Site:	CMIQ – Plot 19
Client:	Doosan Babcock Ltd
Job Number:	784-B038542
Survey Type(s):	Ecological Appraisal
Date of Reviews(s):	6th May 2022
File Location:	\\lds-dc-vm-101\Data\Projects\784-B038542 CMIQ Plot 19\60 Project Output\61 Work in Progress\

INTRODUCTION

BACKGROUND

Tetra Tech was commissioned by Doosan Babcock Ltd in April 2022 to undertake a review of existing reports and baseline information in order to compile an Ecological Appraisal report for the Plot 19 development located within the Cleator Moor Innovation Quarter (CMIQ). This report is based on the CMIQ Ecological Appraisal Report (Tetra Tech, 2021a) which covered a wider site boundary of the CMIQ site. This report should be read in conjunction with CMIQ Ecological Appraisal Report (Tetra Tech, 2021a).

This report has been prepared by Consultant Ecologist Elizebeth Wilcox Qualifying CIEEM and the conditions pertinent to it are provided in Appendix A.

SITE LOCATION

The Plot 19 site, hereinafter referred to as the 'site', is located in Cleator Moor and is centred at Ordnance Survey National Grid Reference NY 01696 15537 – see Figure 1 for the red line site boundary and showing wider CMIQ boundary in blue.

The site is approximately 0.7 ha in size and is located within the wider boundary of the CMIQ (indicated with blue line boundary on Figure 1).

The site comprises hard standing, unimproved neutral grassland, marshy grassland, bare ground, amenity grassland and dense/continuous scrub. Adjacent areas comprise hard standing, marshy grassland, unimproved grassland, dense / continuous scrub, standing water and various buildings with associated hardstanding.

DEVELOPMENT PROPOSAL

The development proposals consist of temporary use of the site for a period of 18 months to construct a 7m high mock-up of a chimney and to do trial cutting and lifting operations. After the 18-month period the site will be cleared back to the pre-development conditions.

PURPOSE OF THE REPORT

The purpose of this report is to complete a review of existing reports and baseline information in order to compile a report summarising the ecological background information relevant to the CMIQ - Plot 19 red line boundary, as well as site specific assessment and recommendations.

METHODOLOGY

DESK STUDY

Previous Reports

The following reports have been previously issued to Copeland Borough Council:

- WYG (2020) Leconfield Industrial Estate Ecological Appraisal;
- Tetra Tech (2021a) – CMIQ Ecological Appraisal;
- Tetra Tech (2021b) – CMIQ Bat Roost Assessment Report;
- Tetra Tech (2021c) – CMIQ Breeding Bird Survey Report;
- Tetra Tech (2021d) – CMIQ Great Crested Newt Report;
- Tetra Tech (2021e) – CMIQ Invasive Non-Native Species Management Plan Report;
- Tetra Tech (2021f) – CMIQ Invertebrate Report;
- Tetra Tech (2021g) – CMIQ National Vegetation Classification (NVC) Report;
- Tetra Tech (2021h) – CMIQ Reptile Report; and
- Tetra Tech (2021i) - CMIQ Habitats Regulations Assessment (HRA).
- Tetra Tech (2021j) - CMIQ Biodiversity Net Gain (BNG)

As part of the wider CMIQ Ecological Appraisal (Tetra Tech, 2021a) a detailed desk study was undertaken which is still valid. The desk-based study included the following:

Local Ecological Records Centre

A data search was requested from the Cumbria Biodiversity Data Centre (CBDC) for information on any nature conservation designations and protected or notable species records within 2 km of the Leconfield Industrial Estate / Main Leconfield Site as part of the Ecological Appraisal (WYG, 2020) and was still applicable to this report. Only records post year 2000 were considered in this report.

Online Resources

A search for relevant information was also made on the Department of Environment, Farming and Rural Affairs (DEFRA) Multi Agency Geographic Information for the Countryside (MAGIC) database www.magic.gov.uk. This is a web-based database for statutory designations and information on any European Protected Species licence (EPSL) applications that have been granted in the local area.

Field Surveys

The following data used within this report has been derived from surveys conducted as part of the main CMIQ application process in 2021. Methodologies for the following surveys can be found within their respective reports:

- Habitats – CMIQ Ecological Appraisal (Tetra Tech, 2021a) and CMIQ NVC Report (Tetra Tech, 2021g)
- Great Crested Newts – (Tetra Tech, 2021a; 2021d)
- Bats – CMIQ Ecological Appraisal (Tetra Tech, 2021a) and CMIQ Bat Roost Assessment Report (Tetra Tech, 2021b);
- Reptiles – CMIQ Reptile Report (Tetra Tech, 2021h);
- Badger – CMIQ Ecological Appraisal (Tetra Tech, 2021a);
- Otter & Water vole – CMIQ Ecological Appraisal (Tetra Tech, 2021a);
- Birds – CMIQ Breeding Bird Survey Report (Tetra Tech, 2021c);
- Invertebrates – CMIQ Invertebrate Report (Tetra Tech, 2021f);

- CMIQ Invasive Non-Native Species Management Plan Report (Tetra Tech, 2021e); and
- Habitat Regulations Assessment – CMIQ Habitats Regulations Assessment (Tetra Tech, 2021i).

RESULTS

DESIGNATED SITES/ HABITATS

The following statutory and non-statutory designated sites of ecological importance have been identified within 2 km of the site.

Table 1. Summary of designated sites within 2 km of the site

Designation	Site Name	Distance & Direction	Summary of features
Statutory			
Special Area of Conservation (SAC)	River Ehen	1.4 km SE	The designated stretch of the river, between Ennerdale Water and the confluence with the River Keekle at Cleator Moor, meanders across a narrow floodplain with areas of riparian woodland and trees. This stretch of the river supports outstanding populations of the freshwater pearl mussel *Margaritifera margaritifera*. In addition, the river supports Atlantic salmon *Salmo salar*, important for the ecology of the river.
Site of Special Scientific Interest (SSSI)	River Ehen (Ennerdale Water to Keekle Confluence)	1.4 km SE	A river that supports freshwater pearl mussel populations.
Non-Statutory			
County Wildlife Site (CWS)	Rheda South Park	0.8 km NE	No information available.
CWS	Birkhouse Pond	1 km SE	No information available.
CWS	Parkside Pond	1.5 km E	No information available.
CWS	Dub Beck	1.8 km N	No information available.
Site of Invertebrate Significance (SIS)	Keekle River	1 km W	No information available.
SIS	Weddicar Hall	1.7 km N	No information available.
SIS	Dub Beck	1.8 km N	No information available.

Habitats of Principal Importance/ Priority habitats (HPI)

The MAGIC search identified the following HPI types:

- Open mosaic Habitats on Previously developed Land – located on the southern boundary of the site (within the red line boundary) and to the south-east of the site.

HABITATS

The following habitats have been identified through a review of previous assessments. The majority of the site comprised hardstanding and the other habitats noted were confined to margins on the site boundary. See Figure 2 for further details.

Dense/Continuous Scrub

A narrow strip of continuous scrub (c.9 m tall) was present on the southern site boundary (Figure 2). This was young grey willow *Salix cinerea* and alder *Alnus glutinosa* carr with marshy grassland understory vegetation. The marshy grassland was species rich with 70% cover and 30% leaf litter. Species present included several species of *Carex sp.*(true-sedges), hard rush *Juncus inflexus* and common twayblade *Listera ovata*.

Unimproved Neutral Grassland

A narrow margin of secondary unimproved neutral grassland was present on the southern boundary (Figure 2). The grassland within this area was assessed in detail during the NVC survey (Tetra Tech 2021g) and was classified to the following community: MG1E *Arrhenatherum elatius* (false-oat grass) grassland *Centaurea nigra* (common knapweed) sub-community.

The grassland had a layered structure and the following grasses and tall-herb species were abundant; false-oat grass, Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata*, common knapweed, oxeye daisy *Leucanthemum vulgare* and hogweed *Heracleum sphondylium*. This was identified as an area of exceptionally species-rich secondary grassland and NVC Report recommended that it was translocated to an area of habitat creation prior to site works commencing.

Marshy Grassland

A small area of marshy grassland was recorded on the north-western boundary of the site (Figure 2). This area was sedge and rush dominated and included many herb species associated with damp grassland such as meadowsweet *Filipendula ulmaria*, wild angelica *Angelica sylvestris*, ragged robin *Silene flos-cuculi* and valerian *Valeriana officinalis*. Particularly rich areas contained several species of orchid including northern marsh *Dactylorhiza purpurella*, common-spotted *Dactylorhiza fuchsii*, bee-orchid *Ophrys apifera* and common twayblade *Listera ovata*.

Amenity Grassland

Two small areas of frequently mowed amenity grassland were present at the eastern entrance of the site adjacent to the access road (Figure 2).

Standing water

Two areas of standing water were present in vehicle tracks, within the continuous scrub on the southern boundary (Figure 2). The habitat was marginal and the standing water was temporary in nature. The water-filled tracks onsite continue offsite and outside the site boundary form linear waterbodies within the marshy/unimproved neutral grasslands and dense scrub adjacent to the

southern site boundary. These may dry seasonally but many contained aquatic species such as lesser spearwort, water crowfoot and charophytes.

Hardstanding

Hardstanding was recorded extensively throughout the site; this comprised the footprint of a previously demolished building (Figure 2).

Bare Ground

A margin of bare ground was present along the northern boundary and was primarily comprised of gravel which perennial/short ephemeral vegetation was starting to colonise.

PROTECTED SPECIES

Great Crested Newt (GCN) and other amphibians

The desk study returned one record of great crested newt (GCN) *Triturus cristatus* in Cleator approximately 2 km south from the site, recorded in 1998 (no post 2000 records were returned).

Ephemeral standing water was present on the southern edge of the site, in the form of two water-filled tracks. The majority of the waterbodies existed outside the site boundary. These were temporary in nature were dry during the summer months as observed during the GCN surveys (Tetra Tech, 2021d).

Up to three additional ephemeral water features were located outside the site boundary to the south of the hard standing area (Figure 2). These were assessed using the Habitat Suitability Index (HSI) methodology.

The HSI approach provides an objective method for assessing the suitability of a waterbody as habitat for GCN (Oldham et al., 2000; Herpetological Conservation Trust, 2008). The system provides an index between 0 and 1, with 0 indicating unsuitable habitat and 1 optimal habitat. Ten suitability indices are used to calculate the index score, each representing a factor considered to affect GCN. These factors are listed and briefly explained below:

1. Location: i.e. where the pond is located in the British Isles. Lowlands are generally thought to be most suitable; suitability declines with increases in altitude

2. Pond area: i.e., the water surface area of a pond. Suitability peaks at approximately 800m²;

3. Pond drying: how often a particular pond dries out. Ponds which dry out more frequently are less suitable;

4. Water quality: an indication of water quality based on the invertebrate diversity present. High invertebrate diversity indicates high water quality and suitability;

5. Shade: an estimate of the total shaded perimeter of a pond. Shoreline shade below 60% is optimal;

6. Fowl: indication of impact by waterfowl. High waterfowl numbers are generally considered detrimental;

7. Fish: indication of fish abundance. High fish numbers are generally considered detrimental;

8. Pond count: based on the density of ponds occurring within 1km of a particular pond. Suitability is positively correlated with pond density;

9. Terrestrial habitat: based on the availability of suitable habitat in the pond vicinity, e.g. rough grassland, scrub and woodland. For this assessment, the categories provided in the NARRS Survey Pack (Herpetological Conservation Trust, 2008) were used. This differs from the assessment criteria by Oldham et al. (2000), and is based on work by Lee Brady (unpublished); and

10. Macrophytes: based on an estimate of the percentage cover by emergent and aquatic vegetation. Suitability peaks at between 70% and 80% cover.

11. The results are then compared against a categorical scale developed by Lee Brady (unpublished) to give an overall rating. Therefore, the result for each waterbody is categorised as follows:

- <0.5 = Poor
- 0.5 – 0.59 = Below Average
- 0.6 – 0.69 = Average
- 0.7 – 0.79 = Good
- >0.8 = Excellent

All the waterbodies were scored with an HSI of 'average' or above (with the exception of one waterbody which scored below average).

All waterbodies were surveyed using eDNA and either returned a negative result for GCN or were dry during the survey window. No evidence of GCN was observed on any survey visits.

The majority of the site was hardstanding and is considered unsuitable for amphibians. Terrestrial habitat such as scrub and grassland on the site margins and surrounding the site was deemed suitable for GCN.Other amphibians including smooth newt *Lissotriton vulgaris*, palmate newt *Lissotriton Helvetica*, common frog *Rana temporaria* and common toad *Bufo bufo* were located in the continuous scrub adjacent to the site, during both the GCN torch surveys (Tetra Tech 2021d) and the reptile surveys (Tetra Tech 2021h). Common toad are listed as a Species of Principal Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act 2006.

Bats

The desk study found records for a variety of bat species with a 2 km radius of the site, they are displayed in Table 2.

Table 2. Desk study bat results note only the nearest record have a distance and direction.

Species	No. of records	Date	Recording	Distance & Direction
Natterer's bat *Myotis nattereri*	1	2017	1 count	2 km S
Soprano pipistrelle *Pipistrellus pygmaeus*	1	2011	5 count	1.7 km NE
Noctule *Nyctalus noctula*	1	2011	1 count	1.5 km NE
Common pipistrelle *Pipistrellus pipistrellus*	2	2011	1 count	1.7 km NE
		2012	Count of more than 5 bats	1.8 km S
Unidentified bat *Chiroptera sp.*	1	2016	Not specified	1.6 km N

There was one bat EPSL granted within 2 km of the site. The license was for the destruction of a resting site for whiskered bat, Natterer's bat & Brandt's bat *Myotis brandti* in 2013, located approximately 0.8 km west of the site.

There were no roosting features present on site. Buildings and woodland areas located adjacent to the site, within the wider CMIQ assessed for roosting potential in 2021 (Tetra Tech, 2021b) were identified as having either negligible or low roosting potential. Two common pipistrelle day roosts were identified within the wider CMIQ site in 2021. However, the roosts are located sufficient distance from the site so as not to be indirectly impacted through external lighting noise or vibration. The woodland located at the north of the site contains several trees with low roosting suitability recorded (Tetra Tech, 2021b).

Common and soprano pipistrelle *Pipistrellus pygmaeus* were recorded commuting and foraging along the woodland 50m north of the site and along the eastern access road. Based on the BCT Guidelines (Collins, 2016) for habitat suitability the site has low value for foraging and commuting bats as it primarily comprises hardstanding (Tetra Tech, 2021b).

Reptiles

The desk study returned one old record of a slow worm *Anguis fragilis* approximately 1.7 km north of the site, recorded in 1997 (no post 2000 records were returned).

No reptiles were recorded within the red line boundary during surveys conducted on the site in 2021 (Tetra Tech, 2021h). Reptile mats were distributed within the Plot 19 red line boundary and in adjacent habitats to the north, west and south. The reptile survey did however reveal presence of reptile populations within the wider CMIQ site with a low population of common lizard *Zootoca vivipara* recorded to the south-west of the CMIQ site, approximately 350m from the site. Grassland habitats on site provide suitability to support local reptile populations such as common lizard. There are open areas of derelict hard standing and gravels which may be suitable for basking. Piles of rubble and other refuse within the site offer suitable refugia opportunities and over-wintering habitat for reptiles. In addition, the surrounding scrub appears to offer suitable habitat and connectivity to the wider environment.

Badger

The desk study returned one record of badger *Meles meles* within a 2 km radius of the site, recorded in 2018.

The majority of the site is hardstanding with limited suitability for foraging or sett building. The habitats on the edge and adjacent to the red line boundary appeared to be of suitability for badgers and are likely to provide good connectivity and foraging features. However, there were no badger setts or other signs of badgers recorded on site (Tetra Tech, 2021a). The grassland habitat within and surrounding the site are considered to provide suitable features for foraging badgers.

Otter & Water Vole

The desk study returned no records of water vole *Arvicola amphibius* within a 2 km radius of the site. The desk study did return 26 records of otter *Lutra lutra*, with majority of these associated with River Keekle that runs approximately 1.2 km northwest from the site. The nearest record was approximately 0.7 km north of the site; however, the record's location description stated 'River Keekle' and therefore, it is considered that the grid reference for this record may have been mis-recorded.

The closest water feature to the site is the Nor Beck, located 75m to the north of the site boundary. However, this water feature comprised of a shallow, straightened ditch with generally low suitability to support otter and very limited breeding and resting features. The Nor Beck is also located directly

adjacent to a path frequently used by dog walkers therefore it is likely to be subject to frequent disturbance further reducing the suitability for otter.

Shallow pools within the willow / alder carr south-east of the site are likely to be ephemeral and dry-up in the spring / summer. They also contained no fish and had no suitability for hunting. Therefore, these are considered to provide negligible suitability for breeding, resting or foraging otter.

No suitable habitat for water voles was observed on site during survey. Nor Beck to the north of site may have limited suitability; however, this species has very limited distribution in Cumbria with no known current (post 2000) populations in West Cumbria and the core distribution area located in the North Pennines (The Cumbria Evidence Base Information, 2010).

Birds

The desk study returned 1,236 records of 105 bird species within 2 km of the site (including 12 sensitive species). Of these a total of 10 were legally protected bird species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), a total of 20 bird species were Birds of Conservation Concern (BoCC) Red List species and a total of 43 bird species were BoCC Amber list species.

A total of 31 bird species were identified during breeding bird surveys completed on the CMIQ site. Of these species, seven BoCC Red List and seven BoCC Amber List species were recorded. In addition, three species listed as Species of Principal Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act 2006 were recorded. Of the 31 species recorded, six species were confirmed breeders, while 10 were probable breeders and 15 were possible breeders.

Eleven bird species were recorded within and adjacent to the site boundary including two BoCC Amber listed species and one BoCC Red listed species.

Oystercatcher *Haematopus ostralegus* were confirmed breeding on hardstanding area located in the centre of the wider CMIQ boundary with oystercatcher chicks observed using the site during the breeding bird surveys conducted in 2021 (Tetra Tech, 2021c). Other breeding birds recorded on site included predominantly common passerines and corvids (i.e. carrion crow *Corvus corone* and jackdaw *Corvus monedula*), breeding within the scrub and grassland edge habitats located in the south and south-east of the site (Tetra Tech, 2021c).

Invertebrates

The desk study returned 168 records of 34 invertebrate species in the 2km search radius. There were seven insect species listed under the NERC Act (SPI). Species are displayed in Table 3.

Table 3. Favoured food plant of NERC insect species within the desk study

Species	Foodplant preferences
Butterflies	
Dingy skipper *Erynnis tages*	Common bird's-foot-trefoil *Lotus corniculatus*
Wall *Lasiommata megera*	Grasses; Tor-grass *Brachypodium pinnatum*, false brome *Bromus sylvaticum*, cock's-foot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus*
Small heath *Coenonympha pamphilus*	Fine grasses; fescues *Festuca* spp., meadow-grasses *Poa* spp., and bents *Agrostis* spp.

Grayling *Hipparchia semele*	Sheep's-fescue *Festuca ovina*, red fescue *F. rubra* and early hair-grass *Aira praecox*
Small pearl-bordered fritillary *Boloria selene*	Common dog-violet *Viola riviniana* and marsh violet *V. palustris*
Moths	
Latticed heath *Chiasmia clathrate*	Clovers *Trifolium* spp. and lucerne *Medicago sativa*
Cinnabar *Tyria jacobaeae*	Ragwort *Jacobaea vulgaris*

The majority of the site comprised hardstanding with limited opportunities for invertebrates. The habitat types recorded on the margins of the red line boundary offered a variety of niches that can be exploited by invertebrates. During the survey of the wider CMIQ site (Tetra Tech, 2021f) 54 invertebrate species were recorded. Of these, only the cinnabar moth *Tyria jacobaeae* is listed under the Section 41 of the NERC Act. Two records of cinnabar moth caterpillars were observed within the unimproved grassland to the east of the site with one additional record located in the marshy grassland south of the site.

During the invertebrate survey kidney vetch *Anthyllis vulneraria* (the food plant for dingy skipper) was identified within the Plot 19 red line boundary (Tetra Tech, 2021f). The habitats on site are considered likely to support may support small numbers of common invertebrate species.

Other species

Red Squirrel

The blocks of broad leaved semi-natural woodland located 50m north of the site were considered to be suitable for red squirrel *Sciurus vulgaris* as they had numerous mature trees present and good connectivity to other suitable woodland blocks and residential gardens. No obvious signs of red squirrel dreys were observed within the trees on site. (Tetra Tech, 2021a)

West European Hedgehog

The site has the potential to support hedgehog *Erinaceus europaeus* and the grasslands on site and adjacent scrub provide suitable habitat for foraging and may contain hedgehog nests (Tetra Tech, 2021a).

Invasive Species

The desk study returned three plant and three animal species listed under the Schedule 9 of the W&CA and three animals. **Table** 4 displays each species and the nearest records to the site.

Table 4. Invasive species identified in the desk study

Species	Number of records	Distance & Direction
Montbretia *Crocosmia pottsii x aurea = C. x crocosmiiflora*	1	2.5 km SW
Indian balsam *Impatiens glandulifera*	4	2 km SE
Japanese knotweed *Reynoutria japonica*	10	0.8 km SW

Canada goose *Branta canadensis*	1	Grid ref not accurate enough
American mink *Neovison vison*	1	1.3 km N
Grey squirrel *Sciurus carolinensis*	26	0.6 km E

The Invasive Non-Native Species survey conducted on the CMIQ site in 2021 recorded wall Cotoneaster *Cotoneaster horizontalis* and two other cotoneaster records located within the amenity grassland on site (Figure 2) (Tetra Tech, 2021e).

IMPORTANCE OF ECOLOGICAL FEATURES

In line with the CIEEM PEA Guidelines, and based on the above baseline information, the importance of each ecological feature recorded within the study area is given in **Table** 5 below. The categories used are those which are defined in Section 4 of the CIEEM EcIA Guidelines (2018 v1.1):

Table 5. Importance of Ecological Features

Feature	Importance	Rationale
River Ehen SAC	International	Designated for freshwater pearl mussel *Margaritifera margaritifera* population and Atlantic Salmon *Salmo salar.*
River Ehen (Ennerdale Water to Keekle Confluence) SSSI	National	Designated for freshwater pearl mussel *Margaritifera margaritifera* population
Dub Beck CWS; Rheda South Park CWS; Parkside Pond CWS; Birkhouse Pond CWS	County	Designated County Wildlife Site
Dub Beck; Weddicar; Keekle River Site of invertebrate significance	Local	Locally designated Site of Invertebrate Significance.
Dense and scattered scrub	Negligible	Habitat is common and widespread.
Secondary unimproved neutral grassland	Local	Habitats are common and widespread but it is likely to support a diverse range of fauna including invertebrates, small mammals and foraging birds.
Marshy grassland	Local	Habitats are common and widespread but it is likely to support a diverse range of fauna including invertebrates, small mammals and foraging birds.
Amenity grassland, hardstanding, standing water, bareground	Negligible	Common habitats that are wide spread throughout the surrounding landscape.

Feature	Importance	Rationale
GCN	Likely absent from site	All waterbodies adjacent to the site scored average on the HSI. eDNA concluded no presence of GCN within the waterbodies.
Amphibians including common toad	Local	Common toad and other amphibians such as smooth newt were present adjacent to the Plot 19 red line boundary. The site provides suitable foraging / commuting habitat and potential refugia / hibernacula features, with standing water suitable for breeding, located adjacent to the site.
Reptiles	Local	A small local population of common lizards were found to be present on the main CMIQ site. The site provides suitable foraging / commuting habitat and potential refugia / hibernacula features.
Bats	Local	The habitats on site with woodland and grassland are considered to be of moderate suitability for foraging and commuting bats.
Badgers	Unknown / Unlikely to be present	No badger setts were recorded within 50m radius of the site. There are no records for badger within the local area. However, as the site provides suitable habitat for this species it is considered possible that local badger populations (if present in the locale) may opportunistically use the site.
Breeding Birds	Local	Habitats within the site are likely to support a wide range of common bird species.
Invertebrates	Local / County	Habitats within the site support a population of cinnabar moths as well as host bird's-foot trefoil and kidney vetch which is the foodplant of the dingy skipper. Kidney vetch is present within the Plot 19 red line boundary.
Red squirrel	Local	The woodland habitat 50m from the site may provide suitable breeding / foraging provisions for this species.
Hedgehog	Local	Habitats on site are suitable for foraging and hibernating hedgehog. Hedgehog is a NERC SPI.
Either: International (incl. European) / National / Regional / County / Local / Negligible **Or:** Unknown (i.e. further surveys/information needed)		

RELEVANT PLANNING POLICY & LEGISLATION

Revised National Planning Policy Framework

A revised national planning policy framework (NPPF) was issued on 20th July 2021 and currently supplements government Circular *06/2005*, *Biodiversity and Geological Conservation: Statutory and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process – refer to Tetra Tech CMIQ Ecological Appraisal (2021a) for further details on this policy.

Biodiversity 2020: A strategy for England's Wildlife & Ecosystem Services

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act.

Local Biodiversity Action Plan

The Cumbria Biodiversity Action Plan (CBAP) is a list of habitats and species identified under the NERC Act 2006. A list of all 268 SPI which occur in Cumbria is provided at:

https://www.cumbriawildlifetrust.org.uk/sites/default/files/cumbria%20bap%20species%20updated%20list%202009%20web.pdf

Local Plan

Copeland Borough Council holds the following policies relevant to this development in their local plan 2013-2018: Core Strategy and Development Management Policies DPD, adopted in 2013:

- **Policy SS5 – Provision and Access to Open Space and Green Infrastructure**
- **Policy ENV3 – Biodiversity and Geodiversity**
- **Policy DM25 – Protecting Nature Conservation Sites, Habitat and Species**
- **Policy DM28 – Protection of Trees**

Refer to Tetra Tech (2021a) for further details on each policy.

DISCUSSION & RECOMMENDATIONS

DESIGNATED SITES

Natura 2000 Sites – River Ehen SAC

A Habitat Regulations Assessment was conducted as part of the entire CMIQ site (Tetra Tech 2021i). For the wider site assessment the River Ehen SAC was screened into the assessment with the possibility of likely significant effects. The River Ehen SAC is located 1.2 km south from the wider CMIQ proposed development site. The CMIQ site is directly adjacent to Nor Beck which runs from the northeast of the site and flows via the River Keekle into the River Ehen SAC. The River Ehen is designated for freshwater pearl mussel *Margaritifera margaritifera* and Atlantic salmon *Salmo salar*. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration.

However, as the Plot 19 development is temporary occupation of an existing hardstanding area, this is considered unlikely to affect nearby Natura 2000 sites.

Sites of Special Scientific Interest – River Ehen

The site lies within the Impact Risk Zone (IRZ) for River Ehen (Ennerdale Water to Keekle Confluence) SSSI. However, the proposals do not fall into a category of likely risk and therefore consultation between Natural England and Local Planning Authority in relation to impacts on the SSSI sites is unlikely to be required.

County Wildlife Sites

There are seven county wildlife sites (CWS) within 2 km radius of the site. The closest CWS site is the River Keekle at 0.8 km west of the site. As no designation information was available for each of the sites, it is difficult to assess impacts on the particular habitats and species that may be found on site. However, given the distance from the site to the CWS', no adverse effects are considered likely. No further assessment required.

HABITATS

Grassland & scrub Habitats

The Plot 19 Masterplan (Appendix B) indicates that areas of neutral, marshy and amenity grassland and continuous scrub are within the red line boundary. These habitats are marginal and are confined to the site perimeter. The nature of the proposals is for temporary disturbance of the site. The majority of the works are likely to be confined to the hardstanding area and access points onto the site.

It is therefore suggested that any habitats present on the periphery of the site including the marshy grassland, bare ground, continuous scrub and unimproved grassland are fenced with Heras fencing or equivalent to protect these habitats from disturbance such as materials storage and compaction. This will protect these areas during the lifetime of the project so that the unimproved grassland and any invertebrate larvae can be translocated at a later date, as recommended in Tetra Tech 2021f and Tetra Tech 2021g.

PROTECTED & NOTABLE SPECIES

Amphibians

The great crested newt and its habitat are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Under the legislation, it is an offence to intentionally kill, injure or take GCN as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a GCN or disturb an animal while it is occupying a structure or place which it uses for that purpose. GCN are also a NERC S41 and Local Biodiversity Action Plan (LBAP) species.

No signs of GCN were found during the surveys with GCN confirmed as likely absent from the ephemeral water features. As the majority of the site comprised unsuitable GCN habitat and the waterbodies present dry seasonally this will likely hinder a GCN population from becoming established on site (Tetra Tech, 2021d).

In the unlikely event of GCN being recorded during works on site then works should be postponed and advice sought from a suitably qualified ecologist.

Three other amphibian species: a medium population of palmate newt, a small population of smooth newt, a small population of common frog and common toad were observed within the nearby scrub area. As marginal vegetation will be retained and protected, specific Reasonable Avoidance Measures (RAMS) relating to GCN are not considered necessary. If proposals change and vegetation removal is required RAMS will be required as detailed in the GCN Report (Tetra Tech, 2021d).

Bats

All bats and their roosts receive full protection both under The Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to:

- Intentionally kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat; or
- Disturb a bat while it is occupying a structure or place which it uses for that purpose.

A detailed bat survey was conducted on site in 2021 by Tetra Tech (Tetra Tech, 2021b) which identified two common pipistrelle day roosts in the wider CMIQ site and the adjacent woodland a valuable foraging and commuting feature.

The proposed plan for the site indicates that the majority of habitats with value for bats will not be impacted by the development. Therefore, foraging and commuting bats are unlikely to be significantly affected by the proposal.

However, commuting and foraging bats are highly sensitive to light spill and light pollution. Without a suitable and sensitive lighting strategy, foraging and commuting bats could be adversely impacted. External lighting on the adjacent woodland between dusk and dawn must be avoided during the temporary works to avoid any adverse impacts on foraging and commuting bats. If this is not possible additional control measures will be required to reduce indirect impacts to bats **in accordance with the Institute of Lighting Professionals (ILP) Guidance Note 08/8 *Bats and artificial lighting in the UK* (ILP, 2018).**

Reptiles

All species of native reptiles are protected under the Wildlife and Countryside Act 1981 (as amended).

The Tetra Tech reptile survey conducted in 2021 (Tetra Tech, 2021h) indicates that breeding populations of common lizard are present within the entire CMIQ site and likely use the site for foraging and commuting. The proposed development is therefore likely to impact reptiles present on site.

The site is considered unlikely to support hibernating reptiles but might provide suitability for foraging and basking reptiles during the reptile active season. The works are not expected to impact on hibernating reptiles. Given the temporary nature of the works the following Reasonable Avoidance Measures are required:

- A toolbox talk should be provided to the contractors at the start of the works. The toolbox talk will detail any RAMs and should also mention other animals that may be encountered on site during works, such as hedgehog.
- Any site clearance works including breaking ground must be undertaken during the amphibian active season (March - end October during periods of suitable weather) to avoid impacting on hibernating amphibians;
- Immediately prior to site works, an ECoW should finger-tip search and check all of the refugia and sheltering places for animals. This will then be followed by the removal of the refugia under the supervision of the ECoW;
- Uninjured animals encountered at any time during site works should be carefully handled using gloved hands and moved to a retained area of habitat a suitable distance from machinery and site works. Any injured animals should be taken to a vet or wildlife clinic. Contact an ecologist for ECoW advice;
- Any pipes stored, or installed on-site, with a diameter of greater than 200mm should be covered or capped at night to reduce the risk of animals becoming trapped inside;
- Backfilling excavations before the end of the day, or covering of excavations greater than 300mm depth before nightfall;
- Escape routes should be incorporated into shallower excavations if covering is not practicable, such as escape boards or shallow sloped sides;
- Daily checks of any excavations should be made by contractors prior to commencing work to ensure that no animals have become trapped in the excavations. Should a trapped protected / notable species be found within the works, the supervising ECoW or Cumbria Wildlife Trust (CWT) should be contacted immediately for advice;
- If any injured animals are found during works, then all works should stop immediately the animal should be taken to an appropriate wildlife hospital or centre for relocation. The incident should then be reported to the ECoW.
- Storage of waste and materials to avoid creating potential resting places or areas of pooling water with potential for amphibians to breed in, by storing material on raised platforms e.g. wooden pallets;
- It is preferable to use wheeled machinery rather than track machinery. However, if track machinery is used it should only track over areas already cleared under supervision.
- No night-time working.
- Proposed lighting schemes for the site should avoid light spill on to open water due to the potential to interrupt breeding activity.

Badger

Badgers are protected and so are the setts (burrows) they occupy. Under the Protection of Badgers Act 1992, in England and Wales it is an offence to:

- Wilfully kill, injure or take a badger (or attempt to do so);
- Cruelly ill-treat a badger;
- Dig for a badger;
- Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it;
- Cause a dog to enter a badger sett;
- Disturb a badger when it is occupying a sett.

No badger setts or other signs of badger were recorded within the site (or within a 50 m radius of the site). Therefore, it is considered unlikely that badger setts occur within the site boundaries. Parts of the habitat onsite and within the surrounding area appear suitable for badgers and there are records of this species within 2 km; badger are highly mobile and can rapidly colonise new areas. Therefore, presence of badger may be a potential constraint to the future development works.

It is recommended that a pre-works badger survey of the proposed development area is undertaken at least three months prior to work.

In case of a highly unlikely event that a badger sett is found during works, an application for a license to disturb or destroy the sett may be required to be completed and approved by Natural England, to avoid contravention of legislation (Tetra Tech, 2021a).

Birds

All wild birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended).

During the Breeding Bird Survey conducted by Tetra Tech in 2021 (Tetra Tech, 2021c) oyster atcher were observed breeding on the hardstanding in the centre of the site. Oyster catcher favour large, open areas of hard standing or bare ground, so that any predators are visible. As they have nested on a site previously, they are likely to use the same site again. It is suggested that works commence in the winter period (October – February), outside the bird nesting period, as this will avoid potential delays and disruption to the works due to nesting birds.

If it is necessary to start works within the nesting bird season (March to September, inclusive), to avoid committing an offence under relevant legislation, it is suggested that an initial site walkover is completed at least 2 weeks before works commence by a suitably qualified ecologist, to observe if any birds are nesting on site. If no birds are observed a second check 48 hours before works start, will also be required to confirm absence of active nests (see Tetra Tech, 2021a and Tetra Tech, 2021c for further advice).

Invertebrates

The site is likely to support common invertebrates. Habitats that are likely to support notable invertebrates (cinnabar moth and dingy skipper) are present mainly on the periphery of the site and these areas must be protected during works (e.g. fenced) to avoid disturbance during the temporary works.

Any birds-foot trefoil plants located in other parts of the Plot 19 Site, should be identified prior to works (by an ECoW) and protected and retained if within a retained area, or translocated to another suitable area if proposed to be subject to disturbance. Any caterpillars, larvae or eggs identified should also be translocated with the plants.

Invasive Species

It is suggested that amenity grassland area where the wall cotoneaster was present is fenced prior to works to avoid accidental spread to other parts of the site. Alternatively, the cotoneaster can be treated and eradicated from site prior to works commencing. Recommended working practices to

prevent further spread of Cotoneaster are summarised in Table 6 however it is recommended that a specialist is commissioned to discuss the most appropriate method(s) for this site.

Table 6: Summary of Management Options for Cotoneaster Species

Option	Method	Detail
Option 1	**Mechanical & Landfill**	Excavation of mature bushes and hand pulling seedlings, young plants and individual plants and transportation to a licensed off-site landfill. This can be a relatively expensive method of disposal as plants and rootstocks can only be disposed of at an appropriately licenced landfill site. If removal of rootstocks is not complete, they can re-sprout.
Option 2	**Mechanical & Burned on Site**	Excavation of mature bushes and hand pulling seedlings, young plants and individual plants and burning the arisings on site. This a cheaper method of disposal than landfill, as the material is disposed of on site. If removal of rootstocks is not complete, they can re-sprout.
Option 3	**Chemical Control**	Chemical control of stumps after hand-removal of foliage. Application using a weed wipe or hand-held spray until cut stumps are saturated and completely covered. Once chemical has had sufficient time to reached the root, rootstocks can be more easily dug up and the material burned on site.

.

SUMMARY

Habitats & Species

Habitats onsite (around margins of the site) suitable for

- Notable and common invertebrates;
- Common reptiles;
- breeding birds; and
- foraging badger and sett building;

Habitats adjacent to the site (plantation woodland) is valuable for foraging and commuting bats. Invasive species are present on site which require control/management.

RECOMMENDATIONS

Mitigation

- Pre-construction checks for badger at least 3 months prior to works starting.
- Construction should ideally be undertaken outside of the bird breeding season which extends from March to September. Any vegetation to be removed should be checked immediately prior to clearance for bird nests or roosting bats.
- Any birds-foot trefoil plants located in other parts of the Plot 19 Site, should be identified prior to works and protected and retained if within a retained area, or translocated to another suitable area if proposed to be subject to disturbance. Any caterpillars, larvae or eggs identified should also be translocated with the plants.
- Avoidance of any external light spill on woodland adjacent to the site during dusk and dawn (when bats are active).
- A toolbox talk should be provided to the contractors at the start of the works. The toolbox talk will detail any RAMs and should also mention other animals and notable plant species, including invasive species, that may be encountered on site during works, such as hedgehog.
- Reasonable avoidance measures for reptiles (and amphibians).

All invasive species must be fenced to avoid disturbance and eradicated from the site prior to the main ground works taking place. Measures for continued prevention of spread and a monitoring programme must be implemented along with good on-site biosecurity practices during eradication.

Document Control			
Revision:	**V2**	**Status:**	**FINAL**
Date:	25/05/22 (amended Figure 1)		
Prepared by: Elizebeth Wilcox Consultant Ecologist		**Checked by:** Patryk Gruba MCIEEM Senior Ecologist	**Approved By:** Candice Howe MCIEEM Principal Ecologist

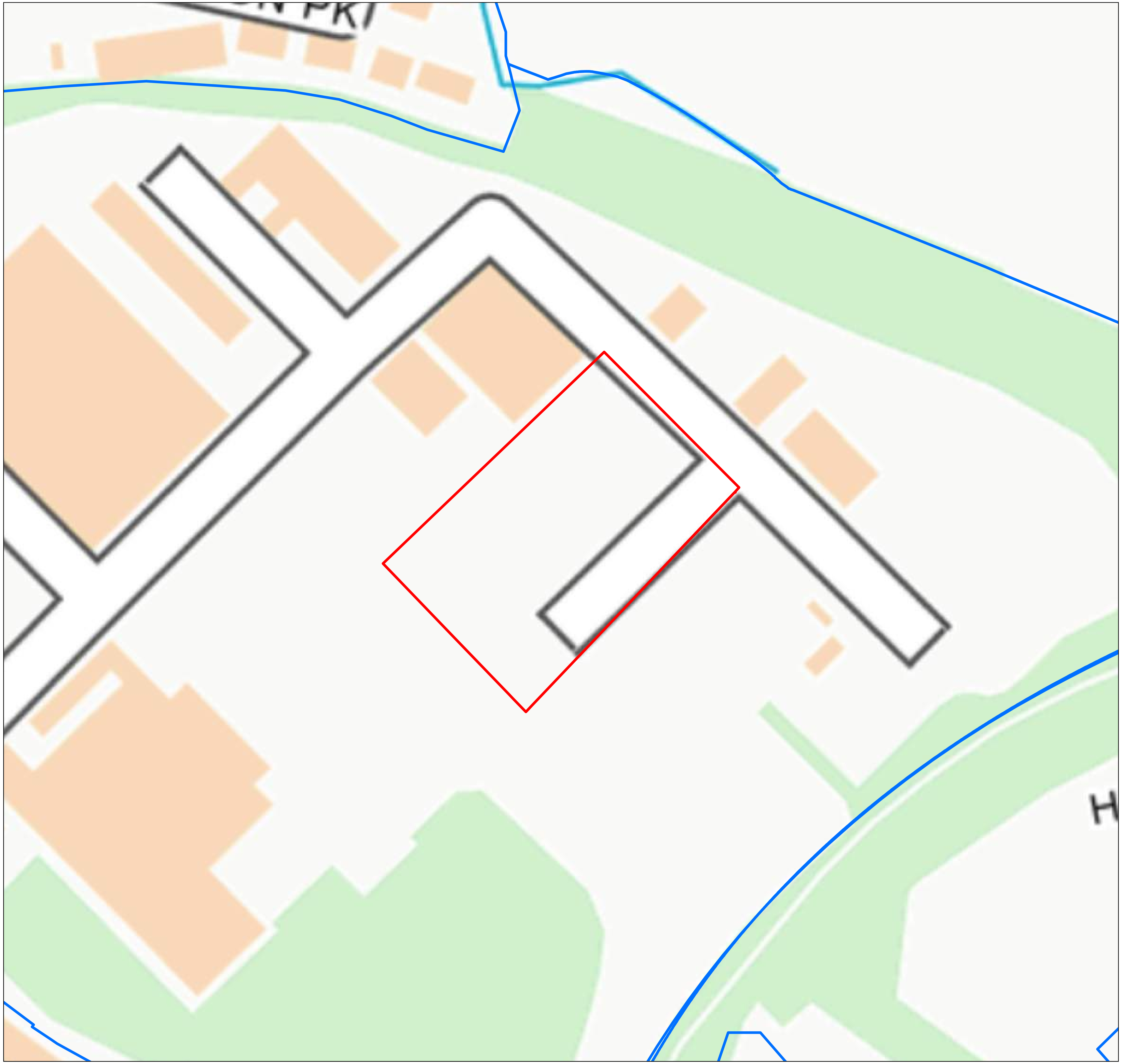
REFERENCES

- CIEEM, (2018 v1.1), Guidelines for Ecological Impact Assessment, CIEEM: Winchester.
- Collins, J. (ed.), (2016), Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition, The Bat Conservation Trust: London.
- Cumbria Biological Data Network (2010), The Cumbria Biodiversity Evidence Base Information – Water Vole *Arvicola terrestris* Version 2.1 – April 2010 [Online] Available at http://www.cbdc.org.uk/uploads/cbeb/statements/CBEB-WaterVole.pdf, Accessed August 2021.
- Herpetological Conservation Trust (2008) National Amphibian and Reptile Recording Scheme.
- ILP (2018) Bats and artificial lighting in the UK, Guidance Note 08 / 18.
- ODPM, (2005), Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System, [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf, Accessed February 2022
- Oldham, R.S.; Keeble, J.; Swan, M.J.S. & Jeffcote M. (2001) Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*), The Herpetological Journal 10 (4), 143-155.
- Tetra Tech (2021a) CMIQ Ecological Appraisal Report. Project Report 784-B029668.
- Tetra Tech (2021b) CMIQ Bat Roost Assessment Report. Project Report 784-B029668.
- Tetra Tech (2021c) CMIQ Breeding Bird Survey. Project code 784-B029668.
- Tetra Tech (2021d) CMIQ Great Crested Newt Report. Project code 784-B029668.
- Tetra Tech (2021e) CMIQ Invasive Non-Native Species Management Plan Report. Project code 784-B029668
- Tetra Tech (2021f) CMIQ Invertebrate Report. Project code 784-B029668
- Tetra Tech (2021g) CMIQ National Vegetation Classification Report
- Tetra Tech (2021h) CMIQ Reptile Report. Project code 784-B029668
- Tetra Tech (2021i) CMIQ Habitats Regulations Assessment Project code 784-B029668.
- Tetra Tech (2021j) CMIQ Biodiversity Net Gain Report Project code 784-B029668.
- WYG (2020) Leconfield Industrial Estate Ecological Appraisal. Project code 784-A114312.

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase 1 Habitat Plan



Site Location Plan

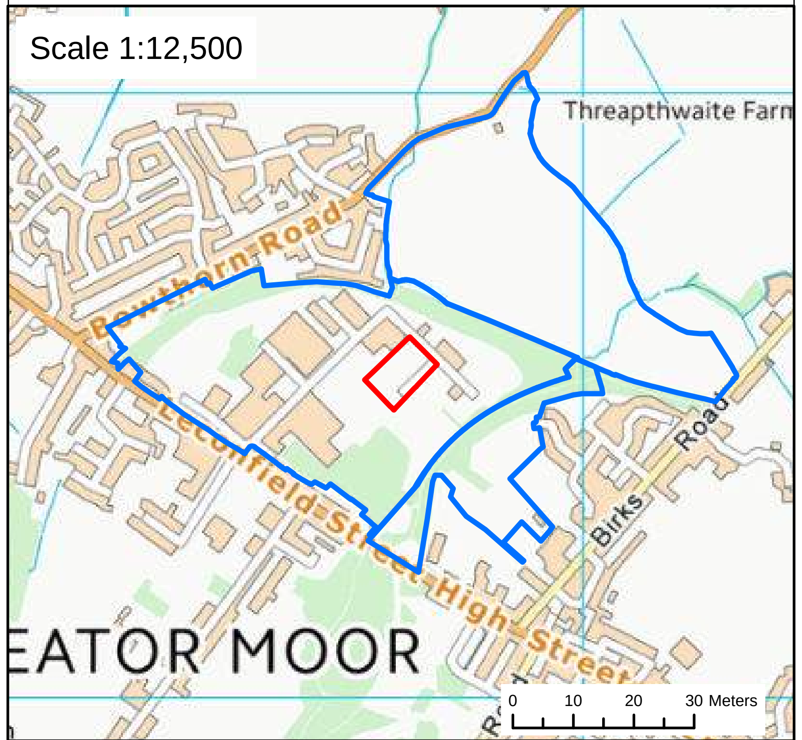
Plot 19

Doosan Babcock

F

Legend

- Plot 19 Site boundary
- Wider Cleator Moor Innovation Quarter (CMIQ) Site



Notes:

Drawn by: CD
Checked by: CH
Office: Southampton

Figure No. 1
Revision No. A

0 10 20 30 40 50 Meters
Scale 1:1,250 @A3

25 May 2022
NGR: 301699E 515536N

TETRA TECH

The Pavilion, 1st Floor
Botleigh Grange
Office Campus
Hedge End
Southampton
Hampshire, SO30 2AF

Phase 1 Habitat Plan

Plot 19

Doosan Babcock

Legend

- Site boundary
- Bare ground
- A — Amenity grassland
- Hardstanding
- Neutral grassland - unimproved
- Marsh/marshy grassland
- Scrub - dense/continuous
- Fence
- Standing water (in wheel ruts)
- Cotoneaster
- Cotoneaster Cotoneaster horizontalis

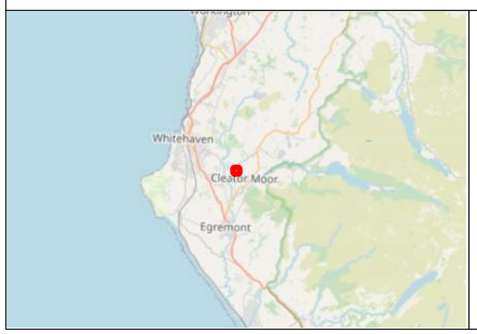
Notes:

Drawn by: JB
Checked by: EW
Office: Southampton

Figure No. 2
Revision No. A

0 10 20 30 40 50 Meters
Scale 1:1,000 @A3

09 May 2022
NGR: 301680E 515473N



TETRA TECH

The Pavilion, 1st Floor
Botleigh Grange
Office Campus
Hedge End
Southampton
Hampshire, SO30 2AF

APPENDIX A – REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Doosan Babcock (“the Client”) for the proposed uses stated in the report by Tetra Tech Limited (“Tetra Tech”). Tetra Tech exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder’s permission.

No liability is accepted or warranty given for; unconfirmed data, third party documents and information supplied to Tetra Tech or for the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report. Tetra Tech does not purport to provide specialist legal, tax or accounting advice.

The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.