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13/808

**Ewenny Road,
Maesteg**

Extended Phase 1 Habitat Survey

November 2013

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REPORT CONTENTS

1.0	INTRODUCTION	4
1.1	BRIEF	4
1.2	PROPOSED WORKS.....	4
2.0	SURVEY METHODS	5
2.1	DESK STUDY.....	5
2.2	FIELD STUDY	5
2.2.1	VEGETATION AND HABITATS	5
2.2.2	FAUNA	5
3.0	DESIGNATED SITES OF ECOLOGICAL IMPORTANCE	8
3.1	STATUTORY NATURE CONSERVATION DESIGNATIONS	8
4.0	SURVEY RESULTS.....	9
4.1	HABITATS	9
4.1.1	NOTABLE HABITATS.....	9
4.1.2	NOTABLE PLANT SPECIES	9
4.1.3	WILLOW SCRUB.....	9
4.1.4	GORSE SCRUB.....	10
4.1.5	SCATTERED SCRUB AND TREES	10
4.1.6	SEMI-IMPROVED NEUTRAL GRASSLANDS.....	10
4.1.7	TALL RUDERAL	12
4.1.8	RUNNING WATER.....	13
4.1.9	SPOIL	13
4.1.10	EPHEMERAL/SHORT PERENNIAL AND HARD STANDING	13
4.1.11	INTRODUCED SCRUB	14
4.1.12	BUILDINGS	14
4.1.13	HISTORIC RECORDS.....	14
4.2	PROTECTED AND NOTABLE SPECIES	14
4.2.1	BATS	14
4.2.2	OTTER	15
4.2.3	DORMOUSE	16
4.2.4	BADGERS	16
4.2.5	OTHER MAMMALS	16
4.2.6	GREAT CRESTED NEWT	17
4.2.7	REPTILES	17
4.2.8	BIRDS	18
4.2.9	FISH.....	19
4.2.10	INVERTEBRATES.....	19
5.0	ECOLOGICAL EVALUATION	20
6.0	ASSESSMENT OF DEVELOPMENT IMPACTS.....	21
6.1	STATUTORY AND NON STATUTORY SITES	21
6.2	HABITATS	21
6.3	PROTECTED AND NOTABLE SPECIES	22
6.4	INVASIVE SPECIES	22
7.0	RECOMMENDATIONS	23
8.0	REFERENCES	27

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PLANS

PLAN 1: HABITATS AND VEGETATION

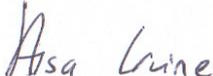
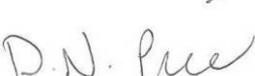
APPENDIX CONTENTS

APPENDIX 1: PHOTOGRAPHIC RECORD AUGUST 2013

APPENDIX 2: SPECIES RECORDED

APPENDIX 3: DEFINITIONS OF SITE VALUE

Document Verification Table

Site Name Extended Phase 1 Habitat Survey				
Revision	Date	Prepared by	Checked by	Verified by
1.0	12 Sep. 13	Amy Davies Ecologist 	Aisa Irvine Ecologist 	Neil Price MCIEEM Principal Ecologist 
2.0	11 Nov. 13	Aisa Irvine Ecologist 	Amy Goodwin Ecologist 	Neil Price MCIEEM Principal Ecologist 

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Executive Summary

Acer Ecology Ltd was commissioned to undertake an extended phase 1 habitat survey of an area of land next to Ewenny Road, Maesteg in the Vale of Glamorgan (OS grid reference: SS 861907). The site is proposed for development including housing, employment sites, public house and restaurant. The steep, scrubby slope leading down to the river will not be developed on.

There are no statutory sites or non-statutory designated sites immediately on or adjacent to the development site, and therefore it is considered the likelihood of potential adverse impacts from the development of the site is negligible. No parts of the site are currently considered to be of international, national, regional or county value for wildlife.

The River Llynfi lies adjacent to the site and is assessed as being of district value for wildlife. Rivers are classed as a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and a 'habitat of principal importance' 'in the Welsh equivalent (WAG 2003; Wales Biodiversity Partnership, 2007). The retained scrub habitats on the edge of the site, alongside the river, would very probably suffer from elevated levels of disturbance. However, these impacts should largely be amenable to mitigation, and the overall impact should therefore be of limited significance and confined to the local context. However, any adverse impacts to the Llynfi River could potentially have significance in the district context or wider. Impacts to the Llynfi River could potentially include the release of sediments and accidental spillages (eg of oil and diesel) etc, during construction resulting in direct pollution of the watercourses. The likelihood of such impacts is, however, small, provided appropriate best-practice mitigation measures are implemented to prevent this from occurring.

The site qualifies as an Open Mosaic Habitat on Previously Developed Land, a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and listed in Section 42 as a 'habitat of principal importance for conservation of biological diversity in Wales' (NERC Act 2006; Wales Biodiversity Partnership, 2007). The site is assessed as being of high local value for wildlife. Whilst the loss of these habitats would be unlikely to have a significant impact outside of the local context of the site, it would nevertheless be desirable that the impacts be either minimised or appropriately mitigated where possible. This could include the creation or retention of ephemeral and semi-improved neutral grassland of a similar type in suitable locations elsewhere within the site.

The proposed development could potentially have adverse impacts in varying degrees on a range of legally protected species, potentially including common reptiles, otter, nesting birds, and possibly also foraging bats, although there is no evidence to date that these are present on the site. With appropriate mitigation, negative impacts will be avoided.

The proposed development could also potentially result in the spread of Japanese knotweed (and Himalayan balsam) through the accidental distribution of soils containing root fragments or rhizomes during earthworks and haulage etc. Appropriate measures are therefore required to minimise the risk of its spread during any works, and to achieve its eradication wherever possible.

Appropriate mitigation and compensatory measures are recommended

1.0 Introduction

1.1 Brief

Acer Ecology Ltd was commissioned by Clowes Development Ltd. to conduct an extended phase 1 habitat survey of an area of land next to Ewenny Road, Maesteg in Bridgend (OS grid reference: SS 861 907).

The site, which measures approximately 7.5ha in extent, lies on flat land adjacent to the Llynfi River, which runs along the eastern boundary of the site. Oakwood Drive runs along the western edge of the site alongside the A4063, the main route from the M4 in the south to Maesteg in the north. The site itself was formerly part of an industrial site comprising two large factories with several smaller buildings and car parks. All buildings have been demolished except for one small building in the west of the site.

Much of the site is largely devoid of vegetation and comprises hard standing consisting mainly of concrete with large spoil tips resulting from the demolition of the buildings. There are, however, numerous areas of ephemeral/short perennial vegetation communities and a number of small patches and strips of grassland are present on the site. There is also scrub vegetation running along much of the eastern boundary of the site screening the river from view. This scrub vegetation lies on a steep slope which forms the margins of the river. There are patches of scattered scrub around the site.

The survey comprised the following:

- An extended phase 1 habitat survey involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and a reconnaissance survey for evidence of protected fauna or habitats capable of supporting such species;
- An assessment of the potential ecological constraints to the proposed works at the site and recommendations for further survey, avoidance, mitigation and enhancement where appropriate.

1.2 Proposed Works

Most of the site is a flat area on which industrial buildings used to stand; this area is proposed for development comprising 115 housing units, restaurant, a family pub/restaurant, employment units, industrial units and associated parking. The project will entail the clearance of the site prior to redevelopment. The steep, scrubby slope leading down to the river will not be developed.

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2.0 Survey Methods

2.1 Desk Study

Information on statutory nature conservation designated sites was obtained from the online Natural Resources Wales interactive web-based Protected Sites and Landscapes map¹.

Data was obtained from the phase 1 habitat survey of the county² which was undertaken by the former Nature Conservancy Council (NCC) during the period 1992-96.

A data trawl with the South East Wales Biological Records Centre (SEWBRc data, 2013) was undertaken for information regarding existing protected species and site records within 1km of the site.

2.2 Field Study

2.2.1 Vegetation and Habitats

The survey was undertaken in good weather; the northern part on the 30 August 2013 and the southern on the 4 November 2013. The vegetation and habitat types present within the site were categorised and mapped in accordance with the standard Phase 1 Habitat assessment methodology (Joint Nature Conservation Committee, 2010). Dominant and conspicuous plant species were recorded for each habitat and other features of interest. Target notes are used to provide supplementary information on features of particular ecological interest, features too small to map. Following completion of the survey a colour coded habitat plan was digitised using Corel Draw 12 to show the extent and distribution of the different habitat types present within the site.

2.2.2 Fauna

During the survey, emphasis was placed on searching for evidence of and potential of habitats and features supporting protected or notable species, especially those listed under the Conservation of Habitats and Species Regulations 2010, the Wildlife & Countryside Act 1981 (as amended), the List of Species & Habitats of Principle Importance for Conservation of Biological Diversity in Wales (Wales Biodiversity Partnership, 2007) and in local Biodiversity Action Plans.

¹ <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/protected-sites-map.aspx>

² Habitats of Wales: Phase I Data 1979 – 1997 Lowlands and Uplands CD Rom

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The range of methods used were as follows:

Bats

The trees within the site were appraised for their potential suitability to support breeding, resting and hibernating bats in accordance with survey methods documented in the Bat Surveys: Good Practice Guidelines (Bat Conservation Trust 2012).

The trees within the site were appraised for their potential suitability to support breeding, resting and hibernating bats in accordance with survey methods documented in the Bat Surveys: Good Practice Guidelines (Bat Conservation Trust 2012). Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc.

A visual inspection of the trees from ground level with the aid of binoculars was undertaken to search for evidence of actual bats as well as signs of bats (droppings, feeding remains, urine staining, scratch marks, noise and the remains of dead bats etc.). In addition, the trees were assessed for the presence of features likely to be attractive to roosting bats, such as cavities or rot holes in the trunk or branches, splits in the timber, delaminating bark, deep bark crevices, dead branches and dense ivy cover etc. In accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2012) trees were assigned to the following categories:

- **Known or Confirmed Roost** - signs of bats (droppings, etc) or actual bats recorded; or previous records of bats in tree
- **High (Category 1*)** – trees with multiple, highly suitable features capable of supporting large roosts
- **Medium (Category 1)** – a tree with definite bat potential; fewer features than category 1* or potential for single bats
- **Low (Category 2)** – No obvious potential, although tree of size and age that elevated surveys may result in cracks/crevices being found; or tree has some features which have limited potential to support bats
- **Nil (Category 3)** – no potential to support bats

The buildings that were present on site were assessed for bat suitability taking into account the following factors: surrounding habitat; temperature regime; light levels; protection from the elements; construction detail; the degree of cob-webbing; potential roosting locations and potentially suitable bat access points.

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The exterior of the buildings were searched for evidence of use by bats and to identify features offering roosting potential or allowing access into the interior of the structure. The interior spaces were searched for evidence of actual bats as well as signs of bats (droppings, feeding remains, urine staining, scratch marks, noise and the remains of dead bats etc.). This was carried out in accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2012). Where accessible, the roof spaces were searched paying special attention to the areas along and beneath ridge beams and ridge junctions.

The site was also assessed for actual and potential bat foraging areas and commuting routes.

Badgers

The whole site was searched systematically, with particular attention being paid to features likely to support badger setts (e.g. earth embankments, wooded copses etc.). Where present the location of badger signs such as runs, dung pits, prints, hair and foraging snuffle holes was recorded and setts characterised as either main, annex, subsidiary or outliers in accordance with guidance given in Surveying Badgers (Harris, Cresswell & Jefferies, 1988).

Reptiles

The site was assessed for its suitability to support reptiles based upon the abundance of suitable habitats such as structurally diverse habitats, hedgerows, scrub, rough grassland, wood piles, rubble, banks and compost heaps etc. The site was assessed with respect to its potential for use for hibernation and spring/summer use based on guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003) and the Reptile Management Handbook (Edgar, Foster & Baker 2011).

Birds

All birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble beds, ruderal vegetation and rough grassland etc). The site was also assessed for its actual and potential suitability to support Schedule 1 and Biodiversity Action Plan priority species.

Other Species

The site was also assessed for its actual and potential suitability to support other protected or notable fauna in accordance with the Guidelines for Preliminary Ecological Appraisal (Chartered Institute of Ecology and Environmental Management, 2013).

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3.0 Designated Sites of Ecological Importance

3.1 Statutory Nature Conservation Designations

The Natural Resources Wales Protected Sites and Landscape Map show that the proposed development site does not contain or lie adjacent to any statutory designated conservation sites such as Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs).

The nearest such site is Cwm Du Woodlands SSSI which lies approximately 1.25km to the south-east of the site. This SSSI is designated for its sessile oak (*Quercus rober*) woodland.

3.2 Non-Statutory Nature Conservation Designations

SINCs are sites which are of local and regional significance. The designation helps to conserve distinctive habitats and species on sites that fall outside of European or National conservation designations.

The site does not contain or lie adjacent to any non-statutory Sites of Importance for Nature Conservation (SINCs). The nearest such site is Llwyndarth Wood which lies approximately 200m to the south-west. This site has also been designated an area of 'ancient semi-natural woodland'. Other sites which have been designated as a SINC within 1km of the site include Cemetery Fields and Garth Grassland which lie 400m and 520m respectively to the north-east. Abercerdin Wood lies 580m to the south-west and Drysy'n Y Waun which lies 870m south of the site.

Ancient Woodland

The nearest area of 'ancient semi-natural woodland' is Llwyndarth Wood which lies approximately 200m to the south-west.

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4.0 Survey Results

4.1 Habitats

The results of the general survey of the habitats and vegetation are shown on Plan 1. A botanical species list is given in Appendix 1.

4.1.1 Notable Habitats

The site is assessed as being of high local value for wildlife. Open Mosaic Habitats on Previously Developed Land are classed as a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and listed in Section 42 as a 'habitat of principal importance for conservation of biological diversity in Wales' (NERC Act 2006; Wales Biodiversity Partnership, 2007).

The site is adjacent to the Llynfi River which is assessed as being of district value for wildlife. Rivers are classed as a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and listed in Section 42 as a 'habitat of principal importance for conservation of biological diversity in Wales' (NERC Act 2006; Wales Biodiversity Partnership, 2007). This river and bank acts as a habitat corridor through connecting to the wider landscape.

4.1.2 Notable Plant Species

No plant species were recorded on the site which are considered to be of either national, regional or local significance.

4.1.3 Willow Scrub

Scrub vegetation located on the eastern edge of the site alongside the river is dominated by grey willow (*Salix cinerea*). This dense scrub vegetation appears to occur from the edge of the site down to the river on the steep sloping margins. Other species growing amongst the willow include oak (*Quercus sp*) and common hawthorn (*Crataegus monogyna*). Bramble (*Rubus fruticosus agg*) dominates the understorey although rose (*Rosa sp*) and holly (*Ilex aquifolium*) are also present. Ivy (*Hedera helix*) grows throughout the understorey. Japanese knotweed (*Fallopia japonica*) also occurs as large shrubs in the understorey towards the bottom of the slope (Target Note 1). Willow dominated scrub also occurs along the chain link fence just outside the survey boundary in the east; Japanese knotweed dominates the understorey in some areas where it also grows through the fence (Target Note 2).

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In the south-east corner of the site there is more willow scrub which is fairly young. A line of grey willow runs along the east and south edges and forms a denser patch in the corner. On the edge of this willow scrub are some young trees of no more than 10cm diameter at breast height (DBH); species include birch (*Betula sp*), hazel (*Corylus avellana*), common hawthorn, ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*) and blackthorn (*Prunus spinosa*).

4.1.4 Gorse Scrub

The scrubby vegetation on part of the eastern bank adjacent to the site, is dominated by gorse (*Ulex europaeus*). Bramble is frequent in this patch and rowan (*Sorbus aucuparia*), ivy and rose are also present. Goldenrod (*Solidago virgaurea*) was also present occurring in a small patch.

4.1.5 Scattered Scrub and Trees

There is scattered scrub and trees growing throughout the site, although this is more concentrated along the perimeter of the site. Most of these plants are buddleia (*Buddleja davidii*) shrubs growing through cracks in the concrete and through gravel patches (larger aggregations marked by Target Note 3), and is also found growing with bramble in some areas (Target Note 4). Grey willow (Target Note 5), grey alder (*Alnus incana*) and small-leaved lime (*Tilia cordata*) are also scattered around the site. Near the south of the site a number of trees have been planted over a patch of grassland (Target Note 6). The trees are all quite small the largest being approximately 10cm DBH. Species include field maple (*Acer campestre*), birch, hazel, common hawthorn, ash, holly, garden apple (*Malus pumila* (*Malus domestica*)), blackthorn, grey willow and gorse.

There is a line of cherry (*Prunus sp*) trees running along the southern part of the western edge of the site. These trees are the only mature trees on site and have been numbered. A few of these trees are multi-stemmed.

4.1.6 Semi-improved Neutral Grasslands

There are a number of patches of semi-improved, neutral grassland across the site. There are three located in the northern half of the site. The patch in the north-most area of the site, marked by Target Note 7 on Plan 1, lies adjacent to willow-dominated scrub along the boundary and is tall and rank, dominated by cock's foot (*Dactylis glomerata*). Timothy grass (*Phleum pratense*), creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*) and hairy sedge (*Carex hirta*) are also present along with a few tussocks of purple moor-grass (*Molinia caerulea*). There are several herbaceous species present including ribwort plantain (*Plantago lanceolata*), hogweed (*Heracleum sphondylium*), meadow vetchling (*Lathyrus pratensis*), silverweed (*Potentilla anserina*), common knapweed (*Centaurea nigra*) common fleabane

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(*Pulicaria dysenterica*) common bird's foot trefoil (*Lotus corniculatus*), red clover (*Trifolium pratense*), and self-heal (*Prunella vulgaris*). Horsetail (*Equisetum sp.*) was also present in small patches in this area. Bramble is encroaching onto the grassland in some parts.

This grassland supports 5 species which are listed as being indicative of species-rich neutral grasslands and 3 of marshy grassland in the Guidelines for the Selection of Wildlife Sites in South Wales (SWWSP 2004). **In total 21 higher plants were recorded in this area.**

The grassland marked by Target Note 8 on Plan 1, running along the south part of the western boundary of the site is similar to the above grassland. There are some ant-hills present indicating it is relatively well established. It is dominated by cock's foot, red fescue and in parts purple moor-grass. There are several other species present including a sedge, (*Carex sp.*), creeping thistle (*Cirsium arvense*), hogweed, common knapweed, common bird's foot trefoil, creeping buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius*), red clover, and dandelion (*Taraxacum officinalis agg.*).

This grassland supports 3 species which are listed as being indicative of species-rich neutral grasslands in the Guidelines for the Selection of Wildlife Sites in South Wales (SWWSP 2004). **In total 12 higher plants were recorded in this area.** This area was surveyed on 4th of Nov so direct comparisons with the grasslands surveyed in summer should not be made.

The patches of grassland on the western side of the site, marked by Target Note 9 on Plan 1, are isolated by concrete and gravel patches. Red fescue dominates although a variety of other grass species are present including cock's foot, creeping bent, timothy grass, crested dog's-tail (*Cynosurus cristatus*), sweet vernal grass (*Anthoxanthum odoratum*), rough meadow-grass (*Poa trivialis*), perennial rye-grass (*Lolium perenne*), quaking grass (*Briza media*) and false oat-grass (*Arrhenatherum elatius*). Soft rush (*Juncus effuses*) and slender rush (*Juncus tenuis*) occur occasionally and glaucous sedge (*Carex flacca*) and hairy sedge are also present. Herbaceous plants include yarrow (*Achillea millefolium*) ribwort plantain, dandelion, self-heal, red clover, creeping buttercup, tormentil (*Potentilla erecta*), common mouse-ear (*Cerastium fontanum*), common bird's foot trefoil, rough hawk's-beard (*Crepis biennis*), primrose (*Primula vulgaris*), cleavers (*Galium aparine*), redshank (*Persicaria maculosa*) and great willowherb (*Epilobium hirsutum*).

One of these patches located towards the western part of the site also support some scattered scrub consisting of bramble, rose and an introduced, coniferous shrub suggesting that this patch was formerly used as a garden. The grass-dominated vegetation in this patch is also sparse and rocky in places and is replaced by a high proportion of herbaceous plants.

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These grasslands support 5 species indicative of neutral grasslands; 5 indicative of calcareous grasslands; 1 indicative of acid grasslands; 2 indicative of post industrial land (in total 8 indicator species) which are listed in the guidelines for the Selection of Wildlife Sites in South Wales (SWWSP 2004). **In total 39 higher plants were recorded in this area.**

The grassland running along the southern part of the eastern boundary, marked by Target Note 10 on Plan 1 forms a gradient from early stage grassland in the north, with very little grass species, to more established grassland which is starting to be shaded by small trees and scrub at the south. The early stage grassland is dominated by broad leaved plants, particularly common bird's foot trefoil and wild carrot (*Daucus carota*), and a pleurocarpous moss. Other species present are ribwort plantain, common knapweed, red clover and a small amount of red fescue. As the grassland becomes more established there is a higher proportion of red fescue, creeping bent, crested dogs tail and cock's foot. Additionally there is glaucous sedge, false fox sedge (*Carex otrubae*) and hard rush (*Juncus inflexus*), dandelion, melilot species (*Melilotus* sp), creeping cinquefoil (*Potentilla reptans*), meadow vetchling, perforate st john's-wort (*Hypericum perforatum*), ox-eye daisy (*Leucanthemum vulgare*), rough hawkbit (*Leontodon hispidus*). Some creeping thistle, common fleabane and horsetail was found by the willow.

The triangle of grassland nearby is very similar and has also been marked by Target Note 10.

This grassland supports 7 species which are listed as being indicative of species-rich neutral grasslands, 6 indicative of calcareous grassland, 2 indicative of marshy grassland and 2 indicative of post industrial land (in total 9 indicator species) in the Guidelines for the Selection of Wildlife Sites in South Wales (SWWSP 2004). **In total 22 higher plants were recorded in this area.** This area was surveyed on 4th of Nov so direct comparisons with the grasslands surveyed in summer should not be made.

4.1.7 Tall Ruderal

Tall ruderal vegetation occurs as large, narrow patches along-side the willow-dominated scrub along the eastern boundary. This vegetation type grows where the land is flat between the edge of the ephemeral habitat and where the land slopes down to the river where it phases into willow scrub. The vegetation is dominated by tall stands of rosebay willowherb (*Chamerion angustifolium*) (Target Note 11) although bramble dominates in some parts. Other tall herbs including common fleabane, creeping thistle, hemp agrimony (*Eupatorium cannabinum*), common knapweed, and common ragwort (*Senecio jacobaea*) occur. There is also hedge bindweed (*Calystegia sepium*), growing throughout and clumps of horsetail. Male-fern (*Dryopteris filix-mas*) is also present in parts and there are small stands of Himalayan balsam (*Impatiens glandulifera*) emerging in some places.

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4.1.8 Running Water

The River Llynfi runs along the eastern boundary of the site just outside the survey area. It flows from Caerau in the north for around 10 miles to Aberkenfig in the south where it joins the Ogmere River. Himalayan balsam and Japanese knotweed can be seen growing along the banks of the river (Target Note 7).

4.1.9 Spoil

Scattered throughout the site are piles of spoil which are a result of the demolition of the buildings on site and consist of broken up bricks and cement. They form large, flat, shaped piles at around 1-2m high and cover large areas of the site. These piles were practically devoid of vegetation.

4.1.10 Ephemeral/Short Perennial and Hard Standing

Most of the site is hard standing, comprising concrete, tarmac, tiles and compacted aggregate. A variety of ephemeral plant species are present either growing through the available cracks around the edges of the hard standing and in areas of compacted aggregate and spoil heaps. In total, 43 higher plant species were recorded including yarrow, creeping bent, mugwort (*Artemisia vulgaris*), a brassica species (*Brassica sp*), buddleia, hairy sedge, red valerian, common mouse-ear, rosebay willowherb, Canadian fleabane (*Conyza Canadensis*), common hawthorn, cock's-foot, wild carrot, great willowherb, a horsetail species, hemp agrimony, herb-robert (*Geranium robertianum*), bristly oxtongue, Yorkshire fog, perforate st john's-wort, common cat's-ear (*Hypochaeris radicata*), rough hawkbit, common bird's-foot-trefoil, black medick (*Medicago lupulina*), bristly oxtongue (*Helminthotheca echioides*), redshank, mouse-ear hawkweed (*Pilosella officinarum*), ribwort plantain, greater plantain (*Plantago major*), annual meadow-grass, bramble, broad-leaved dock, grey willow, common ragwort, bittersweet, prickly sow-thistle (*Sonchus asper*), smooth sow-thistle (*Sonchus oleraceus*), dandelion, red clover, white clover, scentless mayweed (*Tripleurospermum inodorum*), colt's-foot (*Tussilago farfara*) and tufted vetch (*Vicia cracca*).

The ephemeral habitat supports a total of 12 indicator species from the Guidelines for the Selection of Wildlife Sites in South Wales (SWWSP 2004). **In total 43 higher plants were recorded in this area.**

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4.1.11 Introduced Scrub

There is a patch of introduced scrub which has been planted near the south-east corner of the site. Gorse, bramble, holly and a number of non-native species including cotoneaster (*Cotoneaster sp*) grow here.

4.1.12 Buildings

There was one building on site located on the west area of the site near a gate measuring approximately 5m by 3m.

4.1.13 Historic Records

Data was obtained from the Phase 1 habitat survey of the county which was undertaken by the former Nature Conservancy Council (NCC) during the period 1992-96. The entire site was classed as built up area. This earlier survey was conducted prior to the buildings being demolished. There is now ruderal and scrub vegetation along the eastern border where the river lies and scattered scrub and patches of grassland throughout indicating that the site has been neglected and has lacked management for some time.

4.2 Protected and Notable Species

4.2.1 Bats

There are 18 species of bat found in the UK, 12 of which are known to breed in Wales. All are small, nocturnal, flying, insectivorous mammals that are under considerable conservation threat and many having undergone massive population declines over the last century. Some species, such as pipistrelle bats (*Pipistrellus sp*) still remain relatively common and widespread in the UK, while others, such as greater horseshoe bats (*Rhinolophus ferrumequinum*), have an extremely restricted distribution. All species of bats and their roosting sites are afforded full protection under both UK and European legislation and are designated as 'European protected species'.

Isolated records of common pipistrelle (*Pipistrellus pipistrellus*), noctule (*Nyctalus noctula*), and other unidentified bats have been recorded as near as 550m away from the centre of the site (SEWBRc, 2013). The site is considered likely to provide foraging habitat for a wide range of bat species, especially alongside the river which may act as a corridor for bats with the surrounding scrub vegetation providing good cover for both bats and insects.

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An assessment was made of the potential of the mature trees of the site to be used by roosting bats. Brief descriptions of the relevant trees are set out in the table below, together with any evidence of bat occupation, and a subjective assessment of their likely use by roosting bats is given. The trees, which are shown on Plan 1, are numbered in the sequence in which they were surveyed.

No.	Description	Evidence of Bats	Potential for Bats
1	Cherry (<i>Prunus sp</i>), multistemmed, DBH up to 25cm	Nil	Nil
2	Cherry, multistemmed, DBH up to 15cm	Nil	Nil
3	Cherry, multistemmed, DBH up to 25cm	Nil	Nil
4	Cherry, DBH 30cm	Nil	Nil
5	Cherry, DBH 50cm	Nil	Nil
6	Cherry, DBH 40cm	Nil	Nil
7	Cherry, DBH 35cm	Nil	Nil
8	Cherry, DBH 45cm	Nil	Nil
9	Cherry, a little ivy, DBH 30cm	Nil	Nil
10	Cherry, DBH 30cm	Nil	Nil
11	Cherry, DBH 20cm	Nil	Nil
12	Cherry, DBH 25cm	Nil	Nil
DBH – Diameter at Breast Height			

No evidence of roosting bats was found in the inspected trees. The trees on the site were considered to have negligible (Category 3) potential for supporting roosting bats, offering very little roosting opportunities and appearing to be of no greater than average suitability for such use. It is possible that single bats might occasionally roost on these trees on a casual or adventitious basis.

The only built structure present on site was the small (5m x 3m), isolated building in the west area of the site. This brick building has a flat, felt roof. The walls are composed of two layers of brick with an air-gap between. The interior walls are covered with plasterboard and its doors and windows are missing. There is a gap under the fascia and soffit, the ceiling is partially collapsed internally and the wall void is very open. This building was deemed to be unsuitable as a potential roosting site for bats as it is very open and exposed to the weather.

4.2.2 Otter

Otter is a 'European Protected Species', and is protected under both British and European legislation. Statutory protection also extends to the habitats which support this species. Otter is also a 'Priority Species' of the UK BAP and its Welsh equivalent.

The area of flat hard standing comprising the majority of the site is somewhat unsuitable for otter and no evidence of otter was recorded in the current survey. The scrubby/wooded river

Acer Ecology

bank on the edge of the site is superficially suitable for use by otter. No otters were recorded within 1km of the site (SEWBRcC, 2013) however it is known that otters occur in the region.

4.2.3 Dormouse

The dormouse (*Muscardinus avellanarius*) is protected under the Wildlife and Countryside Act and the Conservation of Habitats and Species Regulations 2010. Taken together, this protection makes it an offence to kill, capture, injure, possess or sell an individual. Furthermore, it is also an offence to deliberately disturb or destroy any site used for breeding by dormice. Dormouse is a European Protected Species and a species of high conservation concern nationally; as such it is included as a priority species in the UK and Welsh Biodiversity Action Plans.

There are no records of dormouse within 1km of the site (SEWBRcC, 2013). The site lacked hedgerows and food-plants such as hazel (of nut bearing age) or nut-bearing trees. Furthermore, the site is in an urban location and no evidence of dormouse was found in the scrub vegetation of the site during the survey. Their presence is therefore considered unlikely due to the lack of local records and the isolation of the tree lines from areas of woodland.

4.2.4 Badgers

Badgers (*Meles meles*) are protected in England and Wales under 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 south Wales.

No badger setts or signs of badgers were located within the site and the site generally lacks habitat suitable for foraging badgers. There are no records of badger in close proximity to the site, with the nearest and latest 2002 record being 1.2km to the south-west of the site (SEWBRcC, 2013). Their presence as a resident species was therefore assessed as being extremely unlikely, due to the nature of the site and the absence of any obvious signs. It is possible that badgers pass through the site periodically whilst foraging and commuting from adjacent areas, but the site is considered very unlikely to be of any great significance in this regard.

4.2.5 Other Mammals

The presence of other specially protected mammals was assessed as extremely unlikely due to the lack of suitable habitat for such species. The only other record of a protected mammal

Acer Ecology

species with 2km of the site is a 2006 record of an adult polecat (*Mustela putorius*) located 1.2km to the south-west.

A rabbit was seen on site. It is very likely that a range of other common mammals are present on the site, including shrews, voles, mice, fox, hedgehog and mole, occurring either as resident species or whilst foraging and/or commuting.

4.2.6 Great Crested Newt

The great crested newt (*Triturus cristatus*) is one of the two rarest amphibian species in Britain. It is primarily a terrestrial animal, spending much of its life on land, but returning to the water to breed. Great crested newts will often return to breed in the same waterbody where they were spawned. In addition, they are highly opportunistic and will also colonise suitable new waterbodies rapidly. Great Crested Newt is a 'European protected species' afforded full protection under both UK and European legislation. This protection extends to the habitats which support it. The habitats within 500m of a breeding pond are generally considered to be protected by the legislation. The great crested newt is a priority species and subject to its own Biodiversity Action Plan.

There are no records of great crested newt within 1km of the site (SEWBRc, 2013)

There are no ponds present within the development site and the River Llynfi is considered too fast-flowing to support any of the native species. As such the presence of great crested newt is considered extremely unlikely as all amphibian species have aquatic egg and larval stages, and are therefore dependent on open water for successful breeding. The nearest pond is 800m east of the site, on the other side of the River Llynfi and an urban area; an examination of OS maps shows the site is very isolated from potential breeding ponds. There is, however, a record of common frog (*Rana temporaria*) 1km north-east of the site (SEWBRc data, 2013).

It is considered possible that common amphibians (eg common toad, common frog, palmate newt) may occasionally utilise the scrub and grasslands at the edge of the site for terrestrial (ie non-breeding) foraging, commuting and over wintering purposes however given the isolation and distance of the site from breeding locations it is considered unlikely that great crested newt utilise the site.

4.2.7 Reptiles

There are four widespread species of British reptile comprising grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These animals are protected under the Wildlife and Countryside Act 1981 (as amended) and the

Acer Ecology

Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected.

There are no records of reptiles within 1km of the site, the nearest records from the last 5 years is of a grass snake (*Natrix natrix*) located approximately 1km to the north-east and common lizard (*Zootoca vivipara*) located approximately 1.3km to the east.

The patches of grassland present on site appear superficially suitable for reptiles due to its tall sward height and lack of management. Two of these patches are isolated as they are surrounded by concrete and gravel and are therefore considered to be sub-optimal for reptiles; however the patches of grassland and willow scrub on the east edge of the site lie adjacent to suitable habitat and provide transitional zones favourable to reptiles known as an ecotone. These interfaces between habitats are important to reptiles as they generally contain a great diversity of plant species and habitat structure, and hence a range of microhabitats and microclimates favoured by reptiles and many other species. It is possible that common reptiles may occur in the vegetated areas on the east side of the site, although no targeted reptile surveys have been carried out to date.

4.2.8 Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions) to intentionally kill, injure or take any wild bird, or to damage, take or destroy the nest of any wild bird whilst that nest is being built or in use, or to take or destroy its eggs. Furthermore, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. In respect of these species, it is unlawful to intentionally or recklessly disturb such a bird whilst it is nest-building or is in, on or near a nest containing eggs or young; or to disturb their dependent young. Following recent revisions, fifty-nine species are listed on the UKBAP.

Only a very modest range of common bird species was recorded from the site during the present survey including jackdaw (*Corvus monedula*), swallow (*Hirundo rustica*), magpie (*Pica pica*) and herring gull (*Larus argentatus*). The majority of bird activity was seen on and around the spoil heaps, where there were around 20 herring gulls at the time of the survey. The scrub vegetation along the river is considered to be suitable as nesting habitats for a wide range of common tree and scrub-nesting birds. It is considered unlikely that the grassland areas support any ground-nesting species due to the exposure of the patches of grassland present and the disturbed nature of the site.

Acer Ecology

The small building in the western part of the site could potentially be used by a variety of nesting bird species such as pied wagtail, wood pigeon, swallow, house martin, starling and house sparrow etc, although no evidence of this was found during the present survey.

The site is considered unlikely to be especially significant for any of the rarer species which have been recorded in the wider vicinity by previous surveys (SEWBRc data; Glamorgan Bird Club data). The river next to the site is likely to be important foraging and nesting habitat for birds such as kingfisher (*Alcedo atthis*), dipper (*Cinclus cinclus*) and yellow wagtail (*Motacilla flava*), all of which have been recorded within 2km of the site.

4.2.9 Fish

There are about 42 native freshwater fish species in Britain, together with a further 19 or so established alien species. Five rare and declining species are afforded full legal protection in Britain, including two which are listed as 'European protected species'. Some 15 fish are listed as 'Priority Species' in the UK BAP, two of which are also listed in the Welsh equivalent.

It is probable that a number of common and widespread species occur in the watercourse next to the site including three-spined stickleback (*Gasterosteus aculeatus*), and possibly roach (*Rutilus rutilus*), rudd (*Scardinius erythrophthalmus*), eel (*Anguilla anguilla*), Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*) are all listed as Priority Species in the UK Biodiversity Action Plan, and have been recorded within 1km of the site (SEWBRc data, 2013).

4.2.10 Invertebrates

A number of invertebrate species are protected by European and UK legislation, such as those listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in the Conservation of Species and Habitats Regulations 2010. In addition, there are 411 invertebrate species listed on the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group 2007).

Only two common butterfly species were noted on the site during the surveys, comprising several large white (*Pieris brassicae*) and comma (*Polygonia c-album*), as well as a range of common hoverflies and bumblebees. Butterfly species which have been recorded in the wider vicinity include grayling (*Hipparchia semele*), small pearl-bordered fritillary (*Boloria selene*) and marsh fritillary (*Euphydryas aurinia*), all of which are a priority species in the UK Biodiversity Action Plan and the latter being protected by European and UK legislation. There are no records of these on or within immediate vicinity of the site.

5.0 Ecological Evaluation

The habitats and features of the site have been provisionally evaluated and graded in accordance with the categories set out in Appendix 2.

No parts of the site are currently considered to be of international, national, regional or county value for wildlife.

The river which lies adjacent to the site is assessed as being of district value for wildlife. Rivers are classed as a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and a 'habitat of principal importance' 'in the Welsh equivalent (WAG 2003; Wales Biodiversity Partnership, 2007).

The site is large and as such it has a high number of species. It is possible that the site qualifies for selection as a Site of Importance for Nature Conservation as a post industrial site, as it supports 23 species from the combined post industrial land, acid, neutral, calcareous and marshy grassland indicator species list (see Appendix 2: Species Recorded). However, the site to be developed is almost entirely hard standing which provides little ecological value. Furthermore, the rubble heaps and areas of loose substrate are from recent demolition work and have not yet formed the microhabitats which give this type of site further biodiversity value.

The site does however qualify as an Open Mosaic Habitat on Previously Developed Land, a 'Priority Habitat' of the UK Biodiversity Action Plan (Biodiversity Reporting & Information Group, 2007) and listed in Section 42 as a 'habitat of principal importance for conservation of biological diversity in Wales' (NERC Act 2006; Wales Biodiversity Partnership, 2007). Therefore the site is assessed as being of high local value for wildlife.

6.0 Assessment of Development Impacts

Most of the site is a flat area on which industrial buildings used to stand; this area is proposed for development comprising 115 housing units, restaurant, a family pub/restaurant, employment units, industrial units and associated parking. The project will entail the clearance of the site prior to redevelopment. The steep, scrubby slope leading down to the river will not be developed on.

6.1 Statutory and Non Statutory Sites

There are no statutory sites or non-statutory designated sites immediately on or adjacent to the development site, and therefore it is considered the likelihood of potential adverse impacts from the development of the site is negligible.

6.2 Habitats

The development would require the loss of Open Mosaic Habitat on Previously Developed Land, a habitat of high local value. Whilst the loss of these habitats would be unlikely to have a significant impact outside of the local context of the site, it would nevertheless be desirable that the impacts be either minimised or appropriately mitigated where possible. This could include the retention and creation of ephemeral and semi-improved neutral grassland of a similar type in suitable locations elsewhere within the site (for example, alongside the river and retention of some semi-improved grassland, Section 7.0). The strip running alongside the edge of the river includes a good proportion of the habitats of higher value and retention of this area for biodiversity would provide significant mitigation.

The retained scrub habitats on the edge of the site, alongside the river, would very probably suffer from elevated levels of disturbance, both during and following the redevelopment of the site. However, the overall level of impact should be of limited significance and largely confined to the local context. However, any adverse impacts to the Llynfi River, including increased disturbance, could potentially have significance in the district context or wider.

Impacts to the Llynfi River could potentially include the release of sediments and accidental spillages (eg of oil and diesel) etc, during construction resulting in direct pollution of the watercourses. Both sedimentation and pollution, should they occur, would have an adverse effect on water quality not only in the Llynfi River watercourse where it runs along the eastern boundary of the site but also potentially downstream and ultimately the River Ogmore. Such impacts could potentially be far more significant, and could affect extensive areas of riverine

Acer Ecology

habitat quite remote from the site. The likelihood of such impacts is, however, small provided appropriate best-practice mitigation measures are implemented to prevent this from occurring.

Any surface run-off from rainfall will run into to the Llynfi River. A comparison of the site's impermeable area pre-demolition and on completion of the development has shown that the redevelopment will significantly reduce the surface water discharge and runoff volume entering the Llynfi River. Please see the relevant reports on this site for further information on this.

6.3 Protected and Notable Species

The proposed development could potentially have adverse impacts in varying degrees on a range of legally protected species, potentially including common reptiles, otter, nesting birds, and possibly also foraging bats, although there is no evidence to date that these are present on the site.

Impacts to nesting birds are considered unlikely, providing site clearance works are undertaken outside of the bird nesting season.

The presence of reptiles would not act as a significant constraint to development, although measures would need to be implemented to prevent the death and injury of individuals during site clearance and building operations.

The Llynfi River and scrub adjacent to it is likely to be of importance to otter and foraging bats. It is not proposed that development will occur in this area and a buffer is recommended in Section 7.0. Appropriate mitigation measures should be put in place to avoid negative impacts on these species.

6.4 Invasive Species

The proposed development could also potentially result in the spread of Japanese knotweed (and Himalayan balsam) through the accidental distribution of soils containing root fragments or rhizomes during earthworks and haulage etc. There is no statutory requirement to control, eradicate or report the presence of the species, but The Wildlife and Countryside Act 1981 specifically prohibits the reckless or deliberate spreading of Japanese knotweed, and appropriate measures are therefore required to minimise the risk of its spread during any works, and to achieve its eradication wherever possible. The eradication of Himalayan balsam from the site would also be desirable. As both species were found growing along the bank of the Llynfi River, guidance should be sought from Natural Resources Wales regarding the control of invasive plants.

7.0 Recommendations

The River Llynfi

The River Llynfi acts as a wildlife corridor providing connectivity from the wider countryside into Maesteg, subsequently the scrub habitats on the steep banks leading down to the river will be retained.

The lighting design for this part of the site should avoid light pollution onto the river and scrub and should be of a 'bat friendly' specification. The lighting design will follow best practice guidelines set out by the Bats and Lighting document (BCT, 2008) in an effort to avoid light spill and retain a dark corridor along the river for commuting and foraging bats. Measures to achieve this could include the use of low-level lighting columns; low pressure sodium (SOX) light sources or mercury vapour lamps fitted with appropriate UV filters and the use of cut-off lanterns with hoods which direct the light below the horizontal plane, at an angle of 70°. White lighting sources including metal halide, CDO and CPO which have a significant effect on bats should be avoided.

Habitat recreation/retention

Ephemeral and semi-improved neutral grassland should be recreated or retained within the site. The habitat areas should be retained as a mosaic with a variety of sward heights and areas of bare ground. The importation of topsoil to these areas should be avoided where possible.

- A strip of at least 2m wide should be left for the benefit of biodiversity along the edge of the site, on the flat ground at the top of the river bank. Regular management will be essential in this area to prevent complete encroachment by scrub/invasive species, to maintain a mosaic of habitat types.
- A patch (or patches) on the western side of the site, away from the scrubby riverbank, should also be retained/recreated and managed as ephemeral and grassland for wildlife. Ideally this could retain part/all of an existing patch of semi-improved grassland however habitat creation is also acceptable. To best recreate the habitats on site and retain the seedbank the soil/gravel cleared from vegetated parts of the site (i.e. those mapped as ephemeral or grassland) should be used in preference.
- Where possible, other areas should be managed for wildlife, for example by the creation of wildflower verges. A mixture of native grasses and wild flowers of local provenance should be used. See Emorsgate seeds <http://wildseed.co.uk/home>

Ecological Management Plan

An ecological management plan for the habitat areas should be drawn up to help compensate for the loss of habitats as a result of the development. This document should identify the key

Acer Ecology

areas to be managed and set out objectives for their beneficial management for wildlife. Outline recommendations with regard to managing the retained habitats for invertebrates are given below:

- The retained/recreated grassland should only be cut once or twice a year in early spring (before April) or in the autumn (after August) to allow a variety of invertebrates to complete their life cycles. Cutting should not occur between the beginning of June and the end of August.
- Ideally a mosaic of different length swards should be achieved. Some parts of the grassland should be left uncut each year. Sward heights should vary from short (<5cm, usually with bare ground), through medium (6-12cm) to tall (>13cm), rank grassland in an attempt to replicate the variety of sward heights currently on-site.
- Some areas of bare ground with loose substrate should be provided within the site, as these are favoured by solitary bees, wasps and some beetles. A bee bank could be installed, which would comprise of aggregate and sand shaped into a mound with various slopes and hollows that may be utilised by a variety of different species (see Buglife 2012. *Scottish Invertebrate Habitat Management: Brownfields* for details).
- Refugia such as logs and stones should be provided.
- Scrub should be managed to prevent it taking over the grassland/ephemeral, though some scattered scrub is permitted and can be beneficial for invertebrates.
- Fertilisers or pesticides should not be used.
- Where possible habitats should be fenced off and designated as a wildlife area.

Timing of Vegetation Clearance

Clearance of trees, scrub, hedgerows or introduced shrub habitats should be undertaken from October to February outside the bird breeding season (March to August inclusive). Alternatively, any works undertaken from March to August should be subject to a check for nesting birds by a suitably qualified ecologist immediately prior to removal of such habitats. If any active nests are found these should be protected, along with an appropriate buffer zone, until the nesting is complete and the young have fledged.

Reptiles

Should scrub or the area of semi-improved grassland on the eastern boundary of the site (alongside the river) be cleared, 'species deterrence' measures should be undertaken, to encourage and compel any individual reptiles to migrate voluntarily away from the works area into the neighbouring scrub.

- Potential refugia such as logs, discarded timber, sheet metal, plastic sheet, carpets and large rocks etc to be carefully lifted and removed from the area to be cleared.

Acer Ecology

- Vegetation should initially be cut to a height of about 200mm. All cutting must be done by hand (eg by strimmer or brush-cutter), rather than by tractor-drawn mowers, so as to minimise the risk of causing reptile casualties. All arisings should be removed immediately from the site following cutting.
- After a maximum of two days, the vegetation of the site should be cut again to a height of about 50mm, taking great care to avoid injuring any reptiles which may be present and with all arisings again being removed from the site.

Bat and Bird Boxes

Bird nesting and bat roosting opportunities should be enhanced through the provision of artificial bat and bird boxes. A variety of durable, woodcrete bat boxes, including maintenance free boxes suitable for buildings and trees and are available from Schwegler. Bat boxes should be installed in unlit locations, in the vicinity of connective features to allow bats undisrupted dispersal to local foraging habitat.

Invasive Species

The Wildlife and Countryside Act 1981 specifically prohibits the reckless or deliberate spreading of Japanese knotweed, and appropriate measures are therefore required to minimise the risk of its spread during any works, and to achieve its eradication wherever possible. It is recommended that guidance is sought from Natural Resources Wales regarding the control of Japanese knotweed in order to prevent further spreading. The Environment Agency Japanese Knotweed Code of Practice (2013) advises that in order to prevent areas of the site currently unaffected by Japanese knotweed becoming contaminated, staff should be made aware of what the plant looks like and what their responsibilities are, there should be a clerk of works responsible for the management of Japanese knotweed and that there is a Japanese knotweed management plan in place, a template for which can be found within the Japanese Knotweed Code of Practice document.

Himalayan balsam should be eradicated from the site as far as possible and appropriate measures will be implemented to prevent the accidental spread of this species during the course of the development. Natural Resources Wales should be contacted to enquire the best course of action for removal. Invasive plant material is considered a 'controlled waste' and must be disposed of in accordance with and environmental permit issued under, the Environmental Permitting (England and Wales) Regulations 2007.

One of the methods for controlling invasive plants involves the use of herbicides, in which case permission should be sought from Natural Resources Wales as both invasive species were found growing near a watercourse.

Acer Ecology

These invasive plants will need to be taken into account in relation to the Ecological Management Plan, as retained habitat may become dominated by Japanese knotweed and/or Himalayan balsam if neglected.

Drainage

A soak away solution and any further Sustainable Drainage Solutions (SuDS) will be fully investigated and surface water runoff will be dealt with in a sustainable manner as is possible.

Pollution and Disturbance

Appropriate pollution prevention measures should be employed to ensure that detrimental impacts to the river adjacent to the site are avoided during construction, in accordance with current Natural Resources Wales (NRW) standards.

8.0 References

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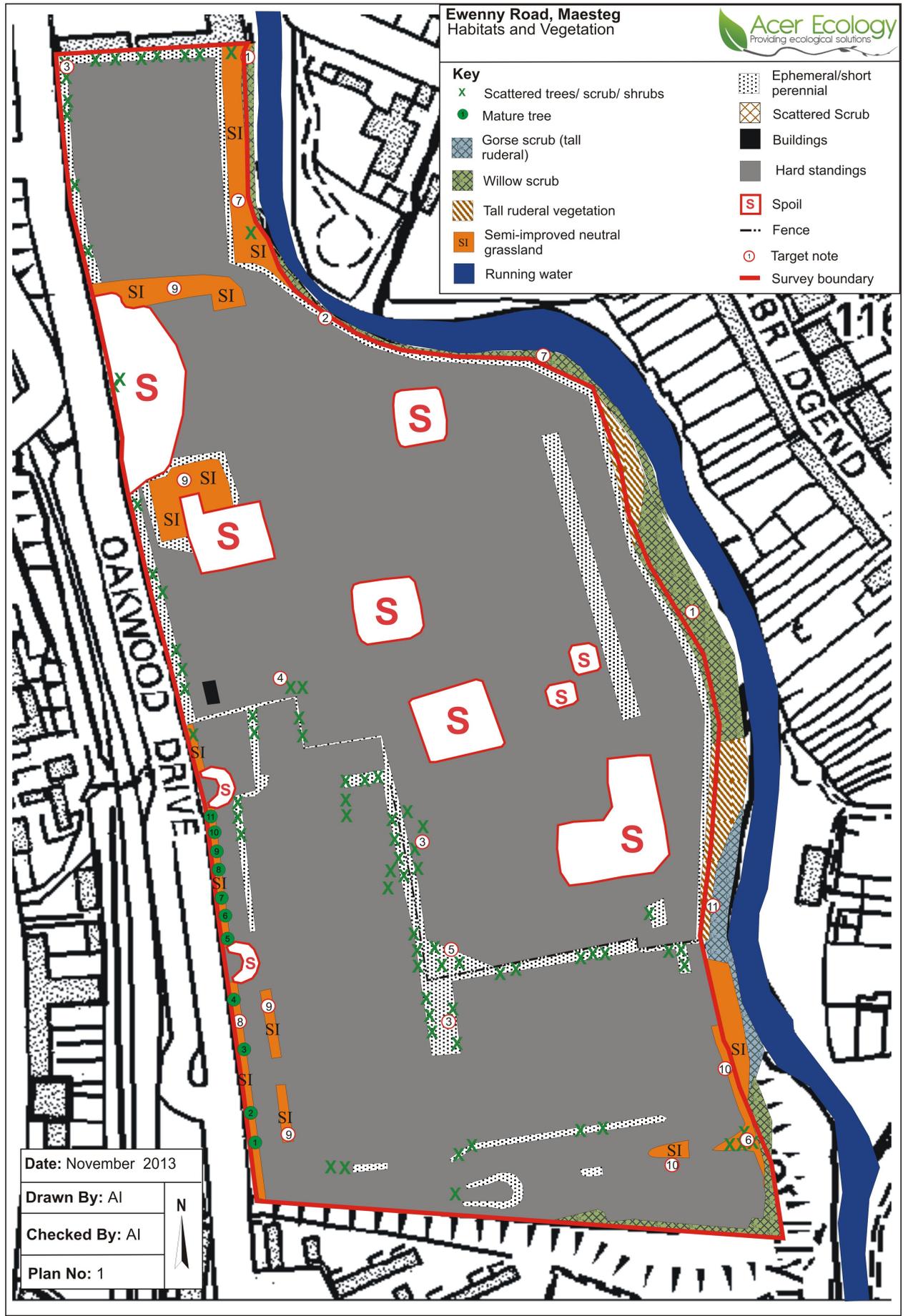
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Acer Ecology



Acer Ecology

Appendix 1: Photographic Record August 2013



Photo 1: View of the centre of the site showing ephemeral habitat and bordering scrub.



Photo 2: View from the centre of the site facing west.



Photo 3: View of the south boundary of the site, facing west.



Photo 4: Centre of the site, showing spoil heaps.



Photo 5: Willow dominated scrub running along the west side of the Llynfi River in the east of the site.



Photo 6: Japanese knotweed growing through chain link fence (Target Note 2).

Acer Ecology



Photo 7: Cherry trees and spoil heap on the west edge of the site.



Photo 8: Buddleia in the centre of the site.



Photo 9: Grassland habitat in the north-west (Target Note 7).



Photo 10: Grassland habitat in the south-west of the site (Target Note 10).



Photo 3: Tall ruderal vegetation in the south-east corner of the site on the west side of the Llynfi River.



Photo 5: Building 1 located in the west of the site.

Acer Ecology

Appendix 2: Species Recorded

All species recorded by Acer Ecology 2013, unless otherwise indicated:

Species	Common name	W	NG	CG	AG	MG	PIL	TF	Status
Trees and Shrubs									
<i>Acer campestre</i>	Field maple	W							
<i>Alnus incana</i>	Grey alder								Alien
<i>Betula sp</i>	Birch								
<i>Buddleja davidii</i>	Buddleia								Alien
<i>Corylus avellana</i>	Hazel								
<i>Cotoneaster sp</i>	Garden cotoneaster								Alien
<i>Crataegus monogyna</i>	Common hawthorn								
<i>Fraxinus excelsior</i>	Ash								
<i>Ilex aquifolium</i>	Holly								
<i>Malus pumila</i> (<i>Malus domestica</i>)	Garden apple								Alien
<i>Pinus sp</i>	Pine sp								
<i>Prunus sp</i>	Cherry sp								
<i>Prunus spinosa</i>	Blackthorn								
<i>Quercus sp</i>	Oak								
<i>Rosa sp</i>	Wild rose								
<i>Rubus fruticosus agg</i>	Bramble								
<i>Salix cinerea</i>	Grey willow								
<i>Sorbus aucuparia</i>	Rowan								
<i>Tilia cordata</i>	Small-leaved lime	W							
<i>Ulex europaeus</i>	Common gorse								
Herbaceous Plants									
<i>Achillea millefolium</i>	Yarrow								
<i>Agrostis stolonifera</i>	Creeping bent								
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass								
<i>Arrhenatherum elatius</i>	False oat-grass								
<i>Artemisia vulgaris</i>	Mugwort								
<i>Bellis perennis</i>	Daisy								
<i>Briza media</i>	Quaking grass		NG	CG		MG			
<i>Calystegia sepium</i>	Hedge bindweed								
<i>Carex flacca</i>	Glaucous sedge		NG	CG		MG			
<i>Carex hirta</i>	Hairy sedge								
<i>Carex otrubae</i>	False fox sedge						PIL		
<i>Centaurea nigra</i>	Common knapweed		NG	CG					
<i>Centranthus ruber</i>	Red valerian								
<i>Cerastium fontanum</i>	Common mouse-ear								
<i>Chamerion angustifolium</i>	Rosebay willowherb								

Acer Ecology

<i>Cirsium arvense</i>	Creeping thistle								
<i>Cirsium palustre</i>	Marsh thistle								
<i>Cirsium vulgare</i>	Spear thistle								
<i>Conyza canadensis</i>	Canadian fleabane								Alien
<i>Cynosurus cristatus</i>	Crested dog's-tail								
<i>Dactylis glomerata</i>	Cock's-foot								
<i>Daucus carota</i>	Wild carrot			CG					
<i>Dryopteris filix-mas</i>	Male-fern								
<i>Epilobium hirsutum</i>	Great willowherb								
<i>Equisetum sp.</i>	Horsetail species								
<i>Eupatorium cannabinum</i>	Hemp agrimony					MG			
<i>Euphorbia sp.</i>	Spurge species								
<i>Fallopia japonica</i>	Japanese knotweed								Alien
<i>Festuca rubra</i>	Red fescue								
<i>Galium aparine</i>	Cleavers								
<i>Geranium robertianum</i>	Herb-robert								
<i>Hedera helix</i>	Ivy								
<i>Heracleum sphondylium</i>	Hogweed								
<i>Holcus lanatus</i>	Yorkshire fog								
<i>Hypericum perforatum</i>	Perforate st john's-wort		NG	CG					
<i>Hypochaeris radicata</i>	Common cat's-ear		NG						
<i>Impatiens glandulifera</i>	Himalayan balsam								Alien
<i>Juncus effusus</i>	Soft rush								
<i>Juncus inflexus</i>	Hard rush								
<i>Juncus tenuis</i>	Slender rush								Alien
<i>Lathyrus pratensis</i>	Meadow vetchling		NG						
<i>Leontodon hispidus</i>	Rough hawkbit		NG	CG					
<i>Leucanthemum vulgare</i>	Ox-eye daisy		NG						
<i>Lolium perenne</i>	Perennial rye-grass								
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil		NG	CG			PIL		
<i>Medicago lupulina</i>	Black medick			CG					
<i>Melilotus sp</i>	Melilot species								
<i>Molinia caerulea</i>	Purple moor-grass					MG			
<i>Persicaria maculosa</i>	Redshank								
<i>Phleum pratense</i>	Timothy grass								
<i>Helminthotheca echioides</i>	Bristly oxtongue						PIL		
<i>Pilosella officinarum</i>	Mouse-ear hawkweed		NG	CG	AG		PIL		
<i>Plantago lanceolata</i>	Ribwort plantain								
<i>Plantago major</i>	Greater plantain								
<i>Poa annua</i>	Annual meadow-grass								
<i>Poa trivialis</i>	Rough meadow-grass								
<i>Potentilla anserina</i>	Silverweed								

Acer Ecology

<i>Potentilla erecta</i>	Tormentil		NG		AG	MG			
<i>Potentilla reptans</i>	Creeping cinquefoil								
<i>Primula vulgaris</i>	Primrose	W							CCW Globally Threatened - Category B
<i>Prunella vulgaris</i>	Self-heal								
<i>Pulicaria dysenterica</i>	Common fleabane					MG			
<i>Ranunculus acris</i>	Meadow buttercup								
<i>Ranunculus repens</i>	Creeping buttercup								
<i>Rumex acetosa</i>	Common sorrel						PIL		
<i>Rumex obtusifolius</i>	Broad-leaved dock								
<i>Senecio jacobaea</i>	Common ragwort								
<i>Solanum dulcamara</i>	Bittersweet								
<i>Solidago virgaurea</i>	Goldenrod				AG				
<i>Sonchus asper</i>	Prickly sow-thistle								
<i>Sonchus oleraceus</i>	Smooth sow-thistle								
<i>Taraxacum officinalis agg</i>	Dandelion								
<i>Trifolium dubium</i>	Lesser trefoil								
<i>Trifolium pratense</i>	Red clover		NG						
<i>Trifolium repens</i>	White clover								
<i>Tripleurospermum inodorum</i>	Scentless mayweed								
<i>Tussilago farfara</i>	Colt's-foot						PIL		
<i>Vicia cracca</i>	Tufted vetch		NG						
SWWSP 2004 'Indicator Species' Totals		3	13	9	3	6	6	1	
		W	NG	CG	AG	MG	PIL	TF	

Key to Indicator Species (SWWSP 2004)

W - Woodland, NG - Neutral Grassland, CG - Calcareous Grassland, AG – Acid Grassland, MG Marshy Grassland, PIL – Post Industrial Land, TF Species-rich Tillage Fields and Margins

SINC Selection

Sites which support 1 primary species or 5 contributory species or habitats which support 8 neutral grassland, 8 calcareous grassland, 7 acid grassland, 12 marshy grassland or 8 tillage field and margins indicator species should be considered for selection as a SINC.

Post Industrial sites which support 20 or more indicator species from the combined post industrial land, acid, neutral, calcareous and marshy grassland lists should also be considered for selection.

Appendix 3: Definitions of Site Value

International Value

Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or non-designated sites meeting criteria for international designation. Sites supporting populations of internationally important species or habitats.

National Value

Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria (NCC 1989), National Nature Reserves (NNRs) or Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.

Regional Value

Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. Sites supporting viable populations of Nationally Scarce species or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.

District Value

Site identified as a Site of Importance to Nature Conservation (SINC) at the district level; meeting SWWSP 2004 published designation criteria, but falling short of SSSI designation criteria, whether designated as a SINC or not. Large or strong populations or communities of nationally rare or protected species (other than badger), or of species which are rare in the county and uncommon nationally.

High Local Value

Habitats which just fail to meet Regional value criteria, but which appreciably enrich the ecological resource of the locality. Sites supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area.

Local Value

Undesignated sites or features which appreciably enrich the habitat resource in the context of their immediate surroundings, parish or neighbourhood (e.g. a species-rich hedgerow). Rare or uncommon species may occur but are not restricted to the site or critically dependant upon it for their survival in the area.

Site Value (Within the Immediate Zone of Influence)

Low-grade and widespread habitats.

Negligible

No apparent value.