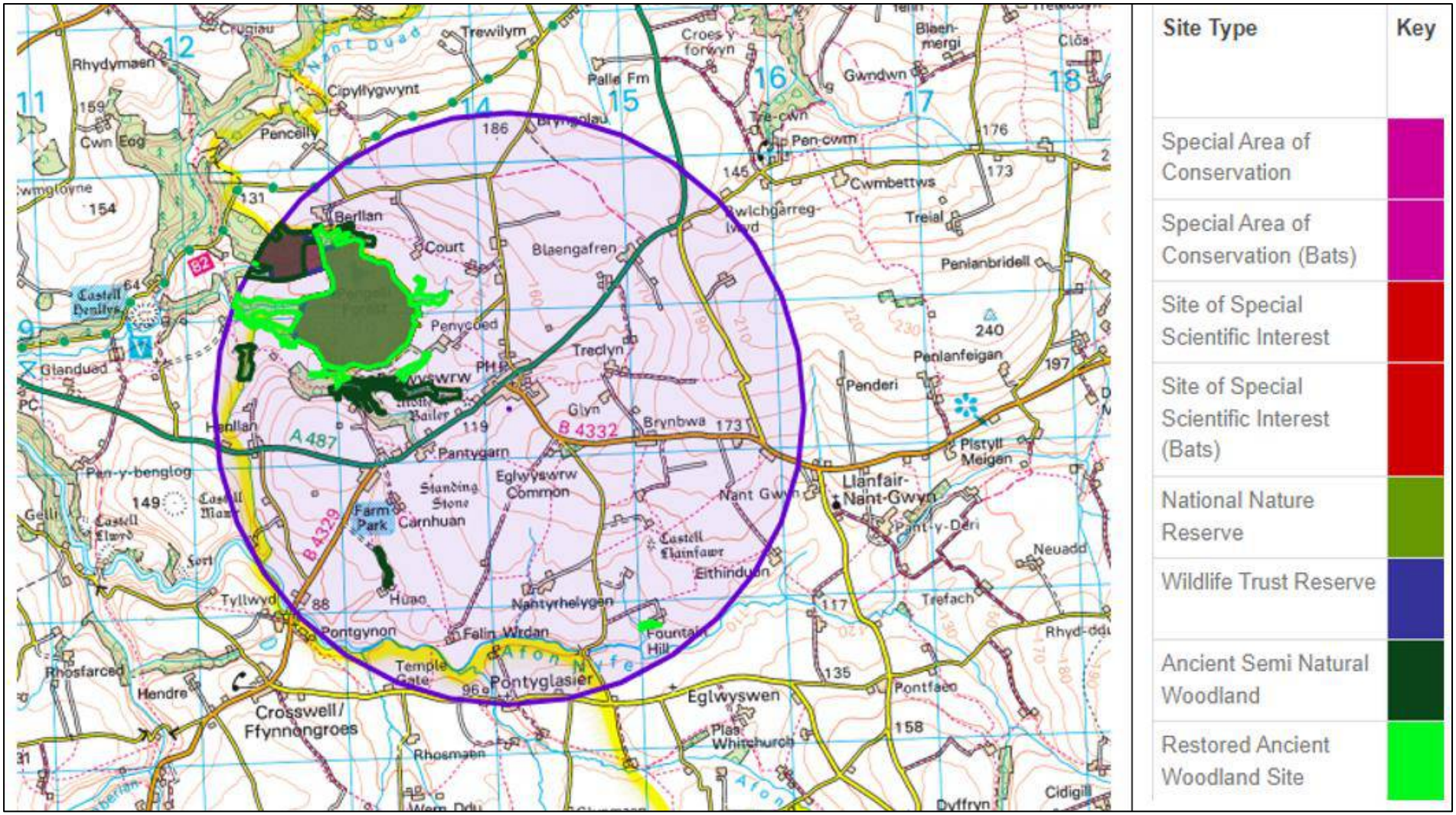

Figure 4.LERC Protected Sites Data Search

Appendix B. Phase One Habitat Plan

Legend	Code	Habitat
SI	B6	Semi-Improved Grassland
	J2.3.1	Hedgerow with Trees
X		Potential Badger Sett Entrance

Appendix C. Photographs

Photograph 1. Grassland

Photograph 2. Hedgerow and Trees

Photograph 3. Potential Badger Sett Entrance

Photograph 4. Numerous 3-4cm Entrance holes

Sustainability Appraisal of Land at Eglwyswrw, Crymych, Pembrokeshire, SA41 3UP

Pembrokeshire County Council LDP Proposed Site Submission

December 2024

Contacts

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Arcadis (UK) Limited

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Revision Control

Revision	Date	Author	Checker	Reviewer	Approver	Changes
1	10.12.24	ST/AP	CB	ST	AP	Version for client review
2	12.12.24	ST	MS	ST	AP	Revised version following comments

Contents

Tables

Figures

1 Introduction

1.1 Overview

Arcadis Consulting (UK) Limited has been commissioned by Amity Planning Limited to undertake the Sustainability Appraisal (SA) of Four Sites for Residential Site Promotion. This document contains the SA undertaken for Land at Eglwyswrw, Crymych, Pembrokeshire, SA41 3UP, which extends to 1.9 hectares. This SA has been written so that its findings could be directly inputted into the Sustainability Appraisal of the Pembrokeshire County Council (PCC) Local Development Plan (LDP2), and its findings compared to the other sites assessed in the SA. This is this is not intended to be a standalone SA Report and is intended to be read alongside the SA Report accompanying the second Deposit LDP2 for consultation 2024.

1.2 Pembrokeshire County Council Local Development Plan Review (LDP2)

The second Deposit LDP2 identifies a need for 5,840 new homes between 2017 and 2033 (365 a year) including 2,000 affordable homes. Consultation on the plan runs between 21 October and 16 December 2024. The Plan proposes revised town and village boundaries (known as settlement boundaries) and a range of sites are allocated (identified) for different land uses, including 54 sites for housing.

1.3 The Proposed Site

The Proposed Site is submitted to PCC as an alternative site, via an objection to the second Deposit LDP2. The Proposed Site is previously developed, and would provide 42 units at 22 dwellings per hectare.

A Location Plan, Feasibility Site Layout Plan; Constraints Plan; Landscape Character & Visual Impact Assessment; Preliminary Ecological Appraisal; Transport Statement; Existing Topographical Site Plan; and Agricultural Land Classification Survey will be submitted in support of the Proposed Site. These have been used as the basis of this SA.

1.4 Sustainability Appraisal Methodology

The second Deposit LDP2 'Sustainability Appraisal and Strategic Environmental Assessment Report – Re-Deposit Plan' is available on the PCC website (Part1.pdf) (SA Report).

The assessment of the Proposed Site for promotion is based on the existing SA undertaken on the second Deposit LDP2. The assessment has been undertaken using the adapted SA Framework that has been used to assess the other sites. Further detail of how the SA Framework has been developed is included within the SA/SEA reporting available online. Other key sources of information used in this appraisal include:

- Local policies of relevance (see Section 2)
- Baseline information, key issues and opportunities and future trends data (SA Report September 2024)
- Existing appraisals so that the assessment of the proposed site is proportionate and consistent with the approach taken - Appendix 6, assessment of allocations, SA Report September 2024
- Interactive Constraints Map, available: Deposit - Pembrokeshire County Council
- Natural Resources Wales, Check your flood risk

1.5 Assessment Criteria

The SA Report notes that, in addition to the SA Framework, 'more site-specific appraisal criteria' were used to assess the impact of the proposed development sites. This is included within the Candidate Site Methodology. The SA Framework and scoring criteria are presented below and have been used in the assessment of the Proposed Site. In relation to the Candidate Site Assessment Methodology, it is noted this was undertaken ahead of the SA process, and not as an integral part of the assessment. It has not been possible to fully replicate this process for the Proposed Site (for example, in terms of consulting internal PCC departments and key organisations). However, the relevant criteria have been mapped against the SA Objectives, and included within the assessment, as presented in section 2. Deliverability of the site is assessed in the Site Representation Statement that supports the submission package.

2 SA of the Proposed Site

As set out in the SA Report (Appendix 6), the assessment of the effects of the sites against the Sustainability Objectives includes the following considerations of whether the effect would be:

- Negative (adverse), neutral or positive (beneficial);
- Direct or indirect;
- Short, medium or long term;
- Isolated or cumulative; and/or
- Reversible or irreversible.

Appendix 6 also notes that any site allocations would need to include mitigation measures to minimise or obviate any predicted negative effects. These include key mitigation measures that are required by the following policies, which have been taken to consideration in this assessment. Any additional measures will be included within the assessment, as necessary.

Figure 2-1 LDP Development Management Policies of relevance

Key	Policy Reference	
A.	GN1 (2)	**Local Amenity**: It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or an increase in noise or vibration levels.
B.	GN1(4)	**Soil Quality:** It would not cause an unacceptable adverse effect (a harmful impact that cannot be satisfactorily mitigated) on soils
C.	GN(5)	**Biodiversity:** It respects and protects the natural environment with no unacceptable adverse effects (a harmful impact that cannot be satisfactorily mitigated) on the environment including protected sites, habitats and species;
D.	GN1(6)	**Sustainable Transport:** It will incorporate sustainable transport and accessibility principles and would not result in a detrimental impact on highway safety or in traffic exceeding the capacity of the highway network.
E.	GN1(9)	**Water Quality:** It would not have a significant adverse impact on water quality (see also policy GN 47);
F.	GN1(10)	**Light Pollution:** Any proposal with significant light pollution potential must include a lighting scheme. Proposals must minimise their light impact through appropriate mitigation wherever possible.
G.	GN1(11)	**Waste and Pollution:** It minimises the generation of waste during implementation and manages any waste generated.
H.	GN1(12)	**Health and Safety:** It would not cause or result in unacceptable harm to health and safety, including through flood risk
I.	GN2	**Sustainable Design**
J.	GN1(3)	**Landscape:** It would not cause an unacceptable adverse effect (a harmful impact that cannot be satisfactorily mitigated) on landscape character, quality or diversity .. including the special qualities of the Pembrokeshire Coast National Park and neighbouring authorities;
K.	GN28	**Historic Environment:** Development will only be supported where it conserves, protects, preserves or enhances the following cultural and historic assets and their setting
L.	GN1(8)	**Flooding:** It would not cause or result in unacceptable harm to health and safety, including through flood risk.
M.	SP19	**Welsh language:** Must not have an unacceptable impact on the vitality and viability of the Welsh language and development to be managed sensitively through mitigation and measures to enhance the interests of the Welsh language and culture.

In addition, emerging LDP Policy GN15 stipulates that all new build residential development on sites of 5 or more units must provide a minimum of 20% of properties built to Lifetime Homes Standards. Policy GN20 sets the requirements for Affordable Housing.

The full assessment of the Allocations can be found in Appendix 6 here: Appendices Appendix 1 SA of the LDP Vision (1).pdf

Table 2-1 Scoring Matrix

++	There is a generally consistent strong positive association between the policy option and the Sustainability Objective
+	There is a weak or inconsistent, but generally positive association between the policy option and the Sustainability Objective.
0	There is not a significant association between the policy option and the Sustainability Objectives, or the association is neutral (the combination +/- is used where it is believed a policy will have both positive and negative effects with regard to a particular Sustainability Objective).
-	There is a weak or inconsistent, but generally negative association between the policy option and the Sustainability Objectives.
--	There is a generally consistent strong negative association between the policy option and the Sustainability Objectives.
?	The association between the policy option and the Sustainability Objectives is uncertain, may be used in association with other symbols to indicate a degree of uncertainty in the conclusion.

2.1 Assessment

Table 2-2 Sustainability Appraisal of Proposed Site

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
1.	Develop and maintain a balanced population structure.	Provision of housing sites can have direct positive effects on the population structure, in the short, medium and long term. For instance, in the short-term younger people may be able to stay in the county if there is suitable housing at an affordable price. Over time, these communities may stay in the area and have families, leading to a cumulative positive effect.	+	n/a	n/a
2.	Promote and improve human health and well-being through a healthy lifestyle, access to healthcare and recreation opportunities and a clean and healthy environment.	The Proposed Site would comprise the development of high-quality housing and include an increase in trees and vegetation cover in comparison to the existing site. The site is approximately 237m from two allocated Amenity Open Spaces, which could lead to positive effects on health and wellbeing for the community. However, the closest GP surgery is Crymych Health Centre (9 minutes via car and 52 minutes via public transport) and Newport Surgery (6.0 miles), which would take 11 minutes via car and 22 minutes via public transport. Cardigan Integrated Care Centre is 6.8 miles away. Overall, effects are considered to be likely neutral against this objective.	0	D	n/a
3.	Improve education opportunities to enhance the skills and knowledge base.	The nearest school to the site is Ysgol Gymunedol Eglwyswrw which is located 407ft away (2-minute walk), Ysgol Bro Preseli (all through school) is 4.7 miles (10 minutes via car) away and Ysgol Y Frenni is 5.3 miles away (12-minute drive). Ysgol Uwchradd Aberteifi, a high school, is located 7.9 miles away (14 minutes via car). There is a special educational unit, Ysgol Y Preseli, located 4.7 miles away (10 minutes' drive).	+	n/a	n/a
4.	Minimise the need to travel and encourage	The closest bus stop (St Christiolus Church) is approximately 152m from the Proposed Site, which would enable new residents to access services and	+	n/a	The scheme could commit to providing

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
	sustainable modes of transport.	facilities, as well as employment, via public transport. These provide access to the T5 bus services and nearby centres Cardigan (a 10-minute journey time) and Fishguard (a 23-minute journey time). The availability of sustainable modes of transport could lead to beneficial effects against this objective. The nearest railway station is Fishguard Harbour which is 14.6 miles away (28 minutes via car) and Clunderwen Station which 15 miles (25 minutes via car). The site is accessible to pedestrians, cyclists and public transport users. All Eglwyswrw's services and facilities are within walking distance to the alternative site. The Proposed Site is accessible to pedestrians from the recently constructed Golwy y Llan footways. These link with the footways that lead to the north along both sides of the A487.			off-road pedestrian access to the closest bus stop. A safe means of access can be delivered by extending the recently constructed Golwg y Llan estate road.
5.	Provide a range of high-quality housing including affordable housing to meet local needs.	The development of the Proposed Site would lead to the delivery of a range of high-quality housing, to meet local needs leading to a permanent beneficial effect. As a large site, the scheme creates the potential to generate a large proportion of affordable housing within the local area. 20% of properties built to Lifetime Homes Standards will also be supported.	++	GN15 and GN20	The scheme could commit to ensure that affordable housing remains affordable over time.
6.	Build safe, vibrant and cohesive communities which have improved access to key services and facilities.	It is considered that the re-use of the site would lead to an improvement for community cohesion and vibrancy. Eglwyswrw is a village that lies alongside the A487 midway between Newport and Cardigan. Facilities include a café, Castell Henllys Iron Age Fort, B&B, campsites, farm shop and petrol station. Most of these services are within walking distance. A wider range of facilities can be accessed in Cardigan (10km to the northeast) and Newport (9.6km).	+	n/a	n/a
7.	Protect and enhance the role of the Welsh language and culture.	Ysgol Gymunedol Eglwyswrw is a Welsh medium primary school, located 124m from the site. In comparison to the provision of housing elsewhere, the development could support the enhancement of the role of the Welsh language through the provision of housing in relative proximity to Welsh medium educational facilities. The area around has a majority of Welsh speakers - 58% of the resident population.	+	n/a	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
8.	Provide a range of good quality employment opportunities accessible to all sections of the population.	The provision of high-quality housing in the local area could lead to an increase in the number of skilled workers living locally. Temporary and short-term employment opportunities may result from the construction of the site and the marketing and selling of the dwellings, leading to short-term positive effects against this objective.	+	n/a	n/a
9.	Support a sustainable and diverse local economy.	There may be some long-term and indirect benefits to the local economy through the increase in the population locally as well as the provision of affordable housing, which could enable local people to continue to live locally.	+	n/a	n/a
10	Prepare for and reduce the impact of Pembrokeshire's contribution to climate change.	The proposed masterplan for the site shows the inclusion of ecology buffers , open space and provision of Sustainable Urban Drainage Systems (SuDS). Alongside the requirements for development provided by the LDP policies, it is considered that the development of the scheme could have a net beneficial effect.	+	B, C, D, E, G, I, L	n/a
11	Maintain and improve air quality.	Although the development of additional residential accommodation would be likely to lead to an increase in air pollution, it is considered that the combined effect of biodiversity enhancement measures and SuDS provision, and the potential use of sustainable transport modes to access nearby services and facilities, alongside policy requirements would reduce the significance of this effect.	-	GN1(2)	n/a
12	Minimise the generation of waste and pollution.	The development of a residential site is likely to increase the amount of waste being generated locally, leading to a potential negative effect. However, the potential for this effect to be significant will be minimised through the masterplan design. The site location may minimise potential pollution, through the use of sustainable modes of transport, and other measures, such as sustainable design, as stipulated by LDP policy.	-	A-G, I	The scheme could commit to using locally sourced materials to reduce pollution.
13	Encourage the efficient production, use, re-use and recycling of resources.	The site is currently undeveloped arable land categorised as Grade 3a agricultural land. However, the site comprises a modest area of subgrade agricultural land that provides minimal economic farming benefits and does not, therefore, provide a sustainable use of resources. Notwithstanding this,	-		The scheme could commit to re-using existing materials

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
		its loss would lead to permanent and irreversible negative effects. However, this effect may be reduced in significance through measures to reduce the loss of soils.			on site as much as is feasible.
14	Maintain and protect the quality of inland and coastal water. Candidate site methodology: Presence of species/watercourse	There does not appear to be any watercourses within the site There is existing foul drainage with 6m easement within the northern boundary of the site. The proposed masterplan for the site shows an improvement in vegetation cover above the existing site, including the provision of SuDS. Alongside the requirements for development provided by the LDP policies, it is considered that the development of the scheme would have a neutral effect against this objective.	**0**	E	n/a
15	Reduce the impacts of flooding and sea level rises. *Candidate site methodology*: spatial assessment: flood risk Is the site itself at risk of flooding or causing pollution?	The site is not at risk of flooding. The proposed masterplan for the site includes open space and provision of SuDS. The inclusion of such features will avoid the impacts of potential flooding from the introduction of impermeable surfaces and mean the development of the scheme would have a neutral effect against this objective.	**0**	L	n/a
16	Use land efficiently and minimise contamination. *Candidate site methodology:* spatial assessment: contaminated land.	The development of the site would comprise the use of greenfield land. This would lead to permanent and irreversible effects. However, this effect may be reduced in significance through measures to reduce pollution as a result of new development.	**-**	B	
17	Safeguard soil quality and quantity.	The site adjoins a development area permitted under reference 21/0871/PA. A small part of the site, 0.1ha is non-agricultural following planning consent.	**-**	B	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
	Candidate site methodology: spatial assessment: mineral and soil safeguarding	The majority of the area has been classified as comprising Subgrade 3a. Therefore, the land is of best and most versatile land. The development of the site would comprise the use of greenfield land. This would lead to permanent and irreversible effects. However, this effect may be reduced in significance through measures to reduce the loss of soils. A section of the site is 'hard rock', which is a protected resource. Therefore, mitigation must be conducted to protect and conserve the resource and consultation with the Mineral Authority should be carried out. This would reduce the significance of a potential negative effect.		Policy GN38	
18	Maintain, enhance and value biodiversity and promote the resilience of ecosystems. *Candidate site methodology:* spatial assessment: sites protected for nature conservation importance. Does the current habitat provide valuable ecosystem service? Is loss of protected woodland/trees/hedgerows proposed? Are there protected or locally important species or habitats present?	The site is approximately 750m from a Special Area of Conservation (Pencally Forest), approximately 289m from Ancient Woodland and approximately 632m from a Local Nature Reserve. The northern, western and southern boundaries are defined by field boundary hedgerows. The eastern boundary is defined by a partially constructed development of residential properties. The site comprises one parcel of greenfield land. The proposed masterplan for the site includes a 5m ecology buffer zone and area of Public Open Space. Alongside the requirements for development provided by the LDP policies, and national guidance, it is considered that the development of the scheme could have a net benefit for biodiversity, over the medium and long-term.	+	C	All existing field boundary hedgerows and associated hedgerow trees should be retained wherever possible. New native tree planting would improve the site's arboricultural character. New multifunctional public open spaces for residential amenity should also provide ecological enhancement.

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
19	Protect and enhance the landscape and geological heritage. *Candidate site methodology:* How does the site relate to the landscape, landform and other site features?	The northern, western and southern boundaries are defined by field boundary hedgerows. The eastern boundary is defined by a partially constructed development of residential properties. The site comprises one parcel of greenfield land. The proposed masterplan for the site includes a 5m ecology buffer zone and area of Public Open Space. Alongside the requirements for development provided by the LDP policies, the LVIA concludes that the proposed development is well screened from the surrounding landscape. Whilst any proposed development would change the character of the site itself, it would have no discernible impact upon the wider landscape character of the area. A proposed residential development would be in keeping with the residential character established by the adjacent, partially constructed residential development immediately to the east. It is considered that the effect on landscape considerations would be neutral or slightly improved, as the existing site screening would be maintained and enhanced through the development of the site.	+	J	n/a
20	Encourage quality locally distinct design that complements the built heritage.	The development has the potential to deliver a well-designed housing scheme, in-keeping with and sympathetic to the surrounding forms of development. The LVIA concludes that the proposed development is well screened from the surrounding landscape. Whilst any proposed development would change the character of the site itself, it would have no discernible impact upon the wider landscape character of the area. A proposed residential development would be in keeping with the residential character established by the adjacent, partially constructed residential development immediately to the east.	+	I	n/a
21	Protect, enhance and value the built heritage and historic environment.	The site is approximately 134m from a Scheduled Monument (Castell Eglwyswrw). It is within approximately 200m of 5 listed buildings. The site is adjacent to Eglwyswrw Conservation Area. There is built development between the site and the heritage assets therefore the effect is likely to be	0	I	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
	Candidate site methodology: spatial assessment: sites, areas and buildings protected for heritage importance.	neutral. The proposed residential development would be in keeping with the residential character established by the adjacent, partially constructed residential development immediately to the east.			

2.2 Cumulative Effects

The SA Report doesn't seem to have a full assessment of cumulative effects including the site assessments, so it has not been possible to consider how the Proposed Site should be considered within these.

2.3 Summary of Findings

Overall, it is considered that the Proposed Site would lead to potentially significant benefits against SA Objective 5: providing a range of high-quality housing including affordable housing to meet local needs.

Positive effects have also been predicted for SA Objectives relating to: developing and maintaining a balanced population structure; improving educational opportunities; minimising the need to travel and encourage sustainable transport; building safe, vibrant and cohesive communities; protecting and enhancing the Welsh language; providing employment opportunities; supporting the local economy; preparing for and reducing the impact of Pembrokeshire's contribution to climate change; maintaining, enhancing and valuing biodiversity and ecosystems; protecting and enhancing landscape and geological heritage; and encouraging quality locally distinct design.

Minor negative (not significant) effects were predicted against SA Objectives relating to: air quality; waste and pollution; use of resources; land contamination and soil quality.

Neutral effects were predicted against SA Objectives relating to: human health and wellbeing; water quality; flood risk; and built heritage and historic environment.

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acstro

Transport Statement

Land West of Golwg y Llan
Eglwyswrw
Pembrokeshire

October 2024

Table of Contents

Appendices

Revision History

A	23rd October 2024	First Issue
B	25th October 2024	Final

1737-ACS-ZZ-XX-RP-T-241-B Transport Statement.docx

Acstro Ltd., Yr Hen Farchnad, Unit 19, Carmarthen Street,
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1 Introduction

1.1 Acstro has been appointed to prepare a Transport Statement to support the promotion of land to the west of Golwg y Llan, Eglwyswrw as a alternative site for inclusion, as suitable for residential development, in Pembrokeshire County Council's Replacement Local Development Plan (LDP2).

1.2 The alternative site would constitute a second phase of the recently constructed Golwg y Llan development, a development of 23 affordable dwellings, that was granted planning permission (LPA Reference 21/0871/PA) in 2022.

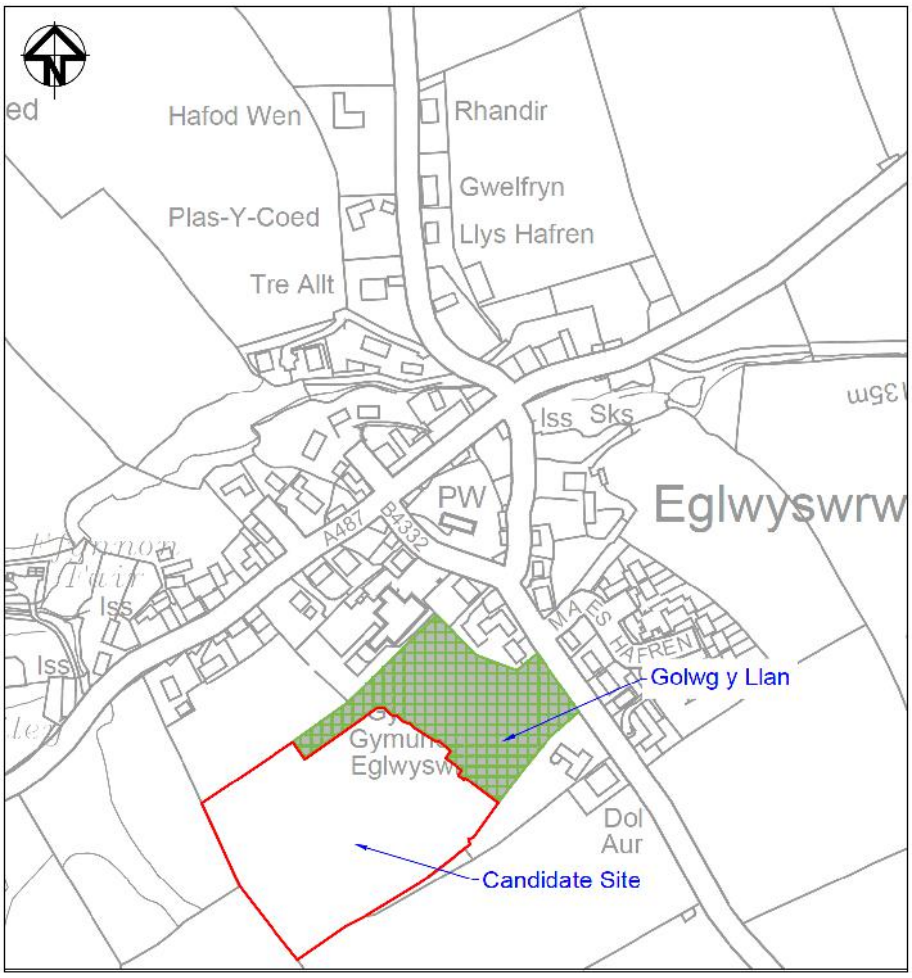

Figure 1 Location Plan

1.3 The alternative site is currently undeveloped. It is considered that the alternative site has the potential to deliver up to 42 dwellings.

1.4 This document considers the transport implications of the development of the alternative site. In particular, this Transport Statement demonstrates that the alternative site is in a sustainable location that is closely related to existing facilities and services and is accessible to pedestrians, cyclists and public transport users. It is also demonstrated that safe vehicular access to the site can be provided.

1.5 The structure of the Transport Statement is as follows:

- Section 2 describes the relevant planning policy context that is relevant in terms of transport issues;
- Section 3 describes the site's location, its proximity to services and facilities and its accessibility by all forms of transport.
- Section 4 describes the proposed development and its access arrangements. An estimate of the likely trip generation of the proposed development of the land is also provided.
- Section 5 provides a summary and conclusion.

2 Policy Context

Future Wales - The National Plan 2040

2.1 This is the national development framework that sets out the direction for development in Wales to 2040.

2.2 Policies 11 and 12 relate to national and regional connectivity, respectively. These seek to encourage longer-distance trips to be made by public transport, while also making longer journeys possible by electric vehicles. In urban areas, to support sustainable growth and regeneration, the priorities are improving and integrating active travel and public transport. In rural areas the priorities are supporting the uptake of ultra-low emission vehicles and diversifying and sustaining local bus services. Active travel must be an essential and integral component of all new developments.

2.3 Planning authorities must act to reduce levels of car parking in urban areas, including supporting car-free developments in accessible locations and developments with car parking spaces that allow them to be converted to other uses over time. Where car parking is provided for new non-residential development, planning authorities should seek a minimum of 10% of car parking spaces to have electric vehicle charging points.

Planning Policy Wales (12th Edition)

2.4 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.

2.5 In terms of transport related policies paragraph 4.1.1 states that “the planning system should enable people to access jobs and services through shorter, more efficient and sustainable journeys, by walking, cycling and public transport”.

2.6 Paragraph 4.1.10 states that “the planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:

- are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car;
- are designed in a way which integrates them with existing land uses and neighbourhoods; and
- make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.”

2.7 PPW advocates a sustainable transport hierarchy for planning, the hierarchy being, from top to bottom:

- Walking and Cycling
- Public Transport
- Ultra Low Emission Vehicles
- Other Private Motor Vehicles

2.8 It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles.

2.9 The transport hierarchy recognises that Ultra Low Emission Vehicles (ULEV) also have an important role to play in the decarbonisation of transport, particularly in rural areas with limited public transport services. To this end the provision of ULEV charging points is encouraged within new developments.

2.10 PPW recommends (4.1.51) that "a design-led approach to the provision of car parking should be taken, which ensures an appropriate level of car parking is integrated in a way which does not dominate the development. Parking provision should be informed by the local context, including public transport accessibility, urban design principles and the objective of reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. Planning authorities must support schemes which keep parking levels down, especially off-street parking, when well designed".

Llwybr Newydd – The Wales Transport Strategy 2021

2.11 This document sets out the Welsh Government's vision for how the country's transport system can help deliver on a pathway to creating a more prosperous, green and equal society. It lists its priorities as being:

1. Bringing services to people in order to reduce the need to travel. To this end a target has been set that of 30% of the workforce works remotely on a regular basis.
2. Allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure.
3. Encourage people to make the change to more sustainable transport.

2.12 Modal shift is at the heart of Llwybr Newydd. This means the proportion of trips made by sustainable modes increases and fewer trips are made by private cars.

2.13 The Welsh Government has set a target of 45% of journeys to be made by public transport, walking and cycling by 2040. This represents an increase of 13 percentage points on the estimated baseline (2021) mode share of 32%.

TAN18 Transportation

2.14 Planning Policy Wales Technical Advice Note 18 (TAN18) details the Welsh Government Government's policies in terms of transportation and repeats the general principles advocated in PPW i.e. that development is encouraged in sustainable, accessible, locations that will reduce the need to travel by car. Its aim is to promote an efficient and sustainable transport system and to counter the negative impacts associated with road traffic growth, for example increased air pollution, green house gases and congestion (2.1). It sees the integration of transport and land use planning as key (2.3) in achieving the Welsh Government Governments' sustainable development policy objectives by:

- promoting travel efficient settlement patterns;
- ensuring new development is located where there is good access by public transport, walking and cycling thereby minimizing the need for travel and fostering social inclusion;
- managing parking provision;
- ensuring that new development includes appropriate provision for pedestrians, cycling, public transport, and traffic management and parking/servicing;
- encouraging the location of development near other related uses to encourage multi-purpose trips; and
- ensuring that transport infrastructure necessary to serve new development allows existing transport networks to continue to perform their identified functions.

2.15 The needs of walkers and cyclists must be taken into consideration and the use of these most sustainable forms of transport encouraged in all developments (TAN18 Chapter 6). Similarly, all development should be accessible by public transport (Chapter 7).

The Active Travel (Wales) Act 2013

2.16 The Active Travel (Wales) Act 2013 is Welsh Government legislation aimed to support an increase in the level of walking and cycling in Wales; to encourage a shift in travel behaviour to active travel modes, and to facilitate the building of walking and cycling infrastructure.

2.17 The Active Travel (Wales) Act 2013 requires local authorities in Wales to produce maps of walking and cycling networks in their local area, known as Active Travel Network Maps (ATNMs). These maps are designed to show two main things:

- **Existing routes** – those current walking and cycling routes that already meet Welsh Government active travel standards, meaning they can be readily used for everyday journeys, and
- **Future routes** – new routes that the local authority proposes to create in the future, as well as current routes that are planned for improvement to bring them up to the standards.

2.18 An extract from the ATNM is provided below and shows that there are proposals for the development of future walking and cycling route through Eglwyswrw, along the A487 (PCC-OTH-018), which passes to the north of the alternative site.

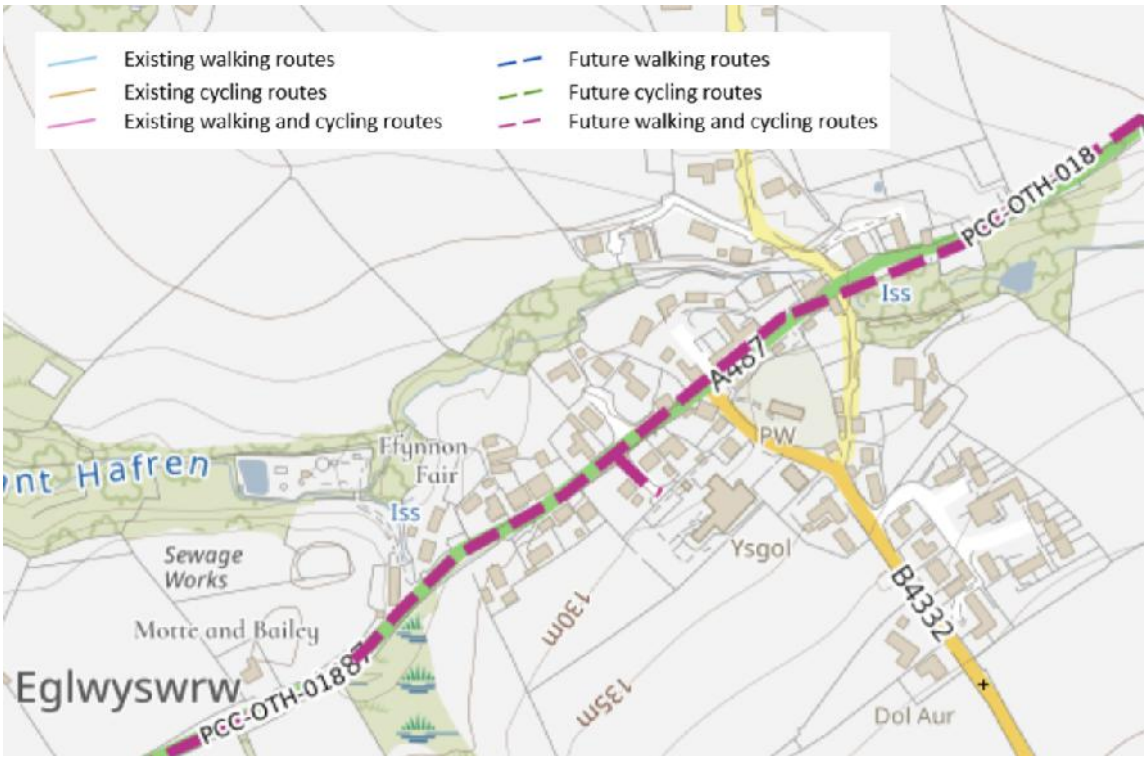

Figure 2 Extract from Active Travel Network Map

3 Existing Conditions

3.1 The site is currently undeveloped and located immediately to the west of a recent development of 23 affordable homes (Golwg y Llan).

3.2 The alternative site is located a short distance to the south west of Ysgol Cymunedol Eglwyswrw (primary school) and the village's church.

3.3 A wider range of services and facilities can be accessed in Cardigan (10km to the north east) and Fishguard (20km to the south west).

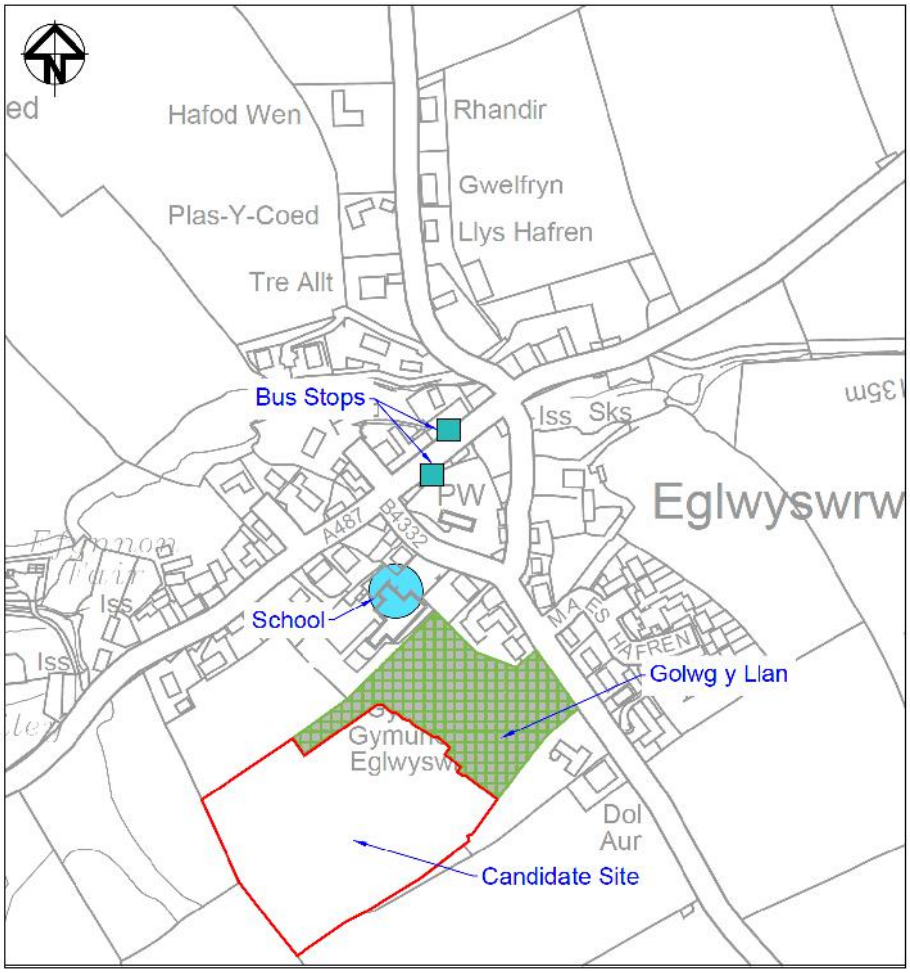

Figure 3 Site Context

Active Travel

3.4 All of Eglwyswrw's services and facilities are within walking distance to the alternative site.

3.5 The alternative site is accessible to pedestrians from the recently constructed Golwg y Llan footways. These link with the footways that lead to the north along both sides of the B4332 that, in turn, link with footways along both sides of the A487.

3.6 As mentioned earlier (see 2.18) the Council's ATNM indicates that there are aspirations to deliver a future walking and cycling route along the A487.

Public Transport

3.7 The nearest bus stops are located on the A487, some 300m walk from the alternative site. These provide access to the T5 bus services, the details of which are provided below. This bus service provides good access to nearby centres, including Cardigan (10 minute journey time) and Fishguard (27 minute journey time).

Service	Route	General Details
T5	Aberystwyth - Haverfordwest	11 Journeys per day in each direction (Mon – Fri) 9 Journeys per day in each direction (Sat)

Table 1 Local Bus Services

Highway Network

3.8 The site will be accessed by extending the existing Golwg y Llan estate road. This is a recently constructed road designed to current recommended standards. It provides a 5.5m wide carriageway and 2m wide footways on both sides.

3.9 Golwg y Llan is accessed from the B4332, which connects with the A487 trunk road approximately 150m to the north .

3.10 A review of injury collision records (STATS19 records) for the latest 5-year period (2019 – 2023) has been undertaken. There have been no injury collisions recorded within the village, demonstrating that the highway network operates safely.

4 Proposed Development

4.1 It is considered that the alternative site is capable of delivering up to 42 dwellings.

Access

4.2 The alternative site will be accessed by extending the recently constructed Golwg y Llan estate road. This is a recently constructed road designed to current recommended standards. It provides a 5.5m wide carriageway and 2m wide footways on both sides. The location and design of the Golwg y Llan junction with the B4332 was approved as part of the Golwg y Llan development and will provide safe access to the alternative site also.

Trip Generation

4.3 The potential trip generation of the proposed development of the site has been estimated by reference to the TRICS trip rate database, a database of over 7,100 traffic surveys of various types of development throughout the UK and Ireland.

4.4 From the TRICS database evidence of the trip rates of developments of privately owned houses (development of up to 100 units) in urban locations (but not town/city centres) in mainland Britain (excluding Greater London) have been analysed. Full details are provided as Appendix 1 and summarised below.

Appendix 1 TRICS Trip Rate Data

Time Range	Trip Rate per House			Trip Generation (42 Houses)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
am peak Hour 08:00-09:00	0.177	0.383	0.56	7	16	24
pm Peak Hour 16:00-17:00	0.307	0.177	0.484	13	7	20

Table 2 Vehicle Trip Rates & Proposed Development Trip Generation

4.5 The TRICS data suggests that the proposed development will generate around 20 to 24 peak hour vehicle movements. This volume of traffic is considered to be insignificant.

5 Summary & Conclusion

5.1 In summary this Transport Statement has demonstrated that:

- The alternative site is in an appropriate location being within walking and cycle distance to the facilities available in Eglwyswrw. The site is located near to bus stops that provide access to services into nearby towns, where a wider range of services can be accessed;
- The site is accessible to pedestrians, cyclists and public transport users.
- A safe means of access can be delivered by extending the recently constructed Golwg y Llan estate road.
- The development's traffic generation is modest at 20 to 24 peak hour movements. This is considered to be insignificant and unlikely to have any material impact on highway conditions.

5.2 As such it is considered that the alternative site meets planning policy requirements in terms of being in an appropriate location that is safely accessible by all forms of transport and that the impacts of the development on the continued operation and safety of the surrounding highway network would be acceptable or can be suitably mitigated.

5.3 It is concluded therefore that there are no transport related issues that should prevent the inclusion of this alternative site in Pembrokeshire County Council's LDP2.

Appendix 1 TRICS Trip Rate Data

Calculation Reference: AUDIT-648801-180426-0401

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	SM	SOMERSET	1 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
	SF	SUFFOLK	2 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
	WK	WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	3 days
10	WALES		
	PS	POWYS	1 days
11	SCOTLAND		
	AG	ANGUS	1 days
	HI	HIGHLAND	1 days
	PK	PERTH & KINROSS	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 7 to 70 (units:)
Range Selected by User: 5 to 100 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 27/11/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	3 days
Wednesday	6 days
Thursday	4 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	17 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	8
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	14
Village	2
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

C3	17 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	3 days
5,001 to 10,000	5 days
10,001 to 15,000	3 days
15,001 to 20,000	4 days
20,001 to 25,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	8 days
50,001 to 75,000	5 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	11 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	16 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	17 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 AG-03-A-01 BUNGALOWS/DET. ANGUS
KEPTIE ROAD

ARBROATH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 7
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

2 DV-03-A-03 TERRACED & SEMI DETACHED DEVON
LOWER BRAND LANE

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

3 HC-03-A-19 HOUSES & FLATS HAMPSHIRE
CANADA WAY

LIPHOOK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: MONDAY *27/11/17* *Survey Type: MANUAL*

4 HI-03-A-14 SEMI-DETACHED & TERRACED HIGHLAND
KING BRUDE ROAD
SCORGUIE
INVERNESS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 40
Survey date: WEDNESDAY *23/03/16* *Survey Type: MANUAL*

5 NF-03-A-01 SEMI DET. & BUNGALOWS NORFOLK
YARMOUTH ROAD

CAISTER-ON-SEA
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: TUESDAY *16/10/12* *Survey Type: MANUAL*

6 NF-03-A-03 DETACHED HOUSES NORFOLK
HALING WAY

THETFORD
Edge of Town
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

7 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE
CRAVEN WAY

BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

8 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 NY-03-A-13 TERRACED HOUSES NORTH YORKSHIRE
CATTERICK ROAD
OLD HOSPITAL COMPOUND
CATTERICK GARRISON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY 10/05/17 Survey Type: MANUAL

10 PK-03-A-01 DETAC. & BUNGALOWS PERTH & KINROSS
TULLYLUMB TERRACE
GORNHILL
PERTH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 36
Survey date: WEDNESDAY 11/05/11 Survey Type: MANUAL

11 PS-03-A-02 DETACHED/SEMI-DETACHED POWYS
GUNROG ROAD

WELSHPOOL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY 11/05/15 Survey Type: MANUAL

12 SF-03-A-05 DETACHED HOUSES SUFFOLK
VALE LANE

BURY ST EDMUNDS
Edge of Town
Residential Zone
Total Number of dwellings: 18
Survey date: WEDNESDAY 09/09/15 Survey Type: MANUAL

13 SF-03-A-06 DETACHED & SEMI-DETACHED SUFFOLK
BURY ROAD

KENTFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of dwellings: 38
Survey date: FRIDAY 22/09/17 Survey Type: MANUAL

14 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY 24/10/13 Survey Type: MANUAL

15 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
NORTHFIELD
BRIDGWATER
Edge of Town
Residential Zone
Total Number of dwellings: 33
Survey date: THURSDAY 24/09/15 Survey Type: MANUAL

16 WK-03-A-02 BUNGALOWS WARWICKSHIRE
NARBERTH WAY
POTTERS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: THURSDAY 17/10/13 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17 WS-03-A-07 BUNGALOWS WEST SUSSEX
EMMS LANE
BROOKS GREEN
NEAR HORSHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of dwellings: 57
Survey date: THURSDAY *19/10/17* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	33	0.092	17	33	0.286	17	33	0.378
08:00 - 09:00	17	33	0.177	17	33	0.383	17	33	0.560
09:00 - 10:00	17	33	0.161	17	33	0.174	17	33	0.335
10:00 - 11:00	17	33	0.136	17	33	0.136	17	33	0.272
11:00 - 12:00	17	33	0.130	17	33	0.161	17	33	0.291
12:00 - 13:00	17	33	0.168	17	33	0.165	17	33	0.333
13:00 - 14:00	17	33	0.148	17	33	0.150	17	33	0.298
14:00 - 15:00	17	33	0.186	17	33	0.213	17	33	0.399
15:00 - 16:00	17	33	0.237	17	33	0.184	17	33	0.421
16:00 - 17:00	17	33	0.307	17	33	0.177	17	33	0.484
17:00 - 18:00	17	33	0.320	17	33	0.159	17	33	0.479
18:00 - 19:00	17	33	0.253	17	33	0.139	17	33	0.392
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.315			2.327			4.642

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	7 - 70 (units:)
Survey date date range:	01/01/10 - 27/11/17
Number of weekdays (Monday-Friday):	17
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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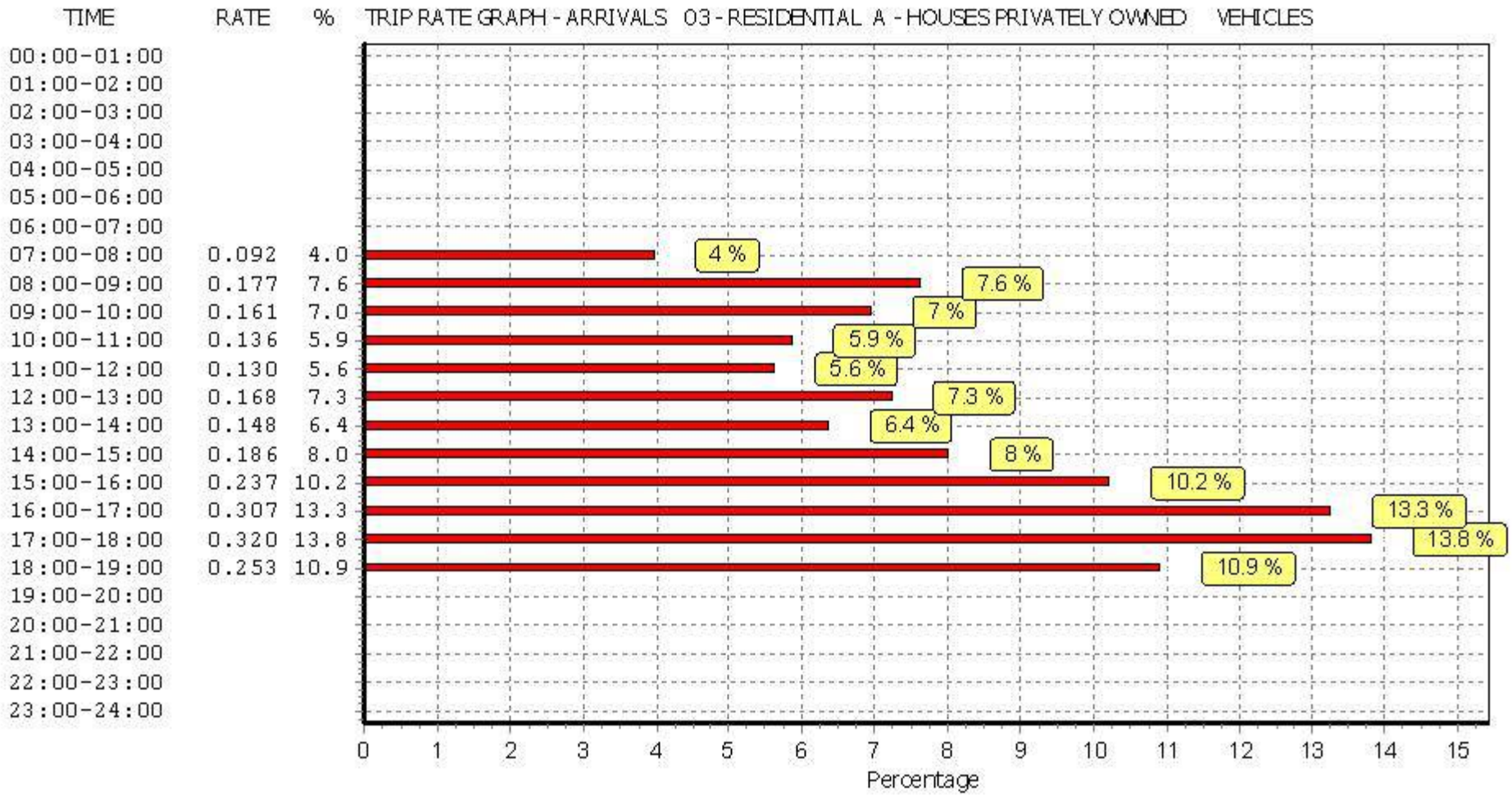

This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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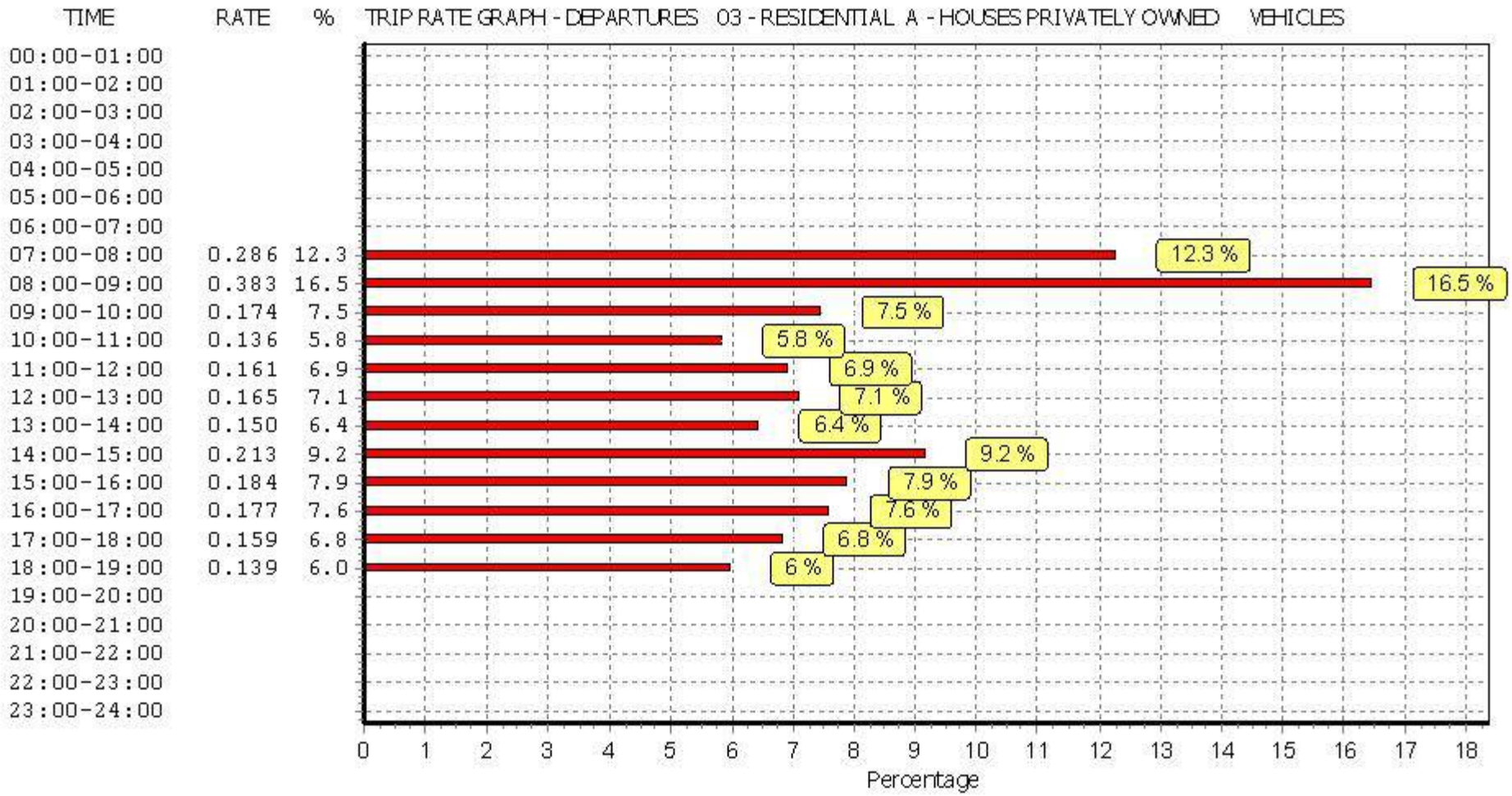

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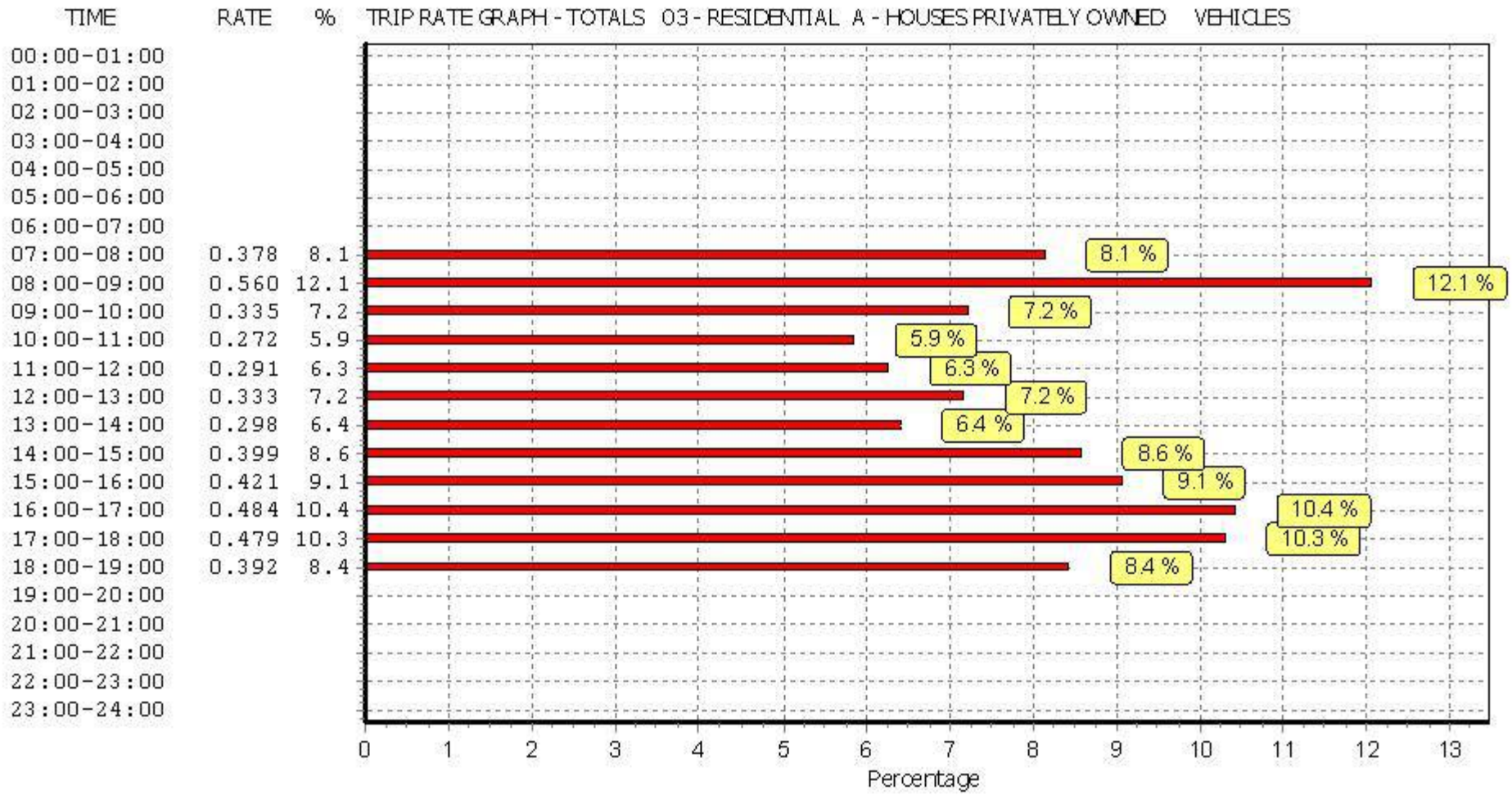

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