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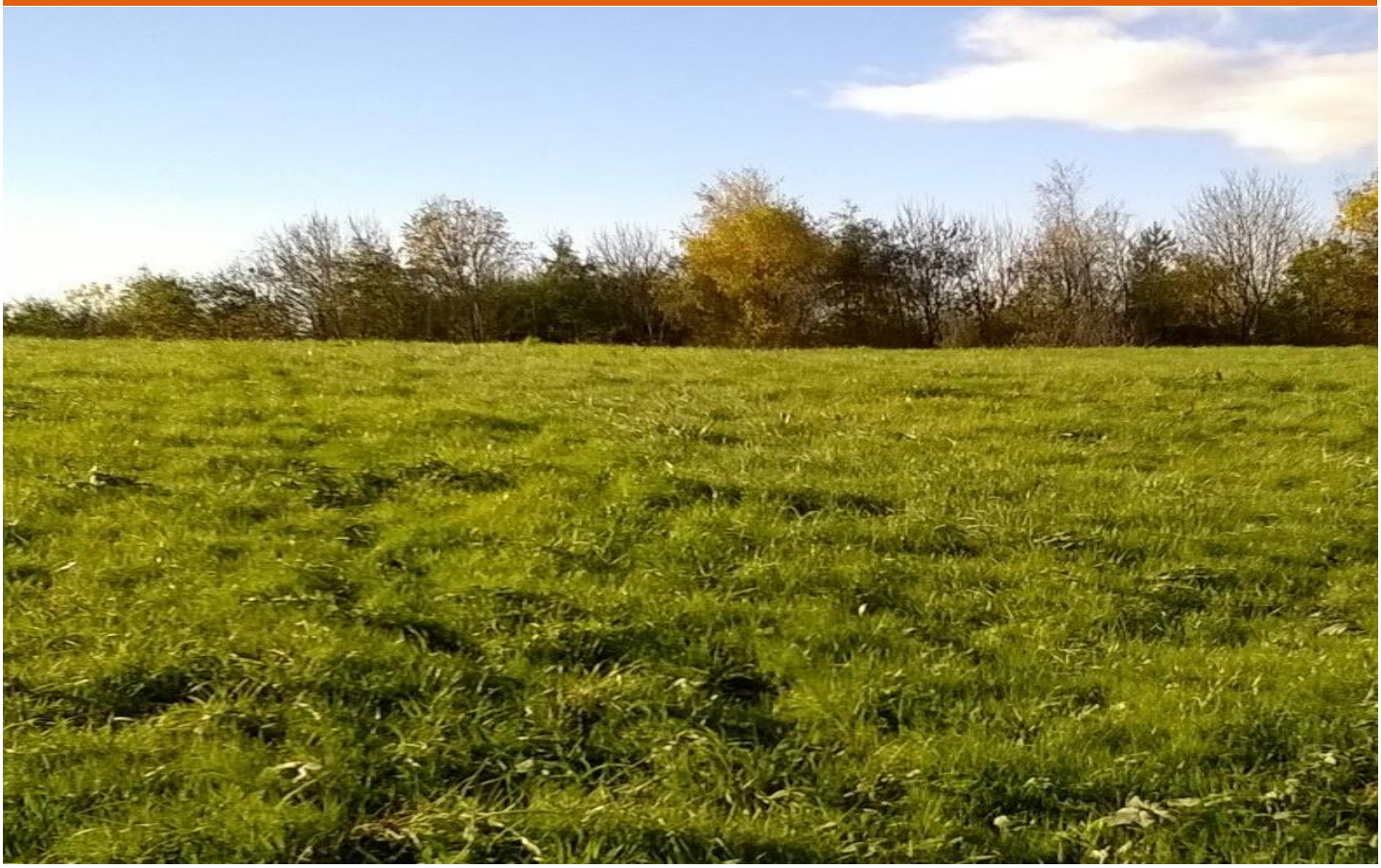
COG MOORS WWTW – PROPOSED ADVANCED ANAEROBIC DIGESTION (AAD) PLANT

Addendum Preliminary Ecological Appraisal

MARCH 2018



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Cog Moors WwTW – Proposed Advanced Anaerobic Digestion (AAD) Plant

Addendum Preliminary Ecological Appraisal

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Version	Date	Author	Changes
001	2.12.2016	Julie Player	Issue of final document
002	23.1.17	Lucy Fay	Addition of information relating to Tree Preservation Orders and records of great crested newts at Cosmeston Lakes
003	21.8.2017	Porscha Thompson	Updated to include additional survey area to the south of the site.
004	1.11.2017	Lucy Fay	Non-technical summary added
005	30.3.2018	Julie Player	Updated to include additional survey of a field north-west of the site and Green Lane.

CONTENTS

Non-technical Summary

A Preliminary Ecological Appraisal was undertaken of land adjacent to the existing Cog Moors Wastewater Treatment Works to identify any ecological constraints associated with the proposed Development at the site.

Three areas of habitat were surveyed - these include habitat within Cog Moors Site of Importance for Nature Conservation, a field located north west of Cog Moors Wastewater Treatment Works and the road verges along Green Lane.

The area surveyed within Cog Moors Site of Importance for Nature Conservation is dominated by semi-improved neutral grassland bordered by broadleaved plantation woodland. Trees covered by a Tree Preservation Order are present along the north-eastern boundary of the Wastewater Treatment Works and within the Site of Importance for Nature Conservation. The invasive plant species Indian (Himalayan) Balsam was recorded within Cog Moors Site of Importance for Nature Conservation.

The field to the north west of the Wastewater Treatment Works is dominated by poor semi-improved grassland, with an area of dense scrub copse in the centre of the field. The field is bordered by mature trees and scrub along the southern boundary, an intact hedgerow along the northern boundary and scrub along the eastern and western boundaries.

Green lane is bordered with a variety of semi-mature and mature trees and dense scrub. Both Japanese Knotweed and Rhododendron were identified within areas of the verge.

The areas surveyed have potential to support roosting and foraging bats, dormice, badgers, reptiles, amphibians and breeding birds and further targeted surveys are recommended.

Summary

This report presents the findings of Preliminary Ecological Appraisal associated with the proposed Development of Cog Moors Waste Water Treatment Works (WwTW), undertaken by Arcadis Consulting (UK) on behalf of Dŵr Cymru Welsh Water.

The proposed Development comprises an extension to the sludge treatment process at Cog Moors WwTW.

This report has been prepared to inform the Contractor of any ecological constraints associated with the proposed Development and inform the design process.

Mott MacDonald Bentley undertook a Preliminary Ecological Appraisal and desk study of the existing WwTW and adjacent land ('the site') in October 2016. This addendum report should be read in conjunction with the Preliminary Ecological Appraisal (Ref 1).

Further Phase 1 habitat surveys were undertaken by Arcadis Consulting (UK) in November 2016, June 2017 and March 2018 on land adjacent to Cog Moors WwTW, a field north west of Cog Moors WwTW and Green Lane. The surveys were carried out to update the results of the Preliminary Ecological Appraisal as these areas were either inaccessible during the initial Mott MacDonald Bentley survey or did not form part of the design proposals at that time. The Phase 1 habitats present were mapped and assessed for their potential to support protected species of plants and/or animals. In addition, the survey recorded incidental signs of protected species.

There is one non-statutory designated site within the proposed Development site, Cog Moors Site of Importance for Nature Conservation (SINC), which is designated for its series of species-rich rush pastures and presence of Tubular Water-Dropwort. The existing WwTW is also partially within Cog Moors Special Site of Scientific Interest (SSSI). In addition, the trees along the north-eastern boundary of the existing WwTW and northern boundary of the area of proposed works are covered under a Tree Preservation Order (TPO).

No protected species were identified within the boundary of the proposed Development site as part of the desk study; however, several records for bat roosts, dormice, great crested newts, otter and Schedule 1 bird species (Ref 1) were identified within 2 km of the proposed works.

The habitats within the areas surveyed comprised semi-improved neutral grassland, broad-leaved plantation woodland (containing Indian (Himalayan) Balsam), scattered trees, dense scrub, species-poor semi-improved grassland, marshy grassland and tall ruderal habitat with dry ditches located along the northern and western boundary of the site. Japanese Knotweed and Rhododendron were identified along the verge of Green Lane.

The site has the potential to support roosting and foraging bats, dormice, badgers, reptiles, amphibians (during their terrestrial phase) and breeding birds. The habitats and species identified are priority species under Section 7 of the Environment (Wales) Act 2016 and are protected under UK legislation.

Further ecological surveys recommended in Cog Moors SW Sludge Strategy Addendum Preliminary Ecological Appraisal (Revision A) produced by Arcadis (UK) Ltd in January 2017 are ongoing and appropriate mitigation is detailed in the subsequently produced reports.

1 Introduction and Aims

Arcadis Consulting (UK) Ltd, working as part of the Dŵr Cymru Welsh Water Capital Delivery Alliance (CDA), was instructed to undertake a Preliminary Ecological Appraisal of land adjacent to Cog Moors Wastewater Treatment Works (WwTW) ('the site'). The proposed Development includes the extension of Cog Moors WwTW and the construction of advanced digestion facilities and storage tanks.

This addendum report covers land to the east of Cog Moors WwTW, which was inaccessible during previous surveys, Green Lane and a field located north west of Cog Moors WwTW and should be read in conjunction with the Preliminary Ecological Appraisal (Ref 1) which covers the existing WwTW site.

This report presents the findings of the Preliminary Ecological Appraisal of land adjacent to Cog Moors WwTW undertaken by Arcadis Consulting (UK) Ltd and has been prepared to identify any ecological constraints associated with the proposed Development.

1.1 Site Location

The site is located in the Vale of Glamorgan south of Dinas Powys at grid reference ST 16327 69571 (see Drawing 4798-S-202-HYD-XX-XX-DR-NX-00005 (Rev P02) for the location and survey boundary of the site). The site is located immediately to the east of Cog Moors WwTW.

The land use within the immediate surrounding area is predominately agricultural with a residential estate to the north-east. The land to the east of Cog Moors WwTW can be accessed through the Cog Moors WwTW which is located just off Green Lane. The nearest main road is Sully Road located approximately 280 m to the east of the site, while other roads include Cog Road approximately 800 m to the south of the site and Cardiff Road (A4055) approximately 1.1 km to the west of the site.

1.2 Details of the Proposed Development

The proposed AAD plant comprises a number of new process and storage tanks and buildings, together with the demolition of and modifications to some existing items of plant and equipment.

The Proposed Site Development is shown on Drawing 4798-S-202-HYD-XX-XX-DR-XX-06120 (P03).

The proposed development would provide for:

- Additional digestion capacity;
- Conditioning of the sludge generated on the site (dewatering and removal of contaminating rags and plastic);
- Reception facilities for sludge imported to the site from satellite WwTWs;
- Blending of the indigenous sludge and imported sludge;
- A thermal hydrolysis plant (THP), which uses steam to increase the temperature and pressure in a reaction vessel to pre-treat the sludge;
- Boilers to generate the steam for thermal hydrolysis;
- A siloxane plant to remove contaminants from the biogas generated;
- A combined heat and power (CHP) plant to generate useable heat and electricity, which can be used on site, exported to the grid, or both;
- A UV plant to treat some of the final effluent water from the WwTW, to provide better quality process water, for the sludge downstream of thermal hydrolysis;
- Tanks to hold sludge and liquor, resulting from the thickening and dewatering processes;
- A cake storage silo;
- Odour control equipment;
- New internal site access roads and drainage;
- Site clearance and earthworks and new fencing;
- New MCC equipment and control kiosks; and
- Appropriate mitigation planting and ecological mitigation measures.

The proposed development will not involve the use of any hazardous substances in notifiable quantities.

The proposed AAD plant will operate in conjunction with the existing sewage sludge treatment facilities and is located, therefore, on the eastern side of the existing Cog Moors WwTW, adjacent to the existing sewage sludge treatment infrastructure.

Part of the proposed AAD plant would be located within the existing operational area of the WwTW. The balance of the proposed development would be sited immediately to the east of the existing operational area, on an area of woodland and scrub. This area immediately adjacent to the existing WwTW (Cog Moors Site of Importance for Nature Conservation (SINC)) is designated for its series of species-rich rush pastures.

Temporary construction compounds would be sited on an area of mown grassland, immediately adjacent to the existing final settlement tanks, and on an area of grassland within Cog Moors SINC to the east of the proposed AAD plant.

Vehicular access to the proposed development would continue to be gained from the A4055 via Green Lane, although no works to Green Lane are proposed.

The field to the north west of the WwTW will be used for compensatory planting only.

In addition, an upgrade to the electricity connection will be required.

1.3 Legislation

Appendix A contains key legislation relating to ecology and the environment for this scheme.

2 Methodology

2.1 Desk Study

A desk study was undertaken by Mott MacDonald Bentley in October 2016 as part of the South Sludge Strategy scheme on the Cog Moors WwTW (Ref 1). The desk study was undertaken in order to identify any existing ecological information relating to the proposed Development site and its surroundings.

Data collated within 2 km of the WwTW over the past 10 years was requested from the South East Wales Biodiversity Records Centre. The data search was extended to 10 km for sites designated for bats. Mott MacDonald Bentley also consulted a number of other sources including the Multi-Agency Geographical Information for the Countryside (MAGIC) website, Natural Resources Wales (NRW), Biodiversity Action Reporting System (BARS), Joint Nature Conservation Committee (JNCC), the Vale of Glamorgan Local Biodiversity Action Plan (LBAP) and the Vale of Glamorgan Local Development Plan 2011-2026 (Ref 1).

This information was reviewed in preparing this report and is referenced where appropriate. In addition, information on Tree Preservation Orders (TPOs) within/near the proposed Development site and additional records of great crested newts were provided by the Local Authority during a meeting held on 7th December 2016.

2.2 Field Survey

A Phase 1 habitat survey was undertaken on the 7th November 2016 by two experienced Arcadis ecologists. This comprised a walkover survey to map Phase 1 habitats present within the land immediately east of the WwTW (Cog Moors SINC) following the standard survey methodology (Ref 2). Dominant plant species were noted, as were any uncommon species or species indicative of particular habitat types, but there was no attempt to compile exhaustive species lists. Botanical names follow Stace (Ref 3) for higher plants.

A further survey following the same methodology was undertaken on 15th June 2017 to cover land within Cog Moors SINC not captured as part of earlier surveys, due to a change in the application boundary. In conjunction with the updated Phase 1 habitat survey, a survey to identify and record areas of invasive species within the application boundary was undertaken on 15th June 2017.

An additional survey following the same methodology was undertaken of Green Lane and a field located north west of Cog Moors WwTW on 21st March 2018. These areas were not captured as part of earlier surveys.

The habitats were assessed for their potential to support protected / notable species of plants and / or animals and observation was made of any incidental signs of protected / notable and invasive species. The outputs of the surveys include a Phase 1 habitat plan and a set of Target Notes (TNs) which are illustrated on Drawing 4798-S-202-HYD-XX-XX-DR-NX-00005 (Rev P02) with TN text provided in Appendix B. In addition, a Photographic Record can be found in Appendix C. The Target Notes and photographs are referenced in Section 3, below.

2.3 Limitations

The surveys undertaken in November and March, were carried out at a time when the majority of floral species are not in flower and as such may be more difficult to identify. However, it is acknowledged that the survey does not intend to provide an exhaustive plant species list. It is considered that the habitats present within the site could be appropriately identified and a suitable conservation value assigned at this time of year.

Due to access permissions, the survey along Green Lane was undertaken from a slow-moving vehicle whilst driving along Green Lane, restricting the identification of plant species. However, it is acknowledged that the survey does not intend to provide an exhaustive plant species list and it is considered that the habitats present could be appropriately identified, and a suitable conservation value assigned.

The survey undertaken of the north-west field was completed in March when many invasive plant species are not actively growing – the presence of invasive plant species could therefore have been missed.

3 Results

Full results of the desk study can be found in the Preliminary Ecological Appraisal produced by Mott MacDonald Bentley in October 2016 (Ref 1) and are summarised throughout this report where appropriate.

The results of the field survey are described below. The Phase 1 habitat survey plan is presented on Drawing 4798-S-202-HYD-XX-XX-DR-NX-00005 (Rev P02), whilst the associated Target Notes (TN 1–TN 8) are included in Appendix B and Photographic Record is included in Appendix C. Locations/extents of invasive species are shown on Drawing 4798-S-202-HYD-XX-XX-DR-NX-08022.

3.1 Designated Sites

3.1.1 Statutory Designated Sites

No Sites of European importance to nature conservation (Natura 2000 sites) were identified within 2 km of the proposed Development site (Ref 1). Two statutory designated sites of nature conservation importance (Sites of Special Scientific Interest (SSSI)) were identified within 2 km of the proposed Development site.

Cog Moors SSSI is located approximately 235 m west of the proposed Development and is designated for its large continuous damp mesotrophic (neutral) semi-natural grassland and is associated with stands of tall sedges and for populations of uncommon plants. The western end of the existing WwTW is within Cog Moors SSSI which wraps around the WwTW immediately adjacent to the southern boundary of the existing WwTW.

Previous extension works were undertaken at Cog Moors WwTW in 2007 (Ref 4). These works extended into an area of Cog Moors SSSI at the western end of the WwTW. As part of the Environmental Action Plan, this area of SSSI was translocated into the Cog Moors Site of Importance for Nature Conservation (SINC) (see Section 3.2, below) with a management and monitoring plan put in place. The receptor site for the SSSI habitat is located to the south of the existing WwTW (outside of the planning application boundary for the proposed Development) and should therefore remain undisturbed as part of these works.

Llynnoedd Cosmeston/Cosmeston Lakes SSSI is located approximately 800 m east of the proposed Development and is designated for eutrophic lakes which support a range of plants. The SSSI is connected to the proposed Development site via a network of drains.

Trees along the north-eastern boundary of the WwTW and the northern boundary of the area of proposed works are covered under a Tree Preservation Order (TPO) (see Figure 1 below).

Figure 1 - Extent of TPO (Image taken from Google (Ref 5))

Existing WwTW boundary Area of proposed works Treelines covered by TPO

3.1.2 Non-Statutory Designated Sites

A total of 14 non-statutory designated sites of county importance to nature conservation (SINCs) were identified within 2 km of the proposed Development. An extensive list and the reason for designations can be found in the Mott Macdonald Bentley report (Ref 1).

The proposed Development works are to be undertaken within the Cog Moors SINC which is designated for its series of species-rich rush pastures. Tubular Water-Dropwort (*Oenanthe fistulosa*), a rare plant species in Wales and listed on Section 7 of the Environment (Wales) Act 2016 as a priority species for the conservation of biodiversity, has been recorded within the SINC.

The remaining 13 SINCs are all more than 50 m from the proposed Development site (Ref 1). Several are hydrologically connected to the proposed Development site via drains for example Cosmeston Lakes SINC and North of North Road SINC.

There are no areas of Ancient Woodland within the proposed Development site, but there are several areas of Ancient Woodland within 2 km of the proposed Development (Ref 6). The closest of these are two of the SINCs, North of Cog Moors (approximately 50 m north of the existing WwTW) and Pop Hill (approximately 80 m north of the existing WwTW).

3.2 Plants and Habitats/ Flora

The habitats within Cog Moors SINC comprised semi-improved neutral grassland, broad-leaved plantation woodland, scattered trees, dense scrub and tall ruderal habitat with a number of dry ditches.

Habitats located within the north-westerly field comprised poor semi-improved grassland, dense and scattered scrub, an intact hedgerow and scattered trees.

The habitat along the verge of Green Lane consisted of a narrow broadleaved woodland strip, dense and scattered scrub and tall ruderal habitat.

3.2.1 Broad-leaved Plantation Woodland

Cog Moors SINC contained extensive areas of broad-leaved plantation woodland on embankments as illustrated on Drawing 4798-S-202-HYD-XX-XX-DR-NX-00005 (Rev P02). Trees were semi-mature in age and comprised Ash (*Fraxinus excelsior*) and Silver Birch (*Betula pendula*) predominantly, with small numbers of willow (*Salix* sp.), oak (*Quercus* sp.), Field Maple (*Acer campestre*) and Hazel (*Corylus avellana*). Several mature oak trees were recorded throughout the woodland located in the northern part of the site. The small area of woodland to the south of the site contained young trees of a uniform age and comprised Ash predominantly with smaller numbers of oak, Field Maple and Alder (*Alnus glutinosa*) with an understorey of Bramble (*Rubus fruticosus* agg.).

The ground flora within the woodland areas was sparse and included scattered Hart's-tongue (*Asplenium scolopendrium*), Ground Ivy (*Glechoma hederacea*), Common Nettle (*Urtica dioica*), Creeping Thistle (*Cirsium arvense*), Herb-Robert (*Geranium robertianum*), Wild Teasel (*Dipsacus fullonum*), White Clover (*Trifolum repens*), Broad-leaved Dock (*Rumex obtusifolius*), Common Reed (*Phragmites australis*), Hogweed (*Heracleum sphondylium*) and Bramble. The woodland located towards the eastern boundary of the site contained a number of pine trees (*Pinus sp.*) with a denser understorey than other woodland on site (Photograph 1).

3.2.2 Semi-natural Broad-leaved Woodland

Semi-natural broad-leaved woodland was located along the road verge of Green Lane and comprised a variety of mature and semi-mature trees. The most abundant tree species identified were Ash and oak, willows were frequently identified along the verge with smaller numbers of coppiced Hazel and Elder (*Sambucus nigra*). The understorey was sparse with some scattered/dense scrub in places consisting of Bramble, Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*). The ground flora was limited and consisted of Ground Ivy, Lords-and-Ladies (*Arum maculatum*), Common Nettle, Cleavers (*Galium aparine*), Hart's-Tongue (*Asplenium scolopendrium*) and Herb-Robert.

3.2.3 Dense continuous and scattered scrub

Areas of dense continuous scrub were located to the south of Cog Moors and close to the northern boundary of Cog Moors SINC where this habitat graduated into tall ruderal vegetation. Species identified included Bramble and Hawthorn with occasional Hemlock Water-dropwort (*Oenanthe crocata*) recorded in the area to the south of the site. Several mature Hawthorn and willow shrubs were located along the northern boundary of the site.

Dense continuous scrub was identified in the centre of the north-western field. Species identified include Bramble, Blackthorn and Hawthorn with occasional Ash saplings. Scattered scrub was also recorded along the southern and western boundaries of the field.

3.2.4 Semi-improved neutral grassland

Semi-improved neutral grassland was located at the centre of the site between areas of broad-leaved plantation woodland (Photograph 2). The sward was approximately 15 cm in height at the time of the survey. The dominant grass species identified were Yorkshire-Fog (*Holcus lanatus*) and Cock's-Foot (*Dactylis glomerata*), although the sward also supported common grassland and 'weed' species including Bristly Oxtongue (*Picris echioides*), dock (*Rumex* sp.), vetch (*Vicia* sp.), White Clover, Hogweed, Dandelion (*Taraxacum officinale* agg.), crane's-bill (*Geranium* sp.), Creeping Cinquefoil (*Potentilla reptans*), Creeping Buttercup (*Ranunculus repens*) and Ribwort Plantain (*Plantago lanceolata*) with Soft-Rush (*Juncus effusus*) scattered along the boundary of the grassland/woodland.

3.2.5 Poor semi-improved grassland

An area of poor semi-improved grassland was located to the south of the existing WwTW site. This habitat was largely comprised White Clover, Yorkshire-fog and Soft-Rush. Other species recorded included cinquefoil (*Potentilla* sp.), willowherb (*Epilobium* sp.), Common Sorrel (*Rumex acetosa*), Wild Teasel, Tufted Vetch (*Vicia cracca*), False Oat-grass (*Arrhenatherum elatius*), Meadow Buttercup (*Ranunculus acris*) and Meadow Barley (*Hordeum secalinum*).

The most abundant habitat located within the north-western field consisted of poor semi-improved grassland (Photograph 5). The grassland was heavily grazed by cattle with occasional areas of bare ground. The average height of the sward was approximately 5 cm. The field slopes upwards to the north and the lowest 30 m southern section of the field was wet and contained both Soft -rush (*Juncus effusus*) and Hard Rush (*Juncus inflexus*). The grassland became drier as the field inclined towards the north. Species identified include Crested Dog's-tail (*Cynosurus cristatus*), Cock's-foot, Annual Meadow-grass (*Poa annua*), White Clover, Cleavers, willowherb, Buttercup, Primrose (*Primula vulgaris*), Common Ragwort (*Senecio jacobaea*) and Common Nettle.

3.2.6 Tall Ruderal

Tall ruderal habitat was located along the northern and southern boundaries of Cog Moors SINC between areas of broad-leaved plantation woodland. The area to the north was wet/boggy with species identified including abundant Common Nettle, with Wild Teasel, Common Reed, Rosebay Willowherb (*Chamerion angustifolium*) and Dog-Rose (*Rosa canina* agg.) (Photograph 3). The area to the south comprised predominantly willowherb with Meadowsweet (*Filipendula ulmaria*), False Oat-grass, Hogweed, Hemlock Water-dropwort, Yorkshire-fog and Common Nettle.

A small area of tall ruderal habitat was also recorded on the southern boundary of the north-western field.

3.2.7 Marshy Grassland

Marshy grassland was located along the western area of Cog Moors SINC. Species identified include Soft-rush, Hard Rush and Field Wood-Rush (*Luzula campestris*). There was dense continuous scrub on the edge.

3.2.8 Hedgerow

An intact hedgerow was recorded along the northern boundary of the north-western field (Photograph 6). The hedgerow was approximately 3 m wide and 1.75 m tall and had been flailed recently. Blackthorn was the dominant species within the hedge with occasional Hawthorn and Elder recorded.

3.2.9 Dry Ditches

Dry ditches were recorded along the woodland boundaries to the north and west of Cog Moors SINC and along the boundary of the grassland to the east site (Photograph 4).

3.2.10 Protected/Notable Plants

No protected species of plants were found during the survey and no records of any such plant species were returned by the data search. However, the habitats present within the site have the potential to support less common plant species and the Cog Moors SINC citation highlights the presence of Tubular Water-Dropwort, a rare plant species in Wales (Ref 7). It is possible that this plant species is present within the footprint of the proposed Development in wetter areas in particular the areas of tall ruderal vegetation.

3.2.11 Invasive Plant Species

Indian (Himalayan) Balsam (*Impatiens glandulifera*) was identified scattered within woodland in the northern part of Cog Moors SINC (TN3) and also scattered within woodland within the existing WwTW. Locations/extents of Indian (Himalayan) Balsam are shown on Drawing 4798-S-202-HYD-XX-XX-DR-NX-08022 with further descriptions and photos included in Appendix D.

Japanese Knotweed (*Fallopia japonica*) (TN12) and Rhododendron (*Rhododendron ponticum*) (TN13) were recorded within the road verge along Green Lane.

3.3 Protected Fauna and/or Species of Conservation Concern

3.3.1 Aquatic Invertebrates

No aquatic invertebrates were identified as part of the desk study and the site does not offer any permanent aquatic habitat which would be suitable to support aquatic invertebrates. Aquatic invertebrates have not been considered further within this assessment.

3.3.2 Terrestrial Invertebrates

Ten notable invertebrates were identified as part of the desk study, including the beaded chestnut (*Agrochola lychnidis*), small emerald (*Hemistola Chrysoprasaria*) and buff ermine (*Spilosoma lutea*). For an extensive list see the Mott MacDonald Bentley report (Ref 1).

All of the notable species were identified a minimum of 1.4 km from the site. The site does not offer suitable habitat to support these notable terrestrial invertebrates and is likely to support only common species. Terrestrial invertebrates have not been considered further within this assessment.

3.3.3 Amphibians

Two records of common frog (*Rana temporaria*) and one record of a common toad (*Bufo bufo*) were identified approximately 1.5 km east of the site within Cosmeston Lake.

The desk study undertaken by Mott MacDonald Bentley (Ref 1) identified 26 records of great crested newts (*Triturus cristatus*) within 2 km of the site. Two records identified great crested newts 940 m south west of the site, with the only potential barrier to the movement of great crested newts between this location and the proposed Development site being Cog Road, which is a minor road.

Great crested newts are also known to be present at Cosmeston Lakes Country Park approximately 500m south-east of the existing WwTW (Ref 8).

The habitat between the records of great crested newts and the proposed Development is predominately agricultural land with hedgerows and minor roads. Hedgerows offer suitable places of shelter for great crested newts and minor roads would not be a barrier to dispersal.

A Habitat Suitability Assessment and initial pond net survey were undertaken by Arup in 2005 (Ref 9) of four ponds located within 500 m of Cog Moors WwTW. The habitat surrounding each pond was identified as being sub-optimal to support great crested newts and no great crested newts were present at the time of surveying. These surveys were undertaken more than 10 years ago, and the ponds and surrounding habitat may have changed within this time and may now have the suitability to support great crested newts.

The site contained suitable terrestrial habitat (scrub, hedgerow and woodland habitat) for all amphibian species for both foraging and commuting. The survey undertaken by Mott MacDonald Bentley in October 2016 also identified a number of suitable rubble piles and hibernacula within Cog Moors WwTW suitable for amphibians including great crested newts during their terrestrial phase (Ref 1).

A number of ponds and ditches are present within 250 m of the proposed Development site. These ponds and ditches may be suitable to support all amphibian species.

3.3.4 Reptiles

No records of reptiles were identified as part of the desk study.

The mosaic of habitats within Cog Moors SINC (semi-improved grassland, tall ruderal vegetation, scrub and woodland) are suitable to support reptiles, namely slow worms (*Anguis fragilis*), common lizards (*Lacerta vivipara*) and grass snake (*Natrix natrix*) (within damp woodland and tall ruderal habitat to the north of the site). It is considered likely that Cog Moors SINC would support a population of reptiles.

Several ant hills were recorded within the most northern section of the north-western field which would provide suitable food source for reptiles. The field however is heavily grazed by cattle with a short grassland sward height and is therefore considered sub-optimal to support reptiles.

3.3.5 Birds

The desk study returned records for 27 Wildlife and Countryside Act 1981 (as amended) (Ref 10) Schedule 1 bird species within 2 km of the site. These species include kingfisher (*Alcedo atthis*), pintail (*Anas acuta*), bittern (*Botaurus stellaris*), avocet (*Recurvirostra avosetta*), merlin (*Falco columbarius*), hobby (*Falco subbuteo*), red kite (*Milvus milvus*), osprey (*Pandion haliaetus*), bearded-tit (*Panurus biarmicus*), firecrest (*Regulus ignicapillus*), barn owl (*Tyto alba*) and field fare (*Turdus pilaris*). The closest bird species recorded was fieldfare located 580 m west of the site in 2007 and the most recent bird species recorded was of red kite approximately 1.4 km east of the site.

The woodland, scrub, hedgerow and tall ruderal habitat provides suitable nesting habitat for common bird species, but it is considered unlikely that it would support or be of value to the Schedule 1 bird species revealed by the desk study. Species identified during the survey undertaken in November 2016 include robin (*Erithacus rubecula*), woodpigeon (*Columba palumbus*) and jackdaw (*Corvus monedula*), none of which are protected/notable. Three disused nests (robin, blackcap (*Sylvia atricapilla*) and an unknown bird species) were identified within the boundary of the existing WwTW site in an area of tall ruderal/scrub vegetation in the east of the site on 3rd August 2017 (Ref 1). This vegetation was subsequently cleared under ecological supervision to facilitate ground investigation works. Two of the nests (robin and blackcap) were considered likely to have been active in 2017.

3.3.6 Badgers

No records of badger (*Meles meles*) were identified as part of the desk study.

The grassland and woodland habitat on site are suitable to support foraging and commuting badgers with the presence of suitable food sources for badger (invertebrates, nuts, and fruits). Although no setts were observed during the Phase 1 habitat surveys, the woodland areas are suitable to support badger setts. A culvert located within a dry ditch (TN8) provides access onto the Cog Moors WwTW which is also suitable to support badgers (Ref 1).

3.3.7 Otters and Water Vole

One record for otter (*Lutra lutra*) was identified as part of the desk study which was located approximately 1.8 km south east of the site. No records of water vole (*Arvicola amphibius*) were identified as part of the desk study.

The site offers no suitable habitat for otters and water vole due to an absence of permanent water and these species will therefore not be considered further as part of this assessment.

3.3.8 Hazel Dormouse

No records of dormice (*Muscardinus avellanarius*) were identified as part of the Mott MacDonald Bentley desk study (Ref 1). However, dormice have been confirmed at St Cyres, Dinas Powys, 1 km north of site in June 2015 (Ref 11).

The habitat within Cog Moors SINC is considered sub-optimal for dormice due to a lack of understorey within the woodlands and limited range of food species (Hazel, oak, Bramble, and Hawthorn). At the time of the survey (November 2016), very little of the Hazel (a key food species for dormice prior to hibernation) was found to be fruiting. However, the site is connected via woodland and hedgerows to the habitat with the record of dormouse identified in 2015 and it is possible that the proposed Development site supports dormice.

The woodland strip along Green Lane is considered sub-optimal for dormice - although the trees provide connectivity to the proposed Development site, there is a lack of understorey and limited food source.

The hedgerow along the northern boundary and scrub along the eastern boundary of the north-western field provides connectivity to Pop Hill SINC which is located immediately adjacent to the field. The scrub and hedgerow also provide sufficient cover and food source to support dormice.

3.3.9 Bats

The desk study returned a number of records of foraging and roosting bats within 2 km of the proposed Development but no records within the site itself. These included common pipistrelle (*Pipistrellus pipistrellus)* and soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*), leisler's bat (*Nyctalus leisleri*) lesser horseshoe (*Rhinolophus hipposideros*) and several records for myotid bats (*Myotis* sp.). Several common and soprano pipistrelle bat roosts were identified within residential properties north, north-east, south and north-west of the site. The closest bat roost identified was a pipistrelle bat roost located 1.2 km north-west of the site. Bat activity (leisler's, noctule, common pipistrelle and lesser horseshoe bats) was also recorded 940 m south of the site.

Cog Moors SINC contains suitable habitat to support foraging, commuting and roosting bats within woodland areas with six mature oak trees (TN1, 2, 4-7) that have potential to support roosting bats. The buildings within the existing WwTW site offer minimal features for supporting roosting bats (Ref 1).

Three mature trees located on the southern boundary of the north-western field have suitable features to support roosting bats (TN 9 - TN 11). Mature trees along Green Lane have the potential to support roosting bats, however due to the limitations of the survey, surveyors were unable to assess the trees sufficiently for bat roosting features.

4 Conclusions

This report presents the findings of consultations and Phase 1 habitat surveys undertaken in November 2016, June 2017 and March 2018 on land located adjacent to Cog Moors WwTW, Vale of Glamorgan.

The proposed Development is to extend Cog Moors WwTW and will include the construction of new buildings and infrastructure. The potential impacts of the works are discussed below.

The proposed Development site supports semi-improved neutral grassland, poor semi-improved grassland, marshy grassland, broad-leaved plantation woodland, scrub and tall ruderal habitats with the invasive plant species Indian (Himalayan) Balsam also recorded.

The proposed Development site is located within Cog Moors SINC which is designated for its series of species-rich rush pastures and presence of Tubular Water-Dropwort. During the time of the survey the abundance and diversity of rush species within the grassland was low and associated ditches were dry. Without appropriate mitigation/compensation, the proposed Development will result in a net loss of SINC habitat. Policy MG21 of the Local Development Plan (Ref 12) states that:

“Development proposals likely to have an adverse impact on SINCs or Priority habitats and species will only be permitted where it can be demonstrated that:

1. The need for the development clearly outweighs the nature conservation value of the site;
2. Adverse impacts on nature conservation and geological features can be avoided:
3. Appropriate and proportionate mitigation and compensation measures can be provided: and
4. The development conserves and where possible enhances biodiversity interests.”

It will therefore be imperative to provide appropriate mitigation/compensation for any adverse impacts and efforts should be made to provide ecological enhancement as part of the proposed Development.

The proposed Development site and existing WwTW site are bordered by mature trees covered by a TPO. Without appropriate mitigation, the proposed Development may result in loss/damage to these trees.

Habitats within the proposed Development site are suitable to support a range of protected species including nesting birds, reptiles, amphibians (during their terrestrial phase), dormice, badgers and bats.

Several records of bat roosts and bat activity was identified within 2 km of the proposed Development. There is suitable connectivity from the bat roosts via woodland and hedgerows to the site. Six mature oak trees located within the woodland in the northern part of the site have the potential to support roosting bats and three mature trees identified on the southern boundary of the north-western field also had features with potential to support roosting bats (although these trees will not be directly impacted by the proposed Development as the field is to be used for compensatory planting only).

The woodland on site offers suitable food plants to support dormice and is also connected via woodland and hedgerows to a location 1 km north where dormice are known to be present.

No evidence of badger was recorded on site; however, the site and surrounding environment does provide suitable foraging and commuting habitat for badgers.

The woodland, hedgerow, scrub and tall ruderal habitat is considered suitable to support breeding birds. The semi-improved neutral grassland, woodland, hedgerow and areas of scrub and tall ruderal vegetation may be used by reptiles and amphibians during their terrestrial phase for foraging, shelter and potentially hibernation.

Without effective and appropriate mitigation, the proposed works are at risk of affecting the following protected species:

- net loss of commuting and foraging habitat for bats;
- the potential loss of bat tree roosts;
- if dormice are present on site, the removal of the woodland will contribute to the net-loss of dormice nesting and commuting habitat as well as reducing food source on offer to this species and potential fragmentation/isolation of populations;
- reduction in foraging and commuting habitat for badgers and potential loss/disturbance to setts;
- if clearance works are undertaken during the breeding bird season there is a risk of harming nesting birds and the loss of scrub and trees will contribute a net loss of nesting and foraging habitat for birds;
- reptile and amphibians are at risk of being injured during vegetation clearance; and
- net loss of suitable terrestrial habitat (and potentially hibernation features) for amphibians and reptiles.

Works also have potential to cause the spread of invasive plant species (Indian (Himalyan) Balsam). No risk of spreading Rhododendron or Japanese Knotweed is anticipated as these are outside of the works footprint.

5 Recommendations

5.1 Further Surveys and Mitigation

Further ecological surveys recommended in Cog Moors SW Sludge Strategy Addendum Preliminary Ecological Appraisal (Revision A) produced by Arcadis (UK) Ltd in January 2017 (Ref 13) have been completed and appropriate mitigation is detailed in the subsequently produced reports.

The field to be used for compensatory planting should be monitored for the presence of invasive species as part of a long-term Habitat Management Plan (Ref 14).

6 References

Ref 1: Mott MacDonald Bentley, 2016. Cog Moors WwTW South Sludge Strategy - Preliminary Ecological Appraisal (P02).

Ref 2: Joint Nature Conservation Committee (JNCC), 2010. Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit.

Ref 3: Stace, C., 2010. New Flora of the British Isles Third Edition. Cambridge University Press.

Ref 4: ARUP, 2007. Cog Moors Waste Water Treatment Works. Mitigation/Environmental Action Plan.

Ref 5: Google, 2017. Google Maps. https://www.google.co.uk/maps/place/Green+Ln,+Dinas+Powys+CF64+4TR/@51.4197287,-3.2107633,924m/data=!3m1!1e3!4m5!3m4!1s0x486e045daa8c283d:0xdb975e64902398de!8m2!3d51.4203275!4d-3.2166749 [Accessed 20th January 2017].

Ref 6: Forestry Commission Wales, 2015. Ancient Woodland Inventory 2011 Data Set. http://maps.forestry.gov.uk/imf/imf.jsp?site=fcwales_ext& [Accessed 1st December 2016].

Ref 7: Vale of Glamorgan Council, 2009. Review of Priority Habitats and SINCs – Downs Farm.

Ref 8: Vale of Glamorgan Council, 2017. Cosmeston Lakes County Park – Lakes and Ponds. http://www.valeofglamorgan.gov.uk/en/enjoying/parks_and_gardens/cosmeston/cosmeston_lakes_country_park/habitats_and_wildlife/lakes_and_ponds.aspx [Accessed 20th January 2017].

Ref 9: ARUP, 2006. Cog Moors WwTW: Extension and Improvement. Planning Application Supporting Information.

Ref 10: The Wildlife and Countryside Act 1981 (as amended). HMSO.

Ref 11: RPS, 2015. Ecological Appraisal St Cyres, Dinas Powys.

Ref 12: Vale of Glamorgan Council, 2017. Vale of Glamorgan Local Development Plan 2011-2026. Written Statement.

Ref 13: Arcadis (UK) Ltd, 2017. Cog Moors SW Sludge Strategy - Addendum Preliminary Ecological Appraisal Rev A.

Ref 14: Arcadis (UK) Ltd, 2018. Cog Moors WwTW – Proposed Advanced Anaerobic Digestion (AAD) Plant. Habitat Management Plan. Report number: 4798-S-202-HYD-XX-XX-RP-XX-10199 (Rev 2).

Ref 15: The Conservation of Habitats and Species Regulations 2017. HMSO.

DRAWINGS

Drawing 4798-S-202-HYD-XX-XX-DR-NX-00005 (Rev P02) – Cog Moors WwTW Phase 1 habitat survey

A3

LEGEND

- Planning Application Boundary
- Target Note
- Scattered Scrub
- Intact Species Poor Hedgerow
- Fence
- Dry Ditch
- Scattered Tree

Habitat Type

- Hardstanding
- Semi-Natural Broadleaved Woodland
- Bare Ground
- Tall Ruderal
- Scattered Scrub
- Dense Scrub
- Marshy Grassland
- Broadleaved Woodland - Plantation
- SI — Neutral Grassland - Semi-Improved
- SI — Poor Grassland (Semi-Improved)

Rev.	Date.	Drawn.	Description.	Chkd.	Appd.	Date.
01	19JUN17	AH	Initial Issue	JP		19JUN17

Capital Delivery Alliance
Cynghrair Cyflawni Cyfalaf
Ty Awen, Spooner Close, Coed Kernew, Newport, NP108FZ

Project Name.
Cog Moors WwTW

Drawing Title.
Cog Moors WwTW Phase 1 Habitat Survey

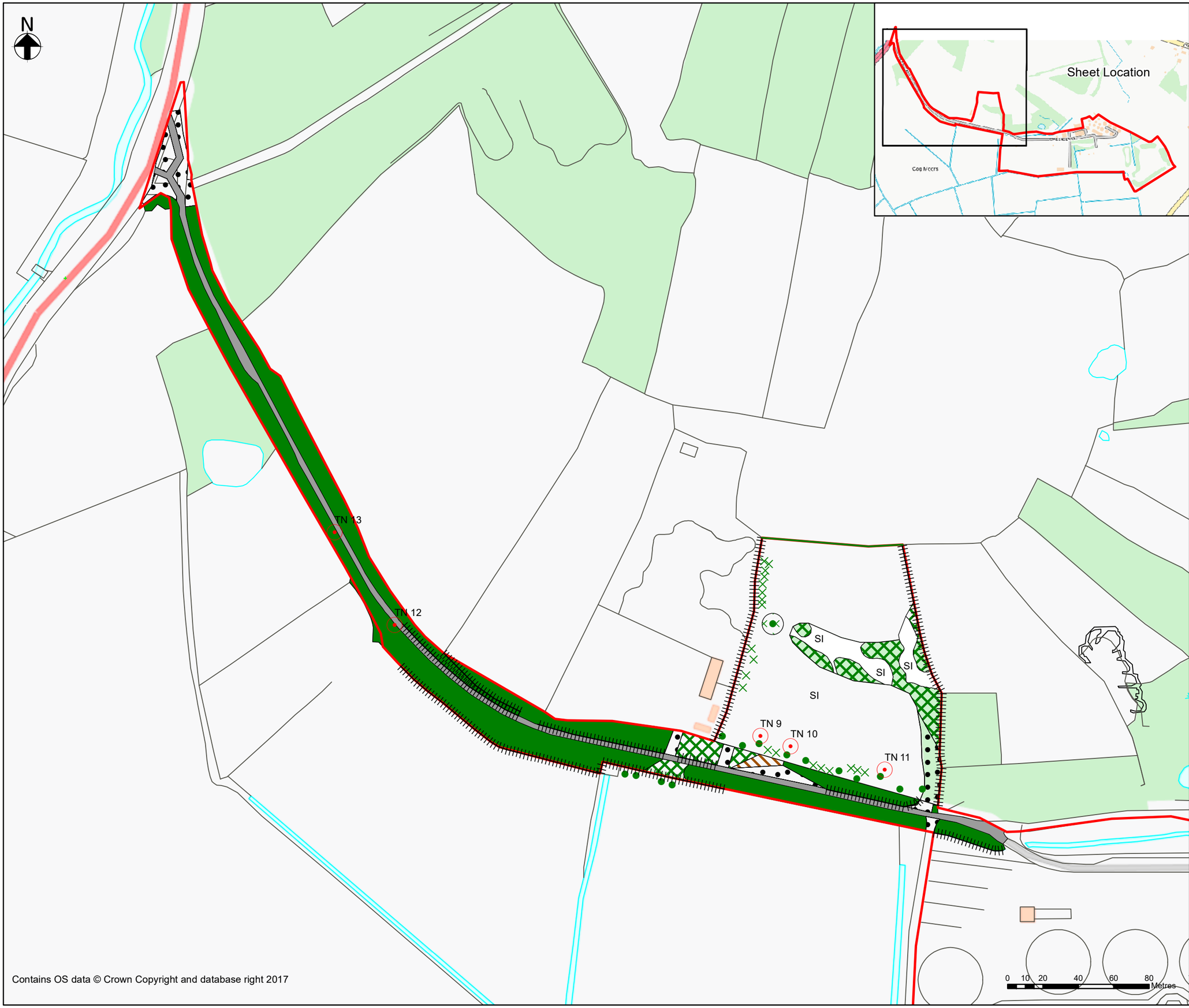
Suitability.	Suitability Code.
For Information	S2

Originator	Designer	Date.
A.Hankinson	J.Player	19JUN17

Internal Project Number	Scale	Rev.
UA007902	1:1,000	P02

Drawing Number.
4798-S-202-HYD-XX-XX-DR-NX-00005

K:\projects\UA007902-Cog Moors\E-OurDrawings\UA007902-Reptile Refuge Locations-A1.mxd



A3

LEGEND

- Planning Application Boundary
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- SI — Poor Grassland (Semi-Improved)

Rev.	Date.	Drawn.	Description.	Chkd.	Appd.	Date.
01	19JUN17	AH	Initial Issue	JP		19JUN17

Capital Delivery Alliance
Cynghrair Cyflawni Cyfalaf
Ty Awen, Spooner Close, Coed Kernew, Newport, NP10 8FZ

Project Name.
Cog Moors WwTW

Drawing Title.
Cog Moors WwTW Phase 1 Habitat Survey

Suitability.	Suitability Code.
For Information	S2

Originator	Designer	Date.
A.Hankinson	J.Player	19JUN17

Internal Project Number	Scale	Rev.
UA007902	1:2,000	P02

Drawing Number.
4798-S-202-HYD-XX-XX-DR-NX-00005

Drawing 4798-S-202-HYD-XX-XX-DR-XX-06120 (P03) – Proposed Site Development

A1

N

CARDIFF ROAD
(A4055)

GREEN LANE
(SITE ACCESS ROAD)

SITE ENTRANCE

CROSS COMMON ROAD

SULLY ROAD

PROPOSED SITE DEVELOPMENT
SCALE 1:2500

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METERS ABOVE GROUND LEVEL.
3. DO NOT SCALE FROM THIS DRAWING.

LEGEND:
- PLANNING APPLICATION BOUNDARY
- EXISTING
- PROPOSED
- TEMPORARY CONTRACTORS COMPOUND
- PROPOSED SECURITY FENCE TO TIE INTO EXISTING FENCE LINE

1:2500 | 25m | 50m | 75m | 100m | 125m | 150m | 175m | 200m | 225m | 250m

Rev.	Date.	Drawn.	Description.	Chkd.	Appd.	Date.
P03	14/03/18	DM	UPDATED BOUNDARY	LW	MN	14/03/18
P02	17/10/17	DP	FOR INFORMATION	YF	MN	17/10/17
P01	21/08/17	DP	FOR INFORMATION	YF	MN	21/08/17

Capital Delivery Alliance
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Ty Awen, Spooner Close, Coed Kernew, Newport, NP10 8FZ

Project Name: COG MOORS WwTW AAD

Drawing Title: PROPOSED SITE DEVELOPMENT

Suitability.	Suitability Code.
ISSUED FOR INFORMATION	S2

Originator.	Designer.	Date.
DP	RN	17/10/17

Internal Project Number.	Scale.	Rev.
UA007902	1:2500	P03

Drawing Number: 4798-S-202-HYD-XX-XX-DR-XX-06120

Drawing 4798-S-202-HYD-XX-XX-DR-NX-08022 – Invasive Species Plan

A3

NOTES:

Legend:

- Planning Application Boundary
- Humalayan Balsam

RHODODENDRON

JAPANESE KNOTWEED

JAPANESE KNOTWEED

HIMALAYAN BALSAM AREA 1

HIMALAYAN BALSAM AREA 2

HIMALAYAN BALSAM AREA 3

White Bungalow

Track

Pop Hill

Walnut Tree House

Brynawel Nurseries

CROSS COMMON ROAD

Pit

Colls

Green Lane

GREEN LANE

Solar Panels

Sewage Works

Drain

Cog Moors

Sinks

Downs Cottage

Downs Farm

SULLY ROAD

Co Const & Assy Const Bdy

Boro Const Bdy

Ford

Cog Bridge

INSET 1:2000

50mm on Original

Dwr Cymru Cyf gives this information as to the position of its underground apparatus by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. It must be understood that the furnishing of the information is entirely without prejudice to the provision of the New Roads and Streetworks Act 1991 and of the Company's right to be compensated for any damage to its apparatus.

Dwr Cymru Cyf has no duty to identify private apparatus and the information as to the position of the private apparatus is given by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon. Not all private apparatus is identified but their presence should be anticipated.

Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.
03	28/08/17	RG	FOR INFORMATION	LF	LF	28/08/17

Capital Delivery Alliance
Cynghrair Cyflawni Cyfalaf

Ty Aman, Spencer Close, Coed Kernew, Newport, NP106FZ

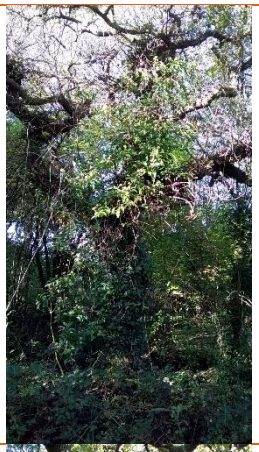
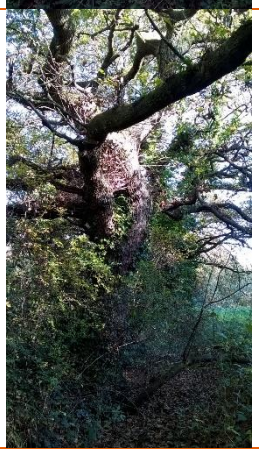
Project Name.	COG MOORS WwTW AAD
Drawing Title.	INVASIVE SPECIES PLAN
Suitability.	FOR INFORMATION
Suitability Code.	S2
Originator.	NA
Designer.	NA
Date.	18/08/17
Internal Project Number.	UA007902
Scale.	1:4000@A3
Rev.	03
Drawing Number.	4798-S-202-HYD-XX-XX-D-NX-08022

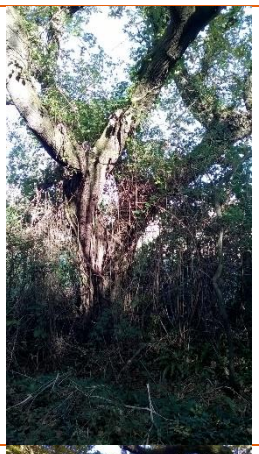
APPENDICES

Appendix A - Legislation

Ecological constraint	Rationale
Invasive Plants (Indian Balsam, Japanese Knotweed, Rhododendron etc.)	It is an offence under Section 14 of Wildlife and Countryside Act 1981 (as amended) (Ref 10) to cause plants listed in Schedule 9 of this Act to grow in the wild Material contaminated with these species is classified as controlled waste under the Environmental Protection Act 1990 and should therefore be disposed of in an appropriately licensed landfill site.
European Protected Species (great crested newts, bats, dormice)	It is an offence under the Conservation of Habitats and Species Regulations 2017 (Ref 15) to deliberately kill or injure a European Protected Species, to destroy breeding/resting sites, or to deliberately disturb these species and affect their ability to survive, rear young, breed or hibernate.
Nationally protected species - those listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (great crested newt, bats, dormice)	It is an offence under the Wildlife and Countryside Act 1981 (as amended) (Ref 10) to intentionally or recklessly disturb a species listed on Schedule 5 whilst it is in a place of shelter, or to obstruct access to a place of shelter.
Reptiles	It is an offence under the Wildlife and Countryside Act 1981 (as amended) (Ref 10) to kill or injure common species of reptiles.
Nesting birds	It is an offence under the Wildlife and Countryside Act 1981 (as amended) (Ref 10) to damage or destroy a bird's nest whilst it is in use, and to kill or injure a bird or destroy an egg.
Badgers	It is an offence under the Protection of Badgers Act (1992) to damage or destroy a badger sett, obstruct any entrance of a badger sett, and disturb a badger whilst it is occupying a badger sett.

Appendix B - Phase 1 Target Notes

Number	Description	Photograph
Target Note 1	Mature oak tree with bat roost potential	
Target Note 2	Mature oak tree with bat roost potential	
Target Note 3	Indian (Himalayan) Balsam	
Target Notes 4 and 5	Mature oak trees with bat roost potential	

Number	Description	Photograph
Target Note 6	Mature oak tree with bat roost potential	
Target Note 7	Mature Oak tree with bat roost potential	
Target Note 8	**Culvert leading to dry ditch**	
Target Note 9	**Mature oak tree with bat roost potential**	
Target Note 10	**Mature oak tree with bat roost potential**	

Number	Description	Photograph
Target Note 11	**Tree with bat roost potential**	
Target Note 12	**Japanese Knotweed on Green Lane**	
Target Note 13	**Rhododendron on Green Lane**	

Appendix C - Photographs

Photo 1: Broad-leaved Plantation Woodland

Photo 2: Semi-improved neutral grassland

Photo 3: Tall Ruderal

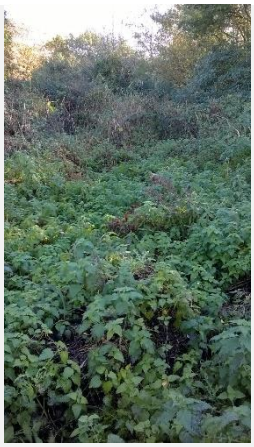


Photo 4: Dry Ditch

Photo 5: North-west field

Photo 6: Intact species-poor hedgerow

Appendix D - Indian (Himalayan) Balsam pro forma

Area 1			
Date		15th June 2017	
Approximately 0.2 hectares of Indian Balsam scattered throughout woodland			
Grid Reference	South: ST1621969577	North: ST1623069614	
Average height of stems	<1m **X**	1-2.5m	>2.5m
Max stem diameter	<1cm	1-2cm **X**	>2cm
Vegetation Composition	Himalayan Balsam Only	Himalayan Balsam and other vegetation Other species include Hart's-tongue (*Asplenium scolopendrium*), Ground Ivy (*Glechoma hederacea*), Common Nettle (*Urtica dioica*), Bramble (*Rubus fruticosus agg*), Creeping Thistle (*Cirsium arvense*) and Hazel (*Corylus avellana*)	
Proximity to watercourse	Yes <0.5m from a ditch which is occasionally wet	No	
Slope	Flat	Moderate **X**	Steep
Land Use	Broadleaved woodland within Water Treatment Works		
Remarks	Indian balsam scattered throughout the woodland predominately along the edge of the ditch which was dry at the time of the survey. Was found to be of varied heights and diameters. Dense scrub may be hiding some small stands/growth.		
Photograph			

Area 2			
Date		15th June 2017	
Approximately 0.25 hectares of Indian Balsam scattered throughout woodland			
Grid Reference	South: ST1631769550	North: ST1627869648	
Average height of stems	<1m **X**	1-2.5m	>2.5m
Max stem diameter	<1cm	1-2cm **X**	>2cm
Vegetation Composition	Himalayan Balsam Only	Himalayan Balsam and other vegetation Other species include Ground Ivy, Common Nettle, Bramble, Hawthorn (*Crataegus monogyna*) and Hazel	
Proximity to watercourse	Yes <0.5m from a ditch which is occasionally wet	No	
Slope	Flat	Moderate **X**	Steep
Land Use	Broadleaved woodland within Cog Moors SINC		
Remarks	Indian balsam scattered throughout the woodland with some stands >1m tall. Scattered throughout the embankment and along the ditches within the woodland which are occasionally wet. Smaller stands noted sprouting up throughout the embankment. There may be additional stands/growth hidden by dense scrub and tall ruderal vegetation.		
Photograph			

Area 3			
Date		3rd August 2017	
Approximately 10 small stems of Himalayan Balsam found within a dense area of scrub while overseeing ground investigation works.			
Grid Reference	ST 16270 69553		
Average height of stems	<1m **X**	1-2.5m	>2.5m
Max stem diameter	<1cm **X**	1-2cm	>2cm
Vegetation Composition	Himalayan Balsam Only	Himalayan Balsam and other vegetation Other species include Common Nettle, Bramble and Hawthorn	
Proximity to watercourse	Yes Approximately 25 m from a ditch which is occasionally wet	No	
Slope	Flat	Moderate **X**	Steep
Land Use	Dense scrub habitat located within Cog Moors WwTW		
Remarks	Small young stand of Himalayan Balsam consisting of 10 stems approximately 0.5m in height located within an area of dense scrub habitat. None of the plants had seed pods. Plants cut down during site clearance to facilitate ground investigation works. All material retained on site.		
Photograph	No photograph taken		

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