



UPDATE TO PHASE 1 HABITAT & PROTECTED SPECIES SURVEY

For

**BURGHFIELD LEACHATE TREATMENT
PLANT, READING**

Client

CEMEX UK Materials Limited

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September 2016

**Bat licence no.: 2015-13787-CLS-CLS
Great crested newt licence no.: 2015 -8022 –CLS-CLS**

**Update to Phase 1 Habitat & Protected Species Survey
Burghfield Leachate Treatment Plant, Reading, Berkshire**

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Update to Phase 1 Habitat & Protected Species Survey
Burghfield Leachate Treatment Plant, Reading, Berkshire
Survey: 16th September 2016

1.0 Introduction

The ERAs Consultancy was commissioned to update an extended Phase 1 Habitat & Protected Species survey produced by SKM Enviros dated January 2012. The updated survey included assessing a Phase 2 great crested newt survey, of a nearby, newly created, surface-water lagoon, undertaken in June 2012 by the Ecosulis Consultancy. The survey site is located at Ordnance Survey grid reference: SU 697710. See aerial photograph at the end of the report.

2.0 Site Description

The area in which the site is located lies between a railway embankment to the west and the Kennet and Avon Canal to the north. It was originally excavated for sand and gravel, before being used to deposit domestic waste. The waste tip has now been covered with soil and grassed over. Methane produced from the tip is being collected by a facility adjacent to the proposed location of the new plant. The plant is designed to deal with leachate from the tip. Initial work on the site, following planning permission, has involved putting in an access road and using the surface of the soil from the footprint of the plant to form a bund between the two facilities.

The soil surface in the immediate area has undergone re-profiling, as shown in the aerial photograph below. The current vegetation cover appears to be the product of plants from the soil seed bank, with the possible addition of grass seed such as red fescue.

Because four years have elapsed since the original Phase 1 survey, an update was considered advisable to ensure there had not been any significant changes to the findings re protected species.

3.0 Survey Methods and Constraints

- 3.1 The re-survey took place on the early afternoon of the 16th September. The weather was overcast following rain showers. The temperature reached 20 degrees C during the day, which was warm for the time of year.
- 3.2 The field survey involved examining the proposed footprint of the plant, the surrounding vegetation and the lagoon checked for great crested newt. The walk-over of the area, was to search for evidence of protected species of plants and animals and to assess the habitat types. The habitat survey followed the methodology set out in JNCC guidelines (1990), 2007 edition.

3.3 The survey for the presence of animals with statutory protection followed best practice guidelines and involved looking for signs such as suitability of habitat, paths made, droppings and physical presence.

3.4 A detailed desk-top survey had been carried out for the original survey in 2012 but in addition, data sources such as the MAGIC website, were checked for data relevant to the site. See references at the end of the report.

4.0 Statutory Wildlife Designations

There are no statutory wildlife sites designated under the *Wildlife and Countryside Act 1981* (W&C Act) (as amended), within the study site, immediately adjacent or within 2 kilometres. Non-statutory sites within 2km of the site include:

- Fobney, Kennet & Kennet & Avon Canal Meadows
- Burghfield Gravel Pits
- Kennet & Avon Canal & River Kennet
- Holy Brook
- Devil's Dip

The Habitats Directive, embodied in the *Conservation (Natural Habitats, &c.) Regulations 1994*, and interpreted as the UK's Biodiversity Action Plans, (BAP) lists species of concern. These species do not necessarily have Statutory Protection, but are regarded as requiring positive management to enhance populations. See **Appendix 2** for the species protected under the Berkshire Biodiversity Action Plan.

5.0 Flora – Habitat Summary

The walk-over survey identified the broad character of the habitats found within the study area. The following notes summarise the main habitat types.

NB No plant listed on Schedule 8 of the W&C Act (1981) was found growing on the site or the immediate area, much of which had been the subject of contouring during an earlier stage of the site works.

5.1 Trees & shrubs

There are no trees or shrubs on the proposed site for the Leachate plant. The closest are a row of mature crack willow along an existing ditch line, now the northern boundary of the surface water lagoon. The southern edge of the lagoon is developing a margin of young willow volunteers.

5.2 Grassland

The Phase 1 survey dated January 2012 showed the area encompassing the site of the leachate plant as being 'semi-improved neutral grassland'. This grassland cover has only become established since c. 2006, as shown by the aerial photograph below. There are grass species such red fescue, tall fescue, creeping bent-grass and

cock's-foot. The commonest broad-leaved herb was lucerne, a legume, commonly grown as a forage plant which could have come from the soil seedbank or been sown to improve the soil. Other grasslands to the east have been cut by the farmer. See plant list in Appendix 1. It has no significance as a grassland in conservation terms but its structure has value for cover for small mammals etcetera. The actual footprint of the leachate plant has had a small depth of soil pushed to one side to form a bund on the western boundary, which is now dominated by bristly ox-tongue derived from the seed bank. The plant cover over the footprint of the leachate plant site is currently around 50%.

5.3 Wetland

There are no original ponds on the survey site but a surface-water lagoon has been constructed approximately c. 50m north of the site. The lagoon was wet when checked for newts in June 2012 but dry in September 2016. It is dominated by a stand of greater reedmace, *Typha latifolia*. The dense vegetation on the base of the lagoon suggests that the water level is often low or absent.

5.4 Land adjacent to the survey site. The site is bordered to the west by a railway embankment, to the north by an old ditch and line of mature crack willows, to the east by other grasslands, cut by the farmer, and to the south by the dome of the former domestic tip, covered in grassland. See aerial photograph.

6.0 Fauna

6.1 Mammals

The surveys were targeted at those mammal species having statutory protection under The Wildlife and Countryside Act 1981; Conservation (Natural Habitats, &c.) Regulations 1994; Badger Protection Act 1992; those listed in the UK Biodiversity Action Plan; and in national and local Red Data lists. The aim was to use survey techniques to identify the presence or likely occurrence of protected species.

6.1.1 Bats

All species of bat are protected under the Wildlife & Countryside Act 1981 (schedule 5), as amended. Not only are the animals protected from being disturbed or killed but their roost sites are protected, whether or not a bat is present at the time. If any of these consequences are likely then a Natural England European Protected Species Licence would be required to permit activities that would otherwise be unlawful.

There is no previous information on bat species at the survey site. There are flight records for noctule and daubentons and roost records for brown long-eared and pipistrelle in this 10 km square. There are no structures or trees on the site which could be used by bats. However, the area offers good feeding habitat particularly along the line of old crack willows to the north and the nearby canal.

The surveyor holds bat licence no. 2015-13787-CLS-CLS

6.1.2 Badger

The badger and its sett are protected by the *Protection of Badgers Act 1992*. It is illegal to take, injure or kill badgers. Under Section 3 of the Act it is illegal to damage or destroy a sett, obstruct access to a sett or disturb a badger when it is occupying a sett. The working limit for heavy vehicles and pile drivers is 30metres from a sett.

No sett occurs within the site and a walk round the extended margins did not pick up any badger paths, dung pits or feeding activity. The original survey found an outlying sett on the railway bank within 1km of the site. Badgers will not be affected by the building of the plant.

6.2 Amphibians

Natural England advises that water bodies within 500m of a development site be checked for great crested newts. Great crested newts (GCN) are protected under European legislation because of their scarcity there. However, they are common in England. There are occasional records for GCN in this 10km square.

A great crested newt survey was undertaken in June 2012 by the Ecosulis Consultancy. The newly created lagoon was checked but no GCN were found. The lagoon is cut off from old, established ponds, that might have formed a source of newts, by the railway bank and the canal. The digging of sand and gravel to the south will also have removed any potential sources of newts to colonise. While GCN will travel substantial distances to establish new colonies the potential for this occurring here is extremely small.

SKM Enviros evaluated all the water bodies in the vicinity for newt potential using the Habitat Suitability Index (HSI). This lagoon was rated 0.52 ie indicating that the probability of it supporting GCN was 'below average'.

The surveyor holds Great Crested Newt licence number: 2015 -8022 –CLS-CLS

6.3 Reptiles

The commoner reptiles, common lizard, slow-worm, grass-snake and adder have statutory protection from being killed or injured under the terms of *The Wildlife and Countryside Act 1981*. There are nationally held records for these four species in this 10 kilometre square.

Of these four species, grass snake is the most likely to occur in the vicinity as it primarily feeds on frogs and benefits from tufted grassland as cover. Since the survey in 2012, the grassland outside of the footprint of the plant has become denser and more suitable for grass snake. However, it is not possible to exclude grass snake using a reptile fence as they will climb over it. To prevent them being killed or injured during construction, the grassland around the site needs to be cut

short and a temporary means of trapped animals climbing out of trenches needs to be used.

6.4 Birds

The vegetation on the site is not suitable for ground nesting birds and the building works are not expected to affect those bird species that have been recorded for the area.

6.5 Hedgehogs

This Biodiversity Action Plan species could occur in the area and may wander over the site. Steps will need to be taken to prevent animals becoming trapped overnight in trenches during building works.

7.0 Discussion

- 7.1 No plants protected under the Wildlife & Countryside Act 1981, as amended, were found on the survey site.
- 7.2 The proposal has no implications for any statutory or non-statutory wildlife sites.
- 7.3 There is no structure on the site that could be used as a bat roost.
- 7.4 The mixed herb and grass habitat on the areas close to the site are not of conservation significance being of recent origin and probably derived from the soil seed bank or by sowing some species such as the lucerne.
- 7.5 The habitat is sub-optimal for most reptiles but species such as grass snake could pass through from time to time and could become trapped in open trenches.
- 7.6 There are records for great crested newt in this 10km square. However, the surface water lagoon closest to the site, created c. 2006, was checked for newts in 2012 and none were found. GCN are not expected to occur on the survey site as there are physical barriers between the site and any established ponds that might support a population of newts allowing colonisation.
- 7.7 No evidence of badgers was found in the immediate vicinity in January 2012 and no evidence was found of badger activity in September 2016. Badgers are not expected to be affected by the proposals.
- 7.8 The habitat in the vicinity is too coarse to be suitable for ground nesting birds.
- 7.9 Hedgehogs could occur in the area and pass through the site from time to time. Trenches dug for new foundations could trap animals and site workers should be made aware of this.
- 7.10 No habitat or species identified in the Berkshire Biodiversity Action Plan will be adversely affected by the proposal.

8.0 Recommendations

- 8.1 As the site is close to the Kennet and Avon Canal, grass snake could pass through the site from time to time. The grassland habitat surrounding the proposed location for the Leachate Plant should be strimmed low to keep animals from coming close. A branch propped in the corner of a trench during construction would allow a trapped animal to escape.

8. Hedgehogs could occur in the area. Trenches left overnight should have a branch or similar left propped in the corner to permit them to escape should one fall in.

9.0 References

- Amphibian & Reptile Conservation 2008 *Reptile Habitat Management Handbook*
Amphibian & Reptile Conservation 2011 *Amphibian Habitat Management Handbook*
Bat Conservation Trust 2008 *Bats and Lighting in the UK*.
Bat Conservation Trust 2007 *Bat Surveys: Good practice guidelines*
Clapham, A R, Tutin, T G & Moore, D M (1987) *Flora of the British Isles*. 3rd Edition, CUP
Ecosulis Consultancy *Great Crested Newt Survey* July 2012
JNCC 2004 *Bat workers' manual*. Third edition.
JNCC guidelines 1993 (2007 version)
HMSO 1992 *Protection of Badgers Act*
HMSO 1981 *Wildlife and Countryside Act*
HMSO 2010 *Conservation of Habitats and Species Regulations Act*
MAGIC internet site
NBN website
Richardson, P. (ed) 2000 *Distribution Atlas of Bats in Britain and Ireland*. Bat Conservation Trust, London.
SKM Enviro 2012 *Burghfield Landfill Leachate Treatment Plant, Reading*

APPENDIX 1

D = dominant, A = abundant, F = frequent, L = local/locally O = occasional, R = rare

Plants growing on footprint of Leachate Treatment Plant – 50% plant cover

<u>Scientific name</u>	<u>Common name</u>	<u>Frequency</u>
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Festuca arundinacea</i>	Tall fescue	O
<i>Festuca rubra</i>	Red fescue	O
<i>Lolium perenne</i>	Ryegrass	O
<i>Picris echioides</i>	Bristly oxtongue	D
<i>Trifolium repens</i>	White clover	O-F
<i>Tripleurospermum maritimum</i>	Scentless mayweed	O
<i>Lotus corniculatus</i>	Bird's-foot trefoil	O

New bund – 50% cover

<u>Scientific name</u>	<u>Common name</u>	<u>Frequency</u>
<i>Picris echioides</i>	Bristly oxtongue	D

Plants growing on land adjacent to proposed plant – 100% cover

<u>Scientific name</u>	<u>Common name</u>	<u>Frequency</u>
<i>Agrostis stolonifera</i>	Creeping bent-grass	LA
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Festuca arundinacea</i>	Tall fescue	F
<i>Festuca rubra</i>	Red fescue	A
<i>Lathyrus pratensis</i>	Yellow meadow vetchling	O
<i>Medicago sativa</i>	Lucerne	A
<i>Plantago lanceolata</i>	Ribwort plantain	LF
<i>Senecio aquaticus</i>	Marsh ragwort	O-F
<i>Trifolium repens</i>	White clover	O

Lagoon – dry at time of survey

<u>Scientific name</u>	<u>Common name</u>	<u>Frequency</u>
<i>Agrostis stolonifera</i>	Creeping bent-grass	LD
<i>Apium nodiflorum</i>	Fool's watercress	O
<i>Epilobium ciliatum</i>	Willowherb	F
<i>Juncus articulatus</i>	Jointed rush	LA
<i>Juncus inflexus</i>	Hard rush	L
<i>Lycopus europaeus</i>	Gipsywort	LF
<i>Mentha aquatica</i>	Water mint	O
<i>Picris echioides</i>	Bristly oxtongue	LF
<i>Polygonum persicaria</i>	Persicaria	F
<i>Pulicaria dysenterica</i>	Fleabane	LF
<i>Rumex crispus</i>	Curled dock	O
<i>Rumex obtusifolius</i>	Broad-leaved dock	O
<i>Symphytum officinale</i>	Comfrey	O
<i>Typha latifolia</i>	Greater reedmace	D
<i>Urtica dioica</i>	Stinging nettle	L

APPENDIX 2

Berkshire Biodiversity Action Plan: A Framework for Biodiversity Action in Berkshire 999

Habitats

Calcareous Grassland
Lowland Meadow
Dry Acid Grassland
Purple Moor Grass & Rush Pasture
Lowland Heathland
Ponds
Eutrophic Lakes
Fen
Reedbed
Rivers
Lowland Mixed Deciduous Woodland
Lowland Beech & Yew Woodland
Wet Woodland
Lowland Wood Pasture and Parkland
Hedgerows
Traditional Orchards

Grassland Habitat Action Plan

Bumblebees
Ragged robin
Devil's-bit scabious

Woodland Habitat Action Plan

Bulfinch
Wild Service Tree
Noctule bat
Stag beetle

Wetland Habitat Action Plan

Great crested newt
Brown trout
Kingfisher

Heathland Habitat Action Plan

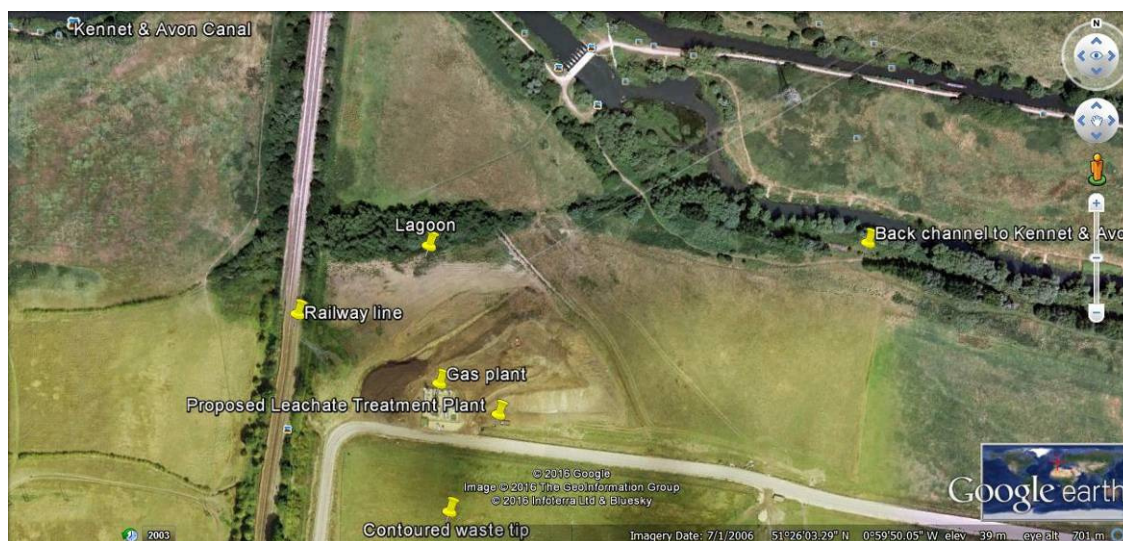
3 SPA birds
Brilliant Emerald Dragonfly
Silver Studded Blue

Farmland Habitat Action Plan

Skylark
Barn owl

Urban Habitat Action Plan

Swift
Hedgehog
Cowslip



Aerial photograph dated 2006



Picture 1: View looking north-north-west showing access road and new bund on western margin of site



Photo 2: Open habitat on site of leachate plant 2016



Photo 3: Current habitat developed on land adjacent to site



Photo 4: Ditch bringing surface water to lagoon from direction of railway line (bank on rear of photograph)



Photo 5: Western end of surface water lagoon checked for GCN in 2012. Dry at the time of survey in September 2016