ARUP

Cardiff City Council

Cardiff International Sport Village

Preliminary Ecological Appraisal

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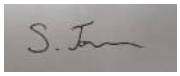
		Signature			
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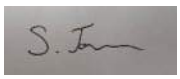
		Signature			
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		Description			
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Contents

Tables

Figures

Appendices

1. Introduction

1.1 Background

Ove Arup and Partners Limited (henceforth referred to as Arup) have been commissioned by Cardiff Council to undertake a range of design and consultancy services, including environmental, to inform the proposed development/redevelopment of land at Cardiff International Sport Village (henceforth referred to as the 'Site'). This includes the completion of an Extended Phase 1 Habitat survey and production of a Preliminary Ecological Appraisal (PEA) report.

This report presents the findings of the ecological desk study and survey results and provides an ecological appraisal of the Site. The purpose of the report is to identify the habitats within the Site and to assess the potential for, or presence of, any legally protected or notable species. It determines the likely ecological impacts of the proposed works during construction and operation and specifies mitigation, compensation and enhancement measures as appropriate.

1.2 The Site

The Site is located within the International Sport Village (ISV) area in Cardiff Bay, Cardiff. The Site area equates to 10ha with a central National Grid Reference of ST 17924 73019.

The Site is within an urban setting and comprises of existing ISV facilities, former retail premises and two brownfield parcels to the east and west of Olympian Drive. The existing ISV infrastructure includes Cardiff International Pool & Gym and Ice Arena Wales on the east, and commercial development in form of the former Toys R Us building to the west. Large areas of hard standing in the form of roads and car parking for the existing infrastructure are present within the Site. Areas of amenity grassland and introduced shrub are associated with the existing developed land. The brownfield parcels east and west of Olympian Drive consists of a mosaic of habitats including ephemeral, tall ruderal and scrub with areas of bare ground. An area of semi-natural broadleaved woodland borders the northwest of the Site located between the Site and the A4055 road.

1.3 The Proposed Development

The proposed development would likely come forward in the form of a hybrid planning application to include:

- Full details in relation to the proposed closed road cycling circuit, activity zones, highway changes and public realm works (hard and soft landscaping);
- Change of use of the former Toys R Us building; and
- Outline details for a future Multi-Storey Car Park (MSCP).

These works form the final stages of the proposed 'Sport Zone' as part of the wider vision for the ISV and following permission which was granted in 2022 for the proposed outdoor velodrome.

The latest indicative masterplan for the development is enclosed as Figure 5, and each of the application elements is described further below.

1.3.1 Full Application

The full element of the application would include several proposals which seek to add to the sporting offer within this part of the ISV, or bring together existing and proposed uses, creating a high-quality public space at the centre of the sports zone. The proposals include:

- Closed Road Circuit – proposed around the perimeter of the sports zone, this facility would provide a traffic-free cycling circuit for training and race events;
- Off-road bike track – providing opportunities for mountain bike and BMX style riding within a safe, designed environment; and

- Public Realm works – including soft and hard landscaping, biodiversity enhancements and the installation of informal sporting spaces / urban parks.

1.3.2 Change Of Use

The former Toys R Us building is located in the centre of the Site and to the south of the proposed velodrome. The building has more recently been used as a COVID 19 vaccination centre, but this use has now ceased.

Exact proposals for the building are currently being finalised with discussions ongoing with potential end users. The vision for the building includes the introduction of more sport related activities, some retail space as well as office provision to serve sporting governing bodies.

1.3.3 Outline Application

The outline element of the application would include proposals for a MSCP in the northeast corner of the masterplan Site. The car park would have a capacity of circa 1,000 spaces and would be located to service the ISV development with access proposed off International Drive.

1.4 Objectives

The objectives of this PEA are:

- To establish baseline ecological conditions in the Site and within the immediate vicinity, including its potential to support important habitats and notable/protected species;
- To identify key ecological constraints to the proposed works;
- To inform project design to allow significant ecological effects to be avoided or minimised wherever possible; and
- To recommend further ecological surveys required to inform an updated ecological assessment as appropriate.

1.5 Legal Context and Policy Framework

1.5.1 Legislation

A framework of international (European), national and local legislation and planning policy guidance exists to protect and conserve wildlife and habitats. The following core legislation exists to protect habitats and species of nature conservation importance:

- The Conservation of Habitats and Species Regulations 2017 - as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- Wildlife and Countryside Act 1981 (as amended);
- The Environment (Wales) Act 2016;
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
- National Park and Access to the Countryside Act 1949 (as amended);
- Countryside and Rights of Way Act 2000 (CRoW);
- The Hedgerow Regulations 1997;
- Protection of Badgers Act 1992;
- Wild Mammals (Protection) Act 1996;
- The Salmon and Freshwater Fisheries Act 1975;
- The Eels (England and Wales) Regulations 2009; and

- The Invasive Alien Species (Enforcement and Permitting) Order 2019.

These pieces of legislation include a number of offences relating to protected species and requirements for licences to allow construction works to proceed. In addition, the Conservation of Habitats and Species Regulations set out the requirement for the consideration of the potential effects of a project on European Sites.

Actions which are prohibited by legislation can be made lawful on the approval and granting of a protected species licence from Natural Resources Wales (NRW), subject to conditions.

At the national level the Environment (Wales) Act (EWA) 2016 requires public authorities to seek to maintain and enhance biodiversity to promote the resilience of ecosystems when undertaking their functions. This includes consideration of species and habitat listed under Section 7 of this act as those of 'principal importance' to conserving and enhancement biodiversity in Wales.

1.5.2 Planning policy

Planning Policy Wales[1] (which relates to conserving and enhancing the natural environment) requires development plan strategies, policies and development proposals to secure the conservation and enhancement of biodiversity, including the conservation of wildlife and habitats, safeguarding the ecological networks and components which underpin them (e.g. water and soil) and improve ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks. A recent CIEEM briefing paper outlines Welsh Government's Approach to Net Benefits for Biodiversity and the DECCA Framework in the Terrestrial Planning System[2], it instructs that any development must demonstrate that it has both maintained and enhanced biodiversity and built resilient ecological networks. Biodiversity enhancements must be delivered in a stepwise approach of avoiding, minimising, mitigating and as a last resort, compensating for adverse effects. Where adverse effects on the environment outweigh other material considerations, the development should be refused as per Planning Policy Wales.

Future Wales – the National Plan 2040[3] is the national development framework for Wales, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities. As the national development framework, Future Wales is the highest tier of development plan and is focused on solutions to issues and challenges at a national scale. Its strategic nature means it does not allocate development to all parts of Wales, nor does it include policies on all land uses. It is a framework which will be built on by Strategic Development Plans at a regional level and Local Development Plans at local authority level.

Welsh Government has also produced a Nature Recovery Action Plan[4] which is aimed at addressing the underlying causes of biodiversity loss by putting nature at the heart of its decision-making, by increasing the resilience of Wales' natural systems (ecosystems), and by taking specific action for habitats and species. It sets out how Wales will deliver the commitments of the EU Biodiversity Strategy and the UN Convention on Biological Diversity to halt the decline in our biodiversity by 2020 and then reverse that decline. The Nature Recovery Action Plan links to and complements The Well-being of Future Generations (Wales) Act 2015 and the Environment Act (Wales) 2016. Developments should seek to complement this, in order to meet objectives set out in the Environment Act and Well-being Act.

[1] Welsh Government Planning Policy Wales Edition 11. February 2021. Planning Policy Wales - Edition 11 (gov.wales)

[2] CIEEM, 2022. Welsh Government's Approach to Net Benefits for Biodiversity and the DECCA Framework in the Terrestrial Planning System.

[3] Update to Future Wales - The National Plan 2040 (gov.wales)

[4] Nature recovery action plan | GOV.WALES

Further consideration to the Sustainable Management of Natural Resources (SMNR) as required under the Environment (Wales) Act has been detailed under the Natural Resources Policy[5] (Welsh Government, 2017). This includes:

- Using resources sustainably to support move towards a more circular economy and accelerating green growth through increasing renewable energy and resource efficiency;
- Improving ecosystem health and resilience to tackle climate change and the decline in biological diversity through the delivery of nature-based solutions for mitigation and adaption; and
- Taking a place-based approach to deliver better results at a local level by enabling collaboration at the right scale (e.g. site, regional catchment, landscape or ecosystem) and at the right locations to tackle issues and maximise benefits.

Area statements (as required under Section 11 of the Environment (Wales) Act) will play a key role in identifying these local opportunities and constraints.

The Cardiff Council Local Development Plan (LDP)[6] includes a number of policies relating to nature conservation, in particular:

- EN5: Designated Sites Development will not be permitted that would cause unacceptable harm to sites of international or national nature conservation importance.
- EN6: Ecological Networks and Features of Importance for Biodiversity Development will only be permitted if it does not cause unacceptable harm to:

  i. Landscape features of importance for wild flora and fauna, including wildlife corridors and 'stepping stones' which enable the dispersal and functioning of protected and priority species;

  ii. Networks of importance for landscape or nature conservation.

  Particular priority will be given to the protection, enlargement, connectivity and management of the overall nature of semi natural habitats. Where this is not the case and the need for the development outweighs the nature conservation importance of the site, it should be demonstrated that there is no satisfactory alternative location for the development and compensatory provision will be made of comparable ecological value to that lost as a result of the development.

- EN7: Priority Habitats and Species Development proposals that would have a significant adverse effect on the continued viability of habitats and species which are legally protected or which are identified as priorities in the UK or Local Biodiversity Action Plan will only be permitted where:

  i. The need for development outweighs the nature conservation importance of the site;

  ii. The developer demonstrates that there is no satisfactory alternative location for the development which avoids nature conservation impacts; and

  iii. Effective mitigation measures are provided by the developer.

  Where harm is unavoidable it should be minimised by effective mitigation to ensure that there is no reduction in the overall nature conservation value of the area. Where this is not possible compensation measures designed to conserve, enhance, manage and, where appropriate, restore natural habitats and species should be provided.

- EN8: Trees, Woodlands and Hedgerows Development will not be permitted that would cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value, or that contribute significantly to mitigating the effects of climate change.

[5] https://gov.wales/sites/default/files/publications/2019-06/natural-resources-policy.pdf

[6] Final-Adopted-Local-Development-Plan-English.pdf (cardiffldp.co.uk)

Green Infrastructure Supplementary Planning Guidance (SPG) also supplements policies in the adopted Cardiff Council LDP. The LDP ecology, biodiversity and green infrastructure policies are intended to maintain and enhance biodiversity and green infrastructure, such that ecosystems are supported in their delivery of ecosystem services, in accordance with national and international strategies.

The Cardiff Council Local Biodiversity Action Plan (LBAP)[7] refers to habitats and species of importance for nature conservation within the county. Of relevance to this project are the Habitat Action Plans: broadleaved woodland, reedbed and neutral grassland habitats. In addition, it is likely that LBAP species also occur within the Site (for example bats and reptiles).

Further details of the legislation and national and local planning policies are provided in Appendix A.

[7] Cardiff Council, 2008. Local Biodiversity Action plan. Retrieved 25 August 2022. https://www.outdoorcardiff.com/wp-content/uploads/Cardiff-LBAP-2008.pdf

2. Methods

2.1 Zone of Influence

The current guidance on ecological assessments (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018[8]) recommends that all ecological features that occur within a 'Zone of Influence' (ZoI) for a proposed development are investigated.

The ZoI includes:

- Areas directly within the land take for the proposed development and access;
- Areas which will be temporarily affected during construction;
- Areas likely to be impacted by hydrological disruption; and
- Areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The ZoI is variable depending on the nature of the construction activities and the ecological receptors affected. For this assessment, the following zones have been defined (Table 1).

Table 1: Zone of Influence used for this assessment

Ecological Features	Zone of Influence
Internationally Designated Sites	10km buffer around the Site boundary
Nationally and Internationally Designated Site, where bats are a qualifying feature	10km buffer around the Site boundary
Nationally Designated Sites	2km buffer around Site boundary
Relevant species records (including protected and invasive species), relevant habitats and Local Sites	2km around Site boundary
Standing waterbodies	0.5km around Site boundary
Protected Species and habitats	Within the proposed Site boundary, and adjacent habitats

2.2 Desk Study

A desk study was carried out to identify designated sites and protected species records within the ZoI as described in Table 1. Online searches were carried out using the Multi Agency Geographic Information for the Countryside (MAGIC)[9], NRW website[10] and the Joint Nature Conservation Committee (JNCC) website[11].

Biodiversity records data was provided by South East Wales Biodiversity Records Centre (SEWBReC)[12] on 18 August 2022.

[8] Chartered Institute of Ecology and Environmental Management (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine (September 2018).

[9] http://magic.defra.gov.uk/ (accessed 25/08/2022).

[10] https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en (accessed 25/08/2022).

[11] http://jncc.defra.gov.uk (accessed 25/08/2022).

[12] LERC Wales' Biodiversity Information & Reporting Database, 2022. Cardiff International Sport village. LERC Reference: 0223-554 (accessed 25/08/2022).

2.3 Field survey

An Extended Phase 1 Habitat survey was undertaken by Arup ecologists Rosemary Cripps (MCIWEM C.WEM, C.Env) and Samuel Jones (QCIEEM) on 17 August 2022.

The aim of the Extended Phase 1 Habitat Survey was to identify the habitats present within the Site and within 30m where access allowed. The survey was undertaken following the standard JNCC Phase 1 Habitat survey methodology[13]. Extended Phase 1 Habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present.

The survey also provided an assessment of the potential for habitats present to support legally protected species. Relevant species were considered to include all those protected by UK law, and notable species including those identified as being of principal importance in Wales, in response to Section 7 of the Environment (Wales) Act 2016 (Appendix A). The assessment surveys of the habitats to support relevant species included:

- Any buildings or trees within the boundary and within 30m were appraised (from the ground only) for their suitability to support breeding, resting and hibernating bats using survey methods based on those outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines[14].
- Searching for signs of badger *Meles meles* activity including setts, tracks, foraging holes and latrines within and up to 30 m from the Site where possible[15].
- Assessing the suitability of habitats for hazel dormice *Muscardinus avellanarius* [16].
- Assessing the suitability of watercourses for water vole *Arvicola amphibius*[17], otter *Lutra lutra*[18] and white-clawed crayfish *Austropotamobius pallipes*[19].
- Assessing the suitability of habitats for nesting birds (including any old nests);
- Assessing the suitability of habitats for common species of reptiles; adder, *Vipera berus*, grass snake *Natrix helvetica*, slow worm *Anguis fragilis* and common lizard *Zootoca vivipara*[20].
- Assessing the potential of terrestrial and aquatic habitats to support amphibians, both protected species and species of conservation concern, including a Habitat Suitability Index (HSI) assessment[21] for waterbodies within the Site boundary.
- Assessing the suitability of habitats for notable invertebrates.
- Evidence of the presence of invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and/or The Invasive Alien Species (Enforcement and Permitting) Order 2019 and subject to strict legal control, such as Japanese knotweed *Reynoutria japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*.

All accessible areas of the Site were walked, and the relevant habitat types classified according to their vegetation types. Habitat areas were mapped on the Extended Phase 1 Habitat Survey Plan (Figure 4) and

[13] JNCC, (2010), Handbook for Phase 1 habitat survey – a technique for environmental audit, JNCC, Peterborough, ISBN 0 86139 636.

[14] Collins, J. (2016). Bat Surveys: Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.). The Bat Conservation Trust, London.

[15] Harris, S., Cresswell, P. and Jefferies, D., 1989. Surveying Badgers. Mammal Society.

[16] Bright. Paul, Morris. P, Mitchell Jones, T. (2006). The Dormouse Conservation Handbook 2nd ed. English Nature.

[17] Dean, M. *et al.* (2016). The Water Vole Mitigation Handbook (The Mammal Society Guidance Series). The Mammal Society, London.

[18] Chanin, P. (2003). Monitoring the Otter, *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10., English Nature, Peterborough.

[19] Peay, Stephanie (2002). Guidance on Habitat for White-clawed Crayfish and its restoration. Environment Agency.

[20] Gent, T. & Gibson, S. (2003). Herpetofauna Workers Manual. Joint Nature Conservation Committee, Peterborough.

[21] Odiham *et al.* (2000). in ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index.

Target Notes (TNs) were used to highlight any features or habitats of interest such as features that provide suitable habitat for protected species.

2.4 Limitations

Biological records obtained from third parties and presented in the desk study do not represent a full and complete species list for the area. Often there are areas of data deficiency as these records are mostly provided on an ad-hoc basis. For this reason, a particular species should not be disregarded if records were not returned within the biological data search as it may be a result of lack of survey effort opposed to an indication of the species absence.

The findings presented in this report represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys can be limited by factors affecting the presence of plants and animals, such as the time of year, migration patterns and behaviour. For example, the Extended Phase 1 Habitat survey was undertaken in August and may therefore have missed earlier flowering species.

Whilst not a full protected species or botanical survey, an Extended Phase 1 Habitat survey allows an experienced ecologist to obtain a sufficient understanding of the ecology of a Site in order to either confirm the conservation importance of the Site and assess the potential for impacts on habitats and species likely to represent a material consideration in planning terms, or to ascertain that further surveys will be required before such confirmation can be made.

The absence of evidence of any species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

3. Baseline Ecological Constraints

3.1 Designated Sites

The desk study identified a number of internationally, nationally and locally designated Sites. Legislation relating to these designations is described in Appendix A.

There is one international statutory designated site, the Severn Estuary, located within 10km of the Site. Severn Estuary Special Area of conservation (SAC), Special Protected Area (SPA) and Ramsar Site is located approximately 1.5km to the east of the Site boundary. The SAC is designated for the presence of Annex l habitats: estuaries, mudflats and sandflats not covered by seawater at low tide, and Atlantic salt meadows. Sandbanks which are slightly covered by sea water all the time and reef habitats are also qualifying features of the SAC, but not a primary reason for the designation. Sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis* and twaite shad *Alosa fallax* are also a primary reason for the sites designation[22]. The SPA is designated due to supporting internationally important populations of regularly occurring Annex 1 and migratory assemblages of wildfowl bird species[23]. The Ramsar Site is designated due to many of the SAC/SPA features but in particular: the presence of the estuary habitat, internationally important migratory fish assemblages and internationally important waterfowl populations largely during winter, and on passage and summer[24].

There are two national statutory designated sites (Sites of Special Scientific Interest (SSSI)) within 2km of the Site, details of which are shown in Table 2 below.

Table 2: National statutory designated sites within 2km of the Site

Site Name	Designation	Distance & Orientation from Site	Description
Severn Estuary	SSSI	1.5km, East	The SSSI falls within the same boundary of the SAC, SPA and Ramsar designation (described above). The SSSI is important for migratory fish, Atlantic salmon *Salmo salar* and European eel *Anguilla anguilla*. The other species are allis shad *Alosa alosa*, the nationally rare twaite shad, the sea trout *Salmo trutta*, sea lamprey and the lampern or river lamprey. The SSSI is of international importance for wintering and passage wading birds, with total winter populations averaging about 44,000 birds[25].
Cwm Cydfin	SSSI	1.3km, Northwest	Cwm Cydfin SSSI is a mixed woodland, with pedunculate oak *Quercus robur*, ash *Fraxinus excelsior*, elm *Ulmus procera*, field maple *Acer campestre* and hazel *Corylus avellana*. The ground flora is varied and especially rich alongside the streams. Cwm Cydfin SSSI is set within a large complex of woodlands in the area, which add value to the site. Cwm Cydfin itself is the valley of a small tributary of the river Ely. The woods adjoin a creek which was formally tidal[26].

No international/national designated sites for bats are located within 10km of the Site.

[22] JNCC, 2015. Natura 2000 – standard data form, Severn Estuary SAC.

[23] JNCC, 2015. Natura 2000 – standard data form, Severn Estuary SPA

[24] JNCC, 2008. Information Sheet on Ramsar Wetlands, Severn Estuary

[25] Countryside Council For Wales, 1989. Site of Special Scientific Interest Citation, Severn Estuary

[26] Countryside Council For Wales, 1985. Site of Special Scientific Interest Citation, Cwm Cydfin

There are a total of ten local non-statutory nature conservation sites within 2km of the Site, nine of these Sites are designated as Sites of Importance for Nature Conservation (SINC), the other site is a B-line [27] which runs through the Site. Details of these sites are shown in Table 3 below.

Table 3: Local non-statutory designated Sites

Site Name	Designation	Distance & Orientation from Site	Description
B-Lines	B-Lines	Within the Site	'Insect Pathways' with the mission to restore and create wildflower and pollinator rich habitat corridors[28].
Cogan Spur	SINC	<0.1km, West	Internal cavity of the A4065 flyover road. Cogan Spur SINC comprises a box girder bridge which supports lesser horseshoe bats *Rhinolophus hipposideros*.
River Ely	SINC	0.1km, West/South	One of the three main rivers within Cardiff, flowing through the city and into Cardiff Bay. The river acts as a major wildlife corridor and is important for migratory fish, otters, wildfowl. Numerous species have been recorded along the river Ely including bats, otter, kingfisher *Alcedo atthis* and barn owl *Tyto alba*.
Grangemore Park	SINC	0.5km, Northwest	Former landfill site now covered by rough unimproved grassland, scrub, plantations, two ponds and some damp ditches. It supports a wide range of animals and plants including common frog *Rana temporaria*, smooth newt *Lissotritan vulgaris* and palmate newt *Lissotriton helveticus*, narrow leaved everlasting pea *Lathyrus sylevestris*, fairy flax *Linum catharticum* and bee orchid *Ophyrus apifera*, skylark *Alauda arvensis* and slow worm.
River Taff	SINC	0.5km, North	One of the three main rivers within Cardiff, flowing through the city and into Cardiff Bay. Important for migratory fish, otters, wildfowl and bankside vegetation and acts as a major wildlife corridor. Bats, otter, salmon, sea trout *Salmo trutta*, grass snake and kingfisher and amongst the diverse species recorded in and around the River Taff SINC.
Factory wood	SINC	0.8km, Northwest	This is an extensive area of dry calcareous woodland occupying a series of steep slopes and stream valleys below Leckwith.

[27] B – lines are a landscape-scale solution to reverse the decline in pollinating insects set up by Buglife and other conservation organisations. A network of 3km wide highways across the UK has drawn up, with the mission of restoring and creating wildflower and pollinator rich habitat. Sites within B-lines are to consider this mission during the planning process.

[28] : https://cdn.buglife.org.uk/2021/03/B-Lines-Report-DIGITAL-01.pdf

Site Name	Designation	Distance & Orientation from Site	Description
			Notable species include autumn lady's tresses *Spiranthes spiralis*, barn owl, bluebell *Hyacinthoides non-scripta*, broad leaved spurge *Euphorbia platyphyllos*, kestrel *Falco tinnunculus*, common nightingale *Luscinia megarhynchos*, and green woodpecker *Picus viridis*.
Cardiff Bay Wetland & Reserve	SINC	0.9km, Northeast	A former salt marsh and a complex of grassland and shallow lagoons which provides feeding and nesting opportunities for many birds including bearded tit *Panurus biarmicus*, Cetti's warbler *Cettia cetti* and little egret *Egretta garzetta*; important populations of wintering birds including snipe *Gallinago gallinago* and teal *Anas crecca*. Species including bats, common frogs and otters are present at this site which is also an important spawning area for coarse fish in Cardiff Bay.
Reservoir Wood	SINC	1.3km, West	Broad leaved deciduous woodland.
Leckwith Pond & Marsh	SINC	1.7km, Northwest	A former saline pond dug as a storm water facility now dominated by reeds.
Case Hill Wood	SINC	1.9km, West	Broad leaved deciduous woodland.

There are a total of twelve Semi-Natural Ancient Woodlands parcels and nine restored ancient woodland sites within 2km of the Site, the closest ancient woodland is within 0.6km of the Site.

3.2 Habitats

The desk study identified that there are two Priority Areas within 2km of the site, these comprise of an NRW Priority Area for Coastal Saltmarsh and an NRW Priority Area for Woodland.

During the field survey, a total of 14 Phase 1 habitats were identified within the Site boundary. In parts of the Site with existing ISV facilities and commercial development, habitats include hard standing, bare ground, amenity grassland, scattered broadleaved trees, hedgerows and introduced shrub associated with the three existing buildings. There are two brownfield parcels on the Site, one located west of Olympian Drive adjacent to Toys R Us and the Toys R Us car park, and one east of Olympic Drive to the north and north-east of the Ice Arena. The latter (see TN5 on Figure 4) can be classified as Habitat of Principle Importance for the purpose of maintaining and enhancing biodiversity in relation to Wales as listed on Section 7 of the Environment (Wales) Act 2016 (henceforth referred to as Priority Habitat) 'open mosaic habitat on previously developed land'[29] and is further described in Section 3.2.1 below.

Other habitats present on the brownfield parcels include an area of mixed semi-natural woodland bordering in part the northwest Site boundary, scrub, and a large area of bare disturbed ground on land west of Olympian Drive. There are no waterbodies within the Site boundary, however the River Ely runs past the site to the south at a distance of approximately 100m, and flows into the Cardiff Bay waterbody which

[29] UK Biodiversity Action Plan Priority Habitat Descriptions, 2010. Open Mosaic Habitats on Previously Developed Land. https://data.jncc.gov.uk/data/a81bf2a7-b637-4497-a8be-03bd50d4290d/UKBAP-BAPHabitats-40-OMH-2010.pdf

surrounds the Site, at its closest being at approximately 80m east. No other standing waterbodies were identified within 0.5km of the Site.

A more detailed description of each of the habitats found within the Site boundary is provided below. The habitats are listed in order of their JNCC Phase 1 Habitat code[13] with the exception of open mosaic habitat which does not correspond directly to any one of these codes. A plan of the habitats present within the Site has been mapped in accordance with Phase 1 Habitat survey codes[13], and can be found in the Phase 1 Habitat survey Map (Figure 4). Target notes taken during the survey and referenced on the Phase 1 Habitat survey Map are included within Appendix B.

3.2.1 Priority Habitat - Open Mosaic Habitat on Previously Developed Land[29]

Priority habitat 'open mosaic habitat on previously developed land' is present in the large undeveloped brownfield parcel north and north-east of the Ice Arena (see TN5 Figure 4). This habitat meets the five qualifying criteria as stated in the UK Biodiversity Action Plan[29] and is formed of successive and transitional plant communities which contain a mix of different Phase 1 habitat types (as shown on Figure 4). These habitats forming the open mosaic include bare ground/ephemeral habitat with pioneer vegetation in early stage of succession, tall ruderal habitat, areas of poor semi-improved grassland in a more advanced stage of succession, scrub habitat, and inundation plant communities (reedbeds mapped as swamp habitat).

3.2.2 Semi-Natural Broadleaved Woodland (A1.1.1)

One area of semi natural broadleaved woodland is present on the Site at the northwest Site boundary between the Site and the A4055 flyover (Figure 1: Site Photos – 1.7). The woodland canopy included pedunculate oak, alder *Alnus glutinosa*, lime *Tila sp.*, spruce sp. *Picea sp.*, grey alder *Alnus icana* and birch sp *Betula sp.* The understory was composed of buddleja *Buddleja davidii*, willow sp. *Salix sp.*, field maple and dog wood *Cornus sanguinea*, ground flora was dominated by bramble *Rubus sp.* and horsetail sp. *Equisetum sp*. This habitat potentially meets criteria to be considered Priority Habitat.

3.2.3 Scrub Dense/Continuous (A2.1)

Areas of dense/continuous scrub exist within the Site boundary. The north boundary and southern section of the west Site boundary (Figure 1: Site Photos – 1.10 & 1.19) have areas of dense scrub borders, there is also a pocket of dense scrub east of Cardiff International Pool (Figure 1: Site Photos – 1.14). The scrub here is dominated by buddleja and willow sp. There is another small area of scrub adjacent to a footpath near the Cardiff International Pool (Figure 1: Site Photos – 1.14), species here include buddleja and willow sp. and introduced shrub species including New Zealand flax *Phormium tenax*, shrubby veronica *Hebe rakaiensis* and *Cotoneaster sp.* (presumed invasive species listed on Schedule 9 of WCA) along with ivy *Hedera sp*. and lavender *Lavandula sp.*

3.2.4 Scrub Scattered (A2.1)

Scattered scrub is mostly found within the brownfield land east of Olympian Drive near Ice Arena Wales. Scrub species include buddleja (Dominant), willow sp. (Dominant), sea buckthorn *Hippophae rhamnoides*, dog wood, bramble, travellers joy *Clematis vitalba* and dog rose *Rosa canina*.

3.2.5 Scattered Broadleaved Trees (A3.1)

Trees are scattered throughout areas of existing infastructure of the Site including the Toys' R Us car park, adjacent to roads and within the amenity grassland areas surrounding Cardiff International Pool. Species included grey alder, elm, London plane *Platanus x hispanica* and birch sp.

3.2.6 Poor Semi-Improved Grassland (B6)

Poor semi-improved grassland is present within the brownfields east and west (Figure 1: Site Photos – 1.6 & 1.8) of Olympian Drive. The poor semi-improved grassland habitat is transitional with the bare ground/ephemeral and tall ruderal habitats within the open mosaic habitat. Vegetation is sparse within this habitat and bare ground is still visible, some areas of this grassland are more species rich and could be considered good semi-improved grassland. This habitat within the open mosaic brownfield area east of Olympic Drive is in a more advanced stage of succession than the ruderal and bare ground/ephemeral habitat to the west of Olympic Drive. Species included: creeping bent *Agrostis capillaris* (Dominant), Yorkshire fog

Holcus lanatus, crested dog's-tail *Cynosurus cristatus*, cock's-foot *Dactylis glomerata*, sweet vernal *Anthoxanthum odoratum*, red clover *Trifolium pratense*, ribwort plantain *Plantago lanceolata*, perforate st john's-wort *Hypericum perforatum*, scentless mayweed *Tripleurospermum inodorum*, pendulous sedge *Carex pendula*, tall melilot *Melilotus altissimus* and common fleabane *Pulicaria dysenterica.*

3.2.7 Tall Ruderal (C3.1)

Tall ruderal vegetation occurs throughout the brownfields. Tall ruderal habitat forms part of the open mosaic habitats. The tall ruderal habitat is species-rich across the Site particularly in the land east of Olympian Drive where this habitat dominates (Figure 1: Site Photos – 1.3). Tall ruderal vegetation is less abundant in the land west of Olympian Drive where bare ground/ephemeral habitat dominates (Figure 1: Site Photos – 1.5). The habitat is transitional within the open mosaic and ruderal species are scattered throughout the bare ground/ephemeral and poor semi-improved grassland habitat. Species composition changes slightly within this habitat across the Site but species found are similar. These species include teasel *Dipsacus fullonum* (Dominant), common fleabane, bristly oxtongue *Hilminthotheca echiodes*, wild carrot *Daucus carota*, knapweed *Centaurea nigra*, yellow wort *Blackstonia perfoliata*, goat's rue *Galega officinalis* (Dominant), willow herb sp. *Epilobium sp.*, tall melilot, horseweed *Erigeron sp.*, spear thistle *Cirsium vulgare*, hawkweed oxtongue *Picris hieracioides*, common hogweed *Heracleum sphondylium*, moss sp. *Bryophytes sp.*, and hard rush *Juncus inflexus.*

3.2.8 Swamp/Reedbed (F1)

An area of swamp/reedbed habitat exists on the brownfield east of Olympian Drive (Figure 1: Site Photos – 1.4). At time of the Phase 1 Habitat survey no standing water was present, but inundation plant species were found including common reed *Phragmites australis* which was mainly located in one area, indicating possible seasonal pooling; this has been confirmed on subsequent Site visits where pools of water have been seen on the bare ground/ephemeral habitat on the brownfield west and east of Olympian Drive. The vegetation was dominated by common reed; hard rush and teasel were also present in this habitat. This habitat potentially meets criteria to be considered Priority Habitat.

3.2.9 Amenity Grassland (J1.2)

Amenity grassland is present on the Site particularly associated with developed land east of Olympian Drive, where it surrounds Cardiff International pool (Figure 1: Site Photos – 1.23). Species include perennial ryegrass *Lolium perenne*, yarrow *Achillea millefolium*, white clover *Trifolium repens*, common bird's-foot trefoil *Lotus corniculatus*.

3.2.10 Ephemeral (J1.3)

Bare ground/ephemeral habitat dominates the brownfield land on both sides of Olympian Drive. The substrate of the brownfield Site is still largely visible where no development has occurred. Much of the Site is vegetated sparsely and is in an early stage of colonisation by plants. Much of this habitat is bare ground with ephemeral vegetation interspersed. The amount of bare ground to ephemeral vegetation differs throughout the Site. This habitat is transitional with the tall ruderal and poor semi-improved grassland habitats. Some areas of this habitat are prone to pooling after heavy rainfall likely due to low permeability of the substrate. Species in the area mapped as bare ground/ephemeral include silver weed *Pontentilla anserina*, scentless mayweed, red clover, common bird's-foot trefoil (locally dominant), creeping cinquefoil *Pontentilla reptans*, yellow wort, common fleabane (locally dominant), ragwort *Jacobaea vulgaris*, willow herb sp., moss sp., perforated st johns' wort, wild carrot (locally dominant) and horsetail sp.

3.2.11 Introduced Shrub (J1.4)

Introduced shrub has been planted around areas of the Site that have been developed, these include the Toys R Us car park, around Cardiff International Sport Village and by the residential area southeast of the Site. Cotoneaster sp. presumed to be Schedule 9 Introduced Non-Native Invasive is present in this habitat, all affected areas have been target noted. Other species include shrubby veronica, shrubby cinquefoil *Pontentilla fruticosa*, fortunes spindle *Euonymus fortuniei*, New Zealand flax and lavender. Native species are also present in this habitat including dog rose, ivy leaved toadflax *Cymbalaria muralis*, ivy, bramble and traveller's joy.

3.2.12 Species Poor Intact Hedges (J2.1.2)

Two species-poor hedges are present within the Site, both are located to the southeast of the Site creating boundaries between public pathways and amenity grassland. They are both dominated by beech *Fagus sylvatica*.

3.2.13 Buildings (J3.6)

Three building exist within the Site boundary, these include the old Toys R Us (Figure 1: Site Photos – 1.24) building west of Olympian Drive, Cardiff International Pool (Figure 1: Site Photos – 1.23) and Ice Arena Wales (Figure 1: Site Photos – 1.22) both to the east. All three buildings are constructed from metal, and all have flat or low gradient sloping roofs.

3.2.14 Bare Ground (J4)

The habitat refers to areas such as car parks and walked tracks where heavy disturbance has resulted in little/no vegetation growth. A large area of bare ground is present to the west of Toys r Us building (Figure 1: Site Photos – 1.9)

3.2.15 Hardstanding (J5)

This habitat refers to roads, paths and car parks where tarmac has been laid. There are large areas of hard standing as the Site is in an urban area and much of the Site has existing infrastructure.

3.3 Species

The potential for the Site to support legally protected species and notable species has been assessed using the results of the desk study, observations made during the Phase 1 Habitat survey and results of surveys conducted prior to this report. Only records from the last 10 years have been considered relevant from the desk study. Further considerations on the likelihood of species presence on Site are detailed below.

3.3.1 Birds

The data search returned 127 records of protected and notable bird species, of which 36 are Schedule 1 species, 33 are Section 7 species, 36 are RSPB UK Birds Red list species, and 34 are RSPB Welsh Birds Red list species. There are two records of bird species listed on Cardiff's LBAP[7], these are European pied flycatcher *Ficedula hypoleuca* recorded 1406m form Site and hawfinch *Coccothraustes coccothraustes* recorded 2088m from Site. Due to the volume of records, the Schedule 1 records returned from the data search are detailed in Appendix C.

There are records of six non-native Schedule 9 bird species (species that are established in the wild). These include: Canada Goose *Branta canadensis*, Black Swan *Cygnus atratus*, Egyptian goose *Alopochen aegyptiaca*, ring-necked parakeet *Psittacula krameri*, snow goose *Anser caerulescens* and mandarin duck *Aix galericulata*.

Bird species recorded during the Phase 1 Habitat survey included house martin *Delichon urbicum*, sand martin *Riparia riparia*, swallow *Hirundo rustica* and starling *Sturnus vulgaris*. The woodland, scrub, grassland, reedbed and open mosaic habitats found on the Site are likely to provide nesting habitat for a range of bird species, as could the old Toys R us building and A4055 Flyover structure. Given the proximity to the Severn Estuary, there is potential that the Site could support overwintering and passage birds that form part of the designation feature of the Severn estuary SAC, SPA, Ramsar Site.

3.3.2 Bats

The desk study returned 393 records of bats within 2km of the Site. A total of eight species were recorded these included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, brown long-eared *Plecotus auritus*, lesser horseshoe, Daubenton's *Myotis daubentonii*, whiskered *Myotis mystacinus* and noctule *Nyctalus noctula*.

There are records of a lesser horseshoe roost within the Cogan Spur SINC, an access tunnel within the A4055 flyover within 10m of the northeast site boundary (Figure 1: Site Photos – 1.11).

Preliminary roost inspection of buildings and trees on Site/in proximity to Site identified two structures offering potential for roosting bats, namely the old Toys R Us building and the A4055 flyover structure. Close inspection determined that the old Toys R Us building had moderate potential for roosting bats due to a loose section of roofing on the northwest corner (see TN3 on Figure 4), whilst the ICE Arena and Cardiff International Pool offer negligible potential. An additional three buildings are partly within the Site boundary, these buildings are all high-rise residential block, roost suitability assessment was difficult to assess but suitability appeared negligible. An additional structure associated with the Toys R Us building is present on Site, a large cylindrical metal tanker with negligible suitability for roosting bats. The A4055 flyover structure was assessed as offering high suitability to roosting bats due to access points being present to the service tunnel under the bridge deck, in numerous locations (see TN4 Figure 4). All trees on Site have been assessed as negligible in regard to suitability as roosts.

The vegetated brownfield areas is likely to offer good opportunities for foraging bats. The woodland and dense scrub are likely to offer good linear features for navigation locally, aiding bats commuting across the Site and into the wider landscape. The broadleaved woodland has potential to be particularly important due to connectivity with the previously known roost of lesser horseshoe bats within the A4055 access tunnel.

3.3.3 Badger

The desk study returned one record of badger, which was 817m from the Site.

No badger setts or signs of badger activity were observed during the Phase 1 Habitat survey. Suitable habitat in the form of semi natural broadleaved woodland and scrub does exist on the Site. The woodland and scrub areas are not extensive; however, the Site does have limited connectivity to the wider landscape. Due to the urban setting of the Site and proximity to major roads badger presence is unlikely.

3.3.4 Otter

The desk study returned 1 record of otter 1170m from the Site.

Otters are widely reported to be present in the wider area of Cardiff Bay. Both the River Taff and River Ely, which are near to the Site, have known records of otters and could be used for foraging and commuting.

No evidence of otter was observed during the Phase 1 Habitat survey. The semi natural woodland on the Site does offer potential holt creation habitat, although the woodland is small it does have limited connectivity with the wider landscape. Due to high disturbance the Site experiences due to its urban setting and the major roads around it, suitability is considered limited, and regular presence is unlikely.

3.3.5 Water Vole

There are no records of water vole returned within the desk study.

Lack of water bodies on Site and lack of suitable waterbodies in the vicinity of the Site makes water vole presence unlikely on Site as such they are not considered further within this report.

3.3.6 Hazel Dormouse

There are no records of hazel dormouse returned within the desk study.

A small area of semi-natural woodland provides limited potential to dormice; due to its small size and lack of connectivity to other suitable habitat in the wider area it is considered the Site is unlikely to support dormice and as such they are not considered further within this report.

3.3.7 Other Mammals

The desk study returned 21 records of other mammal species not already mentioned in this section within 2km of the Site. Most of the records were of hedgehog *Erinaceus europaeus* with the closest recorded 438m from the Site, a record of both a polecat *Mustela putorius* and weasel *Mustela nivalis* were also returned.

The Site provides suitable habitat for certain mammal species including field vole *Microtus agrestis* and hedgehog particularly due to the urban setting of the Site as hedgehogs are known to utilise a range of urban habitat. Brash and log piles are scattered through the Site offering suitable nesting habitat for hedgehogs (Figure 1: Site Photos 1.25 & 1.26).

3.3.8 Reptiles

The desk study returned nine records of reptiles within 2km of the Site. Of these records eight are of slow worm with the closest record 991m from the Site. There is a single record of grass snake recorded 1245m from the Site.

were found during reptile surveys undertaken between September to October 2022, despite suitable habitat existing on site.

Suitable habitat and refugia exist for reptiles on the Site. The tall ruderal, grassland, scrub and woodland habitats offer foraging opportunities, and the ephemeral and bare ground is suitable for basking reptiles. There are a number of log/brash piles scattered across the brownfield parcels (see TN1 Figure 4) that may act as refugia/hibernaculum for reptiles on Site.

3.3.9 Amphibians

There are 12 records of amphibians including common frogs and toads within 2km of the Site. The closest record is of a common toad 250m from the Site.

No amphibians were observed during the Phase 1 Habitat survey. No areas of standing water existed on Site at time of Phase 1 Habitat survey, however on subsequent visits after heavy rain temporary pools of water have been observed. There is no connectivity to other waterbodies within 500m of the Site for amphibians; the river Taff to the east and Ely to the west also act as barriers to dispersal. The Site does offer limited suitable terrestrial habitat for amphibians but owing to the lack of records, waterbodies and connectivity to surrounding standing waterbodies, it is considered unlikely the Site will support significant populations of amphibians.

The site is not likely to support the protected great crested newt *Triturus cristatus* due to lack of records and suitable waterbodies, as such this species is not considered further within this report.

3.3.10 Fish

The desk study returned 1 record of Section 7 listed Atlantic salmon 768m from the Site.

There are no suitable habitats for fish on the Site, but the River Taff, River Ely, Cardiff Bay waterbody and Severn Estuary provide suitable habitat for a variety of fish species, and are located within 1km of the site, with the River Ely being the closest at approximately 100m from the Site boundary.

3.3.11 Invertebrates

The desk study returned 61 records of invertebrates within 2km of the Site. A total of 29 of the records are Section 7 listed species, these records are detailed in Appendix C. A record of silver washed fritillary *Argynnis paphia*, a species with a LBAP for Cardiff was identified, this record was 1208m from the Site. The data search returned records of two Invasive Non-Native Species (INNS): Harlequin ladybird *Harmonia axyridis* 758m from the Site, and western conifer seedbug *Leptoglossus occidentalis* 1357m from the Site.

Brownfield sites have potential to support rare and notable invertebrate species. The range of habitats on the Site provide a varied food source potentially supporting a rich assemblage of invertebrate species.

Presence of white clawed crayfish is not considered likely due to lack of suitable waterbodies within the site, as such there are no further considerations within this report.

3.3.12 Native Plants

The desk study returned 62 records of protected or notable native plant species within 2km of the Site. These include one Section 7 (Environmental Act Wales 2016) listed species, one Schedule 8 (Wildlife and Countryside Act 1981) listed species, 5 Red Data Book listed plants for Wales, 6 Red Data Book listed plants for UK. Species within these lists include:

- Cornflower *Centaurea cyanus* which is a Section 7 listed species, closest record is 838m to the Site;
- Jersey cudweed *Helichrysum luteoalbum* which is a Schedule 8 listed species, closest record is 1265m to the Site;

During the field survey yellow wort, which is listed in Cardiff's LBAP, was recorded. Much of the Site is assessed as open mosaic habitat with flower rich ruderal vegetation dominating in areas. These areas particularly have potential to support protected and notable plant species not recorded during the Phase 1 Habitat survey.

3.3.13 Introduced Non-Native Plant Species

The desk study returned 78 records of introduced non-native plant species within 2km of the Site. These records include 21 species of which nine are Schedule 9 listed species. Schedule 9 Invasive non-native species within 2km of the Site included: Japanese knotweed *Reynoutria japonica*, montbretia *Crocosmia x crocosmifolia*, Indian balsam *Impatiens glandulifera*, floating pennywort *Hydrocotyle ranunculoides*, giant hogweed *Heracleum mantegazzianum*, three cornered garlic *Allium triquetrum*, cotoneaster sp., wall cotoneaster *Contoneaster horizontalis* and Japanese rose *Rosa rugosa*.

During the Site visit one presumed Schedule 9 listed species cotoneaster sp. was observed in multiple areas of the Site (TN 2 Figure 4). The plant is particularly associated with introduced shrub habitats on Site, where it was likely introduced as part of the planting scheme for the areas of the Site where development has occurred. All Schedule 9 Invasive species have been target noted, see Figure 4 for locations. A large area bordering the north of the Toys R Us car park is dominated by cotoneaster sp (Figure 1: Site Photos – 1.12).

4. Interpretation and Recommendations

Sensitive ecological receptors which could be impacted by the site redevelopment are discussed in more detail below. Recommendations for further consultation, further species surveys or general best practice mitigation to minimise impacts of the proposed works on habitat and species are stated below, in line with PEA guidance[30]. Opportunities to enhance biodiversity are also recommended in this section.

4.1 Designated Sites

The Severn Estuary SAC, SPA, SSSI and Ramsar Site is located approximately 1.5km to the east of the Site. Given the proximity of the proposed development to the Severn Estuary there is the potential for the proposed development to result in impacts to the designated features, most notably its importance to overwintering and migratory birds. A Habitat Regulations Assessment (HRA) Stage 1 Screening is recommended to assess the potential for a Likely Significant Effect from the project to the Severn Estuary SAC, SPA and Ramsar Site. As a result of case law as ruled by the European Court of Justice[31], mitigation measures cannot be included within the Screening stage of HRA, and therefore any potential pathways for effect will need to be evaluated within a Stage 2 Appropriate Assessment. For any planning applications, the Local Planning Authority (LPA) will also require a copy of the Appropriate Assessment as it is assumed they would become the 'competent authority'. If there are pathways for effect from the project to the Severn Estuary SSSI, SSSI assent will need to be applied for.

Cwm Cydfin SSSI is located upstream of the proposed project and although no pathway for effect is anticipated, this should be reviewed once full project details are known to ensure that no mobile species are affected.

Land designated as Cogan Spur SINC borders part of the northern boundary of the Site, which is also directly adjacent to River Ely SINC. Several other SINCs are located within 2km with potential pathways for effect existing between the proposed project area and the SINC. Development proposals should seek to avoid impacts to the habitats and species for which the SINCs are designated. Where this is not possible, any loss or damage of valuable habitats should be minimised. Any loss of habitat within an SINC would need to be adequately mitigated or compensated in order to comply with local planning policy. Early consultation with the LPA in relation to the SINCs is recommended.

A key insect and pollinator pathway has been identified as running through the site area. This has been formalised through identification as a B-line[28] by bug life. The B-Line network is designed to identify connections for insect 'super-highways' that would help reconnect our landscapes, enabling pollinators and other wildlife to move freely and support natures recovery. It is recommended that the design of the project includes landscaping that provide enough insect and pollinator habitat to allow this highway to function effectively in its role of connecting adjacent habitats and providing important food sources for insects.

4.2 Habitats

Several of the habitats within or directly adjacent are likely to be considered habitats of principal importance for the conservation of biodiversity as listed on Section 7 of the Environment (Wales) Act 2016 (priority habitats). These are summarised below:

- Open Mosaic Habitat on previously developed land;
- Lowland Mixed Deciduous Woodland; and
- Reedbeds

[30] Chartered Institute of Ecology and Environmental Management (CIEEM) (2017). Guidelines for Preliminary Ecological Appraisal. Second Edition. Available online at: https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/ (accessed 09/04/20).

[31] ECJ (2018). People over Wind, Case C323/17 European Court of Justice, 12th April 2018.

The above list is based on a preliminary appraisal of the ecological value within the Site. Therefore, a National Vegetation Classification (NVC)[32] survey is recommended. These additional surveys will provide more detail on the botanical composition of the habitats present within the Site and allow a more accurate assessment of their value.

Development proposals at the Site should seek to avoid impacts to habitats of ecological value. Where avoidance of such habitat is not possible, their loss or damage should be minimised. Any loss of valuable habitat should be adequately mitigated or compensated in order to comply with national and local planning policy. The results of further surveys should be used to refine priorities for habitat retention within the development design, and to inform mitigation design for unavoidable losses of valuable habitats.

4.3 Species

There is potential for several protected or notable faunal species to occur at the Site. These species represent constraints to the development of the Site as summarised below.

4.3.1 Bats

Bats are protected under the WCA and the Conservation of Habitats and Species Regulations They are protected from disturbance, capture, injury and killing and their roosts are protected from obstruction, damage or destruction.

A preliminary ground assessment of all trees and buildings within and adjacent to the Site was carried out during the Phase 1 Habitat survey to confirm the presence of potential bat roosting features and or signs of bat roosting, in accordance with best practice guidance[14]. Two structures were identified as offering suitability to roosting bats. The old Toys R Us building and the A4055 flyover were identified as offering moderate and high suitability, respectively. The A4055 flyover is a known lesser horseshoe roost and designated as a SINC for this reason.

Furter surveys are required on these structures as there is potential for disturbance within 30m of these structures and modification to the Toys R Us building from the proposed development. Further surveys should be undertaken to confirm presence/likely absence of roosting bats in line with good practice guideline[14]. These will comprise of two emergence/re-entry surveys at the old Toys R Us building (assessed as offering moderate suitability) and a combination of emergence/re-entry and internal inspections at the A4055 flyover (assessed as high suitability). Emergence and re-entry surveys should optimally be undertaken between May and August, but surveys can also be undertaken in April and September, it is recommended that one of the surveys for the A4055 flyover is undertaken within the maternity season (May to July) to determine if the structure is used as a breeding site. Internal hibernation surveys are recommended on the A4055 which is assessed as additionally offering hibernation potential. A minimum of two surveys are recommended, one in mid-January and one in mid-February in accordance with best practice guidance[14]. Static bat activity monitoring is recommended within the structure to confirm presence/likely absence, and species present during the hibernation season. Static bat activity monitoring should be carried out for two weeks in each month from December to February[14].

If any bat roosts are found and are likely to be disturbed by the works, a European Protected Species development licence will be required from NRW.

Due to the presence of habitats within the Site being of potential value for foraging and commuting bats, it is also recommended that static bat activity monitoring is undertaken monthly from September - October 2022 (this has been carried out and results are to be reported at later date) and April - August 2023 in accordance with best practice survey guidance[14]. This monitoring should aim to identify any flight lines for bats particularly associated with the A4055 flyover where a woodland and scrub habitats border the northern boundary of the Site.

The results of further surveys should be used to assess the potential impacts of development proposals on bats. Bat roosts and important foraging and commuting features should be retained alongside development where possible. Any indirect impacts to roosts, such as lighting and habitat fragmentation, should also be

[32] Rodwell *et al*. (1991) National Vegetation Classification Survey.

considered within the detailed development design. Where the loss of bat roosts is unavoidable, an appropriate bat mitigation strategy will be required, to include replacement roost provision.

4.3.2 Breeding Birds

All wild birds, their young and nests are protected under the WCA from taking, injury and killing. Birds under Schedule 1 of the WCA are also protected against disturbance while nesting.

A breeding bird survey is recommended in all suitable habitats within the Site in accordance with good practice guidelines[33,34], to confirm breeding species and distribution.

4.3.3 Wintering Birds

Habitats within the Site could be utilised for overwintering birds, such as those that form part of the designating features of the Severn Estuary SPA and Ramsar Site. Wintering bird surveys are required at both low tide and high tide to determine whether the Site is being used as a roost, also to detect foraging/loafing as part of the functional habitat.

4.3.4 Reptiles

Reptiles are protected from reckless or intentional harm under the WCA.

Given the presence of suitable reptile habitats, in the forms of grassland, tall ruderal, scrub, and woodland, a reptile survey of these habitats is recommended, to determine presence/likely absence, population size and distribution. This should follow best practice guidelines[20],[35].

The results of the surveys should be used to assess the potential impacts of development proposals on reptile. Where reptiles are confirmed to be present, suitable habitats within the Site should be retained alongside the development where possible. Where the loss of reptile habitats is unavoidable, an appropriate reptile mitigation strategy will be required, which will favour on site displacement through habitat manipulation techniques and habitat enhancement for the displaced population over the translocation of reptiles off site. This mitigation strategy will need to be agreed with the LPA.

4.3.5 Badger & Otter

Badgers are protected under the Protection of Badgers Act 1992. They are protected from disturbance (while in their setts), injury and killing. Setts are also protected from obstruction, damage or destruction. Otters are protected under the WCA and Habitat Regulations (as amended). Under this legislation, they are protected from disturbance, capture and injury/killing. Their breeding Sites and resting places are also protected from damage and destruction.

No signs of either species were found during the Phase 1 Habitat survey and suitable habitat on the Site is limited to the small area of semi natural mixed woodland. The woodland is small and has limited connectivity, due to this and the urbanised setting of the Site which is surrounded by busy roads both species are considered unlikely to be using the Site. A pre-construction survey of the Site is recommended 8-12 weeks prior to any works on Sites focusing on the woodland where there is limited potential for sett creation. The pre-construction check will also pick up any otter holts. Like badgers, otters (protected under the WCA and Habitat Regulations) are also considered unlikely to be using the Site but a precautionary approach should be taken to this consideration. The retention of existing habitats and the design of new habitat corridors within the Site should consider habitat requirements of badgers and otters, with a focus on maintaining permeability across the Site for these species.

[33] Bibby, B.B., (2000). Bird Census Techniques. London: Academic Press.

[34] Gilbert, G.G., Gibbons, D.W. and Evans, J.,(1998). Bird Monitoring Methods: A manual of techniques. Bedfordshire, RSPB.

4.3.6 Hedgehog & other Small Mammals

Hedgehog are a Priority Species in accordance with Section 7 of the Environment (Wales) Act 2016 and must be considered during the planning process.

There are suitable habitats within the Site for hedgehog and other small mammals including scrub, open grassland, and woodland edge. The retention of existing habitats and the design of new habitat corridors within the Site should consider habitat requirements of hedgehog and other small mammals (e.g field vole), with a focus on maintaining permeability across the Site for these species.

All mammals are protected under the Mammal Act 1996 safeguarding them from mortality/injury. Therefore, vegetation clearance should consider how impacts will avoid and may require supervision from a qualified ECoW.

4.3.7 Invertebrates

The mosaic of habitats within the Site, are likely to support a range of notable invertebrates. As such an invertebrate survey is recommended, to establish notable species present, their distribution and key habitat features for invertebrates within the Site. Where important populations of invertebrates are identified, the design of the development should seek to retain the habitats of value to these invertebrate assemblages alongside the development where possible. Where the loss of notable invertebrate habitats is unavoidable, an appropriate mitigation strategy will be required to safeguard the local invertebrate population.

4.3.8 Introduced Non- Native Invasive Species

Schedule 9 of the WCA makes facilitating the spread of listed invasive species, an offence. Cotoneaster sp. presumed to be Schedule 9 was identified on the Site.

Invasive Non-Native Species (INNS) can require multiple years of treatment to eradicate them from a Site. It is therefore recommended that a specialist INNS contractor be appointed to undertake a detailed survey of the Site and develop a management strategy for the INNS present at the Site. In the interim, areas of INNS should be clearly marked and a 10m buffer zone be established around them to ensure any pre-construction survey works do not inadvertently spread INNS and thereby commit an offence under the aforementioned legislation.

4.4 Mitigation & Enhancement Opportunities

Mitigation and enhancement opportunities will be subject to the results of further surveys recommended above in Section 4. Detailed mitigation and enhancement opportunities will be in accordance with existing ecological baseline of the Site, which will be collated and reported in an Ecological Impact Assessment (EcIA) following the recommended surveys as stated in this report.

During the construction phase notable species and habitats will need to be safeguarded, Method Statements and a Construction Environmental Management Plan (CEMP) will likely need to be produced detailing safeguards during construction and vegetation clearance. INNS management plan should be produced by a specialist INNS contractor in order to prevent the spread of these species during construction and eradicate where possible. Toolbox talks for specific ecological receptors identified on Site will likely need to be delivered by a suitability qualified ecologist to contractors working on the Site.

If any proposed development has potential to impact EPS, consultation with NRW will be sought and an EPS development licence will likely be required to carry out the works.

A recent CIEEM briefing paper (2022)[2] outlining 'Welsh Government's Approach to Net Benefits for Biodiversity and the DECCA Framework in the Terrestrial Planning System' sets out that any development must demonstrate that it has both maintained and enhanced biodiversity and built resilient ecological networks. Details and specific enhancement opportunities demonstrating increased biodiversity and ecosystem resilience will be provided on completion of recommended surveys as part of the design process and may include:

- Retention and management of habitats of 'principal importance for the conservation of biodiversity' where possible;

- Creation of a range of habitats on the post-development Site to increase diversity at multiple scales;
- Habitat creation (subject to further survey results), e.g. bat boxes, bird houses, ponds, log pile/brash piles to encourage invertebrates and also act as refugia to reptiles, amphibians, hedgehogs and small mammals;
- Retention and enhancement of important wildlife corridors to increase connectivity through Site and to wider landscape;
- Creation of green roofs or green walls on proposed buildings, with species mix planted to be considered following invertebrate survey and requirements;
- Planting regimes with native species focusing on improving diversity while considering climate change affects, replacing existing areas of introduced shrub;
- Nature based solutions for drainage systems and water capture; and
- Lighting requirements for sensitive species.

Long-term management plans will be required for any notable retained habitats as well as and newly created habitats to ensure the desired objectives for biodiversity are achieved. Such plans should clearly set out roles and responsibilities and include adequate ecological monitoring to inform ongoing management actions.

5. Summary and Conclusions

There is one internationally designated wildlife Site, the Severn Estuary SAC, SPA, Ramsar Site, within 10km of the Site. Two nationally designated Sites, and numerous locally designated Sites occur within 2km of the Site, including the Severn Estuary SSSI and Cwm Cydfin SSSI.

It is considered likely that habitats present on Site meet criteria of Section 7 habitats of principal importance including, open mosaic on previously developed land, reedbeds, and lowland mixed deciduous woodland. Other habitat present on the Site include: tall ruderal, ephemeral, bare ground, poor semi-improved grassland, dense continuous scrub, scattered scrub, species poor intact hedgerow, amenity grassland, scattered trees, introduced shrub, buildings and hardstanding.

The Site has the potential to support bats, birds, invertebrates, hedgehog, badger, otter and other Section 7 species, including rare notable and localised plant species.

Further surveys have been recommended to provide additional information on the presence/likely absence of protected species within the Site.

- Emergence bat surveys of Toy's R Us building and A4055 flyover;
- Internal bat surveys of A4055 over hibernation season;
- Bat activity surveys;
- Wintering and breeding bird surveys;
- Reptile surveys;
- Invertebrate surveys;
- NVC surveys to make determination on priority habitats; and
- Pre-construction surveys for badger and otter 12 weeks prior to construction.

On completion of these further surveys, it may also be necessary to provide additional recommendations for avoidance/mitigation measures with regard to these species and habitats. In addition, precautionary methods of working have been recommended to avoid potential impacts to species/habitats during the proposed works.

Cotoneaster sp. presumed to be Schedule 9 was identified on the Site. It is recommended that a specialist INNS contractor be appointed to undertake detailed survey of the Site and develop an invasive species management plan for the Site.

Mitigation and enhancements proposed for the Site include retention and management of priority habitats, habitat creation for protected species found on Site, retention and enhancement of wildlife corridors, incorporation of green roofs on any proposed buildings, planting regimes of native species focusing on biodiversity and climate change that replace existing introduced shrub planting, lighting requirements, and nature-based solution for drainage systems and water capture.

This report is the result of survey work undertaken in August 2022. This report refers, within the limitations stated, to the condition or proposed development of the Site at the time of the inspections. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. It is also advised that if there is a delay of over two years in undertaking the works, an updated walkover survey is undertaken to ensure the baseline conditions have not changed. No warranty is given as to the possibility of future changes in the condition of the Site.

This report is produced solely for the benefit of the Cardiff Council and no liability is accepted for any reliance placed on it by any other party. This report is prepared for the proposed uses stated in the report and should not be used in a different context.

Figures

Figure 1: Site Photos

Figure 1.1 Brownfield east of Olympian Drive behind Ice Arena Wales

Figure 1.2 Brownfield east of Olympian Drive north of Ice Arena Wales (photo facing west) – Ephemeral plant community with scattered scrub in Open Mosaic Habitat

Figure 1.3 Brownfield east of Olympian Drive north of Ice Arena Wales (photo facing east) – Ruderal plant community in Open Mosaic Habitat

Figure 1.4 Brownfield east of Olympian Drive north of Ice Arena Wales – Swamp plant community in Open Mosaic habitat

Figure 1.5 Brownfield west of Olympian Drive west of Toys R Us (photo facing west) – Ephemeral community on bare ground

Figure 1.6 Brownfield west of Olympian Drive west of Toys R Us (photo facing northeast) – poor semi-improved grassland transitioning into ephemeral

Figure 1.7 North border of brownfield west of Olympian Drive – Mixed semi-natural woodland

Figure 1.8 Brownfield west of Olympian Drive showing Toys R Us building (TN3 Figure 4) – poor semi-improved grassland transitioning into ephemeral

Figure 1.9 Disturbed bare ground west of Toys R Us building

Figure 1.10 Southern border of land west of Olympian Drive – Scrub habitat

Figure 1.11 Access Tunnel entry of A4055 flyover (TN4 Figure 4)

Figure 1.12 Northern boundary of Toys R Us car park – Hedgerow dominated by presumed Schedule 9 INNS cotoneaster

Figure 1.13 South of Cardiff International Pool – area of scrub/introduced shrub

Figure 1.14 Land southeast of Site, by Cardiff International Pool (photo facing west) – amenity grassland bordered by scrub

Figure 1.15 Land southeast of Site, by Cardiff International Pool (photo facing southeast) – amenity grassland

Figure 1.16 Southern Site boundary opposite Cardiff International Pool – hedgerow bordering residential car park and public footpath

Figure 1.17 Olympian Drive south of Site facing north – amenity grassland on east and scrub hedgerow on west, with scattered trees on both sides and within road island

Figure 1.18 Olympian Drive North of Site facing south – scrub on west between footpath and car park and hard standing around Ice Arena Wales on west

Figure 1.19 Olympian Drive roundabout south of Site – dense continuous scrub forming hedgerow around southern boundary around Toys R Us building

Figure 1.20 Toys R Us car park (photo facing northeast) – area of hardstanding with pockets of introduced shrub

Figure 1.21 Car park east of Cardiff International Pool and Ice Arena Wales – Area of hardstanding

Figure 1.22 Ice arena Wales

Figure 1.23 Cardiff International Pool

Figure 1.24 Old Toys R Us building

Figure 1.25 Brownfield east of Olympian Drive, in northeast corner of Site – log pile (TN1 Figure 4)

Figure 1.26 Brownfield east of Olympian Drive, north boundary of land – log pile (TN1 Figure 4)

Figure 2: Statutory Designated Sites

A3

14/11/2022 11:05

Red line boundary
Ramsar
SAC
SPA
SSSI

Coordinate System: OSGB 1936 / British National Grid

Metres
0 287.5 575 1,150

Rev	Date	By	Chkd	Appd	Authd
P01	11/11/2022	SJ	CE	PC	--

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Client
Cardiff Council

Project Name
Cardiff International Sport Village

Drawing Title
Statutory Designated Sites

Scale at A3
1:22,000
Role

Suitability
S2

Project Number
288353-00

Rev
P01

Drawing Number
Figure 2

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Figure 3: Designated Sites (showing non-statutory designated sites)

Figure 3 Designated sites map from the public pdf report LERC Reference: 0223-354, Dated 05-Aug-2022, provided by Aderyn LERC Wales' Biodiveristy Information & Reporting Database.

Figure 4: Phase 1 Habitat Map

A3

11/11/2022 12:39

- Red line boundary
- TN - Target note
- A3.1 - Broad-leaved parkland/scattered trees
- A1.1.1 - Broadleaved woodland - semi-natural
- A2.1 - Scrub - dense/continuous
- A2.2 - Scrub - scattered
- B6 - Poor semi-improved grassland
- C3.1 - Other tall herb and fern - ruderal
- F1 - Swamp
- J1.2 - Cultivated/disturbed land - amenity grassland
- J1.3 - Cultivated/disturbed land - ephemeral/short perennial
- J1.4 - Introduced shrub
- J2.1.2 - Intact hedge - species-poor
- J3.6 - Buildings
- J4 - Bare ground
- J5 - Gravel/hard standing

Coordinate System: British National Grid

Metres

0 25 50 100

Rev	Date	By	Chkd	Appd	Authd
P01	02/11/22	SJ	CE	PC	

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Project Name
Cardiff International Sports Village

Drawing Title
Phase 1 Habitat Survey Results

Scale at A3
1:2,000

Role

Suitability
S2

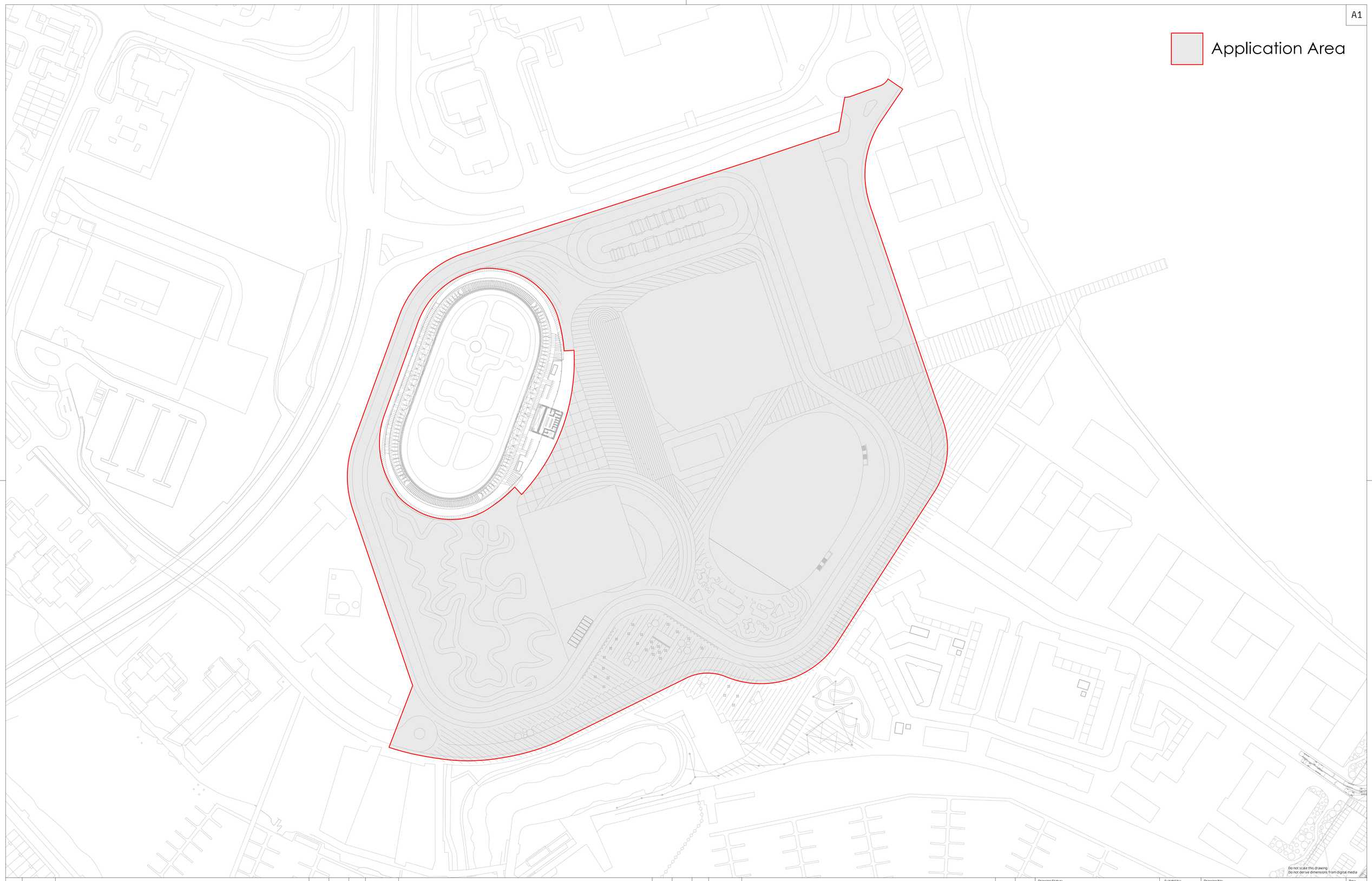
Project Number
288353-00

Rev
P01

Drawing Number
Figure 4

Figure 5: Masterplan of Post Development Site

A1



Rev	Date		Drawn By	Checked By
-	25/05/22	SKETCH ISSUED	AS	-
-	19/08/22	REDLINE UPDATED	AS	-

Rev	Date	Revision Notes	Drawn By	Checked By

Rev	Date	Revision Notes	Drawn By	Checked By

Drawing Status: Information

Suitability: -

Drawing No: FB-SK-3895-AS-220525-001

Rev: -

Job Title: Cardiff ISV Masterplan

Job No: 3846

Drawing Title: Red Line Drawing

Date: 22/05/25

Scale: 1 : 1000

Drawn By: Author

Checked By: Checker

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Appendix A

Legislation

A.1 Legislative Context

A framework of international, European, national and local legislation and planning policy guidance exists to protect and conserve wildlife and habitats. This is described in the following sections. The reader will refer to the original legislation for the definitive interpretation.

A.2 Designated Sites

A network of nationally designated Sites has been established through the designation of Sites of Species Scientific Interest (SSSI) and National Nature Reserves (NNR) under the Wildlife and Countryside Act 1981 (as amended). The protected afforded by the Act means it is an offence to carry out or permit to be carried out any operation listed within the notification without the consent of the Statutory Nature Conservation Organisation[36] (Natural Resources Wales).

The protection afforded to SSSIs is used to underpin the designation of areas at an International (European) Level. International Sites comprise Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites protected under the Conservation of Habitats and Species Regulations 2017 (as amended) (also known as the Habitat Regulations) and the International Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention).

Wetlands of International Importance (Ramsar Sites) declared under the Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 are normally also notified as SSSIs but are only considered International Sites as a matter of UK and Local Government Policy.

The Habitats Regulations transpose the requirements of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) in to law within England and Wales, while the Wildlife and Countryside Act transposes Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive) in the law within England and Wales. Equivalent legislation exists to transpose these directives in the law within Scotland and Northern Ireland.

The Habitats Regulations require that consideration is given to the implications of plans and projects (developments) on International Sites are considered. Specifically Regulation 63(1) states:

“A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which –

(a) is likely to have a significant effect on a European Site or European marine Site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of that Site,

must make an appropriate assessment of the implications for that Site in view of that Site’s conservation objectives.”.

The formal consideration of effects on International Sites is therefore undertaken by the determining authority such as the LPA.

Local Nature Reserves (LNRs) can be given protection against damaging operations through powers within the National Parks and Access to the Countryside Act 1949 (as amended). However, this protection is usually conveyed through inclusion of protection within local planning policy relating to these Sites and other non-statutory Sites such as Sites of Importance for Nature Conservation.

These Sites are protected by the relevant legislation regardless of whether planning permission is required. Where planning consent is required, they will also be protected by Planning Policy.

[36] Section 28 of the Wildlife and Countryside Act 1981 (as substituted by Schedule 9 of the Countryside and Rights of Way Act 2000).

Country Parks, Local Wildlife Sites (LWS) including Sites of Importance for Nature Conservation (SINC), and Ancient Woodlands are protected by Planning Policy, which will apply to schemes which require planning consent.

A.3 Protected/Notable Species

These legislations protect different species to varying degrees, and in most cases their habitats also, regardless of whether planning permission is required. In addition, these species are also afforded protection through Planning Policy, which requires that they are a 'material consideration' of any planning application.

A.3.1 European Protected Species

The Habitats Regulations convey special protection to a number of species which are listed in schedule 2 of the Regulations and are referred to a European Protected Species (EPS):

- All UK resident bat species;
- All whale and dolphin species;
- Large blue butterfly (*Maculinea arion*);
- Hazel dormouse (Muscardinus avellanarius);
- Pool frog (*Rana lessonae*);
- Sand lizard (*Lacerta agilis*);
- Fisher's estuarine moth (*Gortyna borelii lunata*);
- great crested newt (*Triturus cristatus*)
- common otter (*Lutra lutra*)
- wild cat (Felis silvestris);
- Lesser Whirlpool Ram's-horn Snail (*Anisus vorticulus*)
- Smooth snake (Coronella austriaca);
- Sturgeon (Acipenser sturio);
- Natterjack toad (*Bufo calamita*); and
- All marine turtles.

Regulation 43 makes it an offence to:

- Deliberately capture, injure or kill any wild animal of a EPS;
- Deliberately disturb wild animals of such a species;
- Deliberately takes or destroys the eggs of such a species;
- Damages or destroys a breeding Site or resting place of such an animal.

Disturbance in the context of the offences above is disturbance which is likely to impair the ability of the animals to survive, to breed or reproduce, to nurture their young, to hibernate, to migrate; or to affect significantly the local distribution of the species.

Licences can be granted by the relevant Statutory Nature Conservation Organisation (SNCO) for developments (sometime referred to as EPS Licences or Derogation Licences) providing the purposes of the licence is for "preserving public health or public safety or other imperative reasons of overriding public

interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

A.3.2 UK Protected Species

A.3.2.1 Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 provide protect to both EPSs and other species including wild birds, water voles and reptiles.

All wild birds, their nests and eggs are protected with some rare species afforded extra protection from disturbance during the breeding season (these species are listed in Schedule 1 of the Act). It is illegal to take any wild bird or damage or destroy the nests and eggs of breeding birds. There are certain exceptions to this in respect of wildfowl, game birds and certain species that may cause damage.

In England and Wales water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981, receiving full protection since 2008. The Wildlife and Countryside Act 1981 together with amending legislation, lists the following offences:

- Intentionally killing, injuring or taking a water vole by any method;
- Intentionally or recklessly damaging or destroying a water vole place of shelter or protection;
- Intentionally or recklessly damaging disturbing a water vole whilst it is occupying such a structure or place it uses for shelter or protection;
- Intentionally or recklessly obstructing access to a water vole's place of shelter or protection;
- Selling, offering for sale, or possessing or transporting for the purposes of sale, any live or dead water vole, or any part or derivative, or advertising any of these for buying or selling.

All native reptile species in the UK are subject to partial protection from intentional or reckless killing or injury only.

A.3.2.2 The Protection of Badger Act 1992

Badger *Meles meles* and their setts are protected under the Protection of Badgers Act 1992 which makes it an offence to kill, injure or take a badger, or interfere with a sett.

A.3.2.3 Eels (England & Wales) Regulations 2009

This implements Council Regulation (EC No. 1100/2007) of 18 September 2007 establishing measures for the recovery of the stock of European Eel. The Regulation requires Member States to implement a number of short and long-term measures to achieve a target of ensuring that at least 40% of the potential production of adult Eels return to the sea to spawn on an annual basis.

A.3.2.4 Salmon and Freshwater Fisheries Act 1975

This law was created in an attempt to protect salmon *Salmo salar* and sea trout *Salmo trutta* from commercial poaching, to protect migration routes, to prevent willful vandalism and neglect of fishery's, ensure correct licensing and water authority approval.

A.3.3 Other Legislation Relating to Species

Public authority listed in the Environment (Wales) Act 2016, including LPAs "must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in doing so promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions".

Ecosystem resilience is defined as the capacity for ecosystems to adapt, and comprises the key characteristics:

- Diversity between and within ecosystems;
- The connections between and within ecosystems;
- The scale of ecosystems; and

- The condition of ecosystems (including their structure and functioning).

In complying with the Biodiversity and Resilience of Ecosystems Duty, it is necessary to have regard to:

- The list published under Section 7;
- The State of Natural Resources Report (SoNARR) published under Section 8[37]; and
- Any area statement published under Section 11 for an area that includes all or part of an area in relation to which the authority exercises functions.

Section 7 lists species and habitats which are 'of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales' (as decided by WG in consultation with Natural Resources Wales (NRW)).

Locally Protected Species which may be identified within County Local Biodiversity Action Plans (LBAP), the Royal Society for the Protection of Birds (RSPB) 'Birds of Conservation Concern' or Red Data books for example.

A.3.4 Invasive Species

Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) lists certain plants and animals that are not native to Great Britain and could pose a threat to our native species and habitats.

Under this legislation it is an offence to plant or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9. It is also an offence to sell or to release into the wild any plants or animals on the Schedule.

The Invasive Alien Species (Enforcement and Permitting) Order 2019 allows for the enforcement of the EU Invasive Alien Species Regulation 1143/2014 on the prevention and management of invasive alien plant and animal species in England and Wales, including the relevant licenses, permits and rules for keeping invasive alien species. Species on this list are no longer listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended).

People undertaking works in proximity to invasive non-native plant species should take all reasonable steps and exercise all due diligence to avoid committing an offence.

A.4 Hedgerow Regulations 1997

The Hedgerow Regulations 1997 set out a framework for the protection of hedgerows against removal where they are deemed to be important either due to their age, ecological or archaeological features. Approval is required from the local authority prior to the removal of hedgerows deemed Important under the Hedgerows Regulations.

A.5 National Park and Access to the Countryside Act 1949 (as amended)

Local Nature Reserves can be given protection against damaging operations through powers within the National Parks and Access to the Countryside Act 1949. However, this protection is usually conveyed through inclusion of protection within local planning policy relating to these Sites and other non-statutory Sites such as Sites of Importance for Nature Conservation.

[37] https://naturalresources.wales/evidence-and-data/research-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en

A.6 The Well-being of Future Generations Act

The Well-being of Future Generations Act 2015[38] places a duty on public bodies to carry out sustainable development. In this Act "sustainable development" means the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals.

The action a public body takes in carrying out sustainable development must include:

(a) setting and publishing objectives ("well-being objectives") that are designed to maximise its contribution to achieving each of the well-being goals, and

(b) taking all reasonable steps (in exercising its functions) to meet those objectives.

The seven well-being goals include: a resilient Wales, a prosperous Wales, a healthier Wales, a more equal Wales, more cohesive communities, a Wales of vibrant culture and thriving Welsh language and a globally responsible Wales.

Of most relevance is 'A resilient Wales', which seeks to maintain and enhance a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).

A.7 Planning Policy

A.7.1 Planning Policy Wales (PPW)

At national level, Planning Policy Wales[39] sets the national policies in relation to development control through the Town and Country Planning Act 1990. This is supported by a series of Technical Advice Notes, with Technical Advice Note (TAN) 5[40] being of particular relevance as it sets out the consideration of nature conservation in the determination of planning applications. This policy and TAN 5 require Local Authorities to take measures to:

- Promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats;
- Ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment;
- Ensure that statutorily designated Sites are properly protected and managed;
- Safeguard protected species; and
- Promote the functions and benefits of soils, and in particular their function as a carbon store.

Developers must ensure that they comply with the above legislation by fully assessing the potential impacts on protected species and habitats from the proposed development. Where planning permission is required, this assessment must be finalised prior to and included with the submission of the planning application. The Planning Authority can then ensure that the necessary protected species and habitats information has been provided to inform an assessment and that proposals are in full accordance with relevant legislation and planning policy.

[38] Acts of the National Assembly for Wales. The Well-being of Future Generations (Wales) Act 2015. https://www.legislation.gov.uk/anaw/2015/2/contents/enacted

[39] Welsh Government (2018). Planning Policy Wales, Edition 10, December 2018.

[40] Welsh Assembly Government (2009) Technical Advice Note 5: Nature Conservation and Planning.

WG has produced a Nature Recovery Plan which is aimed at addressing the underlying causes of biodiversity loss by putting nature at the heart of its decision-making, by increasing the resilience of Wales' natural systems (ecosystems), and by taking specific action for habitats and species. It sets out how Wales will deliver the commitments of the EU Biodiversity Strategy and the UN Convention on Biological Diversity to halt the decline in our biodiversity by 2020 and then reverse that decline. The Nature Recovery Action Plan links to and complements The Well-being of Future Generations (Wales) Act 2015 and the Environment Act (Wales) 2016. Developments should seek to complement this, in order to meet objectives, set out in the Environment Act and Well-being Act.

Statutorily designated Sites must be protected from damage and deterioration, with their important features conserved and enhanced by appropriate management.

Although non-statutory designations carry less weight than statutory designations, they can make a vital contribution to delivering an ecological network for biodiversity and resilient ecosystems, and they should be given adequate protection in development plans and the development management process.

Planning authorities must follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible

The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained.

Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.

Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a Site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW.

Nature based solutions should be the first consideration given the opportunity to deliver other multiple benefits, including habitat creation, biodiversity enhancement and water quality improvements. Overall, green infrastructure opportunities can benefit ecosystem resilience and provide opportunities for leisure facilities or renewable energy generation.

A.7.2 Local Biodiversity Action plan

The Cardiff Council Local Biodiversity Action Plan (LBAP)[41] refers to habitats and species of importance for nature conservation within the county. Of relevance to this project are the Habitat Action Plans: broadleaved woodland habitats, boundary and linear features, neutral grasslands and standing open water. In addition, it is likely that a number of LBAP species also occur within the Site, including bats.

[41] https://www.outdoorcardiff.com/wp-content/uploads/Cardiff-LBAP-2008.pdf

Appendix B

Target Notes

B.1 Target Notes

Target Note	Description
TN1	Log/brash pile
TN2	Cotoneaster sp.
TN3	Toys R Us building – moderate bat roost suitability
TN4	A4055 flyover – high bat roost suitability
TN5	Open mosaic habitat on previously developed land – priority habitat
TN6	Lowland mixed deciduous woodland – priority habitat
TN7	Reedbed/swamp- – priority habitat

Appendix C

Desk Study

C.1 Schedule 1 Birds Records within 2km of Site, from previous 10 years

Species	Scientific Name	Distance From Site	Number of Records
Scaup	*Aythya marila*	258	13 – Newest 2021
Gyr Falcon	*Falco rusticolus*	269	1 – Newest 2022
Long-tailed Duck	*Clangula hyemalis*	289	13 – Newest 2021
Kingfisher	*Alcedo atthis*	323	25 – Newest 2021
Mediterranean Gull	*Ichthyaetus melanocephalus*	357	9 – Newest 2022
Common Scoter	*Melanitta nigra*	398	2 – Newest 2020
Peregrine	*Falco peregrinus*	416	12 – Newest 2021
Greenshank	*Tringa nebularia*	487	3 – Newest 2017
Black Redstart	*Phoenicurus ochruros*	487	15 – Newest 2021
Cetti's Warbler	*Cettia cetti*	544	39 – Newest 2021
Redwing	*Turdus iliacus*	596	19 – Newest 2021
Fieldfare	*Turdus pilaris*	596	8 – Newest 2020
Hen Harrier	*Circus cyaneus*	659	1 – Newest 2018
Quail	*Coturnix coturnix*	668	1 – Newest 2015
Red Crossbill	*Loxia curvirostra*	668	4 – Newest 2018
Black-necked Grebe	*Podiceps nigricollis*	716	11 – Newest 2019
Common Firecrest	*Regulus ignicapilla*	750	3 – Newest 2020
Little Ringed Plover	*Charadrius dubius*	750	2 – Newest 2018
Eurasian Bittern	*Botaurus stellaris*	750	5 – Newest 2019
Whooper Swan	*Cygnus cygnus*	750	3 - Newest 2017
Goshawk	*Accipiter gentilis*	750	1 – Newest 2015
Garganey	*Spatula querquedula*	750	1 – Newest 2020
Red Kite	*Milvus milvus*	750	5 – Newest 2020
Pintail	*Anas acuta*	758	5 – Newest 2017

Species	Scientific Name	Distance From Site	Number of Records
Little Gull	*Hydrocoloeus minutus*	968	3 – Newest 2019
Brambling	*Fringilla montifringilla*	1062	5 – Newest 2021
Green Sandpiper	*Tringa ochropus*	1064	3 – Newest 2020
Common Loon	*Gavia immer*	1064	3 – Newest 2015
Goldeneye	*Bucephala clangula*	1064	3 – Newest 2015
Black-tailed Godwit	*Limosa limosa*	1203	2 - Newest 2015
Lapland Bunting	*Calcarius lapponicus*	1331	2 – Newest 2018
Western Osprey	*Pandion haliaetus*	1387	3 – Newest 2020
Wryneck	*Jynx torquilla*	1556	1 – Newest 2016
Eurasian Whimbrel	*Numenius phaeopus*	1640	1 – Newest 2017
Hobby	*Falco subbuteo*	1640	2 – Newest 2018

C.2 Section 7 Invertebrate Records within 2km of Site, from previous 10 years

Species	Scientific name	Distance from Site	Number of Records
Small Blue	Cupido minimus	366	4 – Newest 2020
Cinnabar	Tyria jacobaeae	659	13 – Newest 2020
Lackey	Malacosoma neustria	720	7 – Newest 2022
Latticed Heath	Chiasmia clathrata	751	11 – Newest 2021
Small Heath	Coenonympha pamphilus	758	3 – Newest 2020
Shrill Carder Bee	Bombus sylvarum	807	1 – Newest 2012
Shaded Broad-bar	Scotopteryx chenopodiata	817	5 – Newest 2015
Knot Grass	Acronicta rumicis	838	2 – Newest 2016
White-letter Hairstreak	Satyrium w-album	867	2 – Newest 2019
Garden Tiger	Arctia caja	886	4 – Newest 2021

Species	Scientific name	Distance from Site	Number of Records
Brindled Beauty	Lycia hirtaria	958	1 – Newest 2020
Buff Ermine	Spilosoma lutea	974	6 – Newest 2020
Dusky Thorn	Ennomos fuscantaria	1162	3 – Newest 2020
White Ermine	Spilosoma lubricipeda	1162	3 – Newest 2021
Figure of Eight	Diloba caeruleocephala	1162	1 – Newest 2020
Dot Moth	Melanchra persicariae	1162	1 – Newest 2020
Shoulder-striped Wainscot	Leucania comma	1162	1 – Newest 2020
Grey Dagger	Acronicta psi	1172	2 – Newest 2021
Rosy Rustic	Hydraecia micacea	1330	1 – Newest 2018
Centre-barred Sallow	Atethmia centrago	1330	1 – Newest 2018
Crescent	Helotropha leucostigma	1387	1 – Newest 2015
Small Square-spot	Diarsia rubi	1387	2 – Newest 2015
Brown-banded Carder-bee	Bombus humilis	1502	2 – Newest 2020
Pretty Chalk Carpet	Melanthia procellata	1522	2 – Newest 2020
Ghost Moth	Hepialus humuli	1522	2 – Newest 2020
Dingy Skipper	Erynnis tages	1813	1 – Newest 2021
Grayling	Hipparchia semele	1870	1 – Newest 2014