

A10.0 BIODIVERSITY – ADDENDUM TO CHAPTER 10

Introduction

- 10.1 This appendix of the ES Addendum considers whether the changes to the project described in the Addendum will trigger any new or additional significant effect of the Proposed Development in terms of biodiversity, ecology and nature conservation. It should be read alongside Chapter 10 of the Original ES (November 2021) and its appendices.
- 10.2 This review has been undertaken by Carola Hoskins, Principal Ecologist at SK Environmental Solutions Ltd and a competent expert in ecology.

Changes to Legislation, Policy and Guidance

- 10.3 As the Original ES was carried out in November 2021, few changes to legislation, policy and guidance have been introduced:
- Planning Policy Wales Edition 12 Chapter 6
 - Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition
 - UK Bat Mitigation Guidelines 2023
- 10.4 Edition 12 of Planning Policy Wales has introduced a number of new elements to be considered with regard to biodiversity. In addition to the requirement for enhancements introduced by PPW 11, which came into force prior to the 2021 ES, this includes following the mitigation hierarchy in a step-wise approach, as well as following the DECCA principle when implementing the Section 6 Duty arising from the Environment (Wales) Act 2016. It also puts more emphasis on the provision of a Green Infrastructure Strategy and Plan and adds a requirement to replace any trees lost at a 3 for 1 basis.

Methodology

- 10.5 As stated above, guidelines for bat surveys have changed in 2023, as well as the guidelines for mitigation. When assessing the methodology used against the current guidelines, it is considered that the survey effort undertaken was reasonable and appropriate in respect to the value of the site for bats, including both buildings, trees and the wider habitat for foraging and commuting purposes. Therefore, sections 10.3.321 to 10.3.322 of the 2021 ES remain relevant. The assessment included a number of trees and it is possible that additional trees now to be felled as part of the proposals have developed features suitable for roosting

purposes by bats. Prior to felling, an inspection by a suitably qualified ecologist will therefore need to be carried out.

Baseline Conditions: Changes since the 2021 ES

- 10.6 The 2021 ES described and evaluated the baseline environmental conditions, i.e. the current situation and any anticipated changes prior to construction. The site is largely unmanaged and consists largely of previously disturbed land, including through heavy industry. Habitats on site are therefore relatively young and undergoing successional processes. Updated walkover survey work was carried out between June and September 2024, to ascertain whether habitats and their condition were still largely the same and whether the relevant conclusions of the 2021 ES remain valid. An update baseline habitat plan was produced, this is included in **Appendix A of this report**.
- 10.7 Aside from successional processes occurring between 2021 and 2024, no changes to the baseline habitats on site have been identified by this updated appraisal.

Aerial Photography and OS Maps

- 10.8 Aerial photography and Ordnance Survey (OS) maps were used to identify any waterbodies or watercourses within 500m of the site, shown in **Figure A10.1**, below.



Figure A10.1 Mapped water features within 500m of the site. Scale as a guide only

10.9 The following water features are mapped on **Figure A10.1**

- A small series of ponds are located on the southwest corner of the site. To the northwest of the site lies a larger pond.
- A unnamed reservoir lies immediately north of the site boundary.
- A large series of ephemeral ponds and pools with connected drains make up Crymlyn bog which lies to the west and south of the site boundary.

Statutory & Non-Statutory Designated Sites for Nature Conservation

Statutory Designated Sites

10.10 Natural resources Wales (NRW) identified two statutory designated sites located within 2km of the site boundary. These areas are shown on **Figure A10.2**, below.



Figure A10.2: Statutory designations within 2km of the site.

10.11 Crymlyn Bog SAC, SSSI, Ramsar and Pant-y-Sais SSSI is a 300ha site which borders the redline boundary to the east, expanding down to the south-west. The site is designated for the following:

Annex I habitats that are a primary reason for selection of this site

- 7140 Transition mires and quaking bogs

Transition mires and quaking bogs occur on deep, wet topogenous peats over a relatively small area of this extensive coastal lowland site. Bottle sedge *Carex rostrata* and bogbean *Menyanthes trifoliata* are important components of some stands, together with common cottongrass *Eriophorum angustifolium*, water horsetail *Equisetum fluviatile*, star sedge *Carex echinata*, the locally rare mud sedge *Carex limosa* and, in places, the nationally rare slender cottongrass *Eriophorum gracile*. The floristic character of some of these stands displays affinities to NVC types M9 *Carex rostrata* – *Calliergon cuspidatum*/*giganteum* mire and S27 *Carex rostrata* – *Potentilla palustris* tall-herb fen, but other expressions of this habitat at Crymlyn include a stronger poor-fen element in which bog-mosses (including *Sphagnum squarrosum*, *S. denticulatum* and *S. fimbriatum*) figure prominently. The transition mire and quaking bog at this site is vulnerable to the continuing expansion of common reed *Phragmites australis*, encouraged by trends of increasing site wetness, nutrient-enrichment and lack of grazing.

- 7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* * Priority feature

Crymlyn supports the largest area of *Cladium*-dominated vegetation in south Wales. Many of the stands in which great fen-sedge *Cladium mariscus* occurs as sole dominant are typically species-poor, but other areas display a more diverse vegetation in which tufted-sedge *Carex elata*, royal fern *Osmunda regalis* and a range of tall-herb fen species are prominent. Some of these stands are unique in a Welsh context and are strongly reminiscent of NVC type S24 *Phragmites australis* – *Peucedanum palustre* tall-herb fen, which is otherwise largely confined to eastern England.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

- 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) * Priority feature

- 10.12 Crymlyn Burrows SSSI is located approximately 1.8km south of the red line boundary at its nearest point. The site is one of the last remaining sections of the Swansea Bay coastline which has remained substantially unmodified by industrial development. Sand dune ridges have developed at right angles to the River Neath and these are continuing to accumulate at the present time. Salt water is able to gain access to the system at high tide via the river channel, with the result that the dunes are interspersed by tongues of saltmarsh. These grade westwards into wet dune slacks and carr woodland. Several plant species with local

distribution occur within the site including rock sea lavender *Limonium binervosum*, dittander *Lepidium latifolium*, rock hutchinsia *Hornungia petraea*, round leaved wintergreen *Pyrola rotundifolia*, dutch rush *Equisetum hyemale* and the variegated horsetail *Equisetum variegatum*. The rare fen orchid *Liparis loeselii* is found occasionally within the slacks, whilst the sea stock *Matthiola sinuata* which was re-recorded in 1964 following its earlier disappearance, is widespread along the strandline and in the dunes. This part of the Neath Estuary is also used by part of the population of small waders overwintering in Swansea Bay.

- 10.13 Earlswood Road Cutting And Ferryboat Inn Quarries SSSI consists of roadside cuttings and quarry exposures located on a hillside west of the River Neath near to its mouth, between Port Talbot and Neath. This site is of special scientific interest for its exposures of late Carboniferous rocks which afford the best available sections through the Carboniferous Rhondda Beds, in a deltaic facies. They show exceptionally well developed sedimentary structures, in particular large-scale channels, and also the upward - fining cyclicity of the sedimentation, which is characteristic of such deltaic sediments.

Non-Statutory Designated Sites

- 10.12 SEWBRc identified the following non-statutory designated sites located within 2km of the site:
- Coed Darcy GCN area and Site of Importance for Nature Conservation (SINC) is located within the site boundary on the southern edge.
 - Jersey Marine Woods SINC immediately borders the site boundary on its southern edge.
 - Llandarcy village green SINC is located approximately 170m south of the site boundary.
 - Crymlyn Quarry Woodland SINC is located approximately 330m north east of the site boundary at its nearest point.
 - Tennant Canal SINC is located approximately 550m east of the site boundary at its nearest point.
 - Neath Estuary SINC is located approximately 640m west of the site boundary at its nearest point.
 - Main Swansea – Fishguard Railway Line SINC is located approximately 750m north west of the site boundary at its nearest point.

- Pentreffynnon SINC is located approximately 800m east of the red line boundary.
- M4 Corridor SINC is located approximately 810m north of the site boundary at its nearest point.
- Red Jacket Fen SINC is located approximately 820m southeast of the red line boundary at its nearest point.
- Junction 44 Heathlands SINC is located approximately 820m north of the site.
- Pentredwr Grasslands SINC is located approximately 840m west at its nearest point to the red line boundary.
- Earlswood Grasslands SINC is located approximately 1.3km southeast at its nearest point.
- Dyffryn Woods SINC is located approximately 1.3km north of the red line boundary.
- Trallwn Marsh and Wood SINC is located approximately 1.3km west of the red line boundary at its nearest point.
- Coed Gelli-Deg – Drummau SINC is located approximately 1.4km north of the site boundary.
- Square Pond SINC is located 1.5km east at its nearest point.
- Neath Canal is located approximately 1.5km east at its nearest point to the site boundary.
- Giants Grave SINC is located approximately 1.5km east of the site boundary at its nearest point.
- Amazon woodlands SINC is located 1.5km south of the site boundary.
- Kilvey Hill SINC is located 1.6km southwest of the red line boundary at its nearest point.
- Cwm Rhydyceirw to Birchgrove railway SINC is located approximately 1.7km north of the site boundary at its nearest point.
- Llansamlet Marshes SINC is located approximately 1.8km northeast of the site boundary.

- Fabian Way Wildflower Verge SINC is located approximately 1.8km south of the site at its nearest point.
- Shelone Woods SINC is located approximately 1.9km southeast of the site at its nearest point.
- Gwlyptir Mynachlog Nedd SINC is located approximately 1.9km northeast of the site boundary.
- Crymlyn Burrows SINC is located approximately 2km south of the site boundary at its nearest point.

10.13 The non-statutory sites are shown on **Figure A10.3**, below.

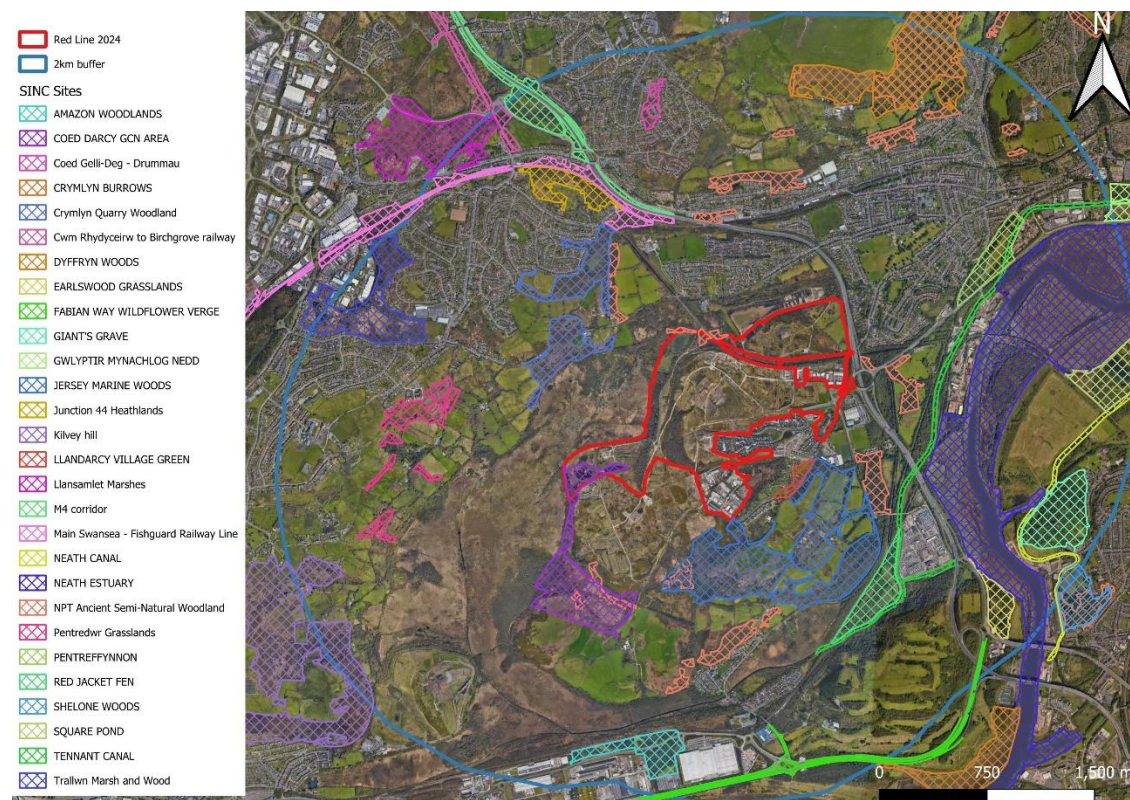


Figure A10.3. Non-Statutory designated sites within 2km of the site.

10.14 The non-statutory sites are considered to be of **county importance** for nature conservation.

Trees and Woodland

10.15 An area of ancient semi-natural woodland has been identified by SEWBRc on the northern part of the site (see **figure A10.3** above). The Woodland Trust's database of notable, veteran and ancient trees identified no such trees within, or adjacent to, the site.

Sites of Priority (BAP) Habitat

- 10.16 Natural Resources Wales identified no areas of priority habitat within 500m of the site.

Notable Species Records

- 10.17 Consultation with South-East Wales Biological Record Centre (SEWBRc) identified a number of protected and / or notable species records located within 2km of the working area boundaries. Only the last ten years of data are typically considered relevant (i.e. 2014 to present).
- 10.18 Protected/notable species records are summarised in **Table A10.1**. A full list of species records within 2 km of the working areas can be provided upon request.

Table A10.1. Protected Species Records.

Species	Number of Records	Most Recent Date	Distance and Direction of Closest Record	Notes
Badger	8	16/05/2023	550m S	
<i>Bats</i>				
Bat	3	08/07/2021	220m E	
Brown Long-eared Bat	3	22/04/2021	780m E	
Common Pipistrelle	13	09/09/2022	60m S	
Daubenton's Bat	1	08/08/2015	1.7km NE	
Greater Horseshoe Bat	1	23/08/2018	1.4km S	
Lesser Horseshoe Bat	1	23/08/2018	1.4km S	
Noctule Bat	2	21/08/2017	1km S	
Pipistrelle	1	11/06/2022	1.6km NW	
Pipistrelle Species	3	27/09/2020	30m S	
Soprano Pipistrelle	8	09/09/2022	30m S	
Otter	4	17/06/2017	700m E	
Water vole	0	N/A	N/A	
White-clawed crayfish	0	N/A	N/A	
Red Squirrel	0	N/A	N/A	
<i>Other Notable Mammals</i>				
Brown Hare	1	19/03/2020	1.2km E	

Harvest Mouse	5	08/02/2024	1km S	
Polecat	2	14/04/2016	620m N	
West European Hedgehog	44	09/08/2022	200m E	
<i>Birds</i>				Only BoCC Red List, Wildlife and Countryside Act Schedule 1, NRW Section 7 or European Birds Directive Annex I designated species have been included in this table.
Barn Owl	5	27/09/2020	On site	
Black Redstart	1	28/12/2021	2km S	
Black-headed Gull	21	2023	620m E	
Black-tailed Godwit	2	2017	2km SE	
Brambling	1	14/10/2018	1.5km W	
Bullfinch	24	2023	On site	
Common Rosefinch	2	2020	650m S	
Common Scoter	1	29/12/2018	2km S	
Crossbill	1	19/04/2018	1.7km SW	
Cuckoo	14	09/05/2023	On site	
Curlew	7	2023	630m E	
Dunnock	37	27/04/2024	On site	
Fieldfare	2	2023	760m S	
Firecrest	3	11/02/2023	1.2km N	
Golden Plover	1	29/12/2018	2km S	
Goshawk	2	2018	930m SW	
Grasshopper Warbler	9	2023	On site	
Green Sandpiper	3	2022	1.5km E	
Greenshank	2	2017	1.6km S	
Hen Harrier	1	16/02/2019	On site	
Herring Gull	35	2023	On site	
Hobby	1	21/06/2018	1.5km W	
House Sparrow	22	2023	On site	
Kentish Plover	1	18/10/2014	1.6km S	
Kestrel	16	2023	On site	
Kingfisher	7	17/09/2022	650m S	
Lapwing	21	20/03/2020	On site	
Lesser Redpoll	9	14/07/2024	On site	
Linnet	16	12/07/2023	On-site	

Little Ringed Plover	1	2017	1.3km SE	
Long-tailed Duck	1	2015	1.6km S	
Merlin	1	11/11/2018	1.5km W	
Osprey	1	2018	1.3km SE	
Peregrine	8	2023	600m N	
Pied Flycatcher	1	05/03/2016	1.4km E	
Pintail	1	16/01/2018	1.2km S	
Red Kite	28	05/04/2024	On site	
Redwing	13	11/02/2023	760m S	
Reed Bunting	17	2023	On site	
Ringed Plover	6	2022	On site	
Sandmartin	8	21/03/2023	On site	
Skylark	23	28/06/2023	On Site	
Song Thrush	32	14/06/2023	On site	
Spotted Flycatcher	6	10/09/2022	1.1km W	
Starling	23	27/04/2024	70m E	
Tree Pipit	1	04/05/2021	1km S	
Velvet Scoter	1	24/11/2015	1.6km S	
Whimbrel	1	04/09/2018	1.3km SE	
Wigeon	2	2017	1.4km E	
Wood Warbler	1	22/04/2019	2km SW	
Yellow Wagtail	1	02/09/2018	1.7km	
Yellowhammer	1	23/04/2019	1.8km	
<i>Reptiles</i>				
Common Lizard	11	24/05/2023	110m S	
Slow worm	1	2019	1.7km E	
<i>Amphibians</i>				
Great crested newt	18	05/05/2021	On site	
Palmate newt	31	17/05/2024	On site	
Smooth newt	5	05/05/2021	On site	
Common frog	11	30/07/2023	On site	
Common toad	13	04/09/2024	On site	
Lissotriton	4	05/05/2021	On site	

<i>Fish</i>	0	NA	NA	
<i>Invertebrates</i>				Only records of species listed under Schedule 5 of the Wildlife and Countryside Act, NRW Section 7 are included in the table.
Autumnal Rustic	2	2015	1.6km SW	
Beautiful Demoiselle	2	14/07/2021	1.1km S	
Black-tailed Skimmer	3	16/07/2021	On site	
Blood-vein	3	28/08/2015	1km S	
Brindled Beauty	1	25/03/2017	1km S	
Brown Hawker	1	20/05/2020	On site	
Buff Ermine	3	2024	1km S	
Bullrush Veneer	2	13/07/2019	1.6km SW	
Cinnabar	28	13/07/2023	On site	
Crescent	4	13/07/2019	1km S	
Dark-barred Twin-spot Carpet	3	28/08/2015	1km S	
Devon Carpet	4	2016	1km S	
Dingy Skipper	2	06/05/2022	On site	
Dusky Brocade	1	01/07/2015	1.6km SW	
Dusky Thorn	1	2015	1.6km SW	
Emerald Damesfly	9	16/07/2021	On site	
Feathered Gothic	1	2015	1.6km SW	
Fen Raft Spider	32	2021	1km S	
Garden Tiger	2	06/05/2017	1km S	
Ghost Moth	3	06/07/2024	1.6km SW	
Grass Rivulet	2	11/06/2016	1.6km NE	
Grayling	3	02/07/2020	On site	
Grey Dagger	2	07/07/2023	1.6km NW	
Haworth's Minor	1	06/08/2016	1km S	
Lackey	2	13/07/2019	1.6km W	
Large Wainscot	1	13/09/2019	1km S	
Long-horned Bee	4	08/06/2021	1.7km E	
Minor Shoulder-knot	3	13/07/2019	1km S	
Oblique Carpet	1	2015	1.6km SW	
Rosy Rustic	2	2017	1km S	

Rustic	1	13/07/2019	1.6km W	
Sallow	1	2015	1.6km W	
Sedge Jumper	3	17/09/2021	1.6km SW	
Shoulder-striped Wainscot	1	01/07/2015	1.6km SW	
Small Blue	3	12/05/2024	1.8km S	
Small Heath	1	20/05/2020	On site	
Small Phoenix	1	06/08/2016	1km S	
Wall	3	06/05/2022	On site	
White Ermine	3	2024	1.6km SW	
White-line Dart	2	28/08/2015	1km S	
White-spotted Sable	1	24/04/2022	1.3kmS	
<i>Invasive Species</i>				
Himalayan Balsam	7	14/10/2019	50m S	
Japanese Knotweed	22	14/09/2024	On site	
Rhododendron ponticum	8	2020	30m N	
<i>Notable Flora</i>				
Bee Orchid	4	05/06/2021	<10m	
Blunt-flowered Rush	1	2018	650m S	
Brookweed	1	28/05/2014	1.7km SW	
Common Club-rush	1	20/09/2014	1.7km SW	
Common Cord-grass	2	15/08/2019	630m SE	
Usnea articulata	2	13/04/2016	1.7km S	

Inherent Design Mitigation and Additional Mitigation – Update

- 10.15 Key design mitigation for this site largely revolves around the presence of great crested newts *Triturus cristatus*. The species has previously been identified on site in large numbers and while 2020 surveys only reported a moderate population, fencing to prevent access to site has not been maintained and wide-scale presence of great crested newts (GCN) is therefore likely on site. Other protected species found present on site include slow worm *Anguis fragilis* and grass snake *Natrix helvetica*, both in moderate numbers. Invertebrate surveys on site found 505 species to be present, with 30 of these being key species. Bats were present in relatively low numbers and no roosts were identified. Bird nesting was observed on site, with a variety of species using the site for these purposes.

- 10.16 Appropriate mitigation for the above ecological receptors included the provision of suitable habitat post-development, as well as suitable avoidance measures and long-term beneficial management. No additional ecological receptors have been identified and therefore no additional mitigation measures have been required.

Assessment of Effects – Changes to the 2021 ES

- 10.17 In the 2021 ES, the potential impacts and the significance of the effects for the construction and operational phases of the proposed development are assessed with the inclusion of mitigation measures that have been incorporated directly into the design.
- 10.18 As such, any changes to the assessment on biodiversity that may have arisen given any changes in baseline conditions and planning policy (as summarised above) have been considered by competent experts and the following conclusions are made.

Construction

- 10.19 Only one additional effect has been identified. PPW 12 introduces a requirement to replace every one tree lost with three trees planted as mitigation. In order to achieve this ratio, additional areas had to be identified for tree planting, meaning that areas previously proposed for grassland are now being used to produce the required ratios.
- 10.20 No additional effects of the construction of the Proposed Development (inclusive of the proposed changes to the parameters) to biodiversity are triggered.

Operation

- 10.21 No additional or new effects of the operation of the Proposed Development (inclusive of the proposed changes to the parameters) to biodiversity are triggered.

Assessment Summary

- 10.22 Section 10.5 – 10.6 of the 2021 ES summarised the impacts, mitigation, compensation and residual effects of the Proposed Development.
- 10.23 The potential for the changes to the baseline conditions and policy context to cause any change to the conclusions made in the 2021 ES with regard to the effects on biodiversity have been considered and it considered that no additional or new effects will be triggered as a result.

