Appendix 6.7 Habitat Management Plan

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Contents

1 INTRODUCTION

1.1 Introduction

1.1.1 AECOM was commissioned by the Applicant to produce a Habitat Management Plan for the proposed development. This Habitat Management Plan (HMP) will outline pre-construction works in relation to ecology, the management of retained ecological features, new and enhanced habitats created during the development of the site, and the monitoring of the flora and fauna on site post-construction.

1.1.2 The HMP has been produced to fulfil the requirements of the scoping option, consultation and mitigation set out in the Environmental Statement and includes the following:

- Translocation of kidney vetch (*Anthyllis vulneraria*);
- Creation and management of 'invertebrate sanctuary';
- Method Statement in relation to ditch infilling;
- Method statement in relation to breeding birds;
- Method statement in relation to reptiles;
- Method statement in relation to bats;
- Method statement in relation to invasive species;
- Method statement to ensure conscientious construction; and,
- Method statement to ensure conscientious maintenance.

1.1.3 The pre-development baseline information has been used as the basis of recommendations for future management of the site and are based on previous ecology surveys and the Environmental Statement.

1.1.4 The prescriptions given for Conscientious Construction are detailed further in the Code of Construction Practice (CoCP) document.

1.2 Aims and Objectives

1.2.1 The management plan aims to satisfy the following objectives:

- Ensure all protected ecologically valuable features on site are managed appropriately;
- Provide guidance and appropriate management advice for existing, new and enhanced habitats on site;
- Support and meet the objectives of the UK and Local Biodiversity Action Plans (BAP);
- Provide a Site Biodiversity Action Plan (BAP), including basic objectives to be met;
- Outline key roles and responsibilities for site management; and
- Provide a five year management programme, and monitoring advice, starting on completion of the proposed development.

1.3 Structure of the Report

1.3.1 The management plan is set out as follows:

- Chapter 3: Site Description and Evaluation - Describes the ecological status of the site prior to development and factors that influence future management.
- Chapter 4: Site Biodiversity Action Plan - Lists the habitats and species selected to be targeted by the Site BAP. The specific and quantifiable conservation targets are detailed along with the necessary actions to be implemented to meet the targets.
- Chapter 5: Management Prescriptions - Provides detailed management prescription for retained, new and enhanced habitats.
- Chapter 6: Work Programme - Assigns responsibility for management actions and provides a timetable for the work over the first five years post-construction.

1.4 Quality Assurance

1.4.1 This project has been undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition our IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

1.4.2 All AECOM Ecologists are members of (at the appropriate level) the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct when undertaking ecological work.

2 SITE DESCRPTION AND EVALUATION

2.1 Location

2.1.1 The Port Talbot site is located between Margam and Port Talbot, OS grid reference SS772883. The proposed development is located to the north east of the Port Talbot site.

2.2 Current Land Use

2.2.1 The majority of the survey area, delineated by the Order Limits, is comprised of scrub, semi-improved grassland, amenity grassland, pipe work, hardstanding, gravelled areas, buildings, a wet ditch and a dry ditch.

2.2.2 Immediately adjacent to the north-east of the site is an active railway line. The site is neighboured by steel works to the south and west, semi-improved grassland and scrub to the south. Residential, urban and industrial land use dominates the surrounding landscape with associated roads and highways, the M4 runs 300 metres to the east and north, the coast is 1.8km to the east. Port Talbot town lies to the north of the site.

2.3 Site Ownership

2.3.1 The site is owned by TATA Steel UK Limited, also known as the Applicant.

2.4 Development

2.4.1 The Applicant is proposing to enhance the onsite power generation but constructing the proposed development. This comprises a new power station and associated infrastructure, as well as a new electrical connection, which will connect the new power station with two existing substations situated in the south east of the Port Talbot site.

2.4.2 A detailed description of the proposed development can be found in the Chapter 3 Project Description.

2.5 Ecological Information

2.5.1 This section details the situation on site before the works and highlights the retained features and habitats of ecological interest.

Habitats

2.5.2 An Extended Phase I Habitat Survey (JNCC 1990, revised reprint 2010) of the proposed development site was undertaken on 3rd September 2012, 17th June 2013 with the cable route survey undertaken on the 10th March 2014.

2.5.3 The Phase 1 Habitat Map shows the features and habitats on site pre-development. The map, features and other information relating to the site, including the results of an ecological data search, are shown and outlined in more detail the Environmental Statement.

2.5.4 The habitats and features recorded on site included:

Broadleaved Plantation Woodland

2.5.5 There is an area of broadleaved woodland within the proposed cable route with willow (Salix sp.) and ornamental species.

Semi-Improved Grassland

2.5.6 The Order Limits has three six areas of semi-improved grassland with bent grasses (*Agrostis sp.),* yarrow (*Archillea millefolium*), kidney vetch (*Anthyllis vulneraria*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), Timothy grass (*Phleum pratense*), fescue grass (*Festuca sp*.) and thistle (*Cirsium sp*.).

2.5.7 The semi-improved grassland in the northern section of the proposed electrical connection appears to be periodically mown, and is variable in species diversity. The southern section of the proposed electrical connection has an area of unmanaged semi-improved grassland with some scattered scrub. Species include: perennial rye-grass (*Lolium perenne*), yarrow, white clover, sweet vernal grass (*Anthoxanthum odoratum*), daisy (*Bellis perennis*), red clover, curled leaved dock (*Rumex crispus*), broad leaved dock (*Rumex obtusifolius*), vetch species (*Vicia* sp.), geramium species

(*Geranium* sp.), common fleabane (*Pulicaria dysenterica*), creeping thistle (*Cirsium arvense*), common ragwort (*Senecio jacobaea*), spurge species (*Euphorbia* sp.), teasel (*Dipsacus fullonum*), dandelion (*Taraxacum* agg.), bramble (*Rubus fruiticosus* agg.), cat's-ear (Hypochaeris radicata), Yorkshire fog (*Holcus lanatus*) and common mouse ear (*Cerastium fontanum*).

Improved Grassland

2.5.8 There are three areas of improved grassland to the north of the Order Limits. There is a limited array of early successional botanical species including white clover and annual meadow grass (*Poa annua*).

2.5.9 There is one small area toward the centre of the proposed cable route and one area to the south comprising a trackside verge. Typically poor diversity, species include perennial rye-grass, ribwort plantain (*Plantago lanceolata*), common mouse-ear and daisy.

Scrub

2.5.10 The Order Limits contains several areas of scrub, particularly under the raised pipe work, along the embankment along the southern boundary of the proposed development, along the ditch/water main/embankment running north-south adjacent to the semi-improved grassland and within the semi-improved grassland to the north of the Order Limits, including the species buddleia (*Buddleja davidii*), bramble (*Rubus fructicosus agg.),* and ornamental species.

2.5.11 There are areas of dense and scattered scrub to the northern end of the electrical connection comprising buddleia and European gorse (*Ulex europaeus*).

Ditch

2.5.12 There is one partially and seasonally wet ditch between the embankment adjacent to the car park and the semi-improved grassland. It appears to originate from the steam outlet created pool and is not connected to any other sources of water. It is linked to a dry ditch.

2.5.13 There is a drainage ditch at the southern end of the proposed electrical connection that runs underground for a section of its length and is connected to Margam Moors SSSI.

Introduced Shrub

2.5.14 There are six areas of ornamental planting within the electrical connection including Cotoneaster species.

Buildings

2.5.15 There are seventeen buildings and structures within the Order Limits. The buildings each have a flat roof, some cracks in the brick work, and with lighting along the top of the building illuminating the walls.

2.5.16 There are several corrugated steel buildings on the proposed development site. One of which will be connected to the new pipe work.

2.5.17 Additionally there is a water tower and a chimney of concrete construction on site.

Pipe Work

2.5.18 There are two areas of raised pipe work within the Order Limits.

Hardstanding and Gravel

2.5.19 There is a road running from north to south on the eastern boundary of the Order Limits and a road running east to west along the southern boundary. There are areas of hard standing under parts of the pipe work and around the buildings. An area of gravel covered car park dominates the eastern half of the proposed development. There are gravel areas interspersed with the pipe work and semi-improved grassland to the south of the Order Limits.

2.5.20 This habitat type covers the majority of the proposed cable route in the form of highways, car parks and compacted gravel area (track through the semi-improved grassland).

Other Habitat – Disused Railway Line

2.5.21 There is one area where the proposed cable route crosses a disused railway line.

Embankment

2.5.22 There is an embankment either side of the disused railway line. One side is covered with bracken.

Row of Trees

2.5.23 There is a row of broadleaved and coniferous trees towards the south of the proposed cable route. Species include cherry (*Prunus* sp.) and leylandii (*Cupressus* × *leylandii*).

Species

Invertebrates

2.5.24 South East Wales Biodiversity Records Centre (SEWBReC) returned a record of small blue butterfly (*Cupido minimus*) within 1km of the Order Limits.

2.5.25 The improved grassland, semi-improved grassland, scrub and ditch will support a variety of generalist and specialist invertebrate species.

2.5.26 During the site visit a small blue butterfly and several dragonflies were observed on the proposed development site in the semi-improved grassland and ditch respectively. The larval food plant (kidney vetch) for the small blue butterfly was observed at several locations across the site during a survey for the plant. During the reptile survey of the proposed cable route a number of kidney vetch specimens were observed.

2.5.27 A habitat suitability assessment was undertaken with respect to protected and priority invertebrates. It concluded that there is potential for a number of moths, butterflies, bees and wasps listed as Section 42 Species of Principle Importance to be present on site. There is no potential for any protected or Local Biodiversity Action Plan species to be present on site.

Fish

2.5.28 S42 Consultation with NRW revealed the potential for eels to be present in the wet ditch. The ditch to the south of the site has the potential to support eels and other non-migratory fish.

Amphibians

2.5.29 The semi-improved grassland and scrub have the potential to provide terrestrial habitat for amphibians.

2.5.30 There is limited connectivity to other areas with amphibian potential and no ponds within 500m, therefore the proposed development site is unlikely to support amphibians.

2.5.31 A HSI assessment on the ditch for great crested newts yielded a score of 0.44 indicating the ditching having a low suitability for supporting great crested newt.

2.5.32 A HSI assessment was not undertaken on the ditch connecting the site to Margam Moors SSSI, a review of the citation for Margam SSSI revealed no designation or mention of great crested newts or other amphibians. It is unlikely that the ditch supports great crested newt.

Reptiles

2.5.33 SEWBReC returned records of slow-worm, grass snake, adder and common lizard within 1km of the Order Limits.

2.5.34 The semi-improved grassland and gravel areas (excluding the car park) have the potential to support reptiles.

2.5.35 A reptile survey was conducted in 2013 where no reptiles were identified; a reptile survey was conducted in 2014 within suitable habitat within the proposed cable route where a ‘Low’ population of slow worms and a ‘Low’ population of common lizards were identified. A reptile survey has not been conducted in the semi-improved grassland to the south of the proposed electrical connection.

Breeding Birds

2.5.36 SEWBReC returned records of several species of birds within the 1km of the Order Limits.

2.5.37 The areas of scrub, the pipe work and brick building have the potential to support breeding birds. The introduced shrub is less than 1m in height and therefore unsuitable for supporting breeding birds.

2.5.38 Gulls were observed perching on the pipe work during the site visit.

2.5.39 The pipe work was inspected for evidence of nests – none were identified.

2.5.40 A habitat suitability assessment for breeding birds was conducted and concluded that the only species able to breed within the site would be small passerines such as wren, robin and dunnock with very limited habitat available. The grassland parts of the site are unsuitable for breeding of any ground nesting species including lapwing, meadow pipit and skylark and no evidence of such species was recorded within the Order Limits.

Bat Roosts

2.5.41 The Preliminary Distributor Road (PDR) report (Arup, October 2009) stated that soprano and common pipistrelle, noctule, brown long-eared and a Natterer's bat were observed foraging and commuting within the 10km grid square SS78.

2.5.42 SEWBReC returned records of soprano pipistrelle, common pipistrelle and noctule within 1km of the Order Limits.

2.5.43 Due to the noise, heat and lighting within the current location of the Order Limits it is unlikely that bats will be roosting in the pipe work or steel buildings.

2.5.44 There is a low potential for bats to be roosting in the brick buildings.

2.5.45 The trees within the broadleaved woodland on site do not currently have any features with the potential to support roosting bats, and due to the noise and lighting it is unlikely that bats will utilise the trees for roosts once features are developed.

Bat Commuting and Foraging Habitat

2.5.46 The semi-improved grassland may offer some limited foraging opportunities for bats.

2.5.47 There is no habitat on the Order Limit suitable for commuting bats. Although there is a railway line on site it does not lead to any opportunities for bats and is illuminated and noisy. The railway to the east will provide good commuting habitat for bats.

2.5.48 The railway outside of the Order Limits to the east will provide good commuting habitat for bats. The broadleaved woodland and wet ditch to the south provide commuting and foraging opportunities

Badger

2.5.49 SEWBReC returned a record for badger within 1km of the Order Limits.

2.5.50 There was no evidence of badgers (setts, tracks, latrine) observed on site during the site visit. Although the semi-improved grassland may offer some foraging opportunities for badgers.

Invasive Species

2.5.51 The embankment to the south of the Order Limits had several large stands of mature Japanese knotweed (*Fallopia japonica*).

2.5.52 Eglwys Nunydd Resevoir SSSI is known to support the invasive shrimp species *Dikerogammarus villosus*.

2.5.53 There are four stands of Cotoneaster ornamental planting adjacent to and within the proposed cable route...

2.6 Factors Influencing Management

Landscape Perspective

2.6.1 The immediate surroundings of the site comprise residential with areas of amenity green space, and the M4 motorway a lake used for cooling, the coast, beach, sea and dock. There are a number of statutory and non-statutory designations within the vicinity.

Natural Trends

2.6.2 If soft landscaping and semi-natural habitats are left unmanaged or subject to low management inputs, a process of colonisation and succession is likely to occur. This can include establishment of herbaceous, ruderal and scrub species and can change the character of the landscaped area. As the site's vegetation matures with time, trees and shrubs will become larger and denser. Therefore, management prescriptions will need to take these processes into account. The management outlined below is intended to

provide suggestions which are compatible with local environmental conditions (e.g. soil type, local native habitats and species).

Man-Induced Trends

2.6.3 This management plan considers positive management for biodiversity whilst maintaining the primary core land use purposes of the site. However, certain limiting factors may only become apparent through use of the newly developed site. For example, excessive trampling of areas may require appropriate changes in management. Whilst this report is intended to be prescriptive, a pragmatic and reactive approach should be taken involving ongoing monitoring so that appropriate management techniques are applied that can produce the best outcomes relative to the aims of the scheme.

External Factors

2.6.4 Climate change is a global issue and relevant actions to limit contributing to this problem are largely beyond the scope of this management plan. However, care should be taken to minimise the use of machinery on site which emit greenhouse gasses.

2.6.5 Wherever possible, consideration of species planted should be given to likely impact on local climatic variables e.g. if prone to flooding or drought. Changes in management may be required in the long-term to reflect the impact of local climatic fluctuations e.g. timing of arboricultural work to avoid breeding birds.

Legal and Non-Legal Obligations

2.6.6 Additional management of retained, new and enhanced habitats may be required for health and safety reasons. This may conflict with some of the management recommendations outlined below. It is recommended that an ecologist is consulted before any significant arboricultural works to mature trees are carried out as there is a risk of contravening UK/EU legislation regarding bats and breeding birds. There is a row of trees on site with no potential to support roosting bats at present due to the disturbance on site.

Buried Services

2.6.7 Whenever ground breaking works are required it is important to be aware of any buried services prior to digging. Permissions may be required prior to significant works near to some services.

3 SITE LEVEL BIODIVERSITY ACTION PLAN

3.1 Introduction

3.1.1 The site Biodiversity Action Plan (BAP) lists the habitats and species that have been identified for conservation action. Objectives for each habitat or species are described along with the actions required to achieve these objectives.

3.2 Targeted Species and Habitats

3.2.1 Species and habitats to be targeted for enhancement on this site were chosen using a range or criteria. These criteria included:

- Species and habitats known already to be present in the vicinity of the site;
- Species and habitats listed on national and local BAPs; and
- Species and habitats which are likely to benefit from management at a site level.

3.2.2 The species and habitats that are being targeted by beneficial management practices on this site are listed below in Table 3.1:

Table 3.1: Species and Habitats Targeted in the Site Biodiversity Action Plan

Species / Habitat	Criterion
Kidney vetch	Larval food plant of the small blue butterfly- a species listed as a Welsh Section 42 Species of Principle Importance.
Invertebrates	A number of invertebrates are listed on Neath Port Talbot local BAP and Welsh Section 42 Species of Principle Importance
Breeding birds	The trees, scrub, bracken and introduced shrubs provide potential habitat for a range of breeding birds. Some species have SAPs within the Neath Port Talbot local BAP including kingfisher, linnet, skylark, nightjar, bullfinch, honey buzzard, red kite, spotted flycatcher,

Table 3.1: Species and Habitats Targeted in the Site Biodiversity Action Plan	
Species / Habitat	**Criterion**
	tree sparrow, curlew, lapwing and song thrush although none of these have been recorded at the site.
Reptiles	Reptiles are protected under UK/EU legislation. Reptiles are a Section 42 Species of Principle Importance in Wales.
Bats	Bats are protected under UK/EU legislation. Bats are a Neath Port Talbot local BAP species and a Section 42 Species of Principle Importance in Wales.
Invasive species	Japanese knotweed and cotoneaster are listed on Schedule 9 of the Wildlife and Countryside Act (WCA) 1981. Under section 14 of the WCA 1981 it is an offence to cause Schedule 9 species to grow in the wild. Control of the Japanese knotweed and cotoneaster is likely to encourage growth of other floral species and increase botanical diversity in the locality.
Semi-improved grassland	Likely to benefit species on the Neath Port Talbot local BAP.
Water bodies	Likely to benefit connected Margam Moors SSSI and species on the Neath Port Talbot local BAP.

3.3 Potential Threats to Site Biodiversity

- **Disturbance**: Activity levels, or site management such as lighting regimes, could potentially cause disruption to species and make the habitat unsuitable for them.
- **Neglect**: Lack of management can detrimentally affect habitats by allowing succession or nutrient enrichment.
- **Demands for space**: Future expansion results in development on the retained or newly created habitats.
- **Funds**: Lack of resources to implement management and monitoring.
- **Lack of information**: Site users may be unaware of the importance of certain habitats and the rationale behind management decisions and,

unknowingly, damage important features. Management contractors and their staff should also be fully aware of the importance of habitats and ecological features on site.

3.4 Objectives and Actions

3.4.1 The objectives of the site Biodiversity Action Plan are outlined below. Prescriptions for practical management measures are outlined in Section 5.

Objective 1: Translocation of Kidney Vetch

Actions:

1.1 Identify locations of kidney vetch specimens within the Order Limits during the flowering season immediately prior to translocation.

1.2 Identify a suitable area of semi-improved grassland in which to translocate specimens.

1.3 Appoint an appropriate landscape management contractor to undertake translocation of specimens.

1.4 Appoint an ecologist to supervise translocation of specimens.

1.5 Translocate specimens at the appropriate time of year when the small blue butterfly larvae are present in the roots.

1.6 Implement suitable management to ensure survival of the specimens.

Objective 2: Create an 'Invertebrate Sanctuary'

Actions:

2.1 Identify a suitable area of semi-improved grassland which will be used to translocate kidney vetch into and managed as an 'invertebrate sanctuary'.

2.2 Create an area of species rich wildflower grassland to enhance local habitats, increase coverage of local BAP habitats and provide habitats for native wildlife, in particular invertebrates.

2.3 Include the provision of artificial nest boxes to encourage queen bees to start a colony.

2.4 Implement suitable management to create a diverse species mix.

2.5 Implement a non-intensive management regime which will encourage species diversity and discourage species dominance, and be of benefit to invertebrates. This includes not using chemical fertilisers and herbicides/insecticides in this area.

Objective 3: Method Statement in Relation to Ditch Infilling

Actions:

3.1 To prevent any harm to eels the wet ditch should be filled with soil by hand to a depth sufficient to dry the wet area. This should be undertaken in the presence of a suitably qualified ecologist.

3.2 After a period of no less than 1 day the ditch can be filled by machine.

Objective 4: Method Statement in Relation to Breeding Birds

Actions:

4.1 In the winter prior to construction identify vegetation to be removed (October – February inclusive).

4.2 Any vegetation with the potential to support nesting birds (bracken, scrub, trees or introduced shrub – shrubby ornamental planting) to be removed should be done so outside of breeding bird season to avoid disturbance to nesting birds (clearance October – February inclusive).

4.3 If clearance must be undertaken in the breeding bird season March – September inclusive then the area must be inspected first by an ecologist a maximum of 48 hours before work begins in an area. If any nests are found, work will have to be halted and the nest left undisturbed with a buffer zone until the chicks have fledged. This could take up to six weeks.

4.4 During operation, on-site maintenance of vegetation with the potential to support nesting birds must be conducted outside of breeding bird season (management October – February inclusive).

4.5 If vegetation management must be undertaken March – September inclusive then the area must be inspected first by an ecologist a maximum of 48 hours before work begins in an area. If any nests are found, work will have to be halted and the nest left undisturbed with a buffer zone until the chicks have fledged. This could take up to six weeks.

Objective 5: Method Statement in Relation to Reptiles

Trapping and Translocation Actions:

5.1 Identify the working area of the cable route within the semi-improved grassland; this should include any routes in and out (pedestrian and vehicular), storage areas and site offices.

5.2 Appoint an appropriate contractor to install reptile fencing, also known as drift fencing, around the working area.

5.3 Appoint an appropriate ecological contractor to undertake trapping and translocation of specimens.

5.4 Trap and translocate specimens at the appropriate time of year when species are active.

5.6 After successful trapping and translocation programme manage grassland to discourage any remaining reptiles prior to soil stripping.

5.6 Implement toolbox talks to ensure survival of the specimens.

Habitat Management Actions:

5.7 To manage the potential for reptiles to be present where the semi improved grassland surveyed in 2013 (outside of the cable route boundary) is to be removed, manage grassland to discourage any remaining reptiles prior to soil stripping.

5.8 Any areas of semi improved grassland to be retained will be protected (fenced off) from disturbance during clearance and construction to prevent injury to individuals. Any rubble and wood piles that need to be removed must be removed by hand to avoid injuring or killing any reptiles.

5.9 A toolbox talk should be given to staff to prevent any reptiles from being injured and/or killed. TATA must include the risk of reptiles and the mitigation measures in their site induction package and prior to any site clearance tasks.

5.10 Based on the nil return from the surveys this habitat management does not need to be supervised by an ecologist. In the unlikely event of any reptiles being identified during the habitat management or soil stripping works should stop and an ecologist should be contacted for further advice prior to commencement of works.

Objective 6: Method Statement in Relation to Bats

Actions:

6.1 Although the potential for bats on within the Order Limits is negligible and the proposed development does not require the demolition of any buildings or works on any of the brick buildings, a toolbox talk will be given and a procedure in place to ensure those working on site know to stop work and contact an ecologist should any bats be identified on site during construction works.

6.2 TATA must include the risk of bats and the mitigation measures in their site induction package and prior to any site clearance tasks.

6.3 In the unlikely event any bats are identified during construction works within the metal buildings or flying around the site works should stop and an ecologist should be contacted for further advice prior to commencement of works.

Objective 7: Method Statement in Relation to Invasive Species

Actions:

7.1 An external contractor licensed to deal with invasive species will be appointed and required to draw up and implement a removal strategy for the invasive plants at the site – Japanese knotweed and cotoneaster.

7.2 Soils contaminated with Japanese knotweed within the Order Limits will be treated or removed prior to any construction works. Pollution control measures as required in the Environment Agency's Knotweed Code of Practice will be implemented in order to avoid and minimise adverse effects on the spread of knotweed.

7.3 Any soil imported on to site will be from a reputable source completely free of any invasive species contamination.

7.4 A HMP will be issued by the licensed contractor and will contain details on how to proceed should invasive species be encountered during maintenance works.

7.5 A survey for invasive species will be conducted prior to decommissioning.

Objective 8: Method Statement to Ensure Conscientious Construction

Actions:

8.1 All site staff will be briefed on any ecological issues affecting the site during the site induction, the mitigation implemented and methods of working adopted as part of a 'tool box talk'. The talk will be undertaken on site at the start of that day to the site staff undertaking the activity or working within the sensitive area.

8.2 Identification of sensitive areas must be done in advance of on-site works. Movement of staff and machinery will be restricted in these areas (e.g. near semi-improved grassland, and adjacent to the drainage ditch/Middle Mother Ditch outside of the Order Limits). Exclusion zones will be established where required so that these features are not inadvertently damaged during the works. Movement of heavy plant during construction must avoid areas where trees/scrub are to be retained in order to prevent root compaction and accidental damage. Fencing can be used where required to reduce the land take required for vehicular movements and construction activities.

8.3 Measures must be employed to ensure that fugitive dust emission is minimised during the construction works. Measures must be in place in order to deal with pollution incidents efficiently especially near the drainage ditch/Middle Mother Ditch outside of the Order Limits.

8.4 All site compounds and access tracks will be of the minimum size required for safe working. These will be fenced to prevent encroachment of machinery and materials onto adjacent vegetation. Stockpiling of materials will be restricted to specific sites such as the construction compound. Waste materials will be removed from the site and disposed of at the earliest opportunity and will not be stockpiled.

8.5 Fuel, oil and other potential pollutants must be stored in bunded tanks in a designated site compound area away from ecologically sensitive areas. Store oil absorbent material on site and clear up spillages immediately.

8.6 Concrete will either be imported from a local batching plant or a concrete batching plant will be established on site. The final choice will depend on the chosen contractor, the availability of local supply and the time of year. If concrete is to be batched on site, appropriate containment and clean-up measures and procedures will be put in place that are in accordance with foundations, following specific method statements to ensure there is no spillage risk or contamination of soils, water and vegetation.

Objective 9: Conscientious Maintenance

Actions:

9.1 Access will be restricted to the use of the installed maintenance areas to avoid any additional disturbance of habitats within the development site.

9.2 No vehicles should track over or turn on any of the vegetated areas.

9.3 No maintenance should involve a change in the management or alteration of the habitats, an ecologist should be consulted before

any work that requires a change to the prescribed habitat management in this document or alteration of a habitat is undertaken.

9.4 Repeated tracking over of vegetated areas by foot should be avoided, but if necessary it should follow a habitat management regime to prevent any protected species that may be present, such as reptiles, sustaining injury or death.

9.5 During maintenance appropriate measures should be taken to prevent any damage or degradation to the habitats and species.

4 PRESCRIPTIONS

4.1 Introduction

4.1.1 The features that have been identified as requiring management are listed below. The management of non-native shrubs and ornamental planting is outside of the scope of this management plan.

Habitats

- 'Invertebrate sanctuary'/semi-improved grassland.

Species

- Kidney vetch;
- Breeding birds;
- Reptiles;
- Bats; and,
- Invasive species.

4.2 Management Protocol

4.2.1 Overall management aims:

- To provide valuable habitats which will support a diverse range of plant and animal species;
- To contribute to the conservation of biodiversity; and
- To create an environment that will contribute to the health and well-being of service users.

4.3 Habitat Management

'Invertebrate Sanctuary'/Semi-Improved Grassland

Background

4.3.1 An area of semi-improved grassland will be removed to facilitate the installation of underground cables; this area of semi-improved grassland will be allowed to regenerate naturally.

4.3.2 In addition, an area of semi-improved grassland will be removed to facilitate the construction of the proposed development. The loss of this habitat will be compensated for through the creation of species-rich 'invertebrate sanctuary' grassland which will also house the translocated specimens of kidney vetch.

4.3.3 Species which will benefit from management of this habitat:

- Kidney vetch;
- Invertebrates;
- Reptiles;
- Small mammals; and
- Foraging birds.

Establishment

4.3.4 An area of semi-improved grassland to be retained will be fenced off at a size and location to be agreed with the client, but most likely located at the northern end of the Order Limits.

4.3.5 There is reasonable botanical diversity in the semi-improved grassland on site and as such no ground preparation seed mixtures should be used. Sympathetic management will increase botanical diversity and value for wildlife.

4.3.6 No fertilisers should be applied to the area at any time, as this would add nutrients and encourage growth of dominant grasses.

Management Actions

4.3.7 Following flowering in May and June, the main cut is taken in July. A strimmer is ideal for small areas, with a mower suitable for larger areas. The material produced will usually need to be removed to prevent die back of the sward. At least three small piles of cuttings should be created to provide habitat for reptiles such as slow worm. Additional cuttings should be disposed of via a green waste stream. Further cuts may be required in the autumn and winter, and any build up of thatch can be pulled out with grass harrows or a rake. Following the last cut the meadow is left untouched until the main midsummer cut is taken again. If persistent weeds such as thistles or docks are a problem, then digging up by the roots is effective in small areas.

Timings

- 1st Cut: July;
- 2nd Cut: September; and,
- 3rd Cut: November – January.

4.4 Species Management

Kidney Vetch

Background

4.4.1 To allow the continuation of the small blue butterfly population in the area, it's larval food plant, kidney vetch, will be translocated from within the immediate footprint of the development and any construction areas where it may be damaged or destroyed into the fenced 'invertebrate sanctuary'.

4.4.2 This area will be managed to increase botanical diversity to the benefit of invertebrates.

4.4.3 For the cable route specimens will be translocated to a safe location outside of the fenced working area as close to the original location as possible. This will allow the small blue butterfly population to retain its distribution across the site.

4.4.4 The following actions will be undertaken to ensure the successful translocation of the kidney vetch specimens:

- A survey for kidney vetch will be conducted across the entire development area prior to construction to digitally map and physically mark on the ground the location of any specimens;
- Specimens to be effected by the development will be chosen and moved in the autumn (October – mid-November), when the small blue butterfly larvae will be present in the rootstock of the plant, ensuring to remove the entire rootstock of the plan;
- Timing of the move will be dependant on the prevailing weather conditions during the summer months – a reasonably warm, dry summer will produce a second brood in which case a move in October/November will be best, a cold and/or wet summer will not produce a second brood and as such the move can be undertaken in September;
- Specimens will be planted immediately after removal either in the 'invertebrate sanctuary' in an appropriate location or in a safe location outside the fenced working area as close to the original location as possible;
- Works will be carried out under the supervision of an ecologist; and,
- Surveys will be conducted to monitor the success of the translocation. A report will be issued to the Local Biodiversity Officer, other interested parties and the landscape management team with any further recommendations for management to ensure the success of the introduced habitats and their benefit to local wildlife, and to aid similar future projects.

<u>Timings</u>

- Initial Survey: June - September;
- Translocation: September – mid-November;
- Monitoring Survey 1st Year: June - September;

- Monitoring Survey 3rd Year: June - September; and,
- Monitoring Survey 5th Year: June – September.

Invertebrates

4.4.5 Pre-construction the semi-improved grassland and wet ditch provided opportunities for invertebrates, including the small blue butterfly. Post construction the retained semi-improved grassland and an 'invertebrate sanctuary' will provide opportunities for invertebrates. The 'invertebrate sanctuary' should include the provision of a nest box to encourage queen bees to start a colony. A suitable bumble bee nesting kit can be purchased from a number of online suppliers including NHBS (www.nhbs.com/bumblebee_nesting_kit_tefno_179696.html).

Reptiles

4.4.6 Slow worm and common lizard are present in the semi-improved grassland within the cable route on site. The following habitats will be created/managed for reptiles:

- Semi-improved grassland; and,
- Grass cutting piles.

4.4.7 Based on the positive result from the surveys reptile translocation will be required in the semi-improved grassland within the area designated for the cable route only. The remaining semi-improved grassland to be removed should first be managed as outlined in section 4.4.17.

4.4.8 The trapping and translocation programme has been designed following the guidance set out in Herpetofauna Groups of Britain and Ireland 1998 publication (HGBI, 1998).

4.4.9 Due to the 'Low' population of slow worm and common lizard within the survey area it is recommended that a trapping and translocation programme is undertaken to prevent any reptiles from being injured or killed. The actions involved in the proposed trapping and translocation are outlined below:

- The construction area, including any routes in and out, areas for site compounds, offices or storage of materials/waste, will be fenced off using drift fencing during clearance and construction to prevent injury to individuals attempting to enter the site from the adjacent land.
- No construction activities, including pedestrian access will be allowed outside of the fencing.
- A number of refugia (at a density of 100/ha) will be placed within the fenced area to attract reptiles.
- Each day, twice a day for a minimum of 30 days an ecologist will check the refugia for the presence of slow worm and common lizard.
- Any specimens found will be captured and placed outside of the fencing, within a safe location within the Order Limits.
- After 30 days the trapping can cease once there have been ten consecutive days where no reptiles have been found.
- After the fenced area has been cleared of reptiles the vegetation can be strimmed to a height of c.100mm one week prior to soil stripping leaving areas of longer vegetation where any reptiles that were not captured can retreat.
- After 48 hours an ecologist should inspect these areas, capturing and relocating any specimens. After which the whole fenced area can be cut to approximately 50mm.
- After a further 48 hours an ecologist should hand search remaining habitat for the presence of reptiles prior to topsoil stripping.
- Supervision of the soil strip during construction work by a suitably qualified ecologist will be required to ensure no injury or death is caused to reptiles.
- Areas of grassland habitat will be reinstated following the works.

4.4.10 Any litter or rubble piles will be removed by hand under the supervision of an ecologist to avoid injuring or killing any reptiles. If the material is too heavy

to be removed by hand it can be done so using a mini excavator carefully and slowly removing the material, under the supervision of an ecologist.

4.4.11 To reduce the risk of individual reptiles being injured or killed all works will proceed under a Method Statement agreed with the Local Biodiversity Officer prior to works commencing.

4.4.12 The Applicant must include the risk of reptiles and the mitigation measures in their site induction package and prior to any site clearance and construction tasks.

4.4.13 The habitat management and soil stripping will be supervised by an ecologist.

4.4.14 In the unlikely event of any reptiles being identified within the fenced area post-soil stripping, when an ecologist is not present, works should stop and an ecologist should be contacted for further advice prior to re-commencement of works.

4.4.15 Re-fuelling and servicing of vehicles will be carried out within a designated area with an impermeable base away from the retained habitats.

4.4.16 Site compounds and stock piles will be kept within designated areas away from the retained habitats.

4.4.17 To manage the potential for reptiles to be present where the semi improved grassland surveyed in 2013 (outside of the cable route boundary) is to be removed, ensure that vegetation is cut to c.100 millimetres (mm) in height one week prior to soil stripping. This will persuade any reptiles that may be present to retreat off-site on their own accord. The vegetation should be cut with hand-held machinery (e.g. strimmers and chainsaws) to reduce the risk of reptiles being crushed by machinery.

4.4.18 Vegetation removal will be undertaken methodically starting from the point furthest away from the vegetation to be retained and moving towards it. Any reptiles present on site will therefore be persuaded to move into this habitat and avoid being injured or killed by the removal works. Any areas of semi improved grassland to be retained will be protected (fenced off) from

disturbance during clearance and construction to prevent injury to individuals. Any rubble and wood piles that need to be removed must be removed by hand to avoid injuring or killing any reptiles.

Timings

- Trapping, translocation and habitat management: April – September – inclusive;

Breeding Birds

4.4.19 Pre-development the scrub and semi-improved grassland provided opportunities for nesting birds. Post-development, features which will provide foraging opportunities for birds through attracting insects include:

- Semi-improved grassland 'invertebrate sanctuary'.

Bats

4.4.20 Pre-development the scrub and semi-improved grassland provided opportunities for foraging bats. Post-development, features which will provide foraging opportunities for bats through attracting insects include:

- Semi-improved grassland 'invertebrate sanctuary'.

Invasive Species

4.4.21 The site landscape management team will be familiar with the advice given in the licensed contractors HMP and be committed to controlling invasive species on site.

5 WORK PROGRAMME

5.1 Key Responsibilities

5.1.1 The key responsibilities are:

- Ensure that BAP Objectives are met and management actions are carried out;
- Ensure that ecology is considered during management decisions which affect the habitats and species on site; and,
- Ensure that the management actions described in this document are carried out.

5.1.2 A matrix showing the individuals/organisations responsible for various tasks is outlined in Table 5.1. For each organisation, an individual should be identified and appointed to take on the responsibilities as detailed below.

Table 5.1 Responsibilities for Habitat and Species Management				
Name of Organisation	**Name of Individual**	**Contact Details (Phone and Email)**	**Responsibilities**	**Signature**
Building Occupier			Keep a record of any notable wildlife and submit to South East Wales Biodiversity Records Centre (SEWBReC).	
			Commit to translocation of kidney vetch.	
			Commit to creation and maintenance of habitats.	
			Appoint an external contractor to remove invasive species and device a HMP.	
Invasive Species Contractor			Devise a HMP for the management and removal of invasive species on site.	
Construction Contractor			Protect retained habitats during construction.	
			Give toolbox talks to prevent damage and/or destruction of species and habitats on site.	
			Commit to actions listed for conscientious construction.	
Landscaping Contractor			Give toolbox talks to prevent damage and/or destruction of species and	

Table 5.1 Responsibilities for Habitat and Species Management				
Name of Organisation	**Name of Individual**	**Contact Details (Phone and Email)**	**Responsibilities**	**Signature**
			habitats on site.	
			Undertaken clearance of vegetation with the potential to support nesting birds (scrub, ornamental shrubs and bracken) October – February inclusive.	
			Dry out the wet ditch, prior to infilling, by hand.	
			Prior to soil stripping manage those areas of semi-improved grassland to discourage reptiles April – September inclusive.	
			Install fencing to protect retained habitats during construction.	
			Install reptile fencing around proposed cable route working area.	
			Install fencing of 'invertebrate sanctuary'	
			Translocate kidney vetch specimens.	
			Install bumble bee nest box.	
Estate Team/Manager			Manage grassland areas.	

Table 5.1 Responsibilities for Habitat and Species Management				
Name of Organisation	**Name of Individual**	**Contact Details (Phone and Email)**	**Responsibilities**	**Signature**
			Manage 'invertebrate sanctuary'.	
			Control invasive species.	
			Manage vegetation with the potential to support breeding birds (scrub, ornamental shrubs, trees and bracken) October – February inclusive.	
			Commit to sympathetic management regimes and conscientious maintenance.	
Ecologist			Conduct survey for kidney prior to construction commencing.	
			Supervise translocation of kidney vetch.	
			Trap and translocate reptiles, and supervise vegetation management.	
			Monitor the condition of 'invertebrate sanctuary'.	
			Issue report on the condition of 'invertebrate sanctuary' with any recommendations for further management actions.	

5.2 Five Year Work Programme

5.2.1 The five year work programme outlined below (Table 5.2) indicates the actions to be taken annually each year following project completion. Ongoing management will be required after this period for many features and continuity should be considered carefully.

Table 5.2 Five Year Work Programme								
Records								
Feature and management compartment	***Initial Action***	***Timing***	***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Subsequent years of management***
Proposed development site	Keep a record of wildlife on site especially bats, reptiles and submit to South East Wales Biodiversity Records Centre (SEWBReC).	-	✓	✓	✓	✓	✓	Every fifth year
Survey and Monitoring								
Feature and management compartment	***Action***	***Timing***	***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Subsequent years of management***
Kidney vetch	Conduct survey of kidney vetch prior to translocation.	June-September inclusive	✓	×	×	×	×	None
Kidney vetch and 'invertebrate sanctuary'	Monitor the population of kidney vetch and condition of 'invertebrate sanctuary' and issue report with any recommendations for further management actions.	June – September inclusive	✓	×	✓	×	✓	None

Table 5.2 Five Year Work Programme								
Invasive Species	Conduct a survey for invasive species prior to decommissioning.	April – September inclusive	×	×	×	×	×	Once prior to decommissioning.
Species and Habitat Management								
Feature and management compartment	***Action***	***Timing***	***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Subsequent years of management***
Kidney vetch	Translocate specimens	October – mid-November	✓					None
Invertebrates	Install bumble bee nest box.	Any time during creation of 'invertebrate sanctuary'.	✓	×	×	×	×	None
Reptiles	Use grass cuttings to create reptile habitat around the periphery of the 'invertebrate sanctuary'..	Any time/after cutting	✓	✓	✓	✓	✓	Ad hoc – when available
Birds	Manage vegetation with the potential to support breeding birds (scrub, ornamental shrubs, trees and bracken).	October – February inclusive	✓	✓	✓	✓	✓	Ad hoc – when necessary

Table 5.2 Five Year Work Programme								
Semi-improved grassland and 'invertebrate sanctuary'	Manage grassland sympathetically; mow three times a year.	July; September; and, November – January.	✓	✓	✓	✓	✓	Every year

6 REFERENCES

AECOM (2014) The Port Talbot Steelworks (Power Generation Enhancement) Order, Environmental Statement

Arup. (2009). Port Talbot PDR 2 Ecology Summary Report October 2009.

Joint Nature Conservation Committee. (2010 Ed.). Handbook for Phase I Habitat Survey – A Technique for Environmental Audit. JNCC. Peterborough.