

Environmental Statement Addendum

Volume 1: Main Text



April 2024

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0.0 December 2023 Addendum Summary

Introduction

- 0.1.1 This Environmental Statement Addendum (ESA) has been prepared on behalf of Marvel Ltd (the applicant) in support of the submitted planning application for mixed use tourism and leisure-led development at Rhydycar West.
- 0.1.2 Further ecological information has been requested and provided since the planning application was submitted and an amendment to the application red line made shortly before the application was submitted were not properly considered in the Water, Drainage and Flooding chapter of the original ES. This Addendum has been prepared to reflect the additional information and assessments that have been undertaken as a result.
- 0.1.3 This Addendum should be read alongside the March 2023 ES and associated Figures and Appendices.

Issues Addressed in the Addendum

- 0.1.4 Since the March 2023 ES was published, additional work has been carried out in respect of ecology and flood risk. In respect of ecology, a further stage II bat survey has been carried out in respect of certain structures and an option to purchase land adjacent to the site has been entered into with this land proposed to be subject of a Nature Conservation Management Plan. In respect of flood risk a small part of the site associated with the emergency/pedestrian/cycle access in the south east has been included in a revised Flood Consequence Report and assessed within the ES.

Structure of the ES Addendum

- 0.1.5 The structure of the ES Addendum (December 2023) reflects the submitted ES (March 2023):
- Volume 1 – Main text (this document), providing results of the assessments subdivided by topic where additional information or clarification has been provided.
- Volume 2 – Figures to support the text where these have been amended by the ESA.
- Volume 3 – Appendices to support the text where there are amended by the ESA.
- Non-Technical Summary – providing a brief description of the scheme and a summary (written in layman's terms) of any significant issues and impacts likely to arise, along with proposals for mitigation measures. For clarity, the entire text of the non-technical summary has been reproduced and updated where necessary.



0.1.6 The document is divided into the following chapters. Clarification of additional information provided in the ESA by chapter is provided below.

Table 0.1 Summary of Key Changes to ES by Chapter

Chapter	Company Name	Summary of Key Changes
Chapter 1: Introduction	CarneySweeney	No changes.
Chapter 2: Environmental Impact Assessment Approach	CarneySweeney	No changes.
Chapter 3: Description of Proposed Development	CarneySweeney	No changes.
Chapter 4: Reasonable Alternatives	CarneySweeney	No changes.
Chapter 5: Community & Socio-Economic	AECOM	No changes.
Chapter 6: Greenhouse Gas Emissions & Climate Change	Hoare Lea	No changes.
Chapter 7: Geology & Ground Quality	Tetra Tech	No changes.
Chapter 8: Ecology and Nature Conservation	Bioscan UK	Chapter updated to reference the addition survey results in respect of bats and to reference the Nature Conservation Management Plan to be applied to additional land adjacent to the site, which is now subject to an option to purchase. Figures 8.1a and 8.2a amended to correctly show the extent of the application site (superseding Figures 8.1 and 8.2). Appendices 8.1a to 8.14a amended to correctly show the extent of the application site (superseding Appendices 8.1 to 8.14). Appendix 8.15a added to provide additional bat survey results.



Chapter 9: Transportation & Movement	Tetra Tech	No changes.
Chapter 10: Archaeology and Cultural Heritage	EDP	No changes.
Chapter 11: Hydrology & Hydrogeology	Tetra Tech	No changes.
Chapter 12: Landscape and Visual Impact	Tir Collective	No changes.
Chapter 13: Water, Drainage and Flooding	Tetra Tech	Chapter updated to reference full extent of the application site. Figures 13.1.1a and 13.3.1a to 13.3.7a amended to correctly show the full extent of the application site (superseding Figures 13.1.1 and 13.3.1 to 13.3.7). Appendix 13.1a and 13.2a amended to include the full extent of the application site (superseding Appendix 13.1 and 13.2).
Chapter 14: Noise	Tetra Tech	No changes.
Chapter 15: Air Quality	Tetra Tech	No changes.
Chapter 16: Lighting	Tetra Tech	No changes.
Chapter 17: Health	AECOM	No changes.
Chapter 18: Utilities	Hoare Lea	No changes.
Chapter 19: Conclusions	CarneySweeney	Updated to reflect the changes to chapters 8 and 13.



8.0 Ecology and Nature Conservation

All references to Figures 8.1, and 8.2 and all references to Appendices 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13 and 8.14 in the March 2023 ES should be read as being changed to Figures 8.1a, and 8.2a and Appendices 8.1a, 8.2a, 8.3a, 8.4a, 8.5a, 8.6a, 8.7a, 8.8a, 8.9a, 8.10a, 8.11a, 8.12a, 8.13a and 8.14a.

8.1 Executive Summary

Paragraph 8.1.4 of the March 2023 ES has been changed as follows:

- 8.1.4 The scheme has avoided, minimised, mitigated and compensated to ensure there is no reduction in the overall conservation value of the area and so a net benefit for biodiversity will be secured. Both the location of the development within the wider landholding and the detailed positioning and extent of the Application Site have been configured through numerous design iterations, pre-empting but in alignment with the step-wise approach advocated in the latest revisions to Planning Policy Wales, -and in order that overlap with the designated Cwm Glo a Glyndyrys SSSI is restricted to the absolute minimum necessary. This has seen the quantum of SSSI land affected by the proposed development incrementally reduced over time in order to reduce impacts on the statutory site. Some SSSI landtake remains unavoidable, however, in order to deliver the indoor snow centre, which is the 'wholly exceptional' central focus of the scheme (total avoidance of the SSSI was investigated with the snow centre adopting a broadly north-south alignment, however, the need to utilise the topography of the site for the indoor snow slope has meant that an east-west alignment was unavoidable). In total, a direct landtake of 6ha of the SSSI is anticipated, which represents a little over 3% of the total land area of Cwm Glo a Glyndyrys SSSI. Due to the national importance of the SSSI series, this impact is inevitably rendered significant at that level.

Paragraph 8.1.7 to 8.1.10 of the March 2023 ES have been changed as follows:

- 8.1.7 In seeking to make most efficient use of the land within the Application Site to reduce the overall magnitude of ecological impacts, the scope for mitigation and compensation to be delivered within the confines of the Application Site itself, as part of the development, is very restricted. This is a logical outcome of stringent application of the step-wise approach.
- 8.1.8 In consequence, the focus of mitigation and compensation will be outside the Application Site. In the first instance this will be in the wider landholding where the opportunity to secure optimised management of both SSSI and non-SSSI resources will be taken. In addition, there will be enhancement of habitats complementary to the SSSI interest features (in particular lowland meadow and marshy grassland) on additional land the applicant has agreed an option to purchase at Blaencanaid Farm. Significant effort has been expended by the applicant over a number of years in searching for and securing an option on appropriate compensation land. This has included region-wide searches, extensive discussions with NRW and other landowners. Blaencanaid Farm, due to its proximity (it adjoins the Cwm Glo a Glyndyrys SSSI) and the nature of the habitats there represents the optimum solution. Additional off-site measures, whether from securing and enhancing additional land and related habitats off-site or via financial contributions to established or new conservation projects ecologically and geographically relevant to the South Wales region will be taken. These are not yet settled, albeit



~~significant effort has been expended already in searching for and securing an appropriate off-site compensation site or sites in discussion with NRW and a number of non-statutory agencies. The secured beneficial management and enhancement of land at Blaencanaid Farm (itself also a SINC) will improve the deliverability of optimised grazing management within the balance of the Cwm Glo a Glyndyrys SSSI and secure complementary habitats to the retained SSSI and SINC lands, improving future ecosystem resilience. is provision will be the subject of further submissions as and when additional information becomes available.~~

8.1.9 While there is a well-established policy presumption against development likely to damage a SSSI, ~~one that has been further strengthened by the recent revisions to Chapter 6 of PPW~~, the particular qualitative features of the affected area, the future security of the special interest features over the wider unaffected SSSI ~~and adjoining land~~ and the ~~wholly exceptional~~ weight of need for the development are matters germane to the consideration of the weight that should be applied to the impact on the SSSI in considering the acceptability of this development in policy terms.

8.1.10 In this case, there is an opportunity for a combination of secured management of the balance of the SSSI and additional compensatory enhancement of ~~adjacent but other~~ off-site land ~~at Blaencanaid Farm via other 'in-kind' measures~~, to ~~substantially~~ offset the impacts from the losses of SSSI and SINC land, and associated impacts on attendant habitat and species resources. ~~With the scheme also incorporating enhancement and secured optimal management at Blaencanaid Farm, the net effect is adjudged to be. The precise magnitude of such offset, and whether it delivers an outcome approaching or exceeding neutral positive in nature conservation terms, in terms of overall net change, is contingent on the precise details of the off-site measures that will be submitted in support of the application in due course.~~

8.2 Introduction

Paragraph 8.2.2 of the March 2023 ES has been changed as follows:

8.2.2 The chapter is supported by a series of ~~fifteen~~ ~~thirteen~~ technical appendices setting out in more detail the results of the various desk-based and field surveys undertaken by Bioscan between 2015 and 202~~3~~². These surveys have been informed by scoping discussions and formal correspondence with Natural Resources Wales (NRW) and Merthyr Borough Council (MBC). Accordingly, the surveys cover:

- Information on statutory and non-statutory designations and pre-existing records (including those from South East Wales Biodiversity Records Centre (SEWBRc) and from past studies on the site relating to a previous application);
- Habitats and flora, including documenting community change since previous detailed surveys, mapping priority habitats and searches for notable species with a particular focus on unimproved grasslands and other habitats underpinning the various designations pertaining to the site;
- Surveys of grassland fungi in accordance with the known importance of the Cwm Glo a Glyndyrys SSSI for these taxa.



- Surveys of specially protected fauna including industry-standard surveys for great crested newts, bats and badgers;
- Surveys of breeding and wintering birds, including specially protected (Schedule 1) species and documenting presence and populations of other species of conservation concern;
- General and targeted surveys of invertebrates, including specific focus on the site's marsh fritillary population.

Paragraph 8.2.4 of the March 2023 ES has been changed as follows:

- 8.2.4 The Application Site forms part of a wider landholding under the control of the applicant which has been the subject of intensive ecological studies since 2015. These studies have become progressively more focused on the current Application Site as the scheme has been settled upon and refined. Consequently, the study area covered by the various surveys detailed in technical appendices ~~1a-14~~15a encompasses the entirety of the applicant landholding, comprising some 223ha of land south-west of Merthyr Tydfil and west of the A470 on the slopes of Mynydd Aberdâr. Some elements (e.g. desk survey) encompassed additional land up to 5km from the site centre. The most recent field surveys were focused on the current Application Site and (where relevant) surrounding areas up to 250m.

8.3 Methodology and Scope

Baseline Data Collection

Paragraph 8.3.1 of the March 2023 ES has been changed as follows:

- 8.3.1 As well as drawing on data from previous third-party surveys between 1994 and 2008, this assessment draws upon data from several Bioscan survey campaigns between 2015 and 2018, an across-the-board update of field surveys by Bioscan in 2020-2021 and verification surveys and targeted additional work (in particular on bats) in 2022 and 2023. Full details of the methodologies and results from the Bioscan surveys since 2015 are contained in Appendices 8.1a to 8.15a4 and a summary is presented at Table 8.1 below:



Table 8.1: Surveys completed and other data sources

Ecological feature/survey	Surveys completed (including year/s undertaken)	Study area for 2021/22 surveys
Desk study	Formal commercial data request from SEWBRc, 2018 and again in 2021. Review of archive material and reports relating to previous remediation and development proposals for the site dating back to 2006. Review of Bioscan surveys dating back to 2015.	Desk study considers Natura 2000 designations within 10km of site and local designations and species records within a 5km radius centred on grid reference SO 04507 04942. Pre-2021 surveys cover the wider landholding with 2021 surveys focused on Application Site and adjoining areas to 250m.
Habitats and flora	As well as a review of archive material, including a comprehensive community classification survey by Bosanquet and Stevens in 2005, the baseline is informed by site-wide surveys by Bioscan since 2015, most recently in 2021, with targeted additional work in 2022 and 2023.	Pre-2021 surveys cover the wider landholding with 2021, and 2022 and 2023 surveys focused on Application Site and adjoining areas to 250m.
Grassland fungi	As well as a review of archive material, including a CCW study by Griffith et al in 2006, the baseline is informed by site-wide surveys by Sturgess Ecology in 2015 and 2020.	Wider landholding, including the Application Site.
Marsh fritillary	As well as a review of archive material, including the last known sighting (1994) prior to Bioscan re-confirming presence in 2015, the baseline is informed by targeted additional surveys for this species by Sturgess Ecology in 2015 and 2020, and observations ancillary to the general invertebrate surveys in 2015, 2018 and 2021 as well as other field work since 2015.	Wider landholding, including the Application Site.
Great crested newt	As well as a review of archive material, presence/absence surveys conducted in 2015, 2017, 2018 and 2021 (including eDNA plus follow up of positive ponds).	Wider landholding in 2015, eastern and southern part of landholding in 2017/2018, Application Site plus 250m in 2021.



Ecological feature/survey	Surveys completed (including year/s undertaken)	Study area for 2021/22 surveys
Bats	As well as a review of archive material, activity surveys: transect and automated surveys were undertaken in 2015, 2016, 2018 and 2021. Roost surveys, including building inspections and emergence surveys were undertaken in 2015, 2016, 2018 and 2021. Tree roost potential surveys within the Application Site were undertaken in 2021, with follow up tree-climbing surveys in 2022, <u>and further surveys of structures in 2023.</u>	Wider landholding in 2015, eastern and southern part of landholding in 2017/2018, Application Site plus adjoining land in 2021, <u>and 2022 and 2023.</u>
Birds	As well as a review of archive material, including a CCW study in 2008, the baseline is informed by breeding bird surveys by Bioscan in 2015, 2018 and 2021, and wintering bird surveys in 2015/16 and 2020/21.	Wider landholding in 2015, 2015/16 and 2018, Application Site plus adjoining land in 2020 and 2021.
Badgers	Site-wide surveys in 2015 and 2018, focused surveys in 2021.	Wider landholding in 2015, eastern and southern part of landholding in 2018, Application Site plus adjoining land in 2021.
Dormouse	Nest tube and box surveys in 2015 and 2021.	Targeted areas of suitable habitat in wider landholding in 2015 and focused on Application Site and contiguous habitat in 2021.
Water vole and otter	Water vole and otter surveys carried out as an adjunct to other survey work in 2015, 2018 and with a targeted survey of Application Site watercourses in 2021	Targeted areas of suitable habitat in wider landholding in 2015 and focused on Application Site and contiguous habitat in 2021
Reptiles	Ad hoc observations (as per scoping) in 2015-2018. Full refugia survey in 2021.	Wider landholding in 2015-2018. Application Site and contiguous suitable habitat in 2021.
Other mammals	Ad hoc observations 2015-2018.	Wider landholding in 2015-2018. Application Site and contiguous suitable habitat in 2021.
Invertebrates	As well as a review of archive material, site-wide surveys were conducted in 2015, 2018 and update surveys in 2021.	Wider landholding in 2015, 2018 and 2021.



Assessment Methodology

Paragraph 8.3.3 of the March 2023 ES has been changed as follows:

- 8.3.3 The baseline used for assessment is an assimilation of the data from the survey work and archive material presented in full at Technical Appendices 8.1a-8.15a4. Bioscan have a very close familiarity with the landholding from repeat commissions and survey campaigns dating back to 2015 and consequently, the evaluations of ecological interest and conclusions drawn for the site as a whole are considered robust and appropriate for enabling a confident assessment of impacts to be made.

Identification of Key Ecological Receptors

Table 8.2 of the March 2023 ES has been changed as follows:

Table 8.2: Geographic terms of reference for Ecological Importance

Scale of Importance	Criteria	Example
International and European	High importance and rarity, international scale and limited potential for substitution	Internationally designed sites (e.g. SACs, SPAs and Ramsar Sites, Candidate SACs, potential SPAs, proposed Ramsar Sites and biosphere reserves), including features or populations of species integral to the maintenance of the 'integrity' of such designations; Internationally significant area/quantity of a habitat listed in Annex I of the Habitats Directive⁹, or smaller areas of such habitat where they are essential to maintain the viability of a larger whole; or Internationally significant population (e.g. >1% of western European population) of a species listed in Annex IV of the Habitats Directive or Annex I of the Birds Directive.
National (UK or Wales)	High importance and rarity, national scale, or regional scale with limited potential for substitution	Nationally designated sites (e.g. SSSIs and National Nature Reserves, Marine Nature Reserves, NCR Grade I Sites);

⁹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.



Scale of Importance	Criteria	Example
		Regionally important sites with limited substitution possibilities; Nationally significant (e.g. >1% of Welsh or UK resource) area of a priority habitat identified under Section 7 of the Environment (Wales) Act 2016 and/or the UK BAP; or Nationally significant population of a species listed on Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981, or of a priority species identified in the Environment (Wales) Act 2016, UK Red Data book species, or of a nationally rare species (15 or fewer 10km squares in the UK).
Regional (in the context of specific assessment guidance ¹⁰) or County (i.e. Glamorgan)	High or medium importance and rarity, local or regional scale and limited potential for substitution	Regionally or county significant representations of priority habitats or priority/protected species; Locally designated sites (e.g. SINCSBI); Effectively 'irreplaceable' habitats such as designated or undesignated ancient semi-natural woodland; or Sustainable populations of nationally scarce species (16-100 10km squares in the UK).
District (Merthyr Borough))	Medium importance and rarity, local scale	Undesignated sites that are good examples of a more widespread habitat, or species-poor examples of a habitat of note (as described above); Populations of scarcer species occurring on an intermittent, transient or casual basis; or Population of a species that is of medium importance/rarity but adjudged to represent a significant (e.g. >1%) proportion of the likely District resource.

¹⁰ E.g. CIEEM (June 2021). *Bat Mitigation Guidelines. A guide to impact assessment, mitigation and compensation for developments affecting bats*. Beta version 1.0. Via: <https://cieem.net/i-am/current-projects/bat-mitigation-guidance/>



Scale of Importance	Criteria	Example
Local (e.g. Parish)	Low importance and rarity, local scale	Undesignated sites that are good (e.g. species-rich) examples of a more widespread habitat, or species-poor examples of a habitat of note (as described above); or Population of a species that is of low importance/rarity but may represent a significant proportion of the total occurring locally.
Immediate local context – i.e. at level of Site	Low importance and rarity, site scale.	Features, habitats and species not meeting any of the above criteria, including low grade, readily re-creatable and widespread habitats.

Significance of Effects

Paragraph 8.3.16 of the March 2023 ES has been changed as follows:

- 8.3.16 The term 'likely significant effects' is used in the sense imparted by the EIA Regulations to describe residual effects on the environment after avoidance and mitigation measures are taken into account. Significant effects are qualified with reference to an appropriate geographic scale, but it is important to note that the scale of the significance of an effect may not be the same as the geographic context in which the feature is considered important. This approach remains standard and consistent with the EIA Regulations and current CIEEM Guidelines but it should also be noted that sub-significant (in EIA terms) effects on ecological receptors may still give rise to policy conflicts, particularly when considered cumulatively and in the context of the national policy requirement for all developments to protect against further net loss of biodiversity and deliver enhancement/net benefits gain wherever possible in accordance with the step-wise approach enshrined in national policy¹². The mechanisms by which ~~implications of~~ the

¹² Chapter 6 of Planning Policy Wales (PPW) 11 was updated in October 2023 in advance of the publication of a revised PPW12 in order to put into immediate effect policy changes arising from COP15 and the related 'Biodiversity Deep Dive' completed by the Welsh Government in 2022. The revised Chapter 6 of PPW11 sets out a step-wise approach that seeks to avoid, minimise, mitigate and only as a last resort compensate for impacts on biodiversity, and to then seek to enhance ecosystem resilience through application of the DECCA framework, as a means to secure net benefits for biodiversity and sets out that the planning system should contribute towards "improving the resilience of ecosystems and ecological networks, halting and reversing the loss of biodiversity and maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions" including via "ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement". This policy and subsequent policies in Chapter 6 of PPW 11 respond meet to the Section 6 Duty of the Environment (Wales) Act 2016, for example, reinforcing that planning authorities must seek to ensure that "development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity" via following the mitigation hierarchy (PPW11 para 6.4.21).



application proposals ~~seek to for~~ delivery of net ~~benefits for~~ biodiversity ~~gain~~ are discussed at the conclusion of this assessment.

8.4 Baseline Conditions

Paragraph 8.4.4 of the March 2023 ES has been changed as follows:

- 8.4.4 As a function of ~~the applicant's alignment with the step-wise approach to~~ constraints analysis and subsequent design decisions and avoidance measures, the 6ha portion of SSSI falling within the Application Site does not contain any significant examples of the unimproved marshy, neutral and acid grasslands representing the prime SSSI features, or any grasslands of higher value for fungi. It is dominated in part by closed canopy woodland, and in part by an expanse of 'ffridd' vegetation comprising tall bracken stands between scattered mature trees. The principal interest features underpinning the SSSI designation have thus been largely avoided by virtue of the design process.

Footnote 14 of the March 2023 ES has been changed as follows:

E.g. PPW11 ~~(as revised)~~ para 6.4.20 ~~et seq~~

Fauna

Paragraph 8.4.22 of the March 2023 ES has been changed as follows:

- 8.4.22 Bats: (full European and UK protection, several are Welsh Priority species). Active and static surveys of bat activity since 2015 (**Appendix 8.11**) have recorded a diverse range of 14 bat species with summer, autumn and winter roosts confirmed (or strongly suspected on balance of evidence) in a number of built structures falling within or close to the Application Site. Species found in roosts in built structures within the Application Site to date have included lesser horseshoe and brown long-eared bat, with Myotis species ~~suspected to roost~~ in bridge structures and both Myotis and horseshoe bats suspected to roost in the nearby Aberdare tunnel.

Key Receptors

Table 8.5 of the March 2023 ES has been changed as follows:

Table 8.5: Key Ecological Receptors

Scale of Value	Receptors scoped into assessment with notes on conservation/legislative status
International (European)	Blaen Cynon SAC (c.9km west of site) Designated for its population of the Annex II (Habitats Directive) species marsh fritillary " <i>Blaen Cynon contains an extensive complex of damp pastures and heaths supporting the largest metapopulation of marsh fritillary</i> "



Scale of Value	Receptors scoped into assessment with notes on conservation/legislative status
	<u><i>Euphydryas aurinia</i></u> on the southern edge of the Brecon Beacons National Park¹⁷. The re-colonisation and population expansion of this poorly dispersing species on the wider landholding (as documented by Bioscan since 2015, albeit it has not been found to date within the Application Site) very likely derives from dispersing adults originating from satellite or stepping-stone colonies on the other side of Mynydd Aberdâr, and in turn linked in some capacity to the Blaen Cynon SAC metapopulation. The degree of such 'functional linkage' to the SAC is very likely weak, but in accordance with the precautionary principle this SAC is screened in for assessment. All other European Sites are deemed beyond the zone of influence of any impacts or functional linkage to the Application Site and wider landholding.
National (Wales/UK)	Cwm Glo a Glyndyrys SSSI The SSSI that overlaps with and surrounds much of the Application Site is designated under national legislation. SSSIs are classified as being of National importance for nature conservation. The citation for this site, dating from 2008, describes the principal interest features thus: "<i>Cwm Glo a Glyndyrys is of special interest for its extensive areas of marshy grassland, species-rich neutral grassland and acid grassland, and for the association of these habitats with others including woodland and heath. It is also of special interest for its outstandingly diverse assemblage of grassland fungi, including 32 species of waxcap Hygrocybe spp, making it one of the best sites in Britain</i>".
Regional ('Mid-Valleys')	Secondary interest features of the Cwm Glo a Glyndyrys SSSI can be regarded as of regional level importance. They include the woodland, heath and flush habitats of the SSSI, and a range of scarce and local species "...including whorled caraway <i>Carum verticillatum</i>, petty whin <i>Genista anglica</i>, bladder sedge <i>C. vesicaria</i>, soft-leaved sedge <i>C. montana</i>, hairy lady's-mantle <i>Alchemilla filicaulis</i>, intermediate lady's-mantle <i>A. xanthochlora</i>, narrow buckler-fern <i>Dryopteris carthusiana</i> and adder's tongue <i>Ophioglossum vulgatum</i>. The marsh fritillary butterfly <i>Eurodryas aurinia</i> has been noted in the marshy grassland areas, where its food plant, devil's bit scabious occurs. A nationally scarce moth, the cloaked carpet <i>Euphyia biangulata</i>, has been recorded in the southern part of the site. A number of bird species are found at Cwm Glo a Glyndyrys and, including nightjar <i>Caprimulgus europaeus</i>, cuckoo <i>Cuculus canorus</i>, tree pipit <i>Anthus trivialis</i>, whinchat <i>Saxicola rubetra</i>, wood warbler <i>Phylloscopus sibilatrix</i> and redstart <i>Phoenicurus phoenicurus</i>. Great crested newts <i>Triturus cristatus</i> have been recorded in ponds on the site".

¹⁷ <https://sac.jncc.gov.uk/site/UK0030092>



Scale of Value	Receptors scoped into assessment with notes on conservation/legislative status
	There is significant overlap between these secondary interest SSSI features and those underpinning the following non-statutory SINC designations pertaining to the wider landholding and the Application Site: 'Rhydycar West SINC (SINC 36) 'Cwm Glo SINC (SINC 12) The land within these designations has been determined to meet the selection criteria for SINCSs in the Mid-Valleys regional area, primarily due to the same interest features as are cited as underpinning the SSSI, but expanding beyond these to include attributes such as ffridd vegetation, wet woodland, scarce invertebrates (other than marsh fritillary) bat roosts and uncommon and declining butterfly and bird species. Also deemed to be of overall county interest is the concentration of county uncommon and county rare plant species occurring within the landholding, albeit in large part these are again confined to the areas designated as either SSSI and/or SINC, and therefore are dealt with under the ambit of 'designated sites' in this assessment. Similarly, the site's invertebrate (other than marsh fritillary) populations would probably be valued at this level of importance if disaggregated from the SSSI and SINC designations for which they form a key contributive component.
Borough (Merthyr)	Bat assemblage By reference to emerging guidance¹⁸ on impact assessment for bats, the known on-site roosts could be assigned a level of importance up to 'County', but overall, the assemblage is assessed to be measurable at District (Borough) level of importance. The assemblage includes a good diversity of species in South Wales context, including national rarities such as greater horseshoe and barbastelle. Several of these are Priority species which, along with their habitats, are afforded protection by national legislation (Wildlife and Countryside Act 1981, and the Conservation of Habitats and Species Regulations 2017 (both as amended)). The Application Site's great crested newt, reptile and bird populations would probably be valued at this level of importance if disaggregated from the SSSI and SINC designations for which they form key contributive components.
Local (Parish)	Non-designated habitats including: Non-designated semi-improved grasslands

¹⁸ CIEEM (June 2021). *Bat Mitigation Guidelines. A guide to impact assessment, mitigation and compensation for developments affecting bats*. Beta version 1.0.



Scale of Value	Receptors scoped into assessment with notes on conservation/legislative status
	Skeletal grasslands/mosaic habitats scrub A total of 0.3ha representing a matrix of the above habitat types falls outwith the SINC and SSSI designations at the easternmost fringe of the Application Site, adjoining the access road from the A470 roundabout. The small size of this area limits its value, but the habitats here are continuations of those within the adjoining SSSI and SINC and support notable plant and invertebrate species and protected reptiles. Part of this habitat has been recently damaged and disturbed from use as a temporary compound for contractors working for MBC, but it is retained at this level of value due to the potential for recovery. The site's importance to local badger populations would also probably be valued at this level of importance.
Immediate local context – i.e. at level of Site	Other non-designated habitats, comprising <u>c.0.535ha</u> of <u>mostly</u> unremarkable vegetation associated with the cutting slopes <u>and verges</u> adjoining the Parish Road leading to Upper Abercanaid, <u>where it drops down</u> <u>to after</u> passing beneath the A470.

8.5 Predicted Impacts Without Mitigation/Compensation

Design of the proposals

Paragraph 8.5.1 of the March 2023 ES has been changed as follows:

- 8.5.1 Details of the proposals and how the design has adopted a step-wise approach to avoiding harm and securing net benefits for biodiversity are provided in Chapter 3 of this ES as well as in the Design and Access Statement and other submission material. In respect of the scope for unavoidable impacts, the proposals will require extensive remodelling of ground levels in the northern part of the Application Site to create the platforms and gradients required to construct the indoor snow centre, indoor water park, indoor & outdoor adventure centres, ancillary indoor leisure features and plaza, car-parking, site access and the drainage infrastructure. The development impact in the southern part of the Application Site will be less intensive, although there will be various interventions required for ground remediation and stability in the areas of former mining activity and tips, the construction of woodland lodges and associated infrastructure and localised clearance and works on and around historic built features to stabilise their structure and enhance interpretation. This may also entail some modification of surface water drainage patterns in these areas, albeit recent works (although unfinished) by Merthyr Borough Council, funded by the Welsh Assembly Government, and with the purpose



of improving control and routing of drainage to address tip stability concerns, have already delivered some such changes.

Impact on statutory designations (Cwm Glo a Glyndyrys SSSI)

Construction phase

Paragraphs 8.5.4 and 8.5.5 of the March 2023 ES have been changed as follows:

8.5.4 Whilst the design chronology of the Scheme predates the latest revisions to PPW, the proposals remain in alignment with them due to the pre-eminent position the long-established mitigation hierarchy has taken in development design, replicating the step-wise approach. As set out in Chapter 4 and in the Design and Access Statement, multiple iterations of development form, positioning and massing within the site were considered, and each time robustly assessed against the hierarchy of 'avoid', 'minimise', 'mitigate' and 'compensate' (in terms of negative impacts). Both the location of the development within the wider landholding and the detailed positioning and extent of the Application Site have therefore been configured through numerous design iterations in order that overlap with the designated Cwm Glo a Glyndyrys SSSI is restricted to the absolute minimum necessary. This has seen the quantum of SSSI land affected by the proposed development incrementally reduced over time in order to reduce impacts on the statutory site to an unavoidable minimum. Some SSSI landtake does remains unavoidable, however, in order to deliver the indoor snow centre, which is the central focus of the scheme and the basis of the case that the development is wholly exceptional in socio-economic terms (total avoidance of the SSSI was investigated with the snow centre adopting a broadly north-south alignment, however, the need to utilise the topography of the site for the indoor snow slope has meant that an east-west alignment was unavoidable). In total, a direct landtake of 6ha of the SSSI is anticipated, which represents a little over 3% of the total land area of Cwm Glo a Glyndyrys SSSI.

8.5.5 Furthermore, ~~t~~The parts of the SSSI affected by the proposed development do not contain any significant representations of the primary features of special habitat or mycological interest underpinning the designation. Thus, it is considered that the direct loss of SSSI land to the development will have little or no impact on the national and international mycological importance of the SSSI, and will not result in the direct loss from the SSSI designated area of any substantive quantum of the cited marshy grassland, acid grassland or heathland habitats, including those supporting the site's current population of marsh fritillary.

Paragraph 8.5.9 of the March 2023 ES has been changed as follows:

8.5.9 Given these unavoidable impacts and the general policy presumptions against damage to or loss of SSSI land, most recently expressed in the updated chapter 6 of PPW, a substantial suite of mitigation measures (to restrict the scope for indirect effects) and compensation measures (to offset the unavoidable losses) is therefore proposed, as discussed later in this chapter.

Operational phase

Paragraph 8.5.12 of the March 2023 ES has been changed as follows:



8.5.12 Similarly, any adverse effects arising from the anticipated uplift in visitor pressure on the retained parts of the SSSI following completion of the development ~~are~~ expected to be outweighed by improved habitat and visitor management across the larger part of the SSSI that will be retained, such that the balance delivered is net positive in ecological terms. The application ~~scheme~~ ~~is also committed to~~ ~~also includes~~ the delivery of off-site compensation ~~at Blaencanaid Farm~~ to ensure that the net effect of the proposals on ecological receptors is indubitably in the positive.

Impacts on non-statutory designations – Rhydyar West SINC and Cwm Glo SINC

Construction phase

Paragraphs 8.5.13 and 8.5.14 of the March 2023 ES have been changed as follows:

8.5.13 The entirety of the Application Site, bar a small c.0.3ha area around the site access off the A470 roundabout, and a similarly small area in the extreme south-east ~~near adjoining where~~ the Parish Road ~~where it~~ passes under the A470 ~~and continues eastwards to Upper Abercanaid~~, is subject to SINC designation. This includes the part of the Application Site that is further designated SSSI, and where the two designations are layered over each other.

8.5.14 The relevant SINC are numbers 12 (Cwm Glo) and 36 (Rhydyar West). They are afforded policy protection under PPW11 6.4.20 ~~(as revised)~~ and under the generic adopted MTLDP Policy EnW1 and the more specific EnW3. By far the larger impact is on the Rhydyar West SINC, with only a sliver of the Cwm Glo SINC being affected.

Paragraph 8.5.17 of the March 2023 ES has been changed as follows:

8.5.17 While there is no meaningful scope to mitigate for these losses within the confines of the Application Site itself, compensation is proposed to be delivered by means of wider site measures (including improved management of both SSSI and non-SSSI land under the applicant's control), ~~including and off-site measures~~, as discussed later in this chapter.

Operational phase

Paragraph 8.5.20 of the March 2023 ES has been changed as follows:

8.5.20 Similarly, any adverse effects arising from the anticipated uplift in visitor pressure on the retained parts of the Rhydyar West and Cwm Glo SINC following completion of the development is expected to be outweighed by improved habitat and visitor management across the larger part of these designations that will be retained, such that the balance delivered is net positive in ecological terms. The applicant is also committed to the delivery of off-site compensation ~~on adjacent land at Blaencanaid Farm~~ to ensure that the net effect of the proposals on ecological receptors is indubitably in the positive.



8.6 Mitigation and Compensation Proposals

Mitigation and compensation for impacts on Cwm Glo a Glyndyrys SSSI

Paragraph 8.6.2 of the March 2023 ES has been changed as follows:

- 8.6.2 Responding to this, the applicant will bring the wider SSSI and non-SSSI landholding under comprehensive and optimised management as part of the development to ensure (*inter alia*); the continuity of optimum sward structure in the grasslands of mycological interest, the rotational availability of optimum structure and conditions for marsh fritillary and the scarce plants associated with the marshy grasslands generally (and the species-rich neutral and *Molinia* dominated grasslands in particular) and conditions compatible with maintaining the other secondary SSSI interests on the site, including the bird assemblage (in particular in maintaining conditions for nightjar and willow tit), the great crested newt population (including via restoration of ponds to optimal breeding condition for the species) and the other invertebrates of note (including the wetland assemblage and the Welsh Priority species). The opportunity will also be taken to expand nuclei of important open habitats by localised and selective scrub control, especially where scrub has more recently invaded grasslands of botanical or invertebrate interest. Other opportunities for habitat expansion are likely to follow in the wake of invasive species control, in particular tackling the extensive stands of Japanese knotweed in the Collier's Row area and in localised areas elsewhere within the SSSI.

Paragraphs 8.6.4 to 8.6.9 of the March 2023 ES have been changed as follows:

- 8.6.4 The beneficial outcomes of securing such management on the undeveloped balance of the Cwm Glo a Glyndyrys SSSI will substantially counterbalance the more localised impacts associated with direct loss of a proportion of the designated area to development, and the additional but very localised indirect effects around the Application Site. In accordance with the Welsh Government's approach to determining net benefits for biodiversity and use of the DECCA framework within the planning system²⁰, application of standard metrics to assess biodiversity change¹²¹ is not the preferred approach in Wales, and in any event cannot legitimately be used to assess or address impacts from the loss of statutory sites or irreplaceable habitats. However, the guidance recognises that it is nonetheless instructive to use them as a guide to determine what level of additional mitigation might be required to deliver outcomes close to net neutral and that are more net benefits compatible with current policy, including its the legal and policy presumptions against SSSI loss. In this case, outputs from Metric 3.1 (and subsequent revisions) indicate that, of itself, beneficial management of the balance of the landholding, including the larger part of the SSSI, has the potential of itself to deliver net outcomes close to neutral.
- 8.6.5 But beyond this, Furthermore, in this case, the outcomes of application of the Metric provide confirmation that further off-site enhancement to deliver substantive biodiversity benefits of relevance to both the Cwm Glo resource and the wider region would be appropriate in order that the negative impacts on the SSSI could be outweighed, in both technical and policy terms.

²⁰ CIEEM Briefing Paper (September 2022) 'Welsh Government's Approach to Net benefits for Biodiversity and the DECCA Framework in the Terrestrial Planning System'

²¹ i.e. the Statutory Biodiversity Metric 3.1 and previous revisions



~~and net benefits delivered. After s~~Significant effort ~~has been~~ expended ~~already~~ in searching for and securing an appropriate off-site compensation site or sites ~~(including discussions with NRW and a number of non-statutory agencies, visits to a number of prospective sites and negotiations with landowners), some 17ha of land immediately abutting the Cwm Glo a Glyndyrys SSSI at Blaencanaid Farm has been effectively secured for this purpose by means of an option to purchase agreement. This has included discussions with NRW and a number of non-statutory agencies, and a number of sites have been visited and assessed, and negotiations commenced with landowners. The search remains ongoing and the applicant is committed to securing a site of appropriate scale, geographical relevance and potential. Acquisition or lease of land to be secured for conservation purposes is currently favoured over less direct means such as financial contributions towards established and ecologically relevant conservation initiatives, but it has been determined already that a range of relevant and viable options to offset the on-site impacts are available. Once settled, the detail of the on and off-site compensation package will be fed into the application process as appropriate, for example as Further Environmental Information, along with quantitative measures of the balance of loss versus gain in terms of biodiversity. In the fall back position where no such detail is available prior to determination, the applicant undertakes to commit a proportionate financial contribution to a suitable and relevant project or organisation to ensure a measurable offset is delivered. Suitable repositories for such contributions might include initiatives by Butterfly Conservation to expand and enhance marsh fritillary habitat (and by extension marshy grassland, including purple moor grass and rhos pastures) in the South Wales valleys region. The applicant is aware that developer funding has been used for this offset purpose in Rhodda Cynon Taff recently.~~

8.6.6 The ~~resolution of a preferred off-site compensation solution has allowed the working up into Heads of Terms detail of these~~ various wider landholding and off-site measures ~~that will be secured as a consequence of the development. These are set out in a draft Nature Conservation Management Plan and EPS Conservation Strategy submitted with the application. The draft NCMP has been drawn up in discussion with NRW and the applicant will commit to a final fully prescriptive version is intended to being by a Compensation and Habitat Management Plan (or similar appropriate vehicle) secured via a pre-commencement condition on the planning consent. The implementation of this management plan is adjudged to have beneficial consequences for the on and off-site habitats within its ambit that will offset the net negative impacts from the development considered in isolation. This accords with the step-wise approach and the application of the DECCA framework and the result will be a net benefit to biodiversity. Theis final version of the NCMP would also detail the opportunities for delivery of additional compensatory or new habitat within the Application Site that the applicant will commit to as part of detailed the proposals, including in particular how the made-ground slope to the south of the indoor snow centre building will be formed of substrates conducive to the development of complementary vegetation to the surrounding SSSI, such as acid grassland and dwarf shrub/heath vegetation, and how those habitats will be delivered.~~

8.6.7 Measures to restrict the zone of influence of indirect impacts arising from the development to the immediate confines of the Application Site wherever possible will ~~also~~ be pursued as part of detailed design. This will include strict delimitation of construction zones by robust fencing (Chapter 3 of this ES), secured construction management and pollution prevention techniques (Chapter 3 of this ES) and sensitive design of lighting (Chapter 16) and surface water drainage (Chapter 13). The objective of these standard and enhanced controls is to ensure indirect



effects on adjoining areas and the biodiversity resources within them are kept to the minimum possible. These measures will be fully detailed via a Construction-phase Environment Management Plan (or similar) secured via a pre-commencement condition on the planning consent.

Mitigation and compensation for impacts on other receptors

- 8.6.8 In terms of impacts on the Rhydycar West and Cwm Glo SINC, and the broad suite of individual flora and fauna species associated with both the SSSI and SINC designations, the same essential principles as set out at ~~1.5.48.6.1~~ to ~~1.5.78.6.7~~ above apply. In particular, enhancing and/or optimising the condition of the wider site, and ~~(directly or indirectly)~~ immediately adjacent land ~~at Blaencanaid Farm beyond the current ownership boundary~~, will provide the means to offset the impacts arising from loss of parts of these SINC. Similarly, measures such as secure site boundary fencing and controls on drainage to confine impacts to a zone of influence as coterminous to the Application Site boundary as possible will reduce the amount of offset requirement generated and will help deliver a balance of loss versus gain that is either policy compliant in its own terms, or will at least render any residual net loss of lower weight in the planning balance than in the absence of such measures.
- 8.6.9 In terms of protected species, including bats, great crested newts, reptiles and nesting birds in particular, standard form mitigation will be adopted, where appropriate as part of licensing processes, to both minimise impacts and ensure legal compliance. This will include measures such as suitably timed habitat manipulation to encourage protected species to move out of areas subject to imminent construction activity and clearance of vegetation outside of sensitive nesting or hibernation periods as well as pre-commencement checks of structures and mature trees capable of supporting bat roosts. Where there are known bat roosts, licences will be sought as soon as practicable in the implementation process and these will secure appropriate mitigation and compensation in line with statutory tests and requirements. The availability of the wider landholding, and immediately adjacent land at Blaencanaid Farm, for secured delivery of such measures is a significant advantage in determining their practical efficacy. These various measures would be secured by a Species Protection Plan (or similar) secured via a pre-commencement condition on the planning consent.

8.7 Likely Significant Residual Ecological Effects

Residual impacts on designated sites

Paragraphs 8.7.1 to 8.7.5 of the March 2023 ES has been changed as follows:

- 8.7.1 There will unavoidably be net loss of designated SSSI land as a short-medium term consequence of the direct impacts of the development, albeit loss of features forming part of the primary basis for designation has been largely or wholly avoided. Indirect effects will be much more spatially delimited as a consequence of effective design mitigation, e.g. in respect of lighting and drainage treatments at the boundaries of the Application Site. It is intended that the on and off-site compensation proposals will secure a means to compensate for these direct and indirect effects in the medium to long-term via enhancements to other designated or non-designated land. This could deliver a net neutral or even net beneficial result in terms of SSSI



land area in the medium to long term, but this remains subject to uncertainty at this stage and is thus best portrayed as a best case. It is relevant to note that the immediately adjacent land at Blaencanaid Farm that has been secured via is subject to an option to purchase has previously been considered for SSSI designation but subsequently rejected. One outcome of secured long-term optimum management of that site may be the prospect of a future extension of the Cwm Glo a Glyndryds SSSI to encompass this land. This could potentially result in the 6ha loss of SSSI to development being compensated by c.17ha of new SSSI. The worst-case outcome is that there will be a permanent net loss of SSSI land area of minor magnitude at national level, moderate magnitude at regional level and major magnitude at Borough level and below. This would be a significant adverse impact on a nationally important resource that would need to be weighed in the balance against the economic and social benefits of the scheme to determine if they are wholly exceptional to the point that the presumption against such losses was overcome, and also against the significance of that loss in terms of the ecological integrity and resilience of both the remaining part of the Cwm Glo a Glyndryds SSSI and the wider SSSI series more generally. In this context, it is significant that through the stepwise approach and development design, the elements of SSSI land directly affected have been minimised and furthermore they do not support the principal interest features underpinning the designation, while the adjacent compensation land does.

- 8.7.2 The policy protections afforded to non-statutory SINC sites are less stringent, but in the context that impacts on the Rhydyar West SINC would be severe, adverse and significant at regional (mid-valleys) level, they would again have to be weighed in the balance and against the weight of local and national need for the scheme and the socio-economic benefits arising. As with the SSSI loss, it is intended that the compensation proposals both across the wider land-holding, and off-site on adjacent land at Blaencanaid Farm, will secure a means to compensate for this quantitative and qualitative loss in the medium to long-term via enhancements to other designated or non-designated land.

Residual impacts on protected and other notable species

- 8.7.3 Again, in advance of final details of off-site compensation proposals, the assessment of residual impacts on the diverse quotient of protected and notable species that are resident on or otherwise use the Application Site is necessarily provisional and likely worst case. The greater scope for impact on protected and other notable species naturally rests in the construction phase. Incumbent statutory regimes will ensure appropriate protections are delivered to avoid, minimise or offset impacts on species subject to stringent statutory protection, and the availability of the wider site, the adjacent compensation land and the management enhancements committed to in respect of that land, which will include arresting terrestrialisation of ponds and improving their status for breeding, mean that this is likely to reduce residual effects to near neutral for most such species, and likely net beneficial for great crested newts.
- 8.7.4 The broader range of uncommon, scarce or otherwise notable species that fall below the strict statutory regimes, and which include species central to the biodiversity duty set out at Section 7 of the Environment (Wales) Act 2016 are also likely to be subject to reduced adverse residual effects or even net benefits as a consequence of the same management enhancements on the balance of the landholding and on the compensation land at the adjacent Blaencanaid Farm.



- 8.7.5 In the operational phase, appropriate management of the wider landholding and compensation land is likely to deliver neutral or net benefits for the majority of protected and otherwise notable species. The greatest measure of uncertainty around this assessment relates to certain more sensitive bird species such as nightjar, which in the absence of suitable access controls, might be displaced from parts of the site with substantially increased human traffic.

8.8 Cumulative impacts

Paragraph 8.8.2 of the March 2023 ES has been changed as follows:

- 8.8.2 The Bike Park Wales scheme (MBC reference P/19/0073) was granted consent by Merthyr Borough Council in January 2020. The consent relates to the construction of ~~construction of~~ additional camping and chalet accommodation at the established Bike Park Wales site (around 1km to the south of the Application Site) with associated infrastructure improvements. Construction would necessitate the loss of trees and woodland, with the imposition of conditions securing appropriate mitigation and compensation in respect of protected species and landscaping. This consented development site lies some distance to the south of the Rhydyrcar West application site and is buffered from it by retained woodland and grassland habitats. In combination, the two schemes would result in a somewhat increased denudation of woodland cover on this part of the valley side, and loss of part of an additional SINC (SINC 30 – Graig Gethin), but in light of the mitigation provisions secured in respect of protected species, no other significant cumulative or additive effects are anticipated.

8.9 Assessment Summary and Conclusions

Paragraphs 8.9.3 and 8.9.4 of the March 2023 ES have been changed as follows:

- 8.9.3 The proposed development would involve some 6ha of landtake from the SSSI. The land upon which the rest of the development is focused, whilst outside the SSSI, is subject to SINC designations, and contains representations of many of the same habitats and some of the same species. This includes waxcap fungi, priority grassland, heathland and woodland habitats and a suite of notable species.
- 8.9.4 Both the location of the development within the wider landholding and the detailed positioning and extent of the Application Site have been configured through numerous design iterations in order that overlap with the designated Cwm Glo a Glyndyrys SSSI is restricted to the absolute minimum necessary. This has seen the quantum of SSSI land affected by the proposed development incrementally reduced over time in order to reduce impacts on the statutory site. Some SSSI landtake remains unavoidable, however, in order to deliver the indoor snow centre, which is the central focus of the scheme. In total, thea direct landtake of 6ha of the SSSI is anticipated, which represents a little over 3% of the total land area of Cwm Glo a Glyndyrys SSSI. Due to the national importance of the SSSI series, this impact is inevitably rendered significant at that level.

Paragraph 8.9.8 to 8.9.10 of the March 2023 ES have been changed as follows:

- 8.9.8 In consequence, the focus of mitigation and compensation will be outside the Application Site. In the first instance this will be in the wider landholding where the opportunity to secure



optimised management of both SSSI and non-SSSI resources will be taken. In a~~addition to this, at~~ offsite compensation will be delivered via the improved management of some 17ha of adjoining SINC-quality land over which the applicant has secured an option to purchase (Blaencanaid Farm). There is scope for this secured and optimised management of some 208ha of land of nature conservation importance to result in a cumulative net benefit for biodiversity over the medium to long term, as set out in the draft Nature Conservation Management Plan submitted with the application. ~~measures, whether from securing and enhancing additional land and related habitats off-site or via financial contributions to established or new conservation projects ecologically and geographically relevant to the South Wales region will be taken. These are not yet settled, albeit significant effort has been expended already in searching for and securing an appropriate off-site compensation site or sites in discussion with NRW and a number of non-statutory agencies. This provision will be the subject of further submissions as and when additional information becomes available.~~

8.9.9 While there is a well-established policy presumption against development likely to damage a SSSI, most recently expressed in the updated chapter 6 of PPW, the particular qualitative features of the affected area, the future security of the special interest features over the wider unaffected SSSI and non-SSSI land and the weight of need for the development are matters germane to the consideration of the weight that should be applied to the impact on the SSSI in considering the acceptability of this development in policy terms.

8.9.10 In this case, there is an opportunity for a combination of secured management of the balance of the SSSI and additional compensatory enhancement of adjoining SINC quality ~~other off-site land or via other 'in kind' measures~~, to substantially offset the impacts from the losses of SSSI and SINC land, and associated impacts on attendant habitat and species resources. In consideration of the existing value and future potential of the adjacent compensation land at Blaencanaid Farm, and its compatibility with and relevance to the special interest features of the Cwm Glo a Glyndyrys SSSI, the expectation is of ~~The precise magnitude of such offset, and whether it delivers an outcome approaching or exceeding neutral in terms of overall net change~~ a net benefit for biodiversity in the medium to long term., is contingent on the precise details of the off-site measures that will be submitted in support of the application in due course.

Table 8.7 of the March 2023 ES has been changed as follows:



Table 8.7 Assessment Summary and Residual Environmental Effects

Key Receptor	Value	Potential Impact	Significance of Impact without Mitigation / Compensation	Proposed Mitigation / Compensation	Residual Impact	Confidence Level
Construction						
Blaen Cynon SAC (c. 9km west of site)	International (European)	Impacts on marsh fritillary butterfly populations associated with Blaen Cynon SSSI	No likely significant effect (not assessed to be functionally linked with the application site)	None required	No likely significant effect	High
Cwm Glo a Glyndyrys SSSI (Primary Interest Features)	National (Wales/UK)	Direct loss of habitat	Significant effect (minor adverse) at national level.	CEMP, improved management of remainder of SSSI, offsite compensation <u>(Blaencanaid Farm)</u>	Best case: no likely significant net effect Worst case: minor adverse effect significant at national level	Best case: Moderate Worst case: High
Cwm Glo a Glyndyrys SSSI (Primary Interest Features)	National (Wales/UK)	Additional indirect impacts (e.g. dust, noise, lighting, surface water discharge)	Minor magnitude impacts significant at local/regional level	CEMP, improved management of remainder of SSSI, offsite compensation <u>(Blaencanaid Farm)</u>	Best case: no likely significant effect at any geographic level Worst case: sub-significance threshold effects at national level, minor magnitude impacts significant at local/regional level	Best case: Moderate to High Worst case: High
Cwm Glo a Glyndyrys SSSI (Secondary Interest Features)	Regional (Mid-Valleys)	Loss of secondary interest features and localised indirect effects (the majority of the c.3% landtake from the SSSI affects secondary interest features)	Moderate magnitude adverse effect significant at Regional level	CEMP, improved management of wider site, offsite compensation <u>(Blaencanaid Farm)</u>	Best case: no likely significant net effect Worst case: moderate adverse effect significant at regional level	Best case: Moderate High Worst case: High
Rhydycar West SINC (SINC 36) and Cwm Glo SINC (SINC 12)	Regional (Mid-Valleys)	Direct loss of habitat and associated localised indirect effects	Moderate magnitude adverse effect significant at Regional level	CEMP, improved management of wider site, offsite compensation <u>(Blaencanaid Farm)</u>	Best case: no likely significant net effect Worst case: moderate adverse effect significant at regional (mid-valleys) level	Best case: Moderate Worst case: High
Ancient woodland	National	Loss of habitat	No likely significant effect	None required – no ancient woodland adjudged to be affected	No likely significant effect	High
TPO woodland	Borough (Merthyr)	Loss of habitat	Moderate magnitude impact significant at Borough level	CEMP, improved management of wider site, offsite compensation	Minor magnitude adverse impact significant at Borough level, depending on quantum of existing tree resource that can be retained in lodge area	Moderate

Key Receptor	Value	Potential Impact	Significance of Impact without Mitigation / Compensation	Proposed Mitigation / Compensation	Residual Impact	Confidence Level
Bat assemblage	Borough (Merthyr)	Loss of bat roosts, foraging area and indirect impacts (e.g. from lighting)	Significant, in large part due to rare species being implicated	NRW mitigation licensing, species protection plan, to include provision for re-use of built structures where practicable	Minor magnitude adverse impact at Borough level, potentially reduced to near neutral by licensed mitigation.	Moderate-high
Great crested newts	Borough (Merthyr)	Loss of breeding sites and terrestrial habitat	Significant	To be subject to NRW licensing, species protection plan	Minimal adverse effects (near neutral), potential for long-term net positive effects over wider landholding	High
Reptiles	Borough (or possibly Parish)	Loss of habitat / impacts on populations	Significant	Species protection plan and legal compliance	Minimal adverse effects (near neutral)	High
Marsh fritillary butterfly	Borough (Merthyr)	Indirect impacts (e.g. from lighting, trampling, hydrological change)	Possible minor adverse effect	Sensitive lighting design, species protection plan	No likely significant effect	High
Welsh Priority habitats	Borough (Merthyr) (when considered cumulatively)	Net loss	Minor to moderate adverse effect	Improved management of wider site, offsite compensation (Blaencanaid Farm)	No likely significant effect	Moderate-high
Welsh Priority species	Borough (Merthyr) (when considered cumulatively)	Direct (and indirect) impacts on species	Significant	Species protection plan	Minimal adverse effects (near neutral)	Moderate-high
Other notable invertebrates	Borough (Merthyr) (when considered cumulatively)	Direct (and indirect) impacts on species	Significant	Species protection plan	Minimal adverse effects (near neutral)	Moderate-high
Non-designated habitats (including semi-improved grassland, skeletal grasslands / mosaic habitats, and scrub)	Local (Parish)	Loss of habitat	Significant	Improved management of wider site, offsite compensation	No likely significant effect	High
Badgers	Local (Parish)	Indirect impacts (e.g. from badgers getting trapped in construction excavations)	Possible minor adverse effect	Measures to avoid badgers getting trapped in construction excavations, species protection plan	No likely significant effect	High

Key Receptor	Value	Potential Impact	Significance of Impact without Mitigation / Compensation	Proposed Mitigation / Compensation	Residual Impact	Confidence Level
Other non-designated habitats (0.535ha unremarkable vegetation associated with cutting slopes and verges adjoining the Parish Road to Upper Abercanaid)	Immediate Local (Site)	Loss of habitat	Not significant	Improved management of wider site, offsite compensation	No likely significant effect	High
Operation						
Blaen Cynon SAC (c. 9km west of site)	International (European)	Impacts (e.g. from lighting, recreational use) on marsh fritillary butterfly populations associated with Blaen Cynon SSSI	No likely significant effect (not assessed to be functionally linked with the application site)	None required	No likely significant effect	High
Cwm Glo a Glyndrys SSSI (Primary interest features)	National (Wales/UK)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
Cwm Glo a Glyndrys SSSI (Secondary Interest Features)	Regional (Mid-Valleys)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
Rhydycar West SINC (SINC 36) and Cwm Glo SINC (SINC 12)	Regional (Mid-Valleys)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management of wider site, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
TPO woodland	Borough (Merthyr)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management of wider site, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
Bat assemblage	Borough (Merthyr)	Localised indirect impacts from lighting and noise	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high
Great crested newts	Borough (Merthyr)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	Net neutral to minor positive effect due to improved habitat condition in wider landholding	Moderate-high

Key Receptor	Value	Potential Impact	Significance of Impact without Mitigation / Compensation	Proposed Mitigation / Compensation	Residual Impact	Confidence Level
Reptiles	Borough (or possibly Parish)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development. Possible effects from increased recreational use.	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high
Marsh fritillary butterfly	Borough (Merthyr)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development. Possible effects from increased recreational use	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high
Welsh Priority habitats	Borough (Merthyr) (when considered cumulatively)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management of wider site, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
Welsh Priority species	Borough (Merthyr) (when considered cumulatively)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development. Possible effects from increased recreational use	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high
Other notable invertebrates	Borough (Merthyr) (when considered cumulatively)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development. Possible effects from increased recreational use	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high
Non-designated habitats (including semi-improved grassland, skeletal grasslands / mosaic habitats, and scrub)	Local (Parish)	Localised indirect impacts from lighting and noise, wider impacts from increased recreational pressure	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Improved management of wider site, offsite compensation, sensitive lighting scheme	Net neutral to minor positive effect	Moderate-high
Badgers	Local (Parish)	Localised indirect impacts from lighting. Potential fragmentation effect due to barrier effect of development. Possible effects from increased recreational use	Potential for minor magnitude adverse impact in absence of mitigation/compensation	Sensitive lighting scheme, benefits of improved management of wider site	No significant effect	Moderate-high

13.0 Water, Drainage and Flooding

All references to Figures 13.1.1, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.6 and 13.3.7 and all references to Appendices 13.1 and 13.2 in the March 2023 ES should be read as being changed to Figures 13.1.1a, 13.3.1a, 13.3.2a, 13.3.3a, 13.3.4a, 13.3.5a, 13.3.6a and 13.3.7a and Appendices 13.1a and 13.2a.

13.1 Introduction & Executive Summary

Paragraphs 13.1.6 and 13.1.7 of the March 2023 ES have been changed as follows:

- 13.1.6 In conclusion, apart from a small area of fluvial and reservoir flood risk close to a minor tributary of the River Taff, at the emergency access and pedestrian and cycle access, and pluvial flood risk, there is no risk of flooding to or from the proposed development from any of the flood sources explored within this chapter and the FCA. Any potential fluvial and reservoir flood risk will be mitigated by retaining pre-existing ground levels, whereby, there will be no impact upon pre-existing flood risk. In the event of flooding in this location, no parts of the proposed development will be affected, and users of the facility will have a safe means of access and egress via the alternative route which passes along the southern boundary of the application site before heading north to the main car park area and access road. Accordingly, and subject to an awareness of this flood risk potential, there will be no impact on, or from, the proposed development. Any potential pluvial flood risk to or from the proposed development will be mitigated using the measures detailed in the accompanying FCA; watercourses will be rerouted subject to appropriate consents and approvals, and a SuDS compliant drainage scheme will be implemented. Furthermore, the proposed development will add betterment in terms of surface water runoff rates for all events greater than Q_{bar} . Accordingly, no objections should be sustained on grounds of flood risk or drainage matters and there is an overall negligible flood risk to the site.

- 13.1.7 This chapter is supported by the following figures and appendices:

- Figures:
 - 13.1.1a – Study Area (Redline Boundary)
 - 13.3.1a – Water Features / Watercourses Summary
 - 13.3.2a – Development Advice Map – Flood Zones (NRW, July 2021)
 - 13.3.3a – River (Fluvial) Flood Risk Map (NRW, July 2021)
 - 13.3.4a – Marine Flood Risk Map (NRW, July 2021)
 - 13.3.5a – Surface Water (Pluvial) Flood Risk Map (NRW, July 2021)
 - 13.3.6a – Reservoir Flood Risk Map (NRW, July 2021)
 - 13.3.7a – Existing Drainage / Waterbody Features



- Appendices:
 - 13.1a – FCA
 - 13.2a – Drainage Strategy Drawings.

All references to Chapter 13 Figures and Appendices have been changed to the above references (ie revision “a”).

13.2 Methodology and Scope

The heading above paragraph 13.2.14 of the March 2023 ES has been changed as follows:

Welsh Government Flood Consequences Assessments: Climate change allowances, September-December 2021

13.3 Baseline Environment

Paragraphs 13.3.2 to 13.3.4 of the March 2023 ES have been changed as follows:

- 13.3.2 NRW's DAMs demonstrate flood risk in the area and highlight the consequences of this in line with PPW11 and TAN 15: Development and Flood Risk. The DAM indicates that almost the entirety of the site is located within Zone 1; land considered to be at little or no significant risk of fluvial or tidal/coastal flooding.
- 13.3.3 A small portion of the proposed development (c. 375m²) to the southeast Areas-is located within Zone C2 of the DAM and Flood Zone 2 and 3 Rivers of the Flood Map for Planning and Zone B land, i.e. within areas of the floodplain without significant flood defence infrastructure, are-is c. 100m beyond the site to the east.
- 13.3.4 The following extracts from NRW's DAMs demonstrate that the application site is not at flood risk from potential ~~fluvial~~, marine ~~or reservoir~~ flood sources. The proposed development does, however, encroach by a very small amount on the fluvial and reservoir floodplains at its south-eastern extremity. Pluvial flooding is, ~~however, also~~ shown to be present at the application site, coinciding with topographical low points.

Figure 13.3.2a shows the application site in the context of nearby Flood Zones.

Figure 13.3.3a shows the application site in the context of nearby Fluvial flood risk.

Figure 13.3.4a shows the application site in the context of nearby Marine flood risk.

Figure 13.3.5a shows the application site in the context of nearby Pluvial flood risk.

Figure 13.3.6a shows the application site in the context of nearby Reservoir flood risk.



A new paragraph (13.3.9.1) has been added before paragraphs 13.3.10 of the March 2023 ES as follows:

13.3.9.1 NRW provided a planning consultation response on 25 May 2023. Pertinent extracts from NRW's response are as follows:

'...application boundary is different to that at statutory pre-application stage and now includes an access to the south east of the site serving the 'Woodland Lodge Accommodation'. The Flood Consequences Assessment has not been updated to reflect this amendment. Part of this new access is within Zone C2 of the Development Advice Map (DAM) contained in Technical Advice Note (TAN) 15: Development and Flood Risk (2004). The Flood Map for Planning identifies the application site to be at risk of flooding and falls into Flood Zone 2 and 3 Rivers.

For completeness we advise the FCA should be updated to reflect the amended site boundary.

For your information, our advice on this amended boundary is, given the scale and nature of the proposed development within Zone C2 / Flood Zone 2 and 3 Rivers (access road) we consider the proposals could be acceptable, subject to the developer being made aware of the potential flood risks'.

Paragraph 13.3.10 of the March 2023 ES has been changed as follows:

13.3.10 In summary, NRW raised no material concerns regarding the proposed development that could not be addressed by an updated FCA and the developer being made aware of the potential flood risks.

Paragraph 13.3.48 of the March 2023 ES has been changed as follows:

13.3.48 Flooding: except for pluvial flooding, and a very small portion of fluvial and reservoir flooding to the southeast, no flooding is identified on NRW's DAMs; the site is categorised as being almost entirely in Zone 1, areas at minimal risk of flooding, from a flood risk perspective. Pluvial flooding is that associated with informal water storage and conveyance features. The future baseline will include development areas which must take account of these pre-existing features.



13.3 Mitigation within the Submitted Design

Tables 13.3.1 and 13.3.2 of the March 2023 ES have been changed as follows:

Table 13.3.1: Discharge Rates

Condition	Q_{bar}
Pre-development	287.5 <u>287.7</u>
Post-development	123.9 <u>124.2</u>

Table 13.3.2: Pre-and Post-Development Areas

Condition	Permeable Area (ha)	Impermeable Area (ha)
Pre-development	30.42 <u>30.40</u>	0.000 <u>0.02</u>
Post-development	21.19 <u>21.17</u>	9.239 <u>9.25</u>

Paragraph 13.4.4 of the March 2023 ES has been changed as follows:

- 13.4.4 Ordinary Watercourse Discharge Applications ~~have been~~ were submitted to MTCBC, SAB seeking consent to discharge the GFR equivalent rate of 123.9 l/s (124.2 l/s using the updated planning application boundary) to two existing watercourses within the application site boundary. However, MTCBC has advised that formal applications are not required at this stage; these can be deferred and addressed at the same time as watercourse diversion consents. On 24 January 2022, the SAB confirmed that discharges to the two proposed locations, reduced to GFR equivalent rates, would be acceptable, subject to completion of ordinary watercourse applications accompanied by downstream condition and capacity assessments.

A new paragraph (13.4.5.1) has been added to the ES as follows:

- 13.4.5.1 The design will retain pre-existing ground levels in the small area to the southeast of the proposed development affected by fluvial and reservoir flooding. This will mitigate any impact from the proposed development.



13.5 Likely Significant Environmental Effects of the Scheme

Paragraph 13.5.16 of the March 2023 ES has been changed as follows:

- 13.5.16 Proposed development includes the construction of access roads, car parks, a large leisure facility comprising of a snow centre, hotel and waterparks. The increase in impermeable surface area from 90.02 ha to 9.25 ha will increase the stormwater discharge from the application site to surrounding watercourses. This impact has been addressed by design as discussed in the preceding section resulting in a neutral impact on nearby watercourses.

Paragraphs 13.5.18 to 13.5.19 of the March 2023 ES have been changed as follows. A new paragraph (13.5.19.1) has been added:

- 13.5.18 A review of NRW's DAMs has confirmed that, with the exception of a small area (375m²) to its southeast, the application site is in Zone 1, areas at minimal risk of flooding. The small area in question is within Zone C2 of the DAM. The Flood Map for Planning identifies the risk of flooding to be flood Zone 2 and 3 Rivers. However, pluvial flooding is also present, and the proposed development could have a significant impact from a pluvial flood risk perspective.

- 13.5.19 Although it is almost entirely in flood Zone 1, as described previously, the application site is in the vicinity of three minor watercourses as well as several informal water features that traverse the subject lands. Notwithstanding proposals to limit stormwater runoff to a GFR equivalent rate, the proposed development will sever some of these existing features, having a potential significant impact which could include increasing flood risk to the proposed development and elsewhere.

- 13.5.19.1 Regarding the part of the site in flood Zone 2 and 3 Rivers, this simply comprises the use of an existing underpass, beneath the A470, to provide an emergency access and pedestrian and cycle access only. No material changes will be made to this access route; construction will be at pre-existing levels, whereby, there will be no impact upon pre-existing flood risk. In the event of flooding in this location, no parts of the proposed development will suffer damage, and users of the facility will have a safe means of access and egress via the alternative route which passes along the southern boundary of the application site before heading north to the main car park area and access road. Accordingly, and subject to an awareness of this flood risk potential, there will be no impact on, or from, the proposed development.

13.6 Additional Mitigation, Compensation and Enhancement Measures

Paragraph 13.6.12 of the March 2023 ES has been changed as follows:

- 13.6.12 Regarding the impact associated with existing flood risks arising from watercourses in the vicinity of the construction site, this impact can simply be addressed by making sure that construction accommodation, storage compounds and accesses are positioned beyond the extent of fluvial, reservoir and pluvial floodplains determined in the FCA (Appendix 13.1).



Paragraph 13.6.18 of the March 2023 ES has been changed as follows:

- 13.6.18 Impacts associated with surface water discharge are addressed by design as discussed previously.

Paragraph 13.6.22 of the March 2023 ES has been changed as follows:

- 13.6.22 Porous asphalt: porous asphalt, including subgrade storage has been proposed to manage stormwater at source. This ~~will~~ measure will contribute to limiting discharges from the proposed development to a GRF equivalent rate.

Paragraph 13.6.25 of the March 2023 ES has been changed as follows:

- 13.6.25 Fluvial and Reservoir Flooding: ~~there is no fluvial flood risk identified on the NRW DAMs; accordingly, no mitigation measures are required. As discussed previously, there is a small area of fluvial and reservoir flood risk close to a minor tributary of the River Taff to the southeast of the proposed development. This coincides with the emergency, pedestrian and cycle accesses. Any potential fluvial and reservoir flood risk will be mitigated by retaining pre-existing ground levels. This will make sure that there will be no impact upon pre-existing flood risk. If flooding does occur in this location, no parts of the proposed development will be affected, and users of the facility will have a safe means of access and egress via the alternative route which passes along the southern boundary of the application site before heading north to the main car park area and access road. Accordingly, and subject to an awareness of this flood risk potential, there will be no impact on, of from, the proposed development. However~~ Furthermore, there are existing water features at the application site with the potential cause flooding. Mitigation measures for these features are detailed below using the Areas notation from the section 13.3:

13.7 Assessment Summary and Likely Significant Residual Environmental Effects

Paragraph 13.7.8 of the March 2023 ES has been changed as follows:

- 13.7.8 ~~Since there is no non-pluvial flood risk to the proposed development, there is no residual impact from non-pluvial sources. Flooding impacts from the proposed development can be adequately managed throughout the operational phase by employing the best practice measures outlined previously. Accordingly, flooding will have a neutral impact.~~

13.8 Cumulative impacts

No changes have been made to this section of the March 2023 ES.

13.9 Summary

Paragraph 13.9.5 and Table 13.9.1 of the March 2023 ES have been changed as follows:

- 13.9.5 From a flood risk perspective, ~~the proposed development is in Zone 1, minimal risk of flooding, in accordance with the preference indicated in TAN15 although a very small portion of the proposed development is Zone C2 / Flood Zone 2 and 3 Rivers and the corresponding reservoir floodplain extent, there will be no change to these areas as part of the proposed development.~~



Furthermore, existing water features have been considered and accommodated in the proposed development. Therefore, the proposed development will have a minimal impact.



Table 13.9.1: Assessment Summary and Residual Environmental Effects

Summary description of the identified impact	Sensitivity of Receptor	Impact Magnitude	Significance and Nature of Effect	Additional Mitigation	Residual Impact Magnitude	Residual Significance and Nature of Effect	Confidence Level
Construction							
Water – increased demand	To be determined via hydraulic modelling and water supply requisition	To be determined via hydraulic modelling and water supply requisition	To be determined via hydraulic modelling and water supply requisition	- Commission Welsh Water hydraulic modelling assessment; - Lodge Welsh Water water supply requisition	Negligible (expected) – water supply is Welsh Water business as usual	Negligible (expected) – water supply is Welsh Water business as usual	Medium
Foul Drainage – increased flow and load	Negligible	Negligible	Negligible	Removal by licensed waste carrier to adequate WwTW	Negligible	Negligible	High
Storm Drainage – risk of contamination	Negligible	Minor Adverse	Minor Adverse	- Comply with NBS, cross-reference to SHW and PPGs; - Close and regular liaison between Statutory Undertakers; - Produce a CEMP, PPP, IRP and SWMP; - Daily inspection of watercourses; - Bung new drains at the end of each working day; - Use wheel washes and road brush; - Use silt-traps, cut off trenches and vegetated corridors; - Separate material deliveries minimum of 10m from adjacent watercourses, avoid over-ordering and stockpiling; - Use dedicated area for vehicle wash-out; - Use specific areas for oil storage and refuelling, separated a minimum of 10m from adjacent watercourses, provide bunds sized 10 contain 110% of fuel storage capacity; - Use fill point drip trays, bunded pallets and secondary containment units; - Enclose and secure site and fuel storage areas; - Appoint a responsible person and train operatives in implementation and testing of plans periodically throughout construction of the works	Negligible	Negligible	High
Flooding – increased flows	High	Minor Adverse	Minor Adverse	Phased temporary or permanent conveyance measures including flow control and attenuation to a GFR equivalent rate	Negligible	Positive	High
Flooding – flood risk to construction	Negligible	Minor Adverse	Minor Adverse	- Position construction accommodation, storage compounds and accesses beyond the extent of pluvial floodplains; - Well established operational processes to manage groundwater, e.g. sumps and pumps	Negligible	Negligible	High

Summary description of the identified impact	Sensitivity of Receptor	Impact Magnitude	Significance and Nature of Effect	Additional Mitigation	Residual Impact Magnitude	Residual Significance and Nature of Effect	Confidence Level
Operation							
Water – increased demand	To be determined via hydraulic modelling and water supply requisition	To be determined via hydraulic modelling and water supply requisition	To be determined via hydraulic modelling and water supply requisition	- Provide RWH to offset demand; - Commission Welsh Water hydraulic modelling assessment; - Lodge Welsh Water water supply requisition; - Provide water supply to proposed development.	Negligible (expected) – water supply is Welsh Water business as usual	Negligible (expected) – water supply is Welsh Water business as usual	Medium
Foul Drainage – increased flow and load	Negligible	Negligible	Negligible	- Lodge Welsh Water sewer requisition; - Provide sewer from proposed development to Welsh Water sewer at site boundary.	Negligible (expected) – wastewater disposal is Welsh Water business as usual	Negligible (expected) – wastewater disposal is Welsh Water business as usual	High
Storm Drainage – risk of contamination	Negligible	Minor Adverse	Minor Adverse	- Provide swales to convey stormwater and provide treatment and enhance ecology and biodiversity; - Provide porous asphalt to control and store flows and provide treatment; - Use bunded fuel storage areas; - Provide trapped gullies and silt trap manholes; - Implement agreements for regular maintenance of pollution control measures	Negligible / Positive (SuDS)	Negligible / Positive (SuDS)	High
Flooding – increased flows	High	Significant Adverse	Significant Adverse	- Provide detention basins and flow control to limit flows and store stormwater, provide treatment and enhance ecology and biodiversity; - Provide porous asphalt to control and store flows and provide treatment; - Apply for consents to discharge and SAB approval	Negligible / Positive (SuDS)	Negligible / Positive (SuDS)	High
<u>Flooding – development in fluvial and reservoir floodplains</u>	<u>High</u>	<u>Minor Adverse</u>	<u>Minor Adverse</u>	<u>No change to pre-existing ground levels at location in question;</u> <u>Facility users to be made aware of presence of floodplain</u>	<u>Negligible</u>	<u>Negligible</u>	<u>High</u>
Flooding – flood risk to proposed development...							
Area 1: Cwm Pit And Associated Stream	High	N/A	N/A	Formalise existing ad-hoc drainage channel to offset it from SAM and use excavated material to replace the eroded material	Positive	Positive	High

Summary description of the identified impact	Sensitivity of Receptor	Impact Magnitude	Significance and Nature of Effect	Additional Mitigation	Residual Impact Magnitude	Residual Significance and Nature of Effect	Confidence Level
Area 2: Cyfarthfa Balance Pond And Tub Boat Canal	High	N/A	N/A	Provide lined impermeable swale directed back to the pre-existing receptor along the application site's southern boundary to provide an escape vector for ponding water.	Positive	Positive	High
Area 3: Glyndyrus Tip Spring (West)	Negligible	Minor Adverse	Minor Adverse	- Retain existing flow paths; - Provide Forrest Lodge accommodation on stilts to allow water to pass beneath; - Provide permeable access roads with regular cross-drains.	Negligible	Negligible	High
Area 4: Glyndyrus Tip Spring (East)	Negligible	Minor Adverse	Minor Adverse	- Retain existing flow paths; - Provide Forrest Lodge accommodation on stilts to allow water to pass beneath; - Provide permeable access roads with regular cross-drains; - Provide valve in the swale to the north to divert flows to the Glyndyrus Pond if required to prevent drying.	Negligible	Negligible	High
Area 5: Glyndyrus Tip / A470 Tip Springs	Negligible	Minor Adverse	Minor Adverse	Replace with swales and detention basins.	Positive	Positive	High
Area 6: Tunnel	Negligible	N/A	N/A	None	N/A	N/A	N/A
Nant Cannaid Tributary 1, 2 and 3	High	Minor Adverse	Minor Adverse	Collect and reroute each watercourse around proposed development features to discharge back into the pre-existing receptor	Negligible	Negligible	High
<u>Fluvial, Reservoir and</u> Pluvial Flood Risk	High	Minor Adverse	Minor Adverse	- Constrain proposed development location beyond pluvial floodplain extents wherever possible; - Select development levels and gradients to optimise collection and transfer of stormwater; <u>Provide alternative means of access / egress beyond fluvial and reservoir floodplain</u>	Negligible	Negligible	High
Pluvial flooding from overland surface water from lands to the north	Negligible	Minor Adverse	Minor Adverse	Provide boundary cut-off swale to intercept offsite flows and discharge back to the pre-existing receptor.	Negligible	Negligible	High

13.10 Conclusion

Paragraph 13.10.1 of the March 2023 ES has been changed as follows:

- 13.10.1 In conclusion, apart from pluvial flood risk, and a minor encroachment on the fluvial and reservoir floodplain to the southeast, there is no risk of flooding to or from the proposed development from any of the flood sources explored within this chapter and the FCA. Any potential pluvial flood risk to or from the proposed development will be mitigated using the measures detailed in the accompanying FCA; levels within the floodplain will not be altered, an alternative means of access and egress will be provided to avoid potentially flooded areas, facility users will be made aware of the presence of the floodplain, watercourses will be rerouted subject to appropriate consents and approvals, and a SuDS compliant drainage scheme will be implemented. Furthermore, the proposed development will add betterment in terms of surface water runoff rates for all events greater than Q_{bar} . Accordingly, no objections should be sustained on grounds of flood risk or drainage matters and there is an overall negligible flood risk to the site.

13.11 Glossary

No changes have been made to this section of the March 2023 ES.



19.0 Conclusions

19.1 General

No changes have been made to this section of the March 2023 ES.

19.2 Background

No changes have been made to this section of the March 2023 ES.

19.3 Proposed Development

No changes have been made to this section of the March 2023 ES.

19.4 Socio-Economic - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.5 Greenhouse Gas Emissions and Climate Change - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.6 Ground Conditions - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.7 Ecology - Summary of Effects

Paragraphs 19.7.1 and 19.7.3 of the March 2023 ES have been changed as follows:

19.7.1 The Ecology assessment is informed by an extensive series of desk-based and field surveys undertaken at the site between 2015 and ~~2022~~2023, which have enabled a thorough understanding of the baseline conditions of the site in respect of statutory and non-statutory designations, habitats and flora, grassland fungi, specially protected fauna (including great crested newts, bats and badgers), breeding and wintering birds, and invertebrates.

19.7.2 The ~~application~~ site includes approximately 6ha of Cwm Glo a Glyndyrys SSSI, representing just c.3% of the SSSI as a whole and comprising an area which does not include any significant examples of the designation's ~~primary~~ features of special interest; ~~unimproved~~ marshy, neutral and acid grasslands representing the prime SSSI features, or any grasslands of higher value for fungi. The ~~application~~ site also includes areas within Rhydyrcar West SINC and Cwm Glo SINC.

19.7.3 Both the location of the development within the wider landholding and the detailed positioning and extent of the ~~a~~Application ~~s~~Site have been configured through numerous design iterations in order that overlap with the designated Cwm Glo a Glyndyrys SSSI is restricted to the absolute minimum necessary. Whilst the design chronology of the Scheme predates the latest revisions to PPW, the proposals remain in alignment with them due to the pre-eminent position the long-established mitigation hierarchy has taken in development design, replicating the step-wise approach. As set out in the Design and Access Statement, multiple iterations of development form, positioning and massing within the site were considered, and each time robustly assessed against the hierarchy of 'avoid', 'minimise', 'mitigate' and 'compensate' (in



terms of negative impacts) whilst at the same time exploring the potential for and taking opportunities to secure enhancements, in line with the DECCA framework. Such enhancements include improved management and security of tenure for the much larger balance of undeveloped land under the control of the applicant and securing options on additional land of nature conservation value which, if enacted by the grant of planning permission, will further secure and improve local connectivity, resilience and security of both key habitats and associated populations of key species. The future resilience, security, condition, and quality of the retained habitats will be secured by a long-term management plan, a Heads of Terms version of which has been discussed with NRW and is submitted with the application. This also incorporates confirmation that the applicant is committed to innovative and creative solutions to securing appropriate management in the face of extant and future challenges, such as the use of fenceless grazing. This has seen the quantum of SSSI land affected by the proposed development incrementally reduced over time in order to reduce impacts on the statutory site, in alignment with the stepwise approach advocated in PPW. Some SSSI landtake remains unavoidable, however, in order to deliver the Indoor Snow Centre, which is the central focus of the scheme and what makes it wholly exceptional in a socio-economic sense. In total, a direct landtake of 6ha of the SSSI is anticipated, which represents a little over 3% of the total land area of Cwm Glo a Glyndyrys SSSI.

Paragraphs 19.7.7 to 19.7.12 of the March 2023 ES have been changed as follows:

- 19.7.7 Proposed mitigation includes the comprehensive management of the vast majority (c.97%) of the SSSI designated land that lies outside the application site but within the Applicant's ownership, in order to protect ~~theto~~ grassland habitat and associated features of ecological interest in the long term, and secure their resilience. A CEMP will be implemented to ensure strict construction zones with protective fencing, pollution prevention techniques, sensitive lighting design and drainage, to ensure minimal effects on surrounding biodiversity.
- 19.7.8 The management of the undeveloped SSSI and SINC land will also offset impacts arising from the partial loss of SINC land. A Species Protection Plan (or similar) will set out the mitigation measures to be adopted to address any impacts upon protected species, such as obtaining the relevant licenses, suitably timed habitat manipulation to ensure minimal disruption to habitats and species, and pre-commencement checks of structures and trees capable of supporting bats.
- 19.7.9 Additional offsite measures include the enhancement of habitats complementary to the SSSI interest features (in particular lowland meadow and marshy grassland) on an additional c.17ha of adjoining land over which the applicant has secured an option to purchase legal interest in at (Blaencanaid Farm). The effort expended ,after significant effort expended in searching for and securing an appropriate off-site compensation site or sites in discussion with NRW and a number of non-statutory agencies has extended over a number of years and Blaencanaid Farm represents the best option from the culmination of that process. The secured beneficial management and enhancement of land at Blaencanaid Farm (itself also a SINC) will have a number of additional positive benefits, including also iimprovinge the resilience and deliverability of optimised grazing management within the balance of the Cwm Glo a Glyndyrys SSSI, helping to secure its future resilience.~~are yet to be confirmed and are subject to further~~



consideration when additional information becomes available, however indicatively this will include securing and enhancing additional land and related habitats off-site or via financial contributions to established or new conservation projects ecologically and geographically in the South Wales region.

19.7.10 In terms of residual impacts, there is an opportunity for the combination of secured management of the balance of the SSSI and additional compensatory enhancement of significant adjacent off-site land of conservation value, including at Blaencanaid Farm, to substantially offset the impacts from the losses of SSSI and SINC land, and associated impacts on attendant habitat and species resources. Indeed with the scheme incorporating enhancement and secured optimised management and enhancement of the balance of the SSSI and SINC land and the adjoining at Blaencanaid Farm, the net effect over the medium to longer term is adjudged likely to be net neutral or even net beneficial result in terms of SSSI land area in the medium to long term, but this remains subject to uncertainty at this stage and is thus best portrayed as a best case. The worst case outcome is that there will be a permanent net loss of designated SSSI land area of minor magnitude at national level, moderate magnitude at regional level and major magnitude at Borough level and below. This would however remain be a significant adverse impact on a nationally important resource that in policy terms would need to be weighed in the balance against the economic and social benefits of the scheme to determine if the presumption against such losses was overcome. and also against the significance of that loss in terms of the ecological integrity and resilience of both the remaining part of the Cwm Glo a Glynhydrys SSSI and the wider SSSI series more generally. In this context, it is significant that through development design, the elements of SSSI land directly affected do not support the principal interest features underpinning the designation, while the acquired off-site compensation land does. the 'worst case' impact upon the SSSI is considered to be minor adverse owing to the net loss of designated land (minor magnitude at a national level, moderate magnitude at a regional level) during construction. Proposed on and off site mitigation proposals are considered to compensate for the direct and indirect impacts in the medium to long term, resulting in a net neutral to minor positive impact for the operational phase given the consequences remain unknown at this stage. This suggests the possibility of a future revision to the SSSI, incorporating the compensation land, neutralising or outweighing even the non-ecological and purely quantitative reduction of SSSI area.

19.7.11 The policy protections afforded to non-statutory SINC sites are less stringent, but in the context that impacts on the Rhydycar West SINC would be severe, adverse and significant at regional (mid-valleys) level, they would again have to be weighed in the balance and against the weight of local and national need for the scheme and the economic benefits arising. As with the SSSI loss, it is intended that the compensation proposals both across the wider land-holding, and on adjacent land off-site at Blaencanaid Farm, will secure a means to compensate for this quantitative and qualitative loss in the medium to long-term via enhancements to other designated or non-designated land. A moderate adverse 'worst case' impact is anticipated for the Rhydycar West SINC and Cwm Glo SINC during construction but again, the mitigation and compensation measures proposed are likely to offset these effects



~~in the medium to long term, resulting in a net neutral to minor positive impact for the operational phase given the consequences remain unknown at this stage.~~

19.7.12 For most protected species, there is expected to be a neutral or minimal (near neutral) residual effect during construction. For great crested newts, there is potential net beneficial impact during the construction phase. Minor magnitude adverse impact significant at Borough level is anticipated for TPO woodland, depending on quantum of existing tree resource that can be retained in the woodland lodge area. Bat assemblage would suffer a minor magnitude adverse impact at Borough level, potentially reduced to near neutral by licensed mitigation, during the construction phase. During the operational phase, appropriate management of the wider SSSI land, and the adjoining off site land is expected to result in neutral to minor positive impacts for the majority of protected and notable species, noting some uncertainty relating to more sensitive bird species (e.g. nightjar) which has the potential to become displaced.

19.8 Traffic and Transport - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.9 Archaeology and Cultural Heritage - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.10 Hydrology and Hydrogeology - Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.11 Landscape – Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.12 Water, Drainage and Flooding - Summary of Effects

Paragraph 19.12.6 and 19.12.7 of the March 2023 ES have been changed as follows:

19.12.6 Additional mitigation measures proposed for construction phase include:

- Discharging foul water to a designated Wastewater Treatment Works
- Adhering to guidance and legislation
- Implementation of a CEMP, to include measures such as wheel washing and daily inspection of watercourses
- Iterative and phased approach to construction mitigation
- Retaining pre-existing ground levels in the area of fluvial and reservoir flood risk close to the proposed emergency, pedestrian and cycle accesses to the southeast of the proposed development

19.12.7 Additional mitigation measures proposed for the operational phase include:

- Implementing water usage reduction measures including water efficient appliances



- Hydraulic modelling assessment to determine water supply requirements of the proposal
- Subject to planning and sewer requisition approval, construction of a sewer within the site to connect to and serve the development
- Rainwater harvesting tanks to reduce stormwater flows and reduce water demand
- Introducing swales
- Use of porous asphalt
- Use of bunded fuel storage areas, trapped gullies and silt traps manholes to mitigate potential impact on water quality
- Regular maintenance and monitoring of pollution control measures
- Facility users to be made aware of presence of floodplain and associated flood risk potential.

Paragraph 19.12.8 of the March 2023 ES has been deleted.

19.12.8 ~~No fluvial flood risk is identified, so no associated mitigation measures are required or proposed in this regard.~~

Paragraph 19.12.10 of the March 2023 ES has been changed as follows:

19.12.10 A small area (375m²) in the southeast of the application site is within Zone C2 of the DAM. The Flood Map for Planning identifies the risk of flooding to be flood Zone 2 and 3 Rivers. Pluvial flooding is also present. Overall, apart from pluvial flood risk, there is no risk of flooding to or from the proposed development from any identified flood sources. Any potential pluvial flood risk to or from the proposed development will be mitigated against with the measures detailed within Chapter 13 and the FCA; watercourses will be rerouted subject to appropriate consents and approvals, and a SuDS compliant drainage scheme will be implemented. Furthermore, the proposed development will provide beneficial residual effects on surface water runoff rates for all events greater than Qbar. There is a residual negligible flood risk to the site.

19.13 Noise – Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.14 Air Quality – Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.15 Lighting – Summary of Effects

No changes have been made to this section of the March 2023 ES.



19.16 Human Health – Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.17 Utilities – Summary of Effects

No changes have been made to this section of the March 2023 ES.

19.18 Cumulative Assessment – Summary of Effects

No changes have been made to this section of the March 2023 ES.

