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www.crestwoodenvironmental.co.uk

Tel: 01902 229 563

Ecological Management Plan

Langley Quarry

Report Reference: CE-LQ-2589-RP01a - FINAL

Report Date: 28 June 2024

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Crestwood Report Reference: CE-LQ-2589-RP01a - FINAL:

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Final rev a	28/06/2024	Amy Berry (Senior Ecologist)	Nick Masters (Associate Director)

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We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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Crestwood Environmental Limited

Registered Office:
Science, Technology and Prototyping Centre, UoWSP, Glaisher Drive, Wolverhampton, WV10 9RU, UK

Company Reg. no. 06544898
(Registered in England & Wales)

Tel: +44 (0)1902 229 563

Email: info@crestwoodenvironmental.co.uk

Web: www.crestwoodenvironmental.co.uk

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 CEMEX UK Operations Ltd. ('the Client') has been granted planning permission (reference CM/0028/22) to vary conditions 2 (Approved Drawings) and 48 (Time Limit) of Planning Permission ref: CM/51/16 to allow for a variation of the approved phasing and an extension of time to complete extraction and restoration ('the Permitted Development') at Langley Quarry, Land North Of North Park Road, Richings Park, Langley, Buckinghamshire, SL0 9DJ ('the Site').

1.1.2 Crestwood Environmental Ltd. ('Crestwood') was appointed by the Client to conduct an ecology survey and produce a revised Ecological Management Plan (EMP) to satisfy Condition 9 of the planning permission, which reads as follows:

Within 6 months of the date of this permission a revision of the ecological management plan details submitted pursuant to condition 16 of planning permission ref: CM/51/16 and approved in writing by letter dated 13th September 2017 shall be submitted to and approved in writing by the Local Planning Authority. The revised management plan shall include but not be limited to:

- *An updated search of biological records from BMERC to inform of any records of new species, habitats or sites of nature conservation of relevance to the quarry workings and restoration work*
- *Assessment of presence or potential presence of protected species and notable species, including those in the current EMP*
- *Mitigation and management for the protection of protected species and notable species, as above*
- *Site restoration strategies*
- *Phase specific checklists*
- *Measures for monitoring and review of the EMP*

1.1.3 This EMP also takes into account comments made by Natalie White, Senior Ecology Advisor for Buckinghamshire Council via email on 9th November 2023.

1.2 PURPOSE OF THIS REPORT

1.2.1 This report has been produced to document the methods, results and conclusions from the ecology work undertaken in respect of the Site. This report is intended to be submitted to the local planning authority to satisfy Condition 9 of planning permission CM/0028/22.

1.3 SITE LOCATION AND CONTEXT

1.3.1 The Site is bound by North Park Road to the south, arable to the east and west, and the railway line to the north. The town centre of Slough is circa 15km west of the Site. In the local area is industrial development, residential, agricultural, and golf courses.

Plate 1 Site Location

2 METHODOLOGY

2.1 DESK STUDY

2.1.1 The desk study was informed by a review of existing available information provided by Buckinghamshire and Milton Keynes Ecological Record Centre (BMERC) and web-based resourced such as Multi-Agency Geographic Information for the Countryside (MAGIC) (see Table 1). Ordnance Survey (OS) maps and aerial imagery were used to gain contextual information about the Site.

Table 1 Desk Study Information

Source	Information Sought (search buffer from Site)
BMERC	• Non-statutory designated wildlife sites (2km) • Protected and notable species (2km) • Schedule 9 invasive species (2km)
MAGIC maps	• Designated sites of international importance, including SPAs, SACs and Ramsar sites (10km) • Designated sites of national importance, including SSSIs and National Nature Reserves (2km) • Priority habitats listed on Section 41 on NERC Act (0.25km) • Granted European Protected Species (EPS) Licences (1km) • Ponds (500m)
CEMEX UK Operations	• Ecological Impact Assessment (AEcol, 2016) as part of the EIA for granted planning permission CM/51/16 • Ecological Management Plan (AEcol, 2017) produced for granted planning permission CM/51/16

2.2 FIELD SURVEY

2.2.1 The survey was undertaken on 21st May 2024 by a Crestwood ecologist.

2.2.2 An assessment of the possible presence of protected or priority species and the likely importance of habitat features present for such species was conducted. Any incidental sightings of priority or protected species, or field signs of such species, were recorded.

2.2.3 The weather conditions at the time of survey are shown in the table below.

Table 2 Survey Weather Conditions

Parameter	Recorded Figure
Temperature (°C)	14
Cloud Cover (in Oktas)	6
Wind Speed (Beaufort Scale)	1
Precipitation	Light rain between 14:00 – 15:00

2.3 MARSH DOCK

2.3.1 Marsh dock (*Rumex palustri*) was previously recorded in the northern extent of the Site in 2017 by AEcol. Therefore, an update search for the plant was conducted, in areas favoured by the plant including nutrient-rich mud, which is exposed in summer and autumn, and damp disturbed ground.

2.4 HABITAT SUITABILITY INDEX (HSI)

2.4.1 Waterbodies on and off-site can be relevant to an ecological assessment if they are suitable for use by breeding great crested newt (*Triturus cristatus*). Accordingly, a Habitat Suitability Index (HSI) was conducted on ponds within the survey area where these were not separated by barriers to dispersal, such as dual carriageway roads or rivers. The methodology used was that developed by Oldham and colleagues (Oldham, et al., 2000) and considers various characteristics of the pond to produce an overall suitability score.

2.4.2 Each pond was scored and categorised outlined in the table below.

Table 3 Categorisation of HSI (Oldham, et al., 2000)

HSI Score	Pond Suitability
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

2.5 ROOSTING BATS

2.5.1 A ground level tree assessment (GLTA) was undertaken on trees within the Site, following Bat Conservation Trust (BCT) good practice guidelines (Collins, 2023). Trees were inspected from the ground to compile information about the tree, PRFs (or lack of) and any evidence of bats. The suitability of trees and PRFs were categorised according to the categories outlined in the tables below. At this stage, the PRFs are not inspected in detail and therefore only an estimate of their potential for supporting roosting bats is provided.

Table 4 BCT Guidelines for Assessing Suitability of Trees for Bats

Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF present.

Table 5 BCT Guidelines for Categorising the Potential Suitability of PRFs

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.6 BADGER

2.6.1 A badger (*Meles meles*) survey was carried out at the Site, plus within a 30m buffer outside of the Site boundary (where accessible), in accordance with published guidance (Harris, et al., 1989). The survey included a search for setts, badger pathways, latrines, footprints, badger hairs and feeding signs such as snuffle holes.

2.6.2 A sett is defined as a single, isolated hole, or series of holes that seemed to be connected underground. Setts can be categorised according to main, annexe, subsidiary or outlying (Harris, et al., 1989). Setts were assessed as being in current use ('Active') or not in current use ('Inactive') at the time of the survey in accordance with Natural England guidance (Natural England, 2009).

2.7 RED KITE

2.7.1 A search was conducted for active red kite nests, following the method described in Raptors: A Field Guide for Surveys and Monitoring (Hardy, et al., 2014). The survey included a search for nests, and evidence of occupancy such as territorial behaviour.

2.8 OTTER AND WATER VOLE

2.8.1 Watercourses and waterbodies were assessed for their suitability to be used by notable riverine and aquatic species including otter and water vole. Characteristics relevant to this assessment include size, flow, connectivity, water quality, presence of prey or competing species, bank profile, vegetation structure and surrounding habitat.

3 DESK STUDY RESULTS

3.1 DESIGNATED WILDLIFE SITES

3.1.1 There are four statutory sites of international importance within 10km, including Special Areas of Conservation (SAC), Special Protection Area (SPA) and Ramsar.

Table 6 Statutory Designated Wildlife Sites

Site	Distance & Direction	Description
South West London Waterbodies Ramsar	3.5km S	The site comprises a series of embanked water supply reservoirs and former gravel pits that support a range of man-made and semi-natural open-water habitats. Supports internationally important numbers of wintering gadwall *Anas strepera* and shoveler *Anas clypeata*.
Burnham Beeches SAC	8.25km NW	The site is an example of Atlantic acidophilous beech forests in central southern England. Surveys have shown that it is one of the richest sites for saproxylic invertebrates in the UK
Windsor Forest and Great Park SAC	7.35km SW	Windsor represents old acidophilous oak woods in the south-eastern part of its UK range. It has the largest number of veteran oaks Quercus spp. in Britain (and probably in Europe). The site supports the largest known population of Violet click beetle *Limoniscus violaceus*.
South West London Waterbodies SPA	3.5km S	The site supports wintering gadwall and shoveler.

3.1.2 There are no non-statutory wildlife sites of national or local importance within 2km however there are three Biological Notification Sites (BNS) and two Biodiversity Opportunity Areas. BNS are in the process of being reviewed against Local Wildlife Site criteria. BOAs identify the most important areas of wildlife conservation in Buckinghamshire, where targeted conservation will have the greatest impact.

Table 7 BNS and BOA Sites

Site	Distance & Direction	Description
Opposite Iver Station BNS	145m N	An area of "rough land" comprising grassland and scrub habitats.
Grand Union Canal, Slough Branch BNS	425m N	A section of the Grand Union Canal.
Grand Union Canal, near Iver North BNS	1.51km NE	A section of the Grand Union Canal.
Colne Valley BOA	1.3km E	The area encompasses a range of habitats and designated sites throughout Buckinghamshire.
South Bucks Heaths and Parklands BOA	1.4km N	The area encompasses a large proportion of the South Bucks district and contains a central core of commons, heathland and wood pasture.

3.1.3 There are no new statutory or non-statutory sites within the Zone of Influence, therefore no impacts or effects which need to be considered within this EMP. The impacts and effects have been considered within the EIA by AEcol for granted planning permission CM/51/16. This is still considered correct, and no additional impacts for the Permitted Development.

3.2 PRIORITY HABITATS

3.2.1 There is one priority habitat within 250m of the Site: Traditional orchard circa 125m east of the boundary. No additional impacts are anticipated for the Permitted Development.

3.3 PROTECTED AND NOTABLE SPECIES

3.3.1 The records for protected and notable species within 2km of the Site are listed in the table below.

Table 8 Protected and Notable Species Records

Species/Species Group	Records
Marsh dock	Two records of marsh dock; one record within the north of the Site and dated 2017, and the other record c.1.03km south of the Site and dated 1992.
Great crested newt and other amphibians	No records of great crested newt (*Triturus cristatus*). There were two records of common toad (*Bufo bufo*) and one record of common frog (*Rana temporaria*). The closest record was common toad, c.1.4km south and dated 1969. The other two records were historical and dated 1984.
Reptiles	Two records of slow worm (*Anguis fragilis*), three records of grass snake (*Natrix helvetica*) and one record of adder (*Vipera berus*). The closest and most recent records were in 2017, with slow worm and grass snake c.1.45km northeast of the Site. All other records were historical dated pre-1985.
Birds	Numerous records of bird species, including those listed on Schedule 1 on the WCA 1981 and red and amber listed species on Birds of Conservation Concern. Records from within the Site included mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), greenfinch (*Chloris chloris*), black-headed gull (*Chroicocephalus ridibundus*), mute swan (*Cygnus olor*), moorhen (*Gallinula chloropus*), tawny owl (*Strix aluco*), mistle thrush (*Turdus viscivorus*), snipe (*Gallinago gallinago*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*), great black-backed gull (*Larus marinus*), fieldfare (*Turdus pilaris*) and lapwing (*Vanellus vanellus*). These were dated between 2002 and 2010.
Invertebrates	Numerous records of invertebrate species, including those listed on Schedule 41 on the NERC Act 2006. The majority of records were moths, with other species included butterfly, beetle, dragonfly and mollusc. There was a record from 2010 of white-letter

Species/Species Group	Records
	hairstreak (*Satyrium w*-album) along the western boundary however the record was a 1km square meaning the location is not accurate. The closest record was stag beetle (*Lucanus cervus*) c.100m east and dated 2018.
Bats	35 records of bats, with species including Brandt's bat (*Myotis brandtii*), brown long-eared bat (*Plecotus auritus*), pipistrelle (*Pipistrellus pipistrellus*), Daubenton's bat (*Myotis daubentonii*), Leisler's bat (*Nyctalus leisleri*), Natterer's bat (*Myotis nattereri*), noctule (*Nyctalus noctule*) serotine (*Eptesicus serotinus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and whiskered bat (*Myotis mystacinus*). The closest and most recent records were c.1.56km north, with species including noctule, common pipistrelle and soprano pipistrelle, and dated 2019. All other records were historical and dated pre-2000.
Otter and water vole	Seven records of otter (*Lutra lutra*) and 17 records of water vole (*Arvicola amphibius*). The closest and most recent water vole record was c.1.1km northeast, along the Grand Union Canal and dated 1997. The closest otter records were c.1.32km southeast and dated between 1964 and 1967. All records were historical and dated pre-2000.
Other mammals	23 records of hedgehog (*Erinaceus europaeus*), with the closet record c.487m east of the Site and dated 2019. The most recent record was 2021, c.1.92km east. Historical records (pre-2000) of one record of harvest mouse (*Micromys minutus*), one record of hare (*Lepus europaeus*) and invasive non-native species including Chinese water deer (*Hydropotes inermis*) and American mink (*Neovison vison*).

4 PROTECTED AND NOTEABLE SPECIES ASSESSMENT

4.1 MARSH DOCK

4.1.1 AEcol recorded marsh dock in the northeast extent of the Site in 2017, now referred to as Phase 1b. This area has been worked and restored.

4.1.2 No marsh dock was recorded during the 2024 survey. The plant favours wet nutrient-rich mud, which is exposed in summer and autumn, and is found on damp disturbed ground in marshes and beside ponds, ditches and gravel-pits. The restored grassland in Phases 1a and 1b was wetter further east and two areas of standing water had formed, with areas of exposed mud. Therefore, suitable conditions still exist for the plant and there is potential for it to be present within the seed bank, albeit none was recorded at the time of survey.

4.2 GREAT CRESTED NEWT AND AMPHIBIANS

4.2.1 A great crested newt survey performed by AEcol in 2016, covering all standing water (two ponds) within and immediately outside Langley Quarry proved negative with no great crested newts or any signs of presence (such as eggs) recorded.

4.2.2 During the 2024 survey, suitable terrestrial habitat included tussocky grassland and ponds in restored Phases 1a and 1b, and plantation woodland along the east, south and west site boundaries, although this lacked a dense leaf litter and shrub layer for dispersal. These habitats will all be retained. The remaining areas of the Site are unsuitable for great crested newt and the large expanse of active quarry and lagoons acts as a barrier to dispersal.

4.2.3 There were six lagoons as part of the quarry operation which due to their large size, presence of waterfowl, silt, lack of vegetation and pumping water in/out, were unsuitable for great crested newt. Two ponds, not shown on OS maps, had formed in the poor semi-improved grassland in the northeast extent of the Site (restored areas Phase 1a and 1b). The results of the HSI assessment are shown in the table below.

Table 9 HSI Results

Pond Ref	Grid Ref	HSI Factors										HSI SCORE	
		1	2	3	4	5	6	7	8	9	10		
1	TQ 03132 79742	1	0.4	0.5	0.67	1	1	1	0.72	0.67	0.45	0.70	Good
2	TQ 03089 79758	1	0.7	0.5	0.67	1	1	1	0.72	0.67	0.45	0.74	Good

4.2.4 During the 2024 survey, there were two ponds within 500m of the on-site ponds. One is c.475m south however there was no access at the time, however this was surveyed by AEcol in 2016 and great crested newt was absent. There is one pond circa 320m north of the Site beyond the railway, however there is a lack of good connecting habitat between the pond and the Site as an industrial park surrounds it, therefore reduces the likelihood of great crested newt dispersal. Furthermore, great crested newt tends to disperse within 250m of a pond, and may only disperse further if there is suitable terrestrial habitat and lack of barriers. Great crested newt is still considered likely absent from the Site based on no records within 2km, lack of ponds within the area and surrounding unsuitable terrestrial habitat, meaning they are unlikely to colonise the ponds on-site. There are no grounds to predict any impacts or effects on this species, therefore are scoped out of this EMP.

4.3 REPTILES

4.3.1 AEcol concluded no grounds to predict a permanent population of reptiles within the Site, therefore no surveys were considered necessary. However slow worm was recorded on the off-site railway embankment to the north.

4.3.2 There is potential for reptiles to colonise the Site as suitable habitat for reptiles included tussocky grassland and ponds in restored Phases 1a and 1b, and plantation woodland along the east, south and west site boundaries. These habitats will all be retained and no further vegetation removal in suitable reptile habitat is required across the Site. The remaining areas of the Site are unsuitable for reptiles as it is bare ground, and the large expanse of active quarry and lagoons acts as a barrier to dispersal. The grassland bunds will be removed; these were managed as short, improved grassland or were relatively bare / ephemeral vegetation therefore unsuitable for reptiles at the time of survey. However, these will need to continue to be managed to avoid potential colonisation by reptiles, therefore a safeguarding strategy will be put in place.

4.4 BIRDS

4.4.1 The woodland, scattered trees and tussocky grassland in the northern extent provide suitable nesting habitat for birds, which will all be retained. The lagoons attracted many waterfowl, with species including coot (*Fulica atra*), Canada goose (*Branta canadensis*), tufted duck (*Aythya fuligula*), Egyptian goose (*Alopochen aegyptiaca*), mute swan (*Cygnus olor*), shelduck (*Tadorna tadorna*) and greylag goose (*Anser anser*). Waterfowl will potentially nest on the banks of the lagoon, therefore a safeguarding strategy will be put in place.

Red Kite

4.4.2 No red kite nests were recorded at the time of survey.

4.4.3 A red kite was recorded circling over the quarry and grassland within the Site, and off-site to the south and east. However, no territorial behaviours were displayed meaning no nests were located at the Site or adjacent to the Site. Due to the legal protection afforded to this species, and potential for nests in the future, a safeguarding strategy will be put in place.

4.5 ROOSTING BATS

4.5.1 The results of the GLTA are shown in the table below. Three trees were suitable for roosting bats, which

were located in the northern extent of the Site within Phase 1b. These trees will be retained.

Table 10 Ground Level Tree Assessment

Tree Reference	Description of Tree	Suitability of Tree	Overall Potential Suitability of PRFs
TA	Sycamore. Butt-rot on trunk. PRF seems to extend upwards and potential gaps around callus roll. West elevation.	PRF	PRF-I
TB	Oak. Knot hole and crack in branch. West elevation. Ivy covering tree.	PRF	PRF-I
TC	Oak. Two woodpecker holes on west elevation. Small cracks in branches on south elevation. Ivy covering tree.	PRF	PRF-I

4.5.2 The plantation woodland and treeline along Horton Brook will be retained and therefore were not subject to a GLTA on individual trees. Overall, the trees were relatively immature and most of the trees were not sufficient age/size to contain PRFs, albeit some PRFs may be present. All trees will be retained, however in the event individual trees must be removed or remedial safety works carried out, a safeguarding strategy will be put in place.

4.6 BADGER

4.6.1 No setts or evidence of badger was recorded at the time of survey. Badger is a highly mobile species and there is potential for setts to be created in the future, therefore a safeguarding strategy will be put in place.

4.7 OTTER AND WATER VOLE

4.7.1 AEcol report the brook to the west of the Site as unsuitable habitat however conducted otter and water vole surveys in 2015 and found no evidence of either species. Consequently, otter and water vole were scoped out of further consideration in the EIA.

4.7.2 During the 2024 survey, the brook which flowed outside of the western boundary was generally unsuitable for otter and water vole as the water was shallow, contained litter, and there was poor burrowing and foraging habitat. Otter and water vole are still considered likely absent from the Site based on no additional records within 2km, unsuitable habitat along the brook and within the Site itself. There are no grounds to predict any impacts or effects on these species, therefore are scoped out of this EMP.

4.8 OTHER MAMMALS

4.8.1 AEcol conducted several visits during various protected species surveys in 2015, and no evidence to suggest the presence of harvest mouse, brown hare, hedgehog and polecat were encountered, and were scoped out of further consideration in the EIA.

4.8.2 During the 2024 survey, fox earths were recorded along the northern boundary and deer was recorded on the Site. The fox earths were in restored Phase 1a and 1b, and therefore will be retained. There are no grounds to predict any impacts or effects on these species, therefore are scoped out of this EMP, however, destruction of any fox dens or rabbit warrens should be done in accordance with the Mammals Act 1996.

5 SUMMARY OF WILDLIFE INTEREST & MANAGEMENT STRATEGIES

5.1 OVERVIEW

5.1.1 The following will be included in the management strategy:

- **Plant species:**
  - The 'County Rare' marsh dock.
- **Common reptiles**
- **Nesting birds:**
  - Ground nesting birds; and
  - (potentially) red kite.
- **Mammals:**
  - Tree-roosting bats; and
  - Badger

5.2 MARSH DOCK

Legislation: Marsh Dock

5.2.1 Marsh dock is not legally protected, however it is regarded as 'County rare' in the BSBI County Rare Plant List for Bucks, compiled by Roy Maycock in 2007.

2024 Survey Results: Marsh Dock

5.2.2 No marsh dock was recorded at the time of survey, however suitable habitat including exposed mud and damp ground exists in Phase 1a and Phase 1b. Suitable habitat will also be created as part of future restoration in Phases 9 - 12, site operation area, and an unworked field to the west of the Site, including an interceptor drain, three ponds and wet grassland.

Mitigation and Management Strategy: Marsh Dock

5.2.3 The strategy in respect of marsh dock will be as follows:

Stage 1: *Phase 1a and Phase 1b will continue to be maintained as suitable habitat for marsh dock, as there is potential for it to be present in the seedbank. This includes maintaining areas of exposed mud and seasonally inundated.*

Stage 2: *A monitoring visit will be performed by an Appointed Ecologist between the main flowering season of June to August 2025 to complete a final check for marsh dock at the Site. If no marsh dock is recorded or is recorded within operational areas, it may be appropriate to consider translocation (see below Section 5.2.4). The results will be added as an addendum to the EMP, and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.*

Stage 3: *A monitoring visit will be performed by an Appointed Ecologist between June to August two years after completion of restoration in Phases 9, 10, 11, 12, plant site operation area and the unworked field to west to check for marsh dock. These restored areas will provide suitable habitat for marsh dock (wet grassland, interceptor drains and ponds) and the plant may naturally colonise. The results will be*

added as an addendum to the EMP, and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.

5.2.4 If marsh dock is found in operational areas and cannot be retained, then it will be considered to translocate to non-operational areas. If no marsh dock is recorded at the site during the above stages, it may be appropriate to consider planting seeds or translocate from a known off-site donor site. This situation, and the further level of mitigation required cannot be predicted at this stage, and it will be subject to comments and approval from the Local Planning Authority. However, the general strategy for translocating marsh dock will be as follows:

Marsh dock typically occurs in situations offering a substrate that is inundated in winter but dries up in summer. Therefore, potential receptor areas within the Site include the shallowly grading margins of the Horton Brook and the exposed mud within Phase 1a and Phase 1b. Prior to translocation, suitable receptor areas will be identified on the banks of the Horton Brook and Phase 1a/1b. Upon completion, the locations of the receptor areas will be marked onto a plan for inclusion within this EMP with representative photographs.

Marsh dock flowers in the period June through August. Therefore, in early June the margins of the receptor areas will be shallowly scarified to leave a shallow, loose surface tilth. In order to maximise the amount of ripe and viable seed, the plants will be left to flower for a month prior to three harvesting and introduction campaigns each a month apart, comprising:

1. *July;*
2. *August; and*
3. *September.*

As the plant may function as an annual or a perennial, in each campaign 30% of the population will be translocated as follows:

- *20% will be harvested by the cutting of ripe seed heads which will be collected with secateurs and 'planted' by sticking them into the loose soil in the receptors and allowing the wind to distribute the seeds; and*
- *10% of the plants will be lifted with a trowel and carried with the roots wrapped in damp polythene for transplanting into the receptor areas.*

A record will be made of the approximate number of seed-heads and plants set in at each receptor area on each of the three campaign dates.

A monitoring visit will be made annually in July to assess the condition of the habitat within the receptor areas and count the number of flowering specimens of marsh dock present. The definition of success will be the maintenance of a stable or increasing population. Triggers for action will be:

- *Deterioration of the habitat in which the marsh dock is growing within the receptor areas.*

All action and the outcome thereof will be reported to the site operator whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.

5.3 COMMON REPTILES

Legislation: Reptiles

5.3.1 Common native reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) whereby it is an offence to kill or injure adders, grass snake, common lizards and slow worms.

2024 Survey Results: Reptiles

5.3.2 No reptiles have been recorded at the Site. There is potential for reptiles to colonise suitable habitat

within the Site, however this habitat will be retained.

Broad Safeguarding-strategy: Reptiles

5.3.3 The safeguarding-strategy in respect of reptiles will be as follows:

Stage 1: Phase 1a and Phase 1b will continue to be maintained as suitable habitat for reptiles. This includes infrequent cuts e.g., a single cut in later summer, to maintain diversity and structure. Grassland bunds will continue to be managed as short grassland up until removal to prevent reptiles colonising this habitat. Grass should be cut to a height of no less than 300mm to prevent any accidental harm. Mowing/cutting should be done at a slow walking pace to allow any animals to disperse. If any reptiles are encountered, these should be immediately reported to the Quarry Manager and the Appointed Ecologist. Any natural refugia (log/stone piles) should be turned over by hand and any animals (if present) allowed to disperse.

5.4 NESTING BIRDS

Legislation: Nesting Birds

5.4.1 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) whereby all birds and their eggs and nests are protected by law, and it is illegal to intentionally:

- Kill, injure or take any wild bird;
- Damage, destroy or take the nest of any wild bird while it is in use or being built;
- Take or destroy an egg of any wild bird;
- Possess, control or transport live or dead wild birds, or parts of them, or their eggs;
- Sell a wild bird or put them on display for sale; and
- Use prohibited methods to kill or take wild birds.

5.4.2 The 1981 Act affords a higher level of protection to bird species listed on Schedule 1, where it is an offence to intentionally or recklessly disturb the wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such bird.

2024 Survey Results: Nesting Birds

5.4.3 A specific nesting bird survey was not conducted at the time of survey, however suitable habitat for nesting birds included woodland, scattered trees, and grassland. Waterfowl were recorded on the lagoons within the active working areas and may nest on the banks of the lagoons. No red kite nests were recorded.

Broad Safeguarding-strategy: Nesting Birds - General

5.4.4 The safeguarding-strategy in respect of nesting birds (excluding red kite) will be as follows:

Prior to restoration of each phase (phases 2 – 12):

No work that might destroy potential bird nesting habitat will be carried out within the accepted bird breeding season (1st March to 31st August) unless a survey by an ecologist has determined that nesting birds are not present. This includes vegetation on the banks/edge of lagoons suitable for nesting waterfowl, removal of long grassland and scrub, and topsoil removal. No trees or woodland will be removed as part of restoration.

If work that might destroy potential bird nesting habitat is carried out during the accepted bird nesting season, the following safeguarding-strategy will be applied prior to works commencing:

Stage 1: *The extent of the current phase/operation will be clearly marked on a plan by the Quarry Manager and provided to an Appointed Ecologist.*

Stage 2: *A walkover survey will be performed by an Appointed Ecologist. This will involve a physical inspection for the presence of nests followed by a period of fixed observation to identify any adult birds displaying nesting behaviour (carrying nesting material, food etc.). Where any dense vegetation which cannot be easily viewed from the exterior requires clearance, a series of paths will be cut into the vegetation to allow the ecologist access to undertake a more detailed inspection for active nests. An extended observation will be undertaken to watch for activity. Alternatively, vegetation will be cleared in a phased manner (i.e. small areas carefully cleared at a time) with the ecologist remaining on Site during clearance to undertake checks throughout the clearance works. If no nesting birds are present, works will continue with no further constraint, however vegetation must be cleared within the 48 hours immediately following the check. Large areas may need to be cleared on a phased to comply with this.*

Should any active nests be found, works shall cease in the area and a minimum 5m buffer will be instigated around the nest. The buffer will be maintained until subsequent checks by the ecologist confirm any chicks have fledged and the nest is no longer in use. The location of the buffer surrounding the nest will be demarcated with tape or appropriate fencing to ensure it remains protected until the nest becomes in-active.

Stage 3: *The results and recommendations thereon will be added as an addendum to the EMP and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.*

It should be noted that the bird nesting season is dependent on weather conditions and therefore varies between years and between species, but is generally accepted to last from the 1st March through 31st August. However, a bird's nest occupied outside this period is still subject to legal protection. The Quarry Manager/Restoration Manager will brief contractors performing vegetation clearance outside the typical bird nesting period that, should any occupied birds' nests be discovered, regardless of the month, works should cease immediately, and the Appointed Ecologist should be informed in order that they may advise on how and when to proceed.

Broad Safeguarding-strategy: Nesting Birds – Red Kite

5.4.5 As red kites are legally protected against disturbance whilst nesting under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), their presence is given specific consideration.

5.4.6 No red kite nesting habitat will be lost as result of the development. However, the potential for disturbance remains.

5.4.7 The safeguarding-strategy in respect of red kite will be as follows:

Stage 1: An annual species-specific survey will be performed in advance of the next likely Phases to be restored.. This survey will comprise an individual visit in the period late-April through mid-May, to the method described by Hardey et al. (2006). If red kites are found to be nesting the safeguarding-strategy will proceed to Stage 2. If however it is concluded that red kites are not nesting within respective Phase, works may continue with no further constraint and proceed to Stage 3.

Stage 2: The nest site will be identified on the habitat assessment plan and the updated plan incorporated into this report and provided to the site operator by the Appointed Ecologist. Thereafter, no operation will be performed within a 30m radius of the nest site until the young have fledged, as confirmed by the ecologist. The location of the buffer surrounding the nest will be demarcated with tape or appropriate fencing to ensure it remains protected until the nest becomes in-active.

Stage 3: The results and recommendations thereon will be added as an addendum to the EMP and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.

5.5 TREE-ROOSTING BATS

Legislation: Roosting Bats in Trees

5.5.1 All UK bat species are protected by European and UK legislation: the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). This affords complete legal protection to all bats and their roosts.

5.5.2 It is an offence to:

- Deliberately capture, kill or injure a bat;
- Intentionally or recklessly disturb a bat while it's in a structure or place of shelter or protection;
- Obstruct access to their resting or sheltering places;
- Damage or destroy the places where bats live, breed or rest (roosts) (this applies even if the bats are not in residence); and
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

2024 Survey Results: Roosting Bats in Trees

5.5.3 Three trees were suitable for roosting bats, which were located in the northern extent of the Site within Phase 1b.

Broad Safeguarding-strategy: Roosting Bats in Trees

5.5.4 The tree trees suitable for roosting bats were in Phase 1b and will be retained. No roosting habitat will be lost as result of the development as all remaining trees and woodland will be retained.

5.5.5 However, in the event any trees must be removed, or remedial safety works i.e. as they pose a risk to human/public safety, the following safeguarding-strategy in respect of roosting bats will be as follows:

Stage 1: *The tree(s) to be removed will be clearly marked on a plan by the site operator and provided to the Appointed Ecologist.*

Stage 2: *The tree(s) will be subject to a Ground Level Tree Assessment (GLTA) by the Appointment Ecologist to assess whether any Potential Roost Features (PRFs) are present. If no PRFs are present, works may continue with no further constraint and proceed to Stage 5. If PRFs are present, then safeguarding will proceed to Stage 3.*

Stage 3: *The trees(s) with PRF-M will be subject to an aerial inspection survey by a licenced ecologist. If no bat roosts are present, the tree(s) may be felled, or remedial safety works performed immediately after the inspection, and then proceed to Stage 5. Trees with PRF-I will be soft-felled under supervision of an ecologist e.g., no cuts within 1m of the PRF, section felled and lowered using ropes, and proceed to Stage 5. If however a bat roost is found, the safeguarding will proceed to Stage 4.*

Stage 4: *An EPS licence may be required from Natural England to close the roost and allow works to proceed. This situation, and the further level of survey effort or mitigation required cannot be predicted at this stage, and it will be subject to comments from the Local Planning Authority and licensing requirements. Regardless, the safeguarding will then proceed to Stage 5.*

Stage 5: *The results and recommendations will be added as an addendum to the EMP and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually.*

5.6 BADGER SETTS

Legislation: Badger

5.6.1 Badgers and their setts (tunnels and chambers where they live) are protected by the Protection of Badgers Act 1992. It is an offence to:

- intentionally capture, kill or injure a badger.
- damage, destroy or block access to their setts.
- disturb badgers in setts.
- treat a badger cruelly.
- deliberately send or intentionally allow a dog into a sett.
- bait or dig for badgers.
- have or sell a badger, or offer a live badger for sale.
- have or possess a dead badger or parts of a badger (if you got it illegally).
- mark or attach a marking device to a badger.

5.6.2 The Act defines a badger sett as "any structure or place which displays signs indicating current use by a badger". In most cases a badger sett will be used for breeding, shelter or protection and will consist of a series of tunnels and chambers, sometimes interlinked, and accessed by one or more sett entrances. Badgers may also occasionally use other types of structure or place for the same purpose, including natural holes or voids in rock or spaces under buildings, all of these structures could constitute a sett if showing signs of current use.

5.6.3 The presence of field signs in or around the potential sett or evidence of badgers entering or exiting the structure or place in question would indicate current use of the structure / place by a badger (Natural England, 2009). An active sett will have multiple field signs.

2024 Survey Results: Badger

5.6.4 No setts or evidence of badger was recorded.

Broad safeguarding-strategy: Badger Setts

5.6.5 The following safeguarding-strategy in respect of badger setts will be as follows:

Stage 1: *The extent of the current restoration phase will be clearly marked on a plan by the Quarry Manager and provided to the Appointment Ecologist.*

Stage 2: *A walkover survey will be performed by the Appointment Ecologist in advance of the next likely Phases to be restored. This will be undertaken a maximum of one month prior to the works. If disused badger setts are present, or no setts are found, works will continue with no further constraint. The results and recommendations will be added as an addendum to the EMP and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local Records Centre annually. If an in-use badger set is found, the safeguarding will proceed to Stage 3.*

Stage 3: *A licence from Natural England may be required in order to close the sett and allows works to proceed within the legislation. This situation, or the potential mitigation and/or compensation that might be required cannot however be predicted in advance of the walk-over survey. The results and recommendations will be added as an addendum to the EMP and the updated document provided to the site operator, whose responsibility it will be to report to the Mineral Planning Authority and Local*

Records Centre annually.

6 RESTORATION STRATEGIES

6.1 RESTORATION OVERVIEW

6.1.1 The restoration has been designed by CEMEX UK Operations Ltd.

6.1.2 Following the extraction of each phase, the Site will be progressively restored to existing ground levels of high-quality agriculture. The phasing plan (drawing no. 23-03/P3/LANGLEY/4a) has been updated in 2023 and the Site is now worked in 12 phases coupled with progressive restoration. During the 2024 survey, Phases 1a and 1b had been restored, Phase 2 – 10 were active, and most of the material within Phases 11 and 12 has now been worked. No further vegetation removal is required apart from removal of soil bunds as part of restoration.

6.1.3 On completion of filling, the stripped soils will be carefully replaced using appropriate soil handling and storage techniques to restore the quarry to an agricultural quality similar to that historically present. As soon as practicable, following the completion of soil replacement, a seedbed will be prepared using standard farm equipment.

6.1.4 Dry woodland and lowland meadow/arable conservation headland has been created in restored Phases 1a and 1b. Both wet and dry woodland will be planted in the south-west, along Horton Brook. Three small waterbodies will also be created in the south-east and south-west corners, as well as to the north of the Horton Brook. An interceptor drain will be created between the Horton Brook and the restored agricultural land in order to manage surface water run-off and provide storage within created ponds and wetland. Grassland restoration will be to lowland meadow/arable conservation headland, which includes management as wet grassland and arable field margins. Areas of wet grassland will be created around the three waterbodies, with wet woodland planting to the north of the Horton Brook. New hedgerow planting will also be created in order to link existing features and create habitat corridors. Areas of lowland meadow/arable conservation headland (i.e. arable field margins) will also be created on the margins. The field outside the quarry to the west will be enhanced to an area of wet grassland. The restoration scheme for the Site is provided at Appendix A.

6.2 RESTORED LANDFORMS / PROFILES

6.2.1 The restored landform and profiles will the responsibility of the Quarry Manager to achieve in consultation with the Restoration Manager.

6.2.2 A five-year period of aftercare specifying the steps to be taken and the period during which these are to be taken, and who will be responsible for these steps is detailed within the approved Outline Five-Year Aftercare Scheme (CEMEX, 2018). The Aftercare Scheme should be read in conjunction with the below.

WOODLAND

Wet Woodland

6.2.3 The wet woodland tree and shrub mix will be equivalent to the NVC community: W8d – *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland: *Hedera helix* sub-community, and therefore equivalent to the Phase 1 (JNCC 2010) habitat type: A1.1.2 – Woodland and scrub / Woodland / Broadleaved / Plantation.

6.2.4 The wet woodland tree and shrub mix will comprise:

- Crack willow *Salix fragilis* – 40-60 cm height: 25%
- Osier *Salix viminalis* – 40-60 cm height: 5%

- White willow *Salix alba* – 40-60 cm height: 25%
- Alder *Alnus glutinosa* – 40-60 cm height: 20%
- Goat willow *Salix caprea* – 40-60 cm height: 10%
- Grey willow *Salix cinerea* – 40-60 cm height: 5%
- Hazel *Corylus avellana* – 40-60 cm height: 5%
- Dogwood *Cornus sanguinea* – 40-60 cm height: 5%

Dry Woodland

6.2.5 The dry woodland tree and shrub mix will be equivalent to the NVC community: W8d – *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland: *Hedera helix* sub-community, and therefore equivalent to the Phase 1 (JNCC 2010) habitat type: A1.1.2 – Woodland and scrub / Woodland / Broadleaved / Plantation.

6.2.6 The dry woodland tree and shrub mix will comprise:

- Hornbeam *Carpinus betulus* – 40-60 cm height: 25%
- Hazel – 40-60 cm height: 16%
- Pedunculate oak – 40-60 cm height: 15%
- Sweet chestnut *Castanea sativa* – 40-60 cm height: 15%
- Small-leaved lime *Tilia cordata* – 40-60 Wych elm *Ulmus glabra* – 40-60 cm height: 5%;cm height: 5%
- Silver birch *Betula pendula* – 40-60 cm height: 5%
- Field maple *Acer campestre* – 40-60 cm height: 5%
- Hawthorn *Crataegus monogyna* – 40-60 cm height: 3%
- Holly Ile*x aquifolium* – 40-60 cm height: 3%

Dogwood *Cornus sanguinea* – 40-60 cm height: 3%

Planting Instructions

6.2.7 Tree and shrub planting will be performed in the first available planting season (November through March). Trees and shrubs will be bare root stock and notch planted. Prior to planting, any areas of compacted soil will be broken up to a depth of 450 mm. Tree feathered stock will be pit-planted, with backfill one part peat-free compost to three parts soil. All tree planting will be protected by tree shelters.

WET GRASSLAND

6.2.8 The wet grassland mix will be equivalent to the National Vegetation Classification (NVC) community: MG4 *Alopecurus pratensis-Sanguisorba officinalis* grassland, and therefore equivalent to the Phase 1 (JNCC 2010) habitat type: B5 – Grassland and marsh / Marsh/marshy grassland.

6.2.9 The species mix will comprise:

- Crested dog's-tail *Cynosurus cristatus*: 24%
- Sheep's fescue *Festuca ovina*: 16%
- Red fescue *Festuca rubra*: 16%
- Common bent *Agrostis capillaris*: 10%
- Wavy hair-grass *Deschampsia flexuosa*: 4%
- Crested hair grass *Koeleria macrantha*: 4%
- Small-leaved timothy *Phleum bertolonii*: 4%
- Sweet vernal-grass *Anthoxanthum odoratum:* 2%
- Meadow buttercup *Ranunculus repens*: 3%
- Common knapweed *Centaurea nigra*: 3%
- Selfheal *Prunella vulgaris*: 2.5%
- Viper's bugloss *Echium vulgare*: 2%
- Common sorrel *Rumex acetosa*: 1.5%
- Ox-eye daisy *Leucanthemum vulgare*: 1%
- Ribwort plantain *Plantago lanceolata*: 1%
- Wild carrot *Daucus carota*: 0.7%
- Yarrow *Achillea millefolium*: 0.5%
- Bird's-foot trefoil *Lotus corniculatus*: 0.5%
- Musk mallow *Malva moschata*: 0.5%
- Hoary plantain *Plantago media*: 0.5%
- Sheep's sorrel *Rumex acetosella*: 0.5%
- Autumn hawkbit *Scorzoneroides autumnalis*:

0.3%

- Lady's bedstraw *Galium verum*: 2%
- Cowslip *Primula veris*: 0.2%.

Planting Instructions

6.2.10 The seed mix will be sown at a rate of 5g/m2 either in early autumn or in spring after the land has drained. Seed should be surface sown and the area subsequently rolled. Any areas of failed seed will be cultivated and reseeded in the next available sowing season. Should there be any delay in sowing, emergent weed species will be spotsprayed using glyphosate a minimum of two weeks prior to seeding. In the first year of seeding, annual weeds should be controlled by topping or mowing. Subsequent management will incorporate a July or August 'hay cut' where the sward is cut and left to dry and shed seed for 1-7 days before being removed. Additional cuts to a height of 50 mm may be required in late autumn/winter and again in spring to control the re-growth. The sward will not be cut between spring and late July/August.

ARABLE FIELD MARGINS

6.2.11 The arable field margins mix will be equivalent to the National Vegetation Classification (NVC) community: MG5b *Cynosurus cristatus-Centaurea nigra grassland: Danthonia decumbens* sub-community, and therefore equivalent to the Phase 1 (JNCC 2010) habitat type: B2.2 – Grassland and marsh / Neutral grassland / Semi-improved.

6.2.12 The species mix will comprise:

- Crested dog's-tail *Cynosurus cristatus*: 40%
- Red fescue *Festuca rubra*: 28%
- Common bent *Agrostis capillaris*: 8%
- Small-leaved timothy *Phleum bertolonii*: 4%
- Meadow buttercup *Ranunculus acris*: 5%
- Common knapweed *Centaurea nigra*: 4.5%
- Lady's bedstraw *Galium verum*: 3%
- Selfheal *Prunella vulgaris*: 3%
- Red campion *Silene dioica*: 1.5%
- Ox-eye daisy *Leucanthemum vulgare*: 1%
- Salad burnet *Poterium sanguisorba*: 1%
- Common sorrel *Rumex acetosa*: 0.5%
- Yarrow *Achillea millefolium*: 0.5%

Planting Instructions

6.2.13 The seed mix will be sown at a rate of 5g/m2 either in autumn or spring. Seed will be surface sown and the area subsequently rolled. Any areas of failed seed will be cultivated and reseeded in the next available sowing season. Should there be any delay in sowing, emergent weed species will be spot-sprayed using glyphosate a minimum of two weeks prior to seeding. In the first year of seeding, annual weeds will be controlled by topping or mowing. Subsequent management will incorporate a July or August 'hay cut' where the sward is cut after flowering and left to dry and shed seed for 1-7 days before being removed. Additional cuts to a height of 50 mm may be required in late autumn/winter and again in spring to control the re-growth. The sward will not be cut between spring and late July/August.

HEDGEROWS

6.2.14 The hedgerows will be equivalent to the Phase 1 (JNCC 2010) habitat type: J2.3.1 – Miscellaneous / Boundaries / Hedge and trees / Native species-rich.

6.2.15 The species mix will comprise:

- Hornbeam *Carpinus betulus:* 30%;
- Field maple *Acer campestre*: 28%;
- Hazel *Corylus avellana*: 15%;
- Dogwood *Cornus sanguinea*: 10%;
- Grey willow *Salix cinerea*: 3%;
- Pedunculate oak *Quercus robur*: 2%;
- Goat willow *Salix caprea*: 2%;
- Small-leaved lime *Tilia cordata*: 1%;

- Hawthorn *Crataegus monogyna*: 4%;
- Wych elm *Ulmus glabra*: 3%;
- Holly *Ilex aquifolium*: 1%; and
- Blackthorn *Prunus spinosa*: 1%

Planting Instructions

6.2.16 Tree and shrub planting will be performed in the first available planting season (November through March). Trees and shrubs will be bare root stock and notch planted. Prior to planting, any areas of compacted soil will be broken up to a depth of 450 mm. Tree feathered stock will be pit-planted, with backfill one part peat-free compost to three parts soil. All tree planting will be protected by tree shelters.

7 LIAISON

7.1 ANNUAL MEETING

7.1.1 In order that all ecological issues are given adequate lead-in time, a meeting (on-site or online) will be held in November each year to be attended by the Quarry Manager, the Restoration Manager and the Appointed Ecologist. The Mineral Planning Authority's ecological advisor will also be invited.

7.1.2 At this meeting, all the quarry operations anticipated for the forthcoming year will be discussed and strategies put in place to ensure (within reasonable limits) that there is no delay to operations brought about by ecological constraints.

7.2 EMP REVIEW

7.2.1 This EMP will be reviewed annually to ensure the QM and RM consider it to be satisfactory for the in-house management of biodiversity. This will be combined with the annual meeting in November. At the same time, the review will assess the survey, monitoring and management methods and revise them in line with up-to-date good practice guidance as appropriate. This will include documenting any actions undertaken by the site team, environmental incidents, monitoring data from created habitats, and data from surveys (marsh dock, badger, nesting birds, red kite, bat trees) from the previous months December to October leading up to the EMP review in November. It will be discussed whether the monitoring and management included in this EMP are effectively working, and whether there needs to be any changes. The review will also include discussing upcoming work for the next year, including tree felling requirements, anticipated vegetation removal / lagoon infilling (and any other works), and which phases of the Site this will occur.

7.2.2 Upon completion, if any revisions have been necessary, a copy of the new EMP will be provided to the Mineral Planning Authority no later than 31st March the following year.

8 SUMMARY CHECKLIST

8.1.1 Phase 1a and Phase 1b have been restored. Most of the mineral has been extracted from Phases 11 and 12. No further vegetation removal is required apart from removal of soil bunds as part of restoration. The Site will be restored from Phase 2 to 12, including the plant operation area and the field to the west. The safeguarding strategy will be applied to each restoration phase, and in summary is as follows:

- **Marsh dock:**
  - Monitoring survey visit in June – August 2025.
  - Monitoring survey visit in June – August two years post-restoration.
- **Common reptiles:**
  - Continued management of Phase 1a and 1b.
  - Maintenance of bunds to prevent reptiles colonising.

- **Nesting birds – general:**
  - Removal of suitable nesting habitat outside nesting season; OR
  - Pre-commencement walkover survey.
- **Nesting birds – red kite:**
  - Walkover survey for nests.
- **Tree-roosting bats:**
  - Ground Level Tree Assessment if trees to be removed or remedial safety works.
- **Badger:**
  - Walkover survey for setts.
- **Liaison:**
  - Annual meeting.
  - EMP Review.

8.1.2 Additional surveys and mitigation, as detailed in each relevant Section, may be required if protected or notable species are found on Site, however this situation, and the further level of mitigation required cannot be predicted at this stage, and it will be subject to comments from the Local Planning Authority.

8.1.3 A summary checklist for implementation of the safeguarding strategy is provided in Appendix 1. This is to be completed as applicable for each restoration phase.

REFERENCES

- Collins, J., 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines.* 4th ed. London: The Bat Conservation Trust.
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- Harris, et al, 1989. *Surveying Badgers,* London: Mammal Society.
- Natural England, 2009. *Guidance on 'Current Use' in the definition of a Badger Sett, WMLG17,* Peterborough: Natural England.
- Oldham, R. S., Keeble, J., Swan, M. & Jeffcote, M., 2000. Evaluating the suitability of habitat for Great Crested Newt (Triturus cristatus). *Herpetological Journal,* Volume 10, pp. 143-155.

APPENDIX 1 SUMMARY CHECKLIST

Area/Aspect	**Action Required**	**Restoration Manager sign-of** (To be completed as soon as task is complete)	**EMP Updated & Report Submitted to Quarry Manager & MPA** (Insert date)	**Quarry Manager Sign-Off** (To be completed when all aspects of the EMP associated with the species are satisfied and the report has been received)
Marsh dock	Implement safe-guarding strategy (see Section 5.2)			
Common reptiles	Implement safe-guarding strategy (see Section 5.3)			
Nesting birds – general	Implement safe-guarding strategy (see Section 5.4)			
Nesting birds – red kite	Implement safe-guarding strategy (see Section 5.4)			
Roosting bats	Implement safe-guarding strategy if trees are to be removed (see Section 5.5)			
Badger setts	Implement safe-guarding strategy (see Section 5.6)			
Annual Meeting	November (see Section 7.1)			
EMP Review	November (see Section 7.2)			

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