

**LAND SOUTH OF GLAN USK PRIMARY SCHOOL, HERBERT ROAD
NEWPORT**

ENVIRONMENTAL STATEMENT

**VOLUME 2
CHAPTER 8: ECOLOGY**

8. ECOLOGY

INTRODUCTION

- 8.1.1 This chapter of the Environmental Statement (ES) has been prepared by David Clements Ecology Ltd (DCE) on the instructions of Pobl via Asbri Planning and refers to land off Herbert Road, Newport (NGR ST 31734 89368). Its purpose is to set out an updated Ecological Impact Assessment in relation to current ecological conditions of the site.
- 8.1.2 The site has planning permission (13/1279) and is to be developed in four phases (see **[Appendix 8.1]**); phase 1 is currently being developed pending discharge of a variety of planning conditions. It is proposed to submit a Full Planning Application to update phases 2, 3 and 4, which will be similar to the original application, albeit less dense. An updated Environmental Statement is therefore required as part of the submission and this chapter relates to any ecological issues arising as a result of the proposed development of phases 2, 3, 4. For the purpose of this report the land associated with phases 2, 3 and 4 of the works will be referred to as 'the site'. Phase 1 is not dealt with in detail in this chapter, and the original ES (Asbri Planning, 2014) should be referred to with regard to this, as well as the documents produced by David Clements Ecology Ltd with regard to the discharge of ecological planning conditions for phase 1 (DCE 2017a and 2017b).
- 8.1.3 The site measures approximately 3.62 ha, and lies at approximately 7m AOD. Part of the site (2.83ha) is included in Newport's Local Development Plan (2013-2026) (LDP) allocated under Policy H1(5). The western boundary of the site lies adjacent to phase 1 of the development, the eastern boundary lies adjacent to the main railway. The southern boundary lies adjacent to housing while the northern boundary lies adjacent to Glan Usk Primary School. The River Usk SAC/SSSI lies approximately 35m to the west of the site, along the western boundary of Phase 1.
- 8.1.4 The majority of the site has already been cleared as part of the initial enabling works. These works included using soil from the phase 2 area to the north of the site, adjacent to Glan Usk Primary School, to raise the ground levels of the central area, phases 3 and 4 areas. The phase 2 area to the west of the site has been used to store soil removed during the clearance of phase 1. The site facilities have been situated in the phase 2 area adjacent to phase 1.

ECOLOGICAL SURVEY HISTORY

- 8.2 The whole site (Phases 1-4) has been subject to a number of ecological surveys conducted by Sturgess Ecology during 2012 and 2013 which are reported in the original Environmental Statement (Asbri Planning Ltd, 2014). Surveys carried out included a phase 1 habitat survey and a range of phase 2 surveys (botanical, invertebrates, amphibians, reptiles, breeding birds, otter, badger, water vole and bats). Consultations with a range of statutory and non-statutory bodies, as well as the Local Records Centre (SEWBRc), were also made to request any ecological data relating to the site and the surrounding area (see Asbri Planning 2014 for a list of bodies contacted). The results of these previous surveys are taken into consideration as part of the current assessment.

- 8.2.1 The 2014 ES identified a range of ecological features within and adjacent to the application site boundary (Phases 1-4). The most important of these features is the River Usk Special Area Conservation (SAC) and Site of Special Scientific Interest (SSSI), which lies immediately adjacent to the phase 1 section of the site; the River Usk supports otters, migratory fish and saltmarsh habitat. No other statutory or local nature conservation designations were recorded within or adjacent to the application area. Habitat features within the site included a reed-fringed ditch, grassland, ruderal vegetation and trees and scrub. A moderate diversity of plants, a range of breeding birds and invertebrates, common amphibians and reptiles were all recorded on the site; the site also provides foraging habitat for bats.
- 8.2.2 The ecological features at the site were assigned ecological value on a geographical scale as follows:
- 'International' value - the Usk SAC features;
 - 'National' value - the Usk SSSI features;
 - 'District' value - the ditch and associated reeds, and the invertebrate community
 - 'Local' value and value 'Within the Application Site boundary' - grassland, ruderal vegetation, scrub, birds, reptiles and amphibians.
- 8.2.3 The 2014 ES concluded that the proposed development was designed to protect the features of highest biodiversity value. The design included a barrier strip of grassland and scrub habitat beside the top of the river-bank to protect the SAC/SSSI (as part of Phase 1 of the scheme), as well as off-site mitigation comprising an artificial otter holt and fencing off part of the river-bank to provide protection for otter. It was concluded that the long term beneficial effects of the measures to protect the river and sensitive landscaping would help to compensate for the losses of less valuable habitats within the site, which include the reed/ditch, grassland and ruderal habitats. The potential for adverse impacts on some protected and notable species were recognised during the construction phase, but it was concluded that with adoption of appropriate mitigation these were assessed as not significant.

ENABLING WORKS AND PHASE 1 AREA

- 8.3 The client is proceeding with phase 1, and at the time of writing is discharging a variety of planning conditions. Although phase 1 is not part of the current ES, details on recent ecological survey work within this area are outlined here by way of providing a background.
- 8.3.1 The phase 1 area was subject to a walkover survey on January 25th 2017 by David Clements Ecology Ltd, the purpose of the visit being to assess the habitats currently present within the phase 1 area and compare them to those reported in 2013; this was in order to inform the discharge of Conditions 5 and 9 of planning permission 13/1279 and are subsequently reported in DCE 2017a and 2017b. Condition 5 stipulated that an otter mitigation strategy be outlined prior to works; Condition 9 required the submission of an Environmental Management Plan.
- 8.3.2 The outcome of this visit determined there had been no significant changes to the habitats in the Phase 1 area of the site since surveys carried out in 2013 by Sturgess Ecology, comprising a wet ditch, scrub, and species poor grassland.

- 8.3.3 An otter mitigation strategy (DCE 2017a) and Wildlife Protection Plan/Environmental Management Plan (DCE 2017b) have been produced and should be consulted with reference to ecological protection measures for the River Usk, which is directly adjacent to phase 1, as well as other ecological measures within the phase 1 area including works to the reen (Lottery's Reen).

PHASES 2-4

- 8.4 The current chapter assesses the ecological impact of the new layout development in phases 2-4. Given the time elapsed since the original 2014 ES, an updated habitat survey was undertaken to inform this assessment, though survey results from the 2014 assessment are also taken into consideration.

ASSESSMENT METHODOLOGY

Ecological Impact Assessment

- 8.5 This section sets out an assessment of the ecological impacts of Phases 2-4 of the development. The assessment includes a consideration of both direct impacts arising from the development and the potential for indirect impacts on features at a distance from the site (within 1 to 2km of the proposed development boundary). The assessment draws upon the baseline study set out below, as well as the previous assessment set out in the original ES (Asbri Planning, 2014). The assessment is based upon the description of the development scheme set out separately in this ES.
- 8.5.1 The site has been assessed in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the United Kingdom* (CIEEM 2016). Identified sites and features of nature conservation value that could potentially be impacted upon were each graded in accordance with the following categories of ecological value:
- International
 - UK
 - National
 - Regional
 - County
 - District
 - Local
 - Within immediate zone of influence
- 8.5.2 All ecological resources graded at 'within the immediate zone of influence' and above were considered in terms of impacts of the proposed development. Implications in terms of scale, magnitude, duration, reversibility and timing were all addressed.
- 8.5.3 Potential ecological impacts were identified with reference to a checklist of typical impacts, set out below:

- Land-take/Direct loss of habitats
- Severance/Fragmentation/Isolation of habitats
- Impacts to species of conservation interest
- Air Quality Impacts to Habitats/Species
- Water Quality Impacts to Habitats/Species
- Soil Impacts to Habitats/Species
- Noise/Vibration impacts to Habitats/Species
- Lighting Impacts to Habitats/Species
- Visual Field Impacts
- Incidental Wildlife Disturbance
- Changes in Land Management Pattern
- Remote Impacts

8.5.4 Impacts arising as a result of the proposed development were assessed both in the absence of mitigation ('Potential Impacts') and following recommended mitigation ('Residual Impacts'). It is assumed that reasonable mitigation will be implemented in the manner proposed (or so as to achieve an equivalent effect), and the overall assessment of impact is therefore based primarily on the residual impact following mitigation.

Data Trawl

2014 ES

8.5.5 In order to inform the 2014 ES, the South-East Wales Biological Records Centre (SEWBReC) was consulted to request any existing data held for the site and within a 500m buffer for protected and Biodiversity Action Plan priority species, and 1km for mobile protected species such as birds and bats.

8.5.6 The County Ecologist for Newport City Council, Katie Godfrey, was also contacted for ecological data, including details of any Sites of Importance for Nature Conservation (SINCs). Other consultees included the Environment Agency, Gwent Wildlife Trust, RSPB, Wildlife in Newport group, as well as a number of County Recorders for a variety of taxa.

2017 Update

8.5.7 A data trawl was again carried out by SEWBReC in 2017 (code reference 0167-731) in order to obtain access to any existing biological data which might be available since the 2014 ES. The search comprised a 1km buffer for the following:

- Protected and Priority Species: EU and UK legally protected species: Section 7 species, UK BAP Species, CITES species.
- Other Species of Conservation Concern: Red Data Book and Nationally Scarce species, EC Birds Directive, Bonn Convention species.
- Locally Important Species: Local BAP species, locally rare and scarce species (as identified by local experts).
- International Designations: e.g. SAC, SPA, Ramsar.
- National Designations: e.g. SSSI, NNR, MNR, AONB, National Park.

- Local Designations: e.g. SINC/Wildlife Site, LNR, Country Park, Wildlife Trust Reserve.

8.5.8 The County Ecologist for Newport City Council, Katie Godfrey, was again contacted to discuss the scope of the updated assessment and surveys required.

8.5.9 No further bodies were contacted given the wealth of information already available for the site, and the current state of the site (see habitat descriptions below).

Habitat Survey

8.5.10 A habitat survey of the whole site (i.e. Phases 1-4) was originally undertaken in 2012/2013 by Sturgess Ecology Ltd (reported in Asbri Planning, 2014), however given the time elapsed since the original survey, an extended phase one habitat survey was repeated in 2017 to ground-truth and assess if and how the habitats have altered; only the areas incorporating Phases 2-4 are included for the purposes of this ES; for information on Phase 1, please refer to Asbri Planning (2014) and DCE (2017a and 2017b).

8.5.11 The site was surveyed on 4th April 2017, in good weather, being dry and windy, and was subject to an Extended Phase 1 Survey/Preliminary Ecological Appraisal in accordance with the guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM 2013). This was based on the Phase 1 vegetation classification methodology developed by the former Nature Conservancy Council (current version: JNCC 2007), a nationally-accepted and standard method for the rapid survey and appraisal of ecological habitats which is based primarily on the recording of vegetation and its classification into defined habitat categories. Dominant and conspicuous flora species were recorded and 'target notes' were prepared for any features of particular interest.

8.5.12 The methodology also requires the recording of conspicuous fauna species such as birds, herptiles (ie amphibians and reptiles), mammals and invertebrates such as butterflies and dragonflies, paying particular attention to the presence (or possible presence) of any rare or protected species.

Targeted Surveys

8.5.13 A number of targeted surveys in Phases 1-4 were undertaken to inform the 2014 ES, comprising botanical surveys, invertebrate surveys, amphibian surveys, reptile surveys, breeding bird surveys, otter surveys, badger surveys, water vole surveys and bat activity surveys. A summary of the results from these surveys is given in the next section.

8.5.14 Given the wealth of information already available for the site and the current state of the areas within Phases 2-4 (i.e. mainly comprising recently cleared bare ground; see habitat description below), no targeted surveys were undertaken in 2017. The results of the 2014 ES are, however, taken into consideration when assessing impacts.

LEGISLATIVE & PLANNING POLICY CONTEXT

8.5.15 Any relevant planning policy, legislative protection or other conservation interest (for example, the UK, Wales or Newport Biodiversity Action Plan - BAP) is considered for the

ecological features identified at the site. The main legislative considerations are those contained within the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats & Species Regulations 2010. Other relevant policies in relation to Wales and Newport are outlined below

Planning Policy

- 8.5.16 Planning Policy Wales (PPW)= sets out land use planning policies of the Welsh Government, with Chapter 5 dealing with Conserving and Improving Natural Heritage and Coast. The advice contained within PPW is supplemented by Technical Advice Notes (TANs): TAN 5 addresses Nature Conservation.

Environment (Wales) Act (2016)

Section 6 - Biodiversity and resilience of ecosystems duty

- 8.5.17 Section 6 of the Act places a “duty on public authorities to ‘seek to maintain and enhance biodiversity’. Public authorities must also seek to ‘promote the resilience of ecosystems’. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales.

Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity

- 8.5.18 This section replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish lists of species and habitats in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must take all reasonable steps to maintain and enhance the species/habitat included the lists. At the time of writing, the list of habitats and species are identical to those listed under section 42 of the NERC Act (See: <http://www.biodiversitywales.org.uk/Environment-Wales-Bill> for the current list)

Newport Supplementary Planning Guidance

- 8.5.19 Newport City Council has published Supplementary Planning Guidance¹ relating to Wildlife and Development, which outlines the approach taken by the local authority towards biodiversity and development control. It contains guidance on procedures/measures to reduce ecological impacts of development on biodiversity.

Newport Local Development Plan 2011-2026 (Adopted January 2015)

- 8.5.20 The LDP sets out the development strategy for Newport County Borough over a fifteen-year period to 2026. Within the Plan, part of the land at Herbert Road is allocated under Policy H1 for new housing (153 units), while the strip immediately beside the River Usk is allocated under Policy CE33 as Environmental Space.

¹ Newport City Council. Wildlife and Development: Supplementary Planning Guidance: July 2015

8.5.20 Within the adopted LDP, Part 4 sets out the policies that cover conservation and the environment across the whole plan area (i.e. Newport). This does not include specific policies relating to the land at Herbert Road, but Policies CE3 relates to the River Usk SAC and SSSI, and Policy CE3 and CE9 relates to the designated Environmental Space.

8.5.21 Policy CE2 of the LDP relates to Waterfront Developments, and applies to land adjacent to the River Usk. It states that:

'Development in a waterside location should integrate with the waterway and not turn its back on it, and should take account of the interests of regeneration, leisure, navigation, water quality and flow, and nature conservation.'

8.5.22 Policy CE3 relates to Environmental Spaces and Corridors and applies to the River Usk SAC/SSSI. It states that:

'In and adjoining the urban and village areas, and in areas identified for comprehensive development, sites having existing importance for their visual qualities, as wildlife habitats or for recreational or amenity purposes, will be safeguarded as "environmental spaces and corridors". Development in these spaces will be permitted only where:

i) the existing or potential environmental qualities of the site will be improved or complemented;

ii) there is no adverse impact on international, european, national, regional or local nature conservation interest;

iii) there is not a loss, without appropriate replacement, of a recreational, open space, or amenity resource for the immediate locality unless it can be demonstrated that there is an excess of provision or facilities can be enhanced through development of a small part of the site.'

8.5.23 Proposals to enhance or improve existing environmental space provision will be encouraged where practicable. Additional provision will be sought in areas where a deficit has been identified

8.5.24 Policy CE9 relates to the Coastal Zone and applies to the land immediately adjacent to the River Usk. It states that:

'Development will not be permitted in the coastal area or adjoining the tidal river unless:

i) in the undeveloped coastal area such development is required to be on the coast to meet an exceptional need which cannot reasonably be accommodated elsewhere;

ii) the area is not itself at risk nor will the proposed development exacerbate risks from erosion, flooding or land instability

Development which requires a coastal location should be sited within the developed coastal zone.

BASELINE CONDITIONS

8.6.1 The baseline studies comprised:

- A review of the relevant national, regional and local ecological planning policy framework, and the relevant legislative context;
- A desk study to collate and assess existing ecological baseline data;
- An Extended Phase 1 Habitat Survey of the proposed development site;
- Evaluation of the ecological value of the habitats of the site, and its immediate environs;

8.6.2 The main reference for assessing the value of the habitats is the Wildlife Sites Guidelines (South Wales Wildlife Sites Partnership, 2004/Wales Biodiversity Partnership, 2008)².

8.6.3 The Phase I Habitat map in **[Appendix 8.2]** displays the distribution and extent of the habitats within the site. A description of the habitats, summary of protected/notable species potential, and assignment of ecological value are provided in the following sections.

Designated sites

River Usk SAC and SSSI

8.6.4 The River Usk SAC lies approximately 35m to the west of the proposed development site. The SAC is primarily designated for the following species listed on Annex II of the EC Habitats Directive:

- Sea lamprey (*Petromyzon marinus*)
- Brook lamprey (*Lampetra planeri*)
- River Lamprey (*Lampetra fluviatilis*)
- Twaite Shad (*Alosa fallax*)
- Atlantic salmon (*Salmo salar*)
- Bullhead (*Cottus gobio*)
- Otter (*Lutra lutra*)

8.6.5 The River Usk and its fringing salt-marsh habitat, approximately 35m to the west of the site's western boundary, are also protected through their SSSI designation as part of the River Usk (Lower Usk) (Abergavenny - Newport) SSSI. The SSSI citation describes the river as follows:

"The River Usk comprises a large, linear ecosystem which acts as an important wildlife corridor, an essential migration route and key breeding area for many nationally and internationally important species. The Usk is of special interest as a fine example of a river running over sandstones and for its associated plant and animal communities. Its character spans a wide range of types from an upland,

² South Wales Wildlife Sites Partnership (2004). Guidelines for the Selection of Wildlife Sites in South Wales. Wales Biodiversity Partnership (WBP 2008) *Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales.*

base-poor stream to a large lowland river with extensive tidal reaches. Its overall diversity is a product of its underlying geology, soil type, adjacent land-use and fluvio-geomorphological regime.

The River Usk is one of the largest rivers in Wales. From its source to its confluence, the main channel is over 120 kilometres long, and drains a catchment of 1358 km². Rising at an altitude of 500 metres on Mynydd Ddu on the Carmarthenshire/Powys border, the Usk flows eastwards along the northern scarp of the Brecon Beacons, turning south below Abergavenny and meandering down through Monmouthshire to its confluence with the Severn Estuary below Newport.”

- 8.6.6 For the purposes of the ES, the highest level of designation is applicable to the river, and it is assessed as having International value for nature conservation.

Habitats

- 8.6.7 Habitats identified during the Phase 1 Habitat Survey carried out during 2012-2013 by Sturgess Ecology recorded the following habitats:- amenity and species poor grassland, neutral and damp neutral grassland, ephemeral short perennial habitat, tall ruderal herbs, scattered and dense scrub, reeds and a wet ditch. The majority of the site has been cleared during the enabling works carried out between November 2016 and April 2017. The enabling works involved raising up the ground levels of the area covered by phases 3 and 4 by using soil from the phase 2 area at the northern edge of the site (see Appendix 8.3). Habitats identified during the Extended Phase 1 Habitat Survey carried out during April 2017 are detailed below.

Bare ground

- 8.6.8 The majority of the site is dominated by bare ground as a result of the initial enabling works and clearance of the phase 1 area of the site. At the time of the current survey vegetation is starting to recolonise the cleared area to the north of the site whilst the perimeter of this northern area still has remnants of the amenity grassland previously recorded there although the sward is no longer kept mown.
- 8.6.9 The central area of the site, the location of phases 3 and 4, covers the majority of the site. The bare ground is as a result of the ground level having been raised during enabling works. Along the southern boundary of this area a small area of scattered scrub remains.
- 8.6.10 The western area of the site, the location of part of phase 2 of the development has been used to store earth removed during the stripping of the phase 1 area. Along the fence line of the western boundary a small strip of the species poor grassland is still in evidence with a negligible amount of scattered scrub. The site facilities have also been placed within this area.
- 8.6.11 While there are remnants of grassland and scattered scrub within the areas of bare ground, overall the bare ground has been evaluated as having Negligible ecological value for the purposes of this EclA.

Reen

8.6.12 Lottery's Reen runs from east to west through the site and flows into the River Usk. At the time of the 2017 survey the reen has been cleared of vegetation and enlarged as part of the phase 1 works. The reen has yet to be lined, its purpose being to take the surface water from the new housing development. Once modifications to the reen have been completed the area will be fenced off and classed as a Wildlife Protection Zone for the duration of the development. On completion of the development the intention is to plant up the reen and its immediate vicinity with an appropriate planting scheme. See Environmental Management Plan prepared by DCE Ltd (DCE, 2017b). While the modifications to the reen are part of the phase 1 works, due to its location within the site consideration must be given to this area during phases 2-4. In its present condition and for the purpose of this EclA the habitat is assessed as being of Negligible ecological value.

Protected or Notable Species

Otter

8.6.13 Otter is a 'European protected species' afforded a level of statutory protection which is similar to that for bats, above. It is also a Priority Species of the UK BAP and Welsh equivalent and is included in Newport's LBAP.

8.6.14 Otters are known to use the whole length of the River Usk. Several records highlighted the presence of otter within the vicinity of the proposed development. The nearest being approximately 120m to the north of the site dated 1996. Records from 2000 and 2001 indicate otters present to the north of the site, around the M4 bridge and to the south around the town railway bridge. More recent records, dated 2007, of an unconfirmed sighting approximately 725m to the south and a record of a road kill to the north on the A4042 (SEWBReC data, 2017).

8.6.15 The otter survey carried out during 2013 found no evidence of otter within the site, it was considered, at that time, that high levels of disturbance by humans and dogs was a contributing factor to the lack of otter activity within the site. Due to recent site clearance it is considered that in its present condition the site is unsuitable for otters. For the purposes of the assessment they are considered to be of International importance as a component the Usk SAC, but of Negligible importance within the site itself. Mitigation in respect of otters has been agreed and implemented during the enabling works and phase 1 of the development (See Otter Mitigation Strategy, DCE, 2017a).

Badger

8.6.16 Badger is fully protected in the UK under the terms of the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas. Badgers remain comparatively widespread and common throughout the UK and are increasing in numbers in many areas, although they remain scarce and under threat in others. Whilst not rare nationally, it is subject to separate consideration in national planning policy.

8.6.17 No records of badger exist within 1km of the site (SEWBReC data 2017). No evidence of badger was found during the survey carried in 2013, the habitats were also considered to be of poor quality. Since the previous surveys the site has been cleared and is currently heavily disturbed by the works being carried out as part of the phase 1 development. It is

reasonable to conclude that badgers are unlikely to be present at the site, therefore the site is considered to have Negligible value for badger, and they are not considered further within the current assessment.

Bats

8.6.18 There are no buildings or trees within the site suitable of providing roosting habitat for bats. Bat activity surveys carried out during 2013, by Sturgess Ecology, found small numbers of common pipistrelle and soprano pipistrelle bats foraging over the site, particularly the sheltered scrubby margins. These species, as well noctule bats have also been recorded in the wider area. The nearest roost records occur approximately 1.2km away. (SEWBRc data, 2017) As the site has since been cleared foraging opportunities for bats have diminished. As such, for the purposes of the assessment the importance of the site for bats is evaluated as being Negligible and they are not considered further within the current assessment.

Water Vole

8.6.19 Surveys carried out in 2013 found no evidence of water vole; the ditch/reen was considered to be of poor quality and isolated from other potential water vole habitat. The reen/ditch is currently undergoing modifications as part of phase 1 of the development including vegetation clearance and as such has no potential to support the species. Due to lack of potential habitat and absence of SEWBRc records it is considered that water vole are unlikely to be present within the site. As such, for the purposes of the assessment the importance of the site for water vole is evaluated as being Negligible and they are not considered further within the current assessment.

Amphibians

8.6.20 There are records for common frog, dated 2013 (SEWBRc data, 2017). Frog spawn was found in a flooded wheel rut within the site and an adult frog was recorded in the school pond approximately 300m to the north of the site during surveys carried out in 2013 by Sturgess Ecology, however, the site has since been cleared and no amphibians were found during the current survey. As such and considering the current disturbance within the site it is considered that amphibians are unlikely to be present within the site. As such, for the purposes of the assessment the importance of the site for amphibians is evaluated as being Negligible and they are not considered further within the current assessment.

8.6.21 There are no records of great crested newt within 1km of the site (SEWBRc data, 2017). A Habitat Suitability Index (HSI) assessment, carried out during 2013, assessed the ditch for its suitability to support great crested newts. The HSI score (0.35) deemed the ditch as being of poor quality. Modifications to the ditch/reen are currently underway as part of phase 1 of the development. Due to the lack of records, low score of the HSI and current disturbance within the site it is considered that great crested newt are unlikely to be present within the site. As such, for the purposes of the assessment the importance of the site for great crested newt is evaluated as being Negligible and they are not considered further within the current assessment.

Reptiles

8.6.22 Records for slow worm exist within the site relating to a small population identified during the survey carried out during 2013 (SEWBReC data, 2017). Since the survey in 2013 the site has been cleared and is now dominated by bare ground. While this provides suitable basking opportunities for reptiles it is considered that disturbance created by the ongoing phase 1 works will likely act as a deterrent to reptiles. Overall it is considered that reptiles are unlikely to be present within the site. As such, for the purposes of the assessment the importance of the site for reptiles is evaluated as being Negligible and they are not considered further within the current assessment.

Birds

8.6.23 Surveys carried out during 2013 highlighted 2 breeding territories for reed warbler in Lottery's Reen and 2 breeding territories for song thrush to the south of Lottery's reen. Bullfinch, a BAP species, was also recorded along the eastern edge of the site as well as to the west of Glan Usk Primary School. Other priority and protected bird species recorded during the 2013 surveys include reed bunting, linnet, house sparrow, dunnock, starling, song thrush and black-headed gull. The site has since been cleared and potential nesting opportunities for birds temporarily lost. However birds may still use the site for foraging and feeding. As such, in its current condition, the site is assessed as likely to be of Negligible value for birds and they are not considered further within the current assessment.

8.6.24 There are numerous records of birds in the surrounding vicinity within approximately 1km of the site, including many which are Schedule 1 (ie specially protected) or priority conservation species on the UK BAP and/or Section 7 of the Environment (Wales) Act 2016. These include green sandpiper, fieldfare, Mediterranean gull and redwing (all Schedule 1 species), linnet, dunnock, bullfinch, starling, song thrush, house sparrow and black headed gull, reed bunting, bullfinch, pied flycatcher and lapwing. A record for barn owl (Schedule 1 species) exists approximately 2.5km from the site. (SEWBReC data, 2017)

Invertebrates

8.6.25 Surveys carried out in 2013, by Sturgess Ecology Ltd, recorded a moderate diversity of invertebrates, being mostly common and widespread species. Several notable species of beetle were recorded along with the Old Lady Moth which is considered localised in Newport. It was considered the site had potential to support the Small Ranunculus moth, however none were found during the surveys. No invertebrates were recorded during the current survey.

8.6.26 Overall, the site is assessed as being likely to support a limited range of common and ubiquitous invertebrate species due to the level of site clearance that has already taken place and is therefore assessed as having Negligible value for invertebrates and they are not considered further within the current assessment..

Plants

8.6.27 Surveys carried out during 2013, before site clearance, recorded a moderate diversity of common species, including several indicator species used in the wildlife sites guidelines. Since this time the site has been cleared and is currently dominated by bare ground with just remnants of amenity and species poor grassland. Consequently there is a low

diversity of common species present, some species only present as single plants. In its current state the site is assessed as having Negligible value for wildlife and they are not considered further within the current assessment...

Summary of valued ecological features

- 8.6.28 The River Usk SAC/SSSI, 35m to the west of the site, is the only ecological feature of any value. The bare ground and reed were considered to be of Negligible Value, badger, otter, bats, amphibians, reptiles, birds and invertebrates are considered to be absent or unlikely to be of conservation concern on the site in its present condition. As such the River Usk is the only feature to be discussed further in this assessment.

ASSESSMENT OF POTENTIAL IMPACTS

- 8.7 The following section considers the overall effect of the development on the ecological features, assessing the adverse effects that arise from construction and operation of the proposed development and any beneficial environmental effects of mitigation measures. Only the ecological features that are considered to be of value at or above 'within the application boundary' have been included in the ecological impact assessment.
- 8.7.1 Mitigation in respect of the immediate impacts on the River Usk has already been agreed and is in the process of being implemented as part of phase 1 of the works. An Otter Mitigation Strategy and Wildlife Protection Plan/Environmental Management Plan, both prepared by David Clements Ecology Ltd (DCE 2017a and 2017b respectively) were required to discharge Conditions 5 and 9 of Planning Permission 13/1279.
- 8.7.2 This section considers any further potential effects that could occur during phases 2-4 of the development and summarises any mitigation measures. DCE 2017b should be read in conjunction with this section as a number of measures outlined for phase 1 are also applicable to phases 2-4.

Site Clearance and Construction

- 8.7.3 The following measures are considered as integral to the construction stage of the scheme and the assessment of impacts is based on the assumption that they would be implemented:
- Change in disturbance levels from increased presence of workforce and vehicles.
 - Changes in artificial lighting;
- 8.7.4 The construction period is likely to be carried out as a series of phases (2-4), lasting approximately 36 months. The majority of the habitat loss has already taken place during the initial enabling works and Phase 1 which has involved the re-profiling of the site and alterations to the reed. Construction impacts during Phases 2-4 will mainly be due to disturbance while the new houses are built.

Designated Sites

River Usk SAC/SSSI

8.7.5 As the River Usk is 35m west of the site the development would not result in any direct loss of habitat within the SAC. As such the construction works would be unlikely to result in a significant ecological impact. However, there is potential for the presence of construction staff and machinery to increase levels of noise, especially when piling and excavations are taking place. In the absence of mitigation this has the potential to increase disturbance of otters and migratory fish which are primary features of the SAC. Mitigation in respect of otters has already been agreed and implemented as part of the enabling works and phase 1 works. Construction lighting also has the potential to affect otters using the river. In the absence of mitigation, it is considered that these disturbance impacts are likely to result in an adverse impact in the short term.

Operational Impacts

8.7.6 The operational stage assumes that all infrastructure works and construction of the residential units have been completed and new planting has been implemented. As with the consideration of construction impacts, the assessment in this section does not include for specific mitigation measures; these are described in the Mitigation Measures section which follows. The operational stage will take into consideration the following likely impacts:-

- Increased disturbance from people and traffic
- Increased disturbance from artificial lighting
- Changes in hydrology (run off rate/quality)

Designated Sites

River Usk SAC/ SSSI

8.7.7 The development lies outside the protected site boundary so there would not be any direct impacts on the SAC features or the salt-marsh or river habitats. There would be no ongoing operations likely to result in substantial noise or vibration, so the potential for indirect impacts on migratory fish would be limited to the possible effects of changes in water quality of any discharge to the river. The risk of polluted water entering the site from the proposed development is considered low, because the drainage design will be built to modern standards, with foul water and surface water from the new houses being collected separately. Foul water would enter the sewerage system prior to treatment and discharge from a waste water treatment works outside the SAC. Road, roof and other surface water drainage would be passing through oil interceptors or similar pollution control prior to entering Lottery's Reen and being discharged through the existing outfall. The residential area would not support large quantities of hazardous chemicals that might pose a threat to fish populations in the Usk. In the event of an accidental spillage of a pollutant within the site, the Usk is a large, tidal river at this point and a small volume of any contaminant is likely to be quickly diluted. There is therefore unlikely to be any significant adverse impact on fish.

MITIGATION MEASURES

Overview

8.8 In designing the type and extent of mitigation through the construction and operation stages, consideration has been given to the scale of the works within the application boundary in line with the proposed site layout and the relative value of the ecological features. In this situation the scope for habitat enhancement within the site is limited by the space available. Mitigation has already been agreed, as part of Phase 1 of the works, for habitat improvements to offset habitat losses within the site. Greatest emphasis has been placed on protecting features of the River Usk SAC/SSSI.

8.8.1 The mitigation measures that would be incorporated into the scheme include the following key features:-

- There would be no new outfall points to the river, and discharge of surface water would be limited to rates and water quality parameters defined by NRW. If any maintenance or modification of the outfall point is required (this would be within the SAC), construction would be restricted to the minimum possible working area, with no vehicle access, and using only hand-held equipment. NRW would be consulted to discuss any specific requirements for the work.
- No construction works that would result in ground vibration affecting the river (e.g. boring/ piling) would take place between 1 March and 30 June, when Shad and Lamprey would be migrating past the site. If any such works are unavoidable at this time of year, they would be regulated so that migration can occur during this period. Details are included in the WPP&EMP (DCE, 2017b).
- If trenches are required in any areas potentially accessible to otters, these would not be left open overnight, or an escape route would be provided for them (e.g. plank of wood or sloping end of trench).
- Construction lighting and operational street lighting would be directional; fitted with cowls to minimise light-spill over the river.
- Care would be taken to minimise risk of construction debris entering the river. Checks of the riverbank would be made at least weekly through the construction phase, and any construction debris found would be removed.
- Japanese Knotweed and any other Schedule 9 plants would be eradicated from all parts of the development site. A programme for treatment or removal of the plants would be agreed with the local authority prior to commencement of construction.
- The retaining wall at the eastern site boundary would include crevices which can become colonised by plants and invertebrates. Ivy would be planted beside the retaining walls, to grow over the wall providing cover and flowers that would be beneficial for invertebrates.
- The planting scheme for the new residential area would include a high proportion of native tree species and shrub and flower species known to have value to invertebrates.
- Nest-boxes would be provided in the design of the new buildings. These would include at least 10 Swift and 10 House Martin boxes on the eaves of several of the taller buildings near to the river, to introduce a new feature of local nature conservation value to the site. A further 10 nest boxes suitable for garden birds (such as House Sparrow, Blue Tit, Robin etc) would be sited on the houses at the eastern boundary, on the sides closest to the railway line.
- Bat boxes would be installed near the eaves of at least 10 of the taller buildings, to provide new roosting opportunities as a habitat enhancement. The boxes would be

positioned near to the margins of the site, especially those beside the reed-bed and the scrub habitats associated with the railway line and eastern margin. The boxes would be of a maintenance free design, built into the wall or roof structure, carefully sited so they will not cause problems to occupants of the new houses.

8.8.2 Mitigation measures have already been agreed in respect of the River Usk SAC/SSSI and otters. These measures have been/are in the process of being implemented as part of the enabling works and Phase 1 of the development and include:-

- Off-site habitat enhancement to the north of the site to include the provision of an undisturbed area of riverbank. This has been achieved by mesh weld dog proof fencing, 1.5m high, 90m long with two 15m returns to the river.
- An artificial otter holt has been installed within the undisturbed area,
- Japanese knotweed is to be removed within the northern area of the otter mitigation zone by a specialist contractor. Gaps left are to be replanted with thorny trees and shrubs to provide suitable resting places for otter.
- The construction of a continuous bund along the riverbank, planted up with native species, this will provide shading from artificial lighting and reduce noise at river level, as well as restricting access to the riverbank by people and dogs, improving conditions for otters.

8.8.3 Details of the above mitigation measures relating to the River Usk can be found in the Otter Mitigation Strategy and Wildlife Protection Plan and Environmental Management Plan, both produced by David Clements Ecology Ltd, 2017 (DCE, 2017a, 2017b). Both documents prepared as Conditions 5 and 9 respectively of Planning Permission 13/1279 for Phase 1 of the development..

RESIDUAL IMPACTS

8.9 The impact assessment presented earlier in this section was on the basis that no mitigation, other than that integral to the development layout (e.g. no direct land-take from SAC, retention of outfall and Lottery's Reen, new planting of shrubs etc.), would be applied. The following sections address each of the valued ecological features and describe the further mitigation measures to be adopted through site clearance, construction and operation to minimise as far as practicable the effects of the scheme on valued ecological features.

Designated Sites

River Usk SAC/SSSI

8.9.1 In addition to the mitigation measures already agreed as part of the enabling works and phase 1 of the development the following measures will be implemented. If construction lighting is required, this would be fitted with suitable screens to prevent light-spill over the river. In the unlikely event that a trench would be dug in an area that is potentially accessible to otters, it would not be left open overnight, or would be provided with a means of escape, such as a plank or sloping end to the trench.

- 8.9.2 Possible construction impacts to the fisheries interests of the SAC would be mitigated by timing of certain works outside of the migration season for Shad and Lamprey. Any piling and boring would not take place between 1 March and 30 June, when these fish might be passing the site. If such works are unavoidable at this time of year, they would be regulated, rather than being allowed to operate continuously, so that migration can still occur during this period.
- 8.9.3 Each of the measures outlined above will reduce the risk of any direct or disturbance construction impacts on the SAC features. Taking them in combination, a significant adverse impact on fish or otters within the SAC during the construction phase is considered unlikely. Overall, the residual construction impact is assessed as unlikely.
- 8.9.4 The new landscape planting around the houses and gardens would include a high proportion of tree and shrub species that are known to be of value to wildlife. With the proposed mitigation in place, the residual impact on the bare ground is assessed as a likely beneficial impact for habitats.

Protected & Notable Species

Otter

- 8.9.5 The mitigation measures for otter have already been agreed and are in the process of being implemented. Therefore, any adverse residual impact on otter is considered likely beneficial as a length of fencing has been installed to create undisturbed habitat for otters within which an artificial otter holt has been installed.

Bats

- 8.9.6 The presence of new buildings provides an opportunity to install new roost sites within the site, where there are none currently. A total of 7 bat boxes would be used, on buildings near to the vegetated site margins. The boxes would primarily cater for Common Pipistrelles, which are the bat species most likely to use this area. The bat boxes would be the Schwegler Bat Tube 1FR or Ibstock enclosed bat box type, or a similar specification. The adoption of landscape planting designed to be beneficial for wildlife is also likely to be useful for bats. Taking these mitigation measures into account, the residual impact on bats is assessed as probably beneficial.

Birds

- 8.9.7 A total of 22 nest boxes would be provided on the new houses, including 6 Swift boxes (Ibstock Swift Box, Schwegler Swift Box Type 25, or similar), 6 House Martin boxes (Schwegler House Martin Nest 9A, or similar), and 10 Sparrow/ Tit boxes (Schwegler Brick Box type 24, or similar). They would be installed below the eaves of buildings near to the site perimeter. There is no suitable nesting habitat for these species on the site at present due to the site already having been cleared. The provision of nest boxes and the planting of native trees and shrubs incorporated into the landscaping plan for the completed development would significantly improve the site for birds. Overall, the residual construction impact on birds would be negligible increasing to likely beneficial in the long term, particularly as the new planting matures.

Invertebrates

- 8.9.8 The site in its current state has potential to support a limited diversity of invertebrates. Landscaping within the finished development, using a high proportion of native plant species known to be beneficial to invertebrates would provide suitable feeding and overwintering opportunities. With mitigation measures in place the residual impact on invertebrates would probably have a beneficial long term impact.
- 8.9.9 The project design is constrained by a range of factors, including the site access and the minimum number of housing units for the scheme to be viable (and to fulfil the requirements of the UDP housing allocation). This has resulted in a large part of the site where mitigation options are unavoidably limited. The area available for vegetated habitat within the site is relatively small; however, if planted up with native tree, shrub and flower species will have a beneficial impact on the site given that the majority of the site is currently bare ground.
- 8.9.10 For protected and notable species, no significant long term adverse impacts have been predicted; the implementation of mitigation measures will in fact have a beneficial impact on species such as birds and bats.

SUMMARY AND CONCLUSIONS

- 8.10 The combination of desk study and field surveys have identified there to be no features of ecological value within the site. The site has been cleared of vegetation during the enabling works and Phase 1 of the development and as such is now dominated by bare ground. The River Usk SAC/SSSI lies approximately 35m to the west of the site and supports otters, migratory fish and saltmarsh habitat. The River Usk SAC features have been assigned the value of, at a geographical scale, 'International' importance; the River Usk SSSI features have been given a value of 'National' importance. No other statutory or local nature conservation designations exist within or adjacent to the application area. The potential impact of the scheme on the ecological features has been assessed using best practice guidelines.
- 8.10.1 The design of the proposed development has endeavoured to protect the features of highest biodiversity value as a priority. Mitigation and protection of the River Usk SAC/SSSI has already been agreed and is in the process of being implemented. An Otter Mitigation Strategy and a Wildlife Protection Plan/Environmental Management Plan have been prepared by David Clements Ecology Ltd (DCE, 2017a & 2017b) as part of Conditions 5 and 9 respectively for Planning Application 13/1279.
- 8.10.2 The development site is currently dominated by bare ground and as such is of negligible value for nature conservation. Mitigation measures including a landscaping scheme incorporating native tree, shrub and flower species will have a long term beneficial impact.
- 8.10.3 Protected and notable species were deemed unlikely to be present on the site in its current bare state. The adoption of measures such as the installation of bat and bird

boxes and suitable native planting would probably have a beneficial long term impact on the site in ecological terms.

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