Hangar 4, Manchester Airport

784-B041631

Preliminary Ecological Appraisal

Columbia Threadneedle Investments

V1

Document prepared on behalf of Tetra Tech Group Limited.

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is located at Manchester Airport in Manchester City and is centred at Ordnance Survey National Grid SJ 81129 84646.
Proposals	Current proposals are the demolition of the current structures on site for the footprint to be used for a new hangar fit for future purposes within the airport.
Scope of this Survey(s)	The purpose of this report is to: • Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence; • Present the results of an extended Phase 1 habitat survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species and evidence of protected fauna or habitats capable of supporting such species; and • Evaluate potential ecological receptors on site and within the zone of influence; identify any constraints to the sites development and make any recommendations for further surveys, mitigation or enhancement.
Results and Evaluation	**Designated Sites** The site is situated 0.3km northwest of Cotterill Clough SSSI. **Habitats** The habitat consists primarily of buildings and hard standing with small areas of standing trees and introduced shrub. **Protected and Notable Species** The site had the potential to support a number of protected species including bats (roosting) and nesting birds. No invasive species were recorded under Schedule 9, however an undesirable species (*Buddleja* agg) was recorded within the site.
Recommendations	Key recommendations of the report are: • Further endoscope inspection from MEWP or mobile scaffolding for roosting bats within one building on site (B1) – If the features are deemed suitable, nocturnal dusk or dawn survey between May and August inclusive maybe recommended following assessment; • Nesting bird check within 24 hours prior to demolition and vegetation clearance if works are to be undertaken between March and September inclusive; • Production of a CEMP to detail standard pollution control measures on site as well as standard procedures for mammals; • Appropriate removal of the undesirable species *Buddleja agg* to reduce spread of the species; and • Adoption of a sensitive lighting scheme to reduce indirect impacts to foraging and commuting bats as well as provision of bat and bird boxes to be integrated into the new structure during construction to compensate for lost roosting/nesting habitat.

Conclusion	Provided the measures within this report for further survey and mitigation can be adopted, it is anticipated that a design could be brought forward for this site that would be compliant with current local and national biodiversity planning policy.

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by Columbia Threadneedle Investments on 13th January 2023 to undertake a Preliminary Ecological Appraisal (PEA) of Hangar 4 Manchester Airport, hereafter referred to as "the site".

This report has been prepared by Senior Ecologist Gareth Parry ACIEEM and the conditions pertinent to it are shown in Appendix A.

1.2 SITE DESCRIPTION

The site is located at Manchester Airport north of Wilmslow Old Road, Ringway, Manchester, M90 5YP and is centred at Ordnance Survey National Grid Reference SJ 81129 84646 (refer to **Error! Reference source not found.**). It comprises a large hangar building with associated ancillary buildings (store rooms and generator rooms). Currently the majority of the hangar is used to repair airport vehicles and for storage of parts and other stock used by ground vehicles e.g. gritting salt. The buildings are surrounded by hard standing used as parking for ground vehicles. Directly outside the site to the north west and east is airport infrastructure and to the south is Old Winslow Road which is bordered by semi mature to mature trees and amenity grassland.

1.3 DEVELOPMENT PROPOSALS

Current proposals are for the demolition of the current structures on site and for the footprint to be used for a new hangar fit for future purposes to be built within the airport.

1.4 PURPOSE OF REPORT

The purpose of this report is to:

- Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence;
- Present the results of an extended Phase 1 habitat survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and; evidence of protected fauna or habitats capable of supporting such species; and
- Evaluate potential ecological receptors on site and within the zone of influence; identify any constraints to the sites development and make any recommendations for further surveys, mitigation or enhancement.

The details of this report will remain valid for a period of eighteen months from the date of the survey (i.e. until July 2024), after which the validity of this assessment should be reviewed to determine whether further updates are necessary. The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.

Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 METHODOLOGY

2.1 HISTORIC SURVEYS

No previous reports relevant to the current site have been reviewed.

2.2 DESK STUDY

The desktop study comprised two elements:

- A data search obtained from Greater Manchester Local Records Centre on 17th January 2023; and
- Online element including a search using :Multi Agency Geographic Information for the Countryside (MAGIC) (https://magic.defra.gov.uk) website and Ordnance Survey (OS) and Aerial Imagery (https://www.bing.com/maps).

The geographical extent of the search area was related to the significance of sites and species and potential zones of influence. For this site the following search areas were considered appropriate:

- 10km for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Area (SPA), Ramsar sites);
- 2km for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI)), protected or otherwise notable species and non-statutory designated sites of County Importance (e.g. Local Wildlife Sites (LWS));
- 2km for biological records; and
- 1km for ancient woodland and mapped priority habitats.

The data search did not cover Tree Preservation Orders (TPOs); or Conservation Areas designated for their special architectural and historic interest.

2.3 FIELD SURVEYS

The following methodologies have been used to identify the ecological receptors present on or near the site and which are relevant to the proposed development. Survey extended beyond the site to a distance of 50m where accessible.

2.3.1 Habitats

An extended Phase 1 habitat survey was undertaken on the site on 17th January 2023 by Tetra Tech Senior Ecologist Gareth Parry ACIEEM. The weather conditions were overcast with no precipitation, light winds and 2°C temperature.

The vegetation and broad habitat types within the site were recorded using the Phase 1 categories (JNCC, 2016), with the sites suitability to support notable flora assessed according to the Chartered Institute of Ecology and Environmental Management guidelines (CIEEM, 2017). Dominant plant species were recorded for each habitat present using standard nomenclature *New Flora of the British Isles (4th ed.)* (Stace, 2019).

2.3.2 Protected and Notable Species

The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Schedule 2 of the Habitat Regulations 2017 (as amended), Schedule 5 of the Wildlife and Countryside Act (W&CA) 1981 (as amended), the Countryside Rights of Way (CRoW) Act 2000, those given extra protection under the Natural Environment and Rural Communities (NERC) Act 2006, and species included in the Greater Manchester Local Biodiversity Action Plan (LBAP).

The presence of some species was determined using standard best practice guidance and are listed below.

Badger

The site was surveyed for evidence of badger *Meles meles* setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria *Surveying badgers. An occasional publication of the mammal society* (Harris, et al., 1989).

Bats

Roosting Bats – Buildings / Structures / Trees

Any suitable buildings, structures or trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) – hereafter referred to as the 'BCT Guidelines'.

Foraging / Commuting Bats

Potential habitat for foraging and commuting bats were assessed on site according to the BCT Guidelines.

Birds

Bird species identified at the time of survey were noted and nesting birds recorded as seen. An assessment of habitats was undertaken to determine the likely value to breeding and foraging birds.

Great Crested Newt & Common Amphibians

The site was appraised for its suitability to support great crested newt *Triturus cristatus* based on guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, et al., 2001). This appraisal also considered waterbodies within 500m of the site and their potential to be used for breeding newts. Each pond was assessed using the Habitat Suitability Index (HSI) (Oldham, et al., 2000) which assigns a value to the pond calculated from 10 pre-identified features. The HSI value gives a correlation of likely use by GCN and below 0.46 the waterbody is considered to have less likelihood of GCN presence however this metric is a guide and should be assessed on a site by site basis as waterbodies with low HSI have been known to support GCN.

Habitat suitability and evidence of other common amphibians was recorded on site where relevant.

Reptiles

The site was appraised for its suitability to support reptiles using guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003).

Invertebrates

The site habitats were appraised for suitability to support assemblages of invertebrates and commented on in the report as appropriate.

Other Species

The site was also appraised for its suitability to support other protected or notable fauna with regard to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

Invasive Species

Evidence of species listed on Schedule 9 of the Wildlife and Countryside Act (1981) as amended, were recorded as seen.

Scoped Out

Otter *Lutra lutra*, water vole *Arvicola amphibius* and hazel dormouse *Muscardinus avellanarius* have not been considered within the report as suitable habitat was not recorded within the site or within close proximity to the site boundary. These species shall not be considered further in the report.

2.4 LIMITATIONS

Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

Surveys within the 50m buffer to identify species such as badger was limited to the north, west and east due to additional airport infrastructure. However, the areas provided limited suitability for the surveyed species and is therefore not considered a limitation.

This survey was undertaken in January which is outside of the optimal botanical survey period of April – October. Due to the sub-optimal time of year some field signs may not be visible as some species may be dormant at this time. However, the site had limited vegetation or suitable ground condition for vegetation. Therefore, the time of year is not considered a limitation.

To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. This survey focuses on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to those given protection under UK or European wildlife legislation, from only a single visit. This report cannot, therefore, be considered a comprehensive assessment of the ecological interest of the site. However, it does provide an assessment of the ecological interest present on the day the site was visited and highlights areas where further survey work may be recommended.

3.0 RESULTS & EVALUATION

3.1 PROTECTED SITES

European and National designated sites identified within 10km of the proposed development are presented in Table 1, the designation, qualifying features and proximity from the development site also indicated. Details of local non-statutory designated sites within 2km of the site are also included.

Table 1. Statutory and non-statutory designated sites identified during the desk study

Site Name	Designation	Distance and direction from Site	Reasons for designation
Cotterill Clough	SSSI	0.3km South-West	The majority of the site is woodland with associated stream habitat and is the most diverse clough woodland on base rich soils in Greater Manchester. Cotterill Clough also has an interesting bird fauna with spotted fly-catcher *Muscicapa striata*, lesser spotted woodpecker *Dryobates minor*, greater spotted woodpecker *Dendrocopos major*, green woodpecker *Picus viridis*, blackcap *Sylvia atricapilla* and whitethroat *Curruca communis* all known to breed in the woodlands. The invertebrate fauna is also diverse with 79 species of spider having been recorded as well as the rare beetle (Dropephylla grandiloqua)
Lindow Common	SSSI/Local Nature Reserve (LNR)	3.9km South-East	This site has been selected to represent one of the few remaining areas of lowland heath in Cheshire. The site consists of a mixture of wet and dry heath, bog, open water and scattered scrub and woodland. Many lower lying areas of the heath are either permanently or seasonally waterlogged. These areas support very different plants and animals which add considerably to the diversity of the site. In these areas notable species include common cotton-grass *Eriophorum angustifolium*, hare's tail cotton-grass *E. vaginatum*, cross-leaved heath *Erica tetralix*, cranberry *Vaccinium oxycoccos* and sundew *Drosera rotundifolia*. In the wettest areas bog mosses Sphagnum spp. become dominant. Black Lake in the centre of the site contains peaty, acidic water. Aquatic macrophytes are sparse although several areas of lesser reedmace Typha angustifolia are present which form an important roost for barn swallow *Hirundo rustica* and house martin *Delichon urbicum*
Wythenshawe Park	LNR	4.7km North	Wythenshawe Park is one of Manchester's larger principal parks, with an area of 109ha. Two of its woodlands; Nan Nook Wood and Gib Lane Wood are Sites of Biological Importance (SBI). Three Grade II Listed Buildings are located within the park; North Lodge, the Statue of Oliver Cromwell and Wythenshawe Hall (Former Stable Block). This site comprises is of a variety of landscape elements including historic and ornamental woodlands, herbaceous

			borders, formal bedding, amenity grassland, wildflower meadows, ponds and hedges. This site also hosts some of the oldest trees in Manchester with some over 450 years old and which appear on the National Tree Council's register of Ancient and Veteran Trees.
Rostherne Mere	SSSI/Ramsar and National Nature Reserve (NNR)	5.8km West	This site is of international importance and has been designated under the terms of the European Community Directive 79/409/EEC on the Conservation of Wild Birds for inclusion on the list of Wetlands of International Importance under the Ramsar Convention. Rostherne Mere is the deepest and one of the largest meres in the north-west. It lies in a deep hollow in glacial drift to the south-west of Altrincham. It is a natural lake of high fertility which over the years has been increased by the accumulation of nutrients received from the inflow streams and surrounding farmland. The droppings of roosting birds also add to the nutrient inputs. The Mere is nationally important for its birds. It acts as a winter roost for large numbers of ducks and holds nationally significant numbers of pochard *Aythya farina* and pintail *Anas acuta* as well as good numbers of all other common species associated with freshwater. Over 10,000 gulls regularly roost on the water and up to 90 cormorants *Phalacrocorax carbo* roost in the trees along the edge. Because of its size and depth it is the last freshwater body in the area to freeze in winter and is consequently an important refuge in severe weather.
Midland & Tatton Meres	SSSI and Ramsar	6.7km South-West	Tatton Meres consists of two meres which have been selected as some of the best examples in Cheshire of meres with moderate fertility and a rich and well-developed aquatic flora. The site also includes a large area of fen, flushed acidic grassland and woodland. At the southern end of the mere is Knutsford Moor, one of the largest areas of fen and reedswamp – dominated by common reed *Phragmites australis* – in Cheshire. A number of notable species occur, including marsh fern *Thelypteris thelypteroides*, cowbane *Cicuta virosa* and cyperus sedge *Carex pseudocyperus*. This area is also important ornithologically as a breeding site for sedge and reed warblers *Acrocephalus schoenobaenus* and *A. scirpaceus*, sand martins *Riparia riparia* and for wintering and breeding wildfowl.

The site is situated within the Impact Risk Zone (IRZ) for Cotterill Clough SSSI. The site is broadleaved woodland and is mentioned within the Manchester Core Strategy Development Plan. The plan suggests where it is not possible to avoid harm, mitigation measures to compensate for any adverse impact will be necessary. Development within the expansion areas must implement the mitigation measures agreed with the Council, informed by an up-to-date environmental assessment. Although the criteria of the impact risk zone for the SSSI does mention airfield developments, the current site will be replacing previous assets within the airport and not creating a new site.

Ancient Woodland and Priority Habitats

There are two different areas of ancient woodland within 1km of site. The closest is 0.1km South-West and is a deciduous ancient woodland which is also the closest priority habitat to the site. As well as this there are three other areas of priority habitat identified within a 1km radius of site including purple moor rush pasture (627m away), good quality semi-improved grassland (692m away) and other areas of broadleaved woodland (174m away).

3.2 HABITATS

The following habitats have been identified through our assessment, a Phase 1 habitat map can be found in **Error! Reference source not found.**, with detailed Target Notes and Photographic Plates included in Appendix B, as appropriate.

Table 2. Habitats

Habitat	Result	Importance assessment
Scattered Trees	Self-set trees were recorded next to the main hanger on the south corner. Species included ash *Fraxinus excelsior* and elder *Sambucus nigra.*	Negligible Importance.
Introduced Shrub	Two large sections of box honeysuckle *Lonicera nitida* were recorded on the southern corner of the building. Currently both sections had limited management only to avoid growth over the stairway to the main offices.	Negligible Importance.
Buildings	Two main buildings were recorded on site the main hanger (B1) and store room (B2). Additional ancillary buildings surround B1 such as generator rooms and pump rooms.	Negligible Importance.
Bare Ground (Hard Standing)	The majority of the site consisted of hardstanding used as parking for airport vehicles. Some buddleja *Buddleja* agg was recorded growing out of drain covers in the centre of the car park.	Negligible Importance.

3.3 PROTECTED AND NOTABLE SPECIES

Data purchased from the Greater Manchester Local Records Centre confirmed the presence of a number of protected and notable species within 2km of the site. Relevant data are discussed in Table 3 below.

Protected and notable species identified as a receptor for the site are detailed in Table 3. For species with legal protection arising from persecution, such as badger, some details are purposefully omitted, but can be provided on request.

Table 3. Species

Species	Legal protection	Result	Importance assessment
Badger	Protection of Badgers Act 1992; Wildlife and Countryside Act 1981 (as amended) Schedule 6.	The data search returned 22 records of badger within 2km of the site. No evidence of badger was noted on the site or within accessible areas of the 50m buffer from the site boundary. The site provides no suitability for sett excavation on site as the majority of site is hardstanding and buildings and foraging opportunities were very limited. Extensive fencing was situated around the building limiting access to badger. In addition, foraging habitat suitable for badger was observed further south of the desk-based evidence likely making up badger foraging habitat in the area limiting the need to access airport grounds.	No evidence of this species was identified within the site – negligible importance.
Bats	Conservation of Habitats and Species Regulations 2017 (as amended) Schedule 2; Wildlife and Countryside Act 1981 (as amended) Schedules 5 & 6; Natural Environment and Rural Communities 2006 Section 41.	The data search returned a total of 27 records of bats within 2km of the site, including common pipistrelle *Pipistrellus pipistrellus,* Daubenton's bat *Myotis daubentonii*, noctule *Nyctalus noctula*, whiskered bat *Myotis mystacinus*, soprano pipistrelle *Pipistrellus pygmaeus*, Natterer's bat *Myotis nattereri* and brown long-eared bat *Plecotus auritus*. Records included roosting of whiskered bat 150m south of the site and common pipistrelle 280m southwest of the site. Consultation with MAGIC returned six records of European Protected Species Licence (EPSL) for bats within 2km of the site. The closest record was 420m to the southwest and included common pipistrelle and brown long eared bat. Two records were for roosting common pipistrelle to the northwest the closest of which was 580m away. One record of a licence for soprano pipistrelle was recorded to the south east (1.8km away). A brown long eared licence was recorded 1.5km north west and a licence for common pipistrelle, Natterers bat,	Species likely to be present within the site however, further surveys will confirm species present and importance for roosting bats. Habitat value for foraging and commuting bats is limited - considered negligible importance

Species	Legal protection	Result	Importance assessment
		soprano pipistrelle and whiskered bat was recorded northeast of the site 1.2km over the other side of the airport. **Roosting bats:** No trees suitable for roosting bats were located within the site. Two buildings were recorded on site (refer to B1 and B2), of which Building 1 (B1) was considered to provide low suitability for roosting bats. Two features were recorded during the assessment one of which was lead flashing overhanging a metal roof and the other was damaged brick work on the lean to on the south of the structure likely where a pipe exited the building. Building 2 (B2) was considered to provide negligible suitability. **Foraging / commuting bats:** Trees outside the southern boundary of the site is considered likely to form commuting habitat for local populations of bats. The site itself is currently flood lit during the night reducing its suitability for foraging and commuting bats. Preferred foraging habitat is identified south of the site including the trees along the road to the south and the woodland south of the road as well as Cotterill Clough SSSI.	
Birds	Wildlife and Countryside Act 1981 (as amended).	The data search returned 44 records for birds were recorded within 2km of the site. The closest records to the site included two records of peregrine falcon *Falco peregrinus* the closest of which was 120m northeast of the site. The record highlights a single peregrine using the buildings for two weeks in 2015 for roosting. No other records of the species has been identified in close proximity since. Other species identified close to the building were of species such as skylark *Alauda avensis*, song thrush *Turdus philomelos*, house sparrow *Passer domesticus* and black redstart *Phoenicurus achruros*. One record of kingfisher *Alcedo atthis* was recorded within 70m of the building but notes with the record highlight the species to have been identified on the River Bollin 1.3km from the site.	A number of species likely to be present throughout the site however, given the small scale of the site, the site is unlikely to be important at local level.

Species	Legal protection	Result	Importance assessment
		Other species recorded within 2km of the site included dunnock *Prunella modularis*, linnet *Linaria cannabina*, bullfinch *Pyrrhula pyrrhula*, hobby *Falco subbuteo* and starling *Sturnus vulgaris*. The majority of these records are either within the woodland at Cotterill Clough south west of the site or to the north east of the airport in housing estates north of the A555. Species recorded on site during the assessment included feral pigeon *Columbia livia domestica*, house sparrow *Passer domesticus* and magpie *Pica pica*. The buildings within the site were considered likely to be suitable for house sparrow, barn swallow *Hirundo rustica,* feral pigeon , house martin *Delichon urbicum* as well as other similar species due to the type of construction of the building with metal overhangs and the large internal cavities of both buildings.	
GCN and Common Amphibians	*GCN*: Conservation of Habitats and Species Regulations 2017 (as amended) Schedule 2; Wildlife and Countryside Act 1981 (as amended) Schedules 5; Natural Environment and Rural Communities 2006 Section 41.	The data search returned 7 records for great crested newt within 2km of the site, the closest of which was a record of breeding 446m south east of the site. Although there are records nearby the site provides no suitability for the species and therefore is considered not to be present.	No evidence of this species or habitat was identified within the site – negligible importance
Reptiles	*Adder, grass snake, slow worm and common lizard*: Wildlife and Countryside Act 1981 (as amended) Schedules 5; Natural Environment and Rural Communities 2006 Section 41.	The data search returned no records for reptiles within 2km of the site. Although there are records nearby the site provides very limited suitability for the species and therefore is considered not to be present and is not considered further in this report	No evidence of this species was identified within the site – negligible importance

Species	Legal protection	Result	Importance assessment
Invertebrates	Some invertebrates are protected under Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended). Many invertebrates are also listed as rare and most threatened species under Section 41 of the Natural Environment and Rural Communities Act (2006).	The data search returned no records for invertebrate species. The citation for Cotterill Clough SSSI does highlight that 38 species of hoverfly, 10 species of butterfly and moth as well as 32 species of terrestrial mollusc have been recorded on the SSSI. Three of the mollusc species (*Leiostyla anglica*, *Vertigo substriata* and *Zenobiella subrufescens*) are classified as Local by Natural England and are specifically associated with Ancient Woodland. Limited suitability for invertebrates was observed on site. Given the suitability and size of the site it was not considered likely that a large population of notable species would be present and only common and widespread species would be present on site.	No evidence of invertebrate species of conservation interest or habitat was identified within the site - negligible.
Invasive species	Wildlife and Countryside Act 1981 (as amended) Schedule 9; Environmental Protection Act 1990.	The data search returned no records of Schedule 9 species. No evidence of invasive plants was recorded in the site. However, an undesirable species was recorded during the assessment. Buddleja is not considered a Schedule 9 but is a non-native species that will disperse and out compete native species. It is therefore considered appropriate to manage the species.	N/A

4.0 RECOMMENDATIONS

4.1 MITIGATION AND FURTHER SURVEY

All of the works outlined below in Table 4 should be assumed as likely requirements for the pre-planning stage to inform a planning application, unless otherwise stated.

Table 4. Mitigation and Further Survey / Assessment

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Designated sites	The nearest statutory designated site was Cotterill Clough SSSI, 300m south west. The site also lies within the IRZ of this site. The impact risk zone considers aviation proposals, however the project is removing the current building to be replaced with a similar hangar structure. Therefore consultation with Natural England is considered unnecessary.	The woodland of Cotterill Clough SSSI extends outside the boundary of the SSSI to within 100m of the current site. This provides a route for pollutants to extend to the SSSI in the construction phase (via surface water run off only into Cotterill Clough Brook). To reduce the likelihood of this occurring a Construction Environmental Management Plan (CEMP) is proposed to limit factors such as dust and surface run off from the site during the construction phase.	N/A
Habitats	The habitats within the site were common with limited botanical value. The scattered trees, introduced shrub, buildings and hardstanding will be lost to facilitate the proposals.	None required	Enhancement to the site could include native planting along the boundary particularly between the southern boundary of the site between the project site and old Winslow Road. Soft landscaping on site could also provide linking habitat to sites outside the project area.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Badger	No suitable sett excavation habitat was recorded on site therefore no additional surveys are required.	As there is suitable woodland nearby badger may commute over the site, best practice measures adopted during works would include: - mammal ladders within any open excavations to allow escape; - ensuring any chemicals within the site as stored correctly in containers; and - ensuring any pipework is capped off.	N/A
Bats	**Roosting:** One building (B1) on site was considered to provide low suitability for roosting bats. It is recommended that a closer inspection of the feature is undertaken either from MEWP or mobile scaffolding to identify whether the features are suitable for roosting bats. If deemed suitable, a single nocturnal survey maybe required on the areas of the building suitable for roosting to determine presence / likely absence of roosting bats. One emergence or re-entry survey would need to be completed during the peak bat activity season (March- August inclusive). Should a bat roost be identified additional surveys may be required to inform an EPSL. **Foraging & commuting:** The areas of most value to foraging and commuting bats are to the south of the site with the site boundary (trees along Old	**Roosting:** Compensation bat box to be integrated into new building to replace lost roosting provision (Schwegler 1FE, Ibstock integrated box or equivalent). If a bat roost is identified the mitigation will be informed by the roost type. **Foraging & commuting:** A sensitive lighting scheme included within the final designs (with reference to guidance set out within *Bat and artificial lighting in the UK: Bats and the Built Environment series. Guidance Note* (Institute of Lighting Professionals 2018) will reduce any indirect impacts on commuting and foraging bats. Lighting should be directional and avoid light spill onto linear boundary features such as the trees as well as any new bat boxes.	**Roosting:** The inclusion of additional bat boxes integrated into the new building or retained on suitable trees just outside the site along Old Winslow Road within airport land would provide valuable enhancement to the site (Schwegler 1FF or equivalent). **Foraging & commuting:** The inclusive of plant species that attract invertebrates for bats would make a valuable enhancement to the site.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
	Wilmslow Road), this area is to be retained during works. As these features are to be retained no further surveys are recommended provided that the mitigation outline is adhered to.		
Birds	The buildings and vegetation provide opportunities for nesting birds. No further surveys are required however nesting bird checks will be needed within the breeding season (see mitigation).	It is recommended the proposed vegetation clearance and demolition is scheduled to avoid the nesting bird season which runs from March until September inclusive. Should this not be possible then a nesting bird check should be completed by an ecologist in the 24-hour period prior to vegetation clearance/demolition. Should an active nest be identified, this should be protected within an appropriate buffer for the species until the chicks have fledged.	Additional bird boxes integrated into the fabric of the new building would make a valuable enhancement to the site and provide further opportunities for nesting.
Invertebrates	Several invertebrate species were returned during the desk study. Due to the suitability of the site further invertebrate surveys were considered disproportionate.	Due to the type of species and habitat identified on site and the proposed use of site it is considered disproportionate to provide mitigation for invertebrates.	Any landscape planting includes species with value to wildlife. Where appropriate it is recommended that insect boxes are provided particularly along the southern boundary of the site.
Invasive species	No Further Survey Required	Appropriate removal of Buddleja pre demolition to reduce the likelihood of spread of the species.	N/A

5.0 CONCLUSIONS

The development proposals are considered to have a negligible impact on the statutory designated sites identified (including Natura 2000 sites) providing pollution control measures are followed. The site is in close proximity to Cotterill Clough SSSI however, key elements of the SSSI will not be affected from the project such as the broadleaved mixed woodland habitat. It is however recommended that a CEMP is produced to detail standard pollution control measures for use by contractors during works.

The site had the potential to support a number of protected species including bats (roosting) and nesting birds. No invasive species were recorded under Schedule 9 , however an undesirable species (Buddleja agg) was recorded within the site.

Key recommendations of the report are:

- Further endoscope inspection from MEWP or mobile scaffolding for roosting bats within one building on site (B1) – If the features are deemed, suitable nocturnal dusk or dawn survey between May and August inclusive maybe recommended following assessment;
- Nesting bird check within 24 hours of demolition and vegetation clearance works if works are to be undertaken between March and September inclusive;
- Production of a CEMP to detail standard pollution control measures on site as well as standard procedures for mammals;
- Appropriate removal of the undesirable species *Buddleja agg* to reduce spread of the species; and
- Adoption of a sensitive lighting scheme to reduce indirect impacts to foraging and commuting bats as well as provision of bat and bird boxes to be integrated into the new structure during construction to compensate for lost roosting/nesting habitat.

Provided the measures within this report for further survey and mitigation can be adopted, it is anticipated that a design could be brought forward for this site that would be compliant with current local and national biodiversity planning policy.

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FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase 1 Habitat Plan

Site Location Plan

Hangar 4, Manchester Airport

Columbia Threadneedle Investments

Legend

Site boundary

Notes:

Drawn by: rosie.durham

Checked by: GP

Office: Southampton

Figure No. 1

Revision No. A

07 February 2023

0 20 40 60 80 Meters

Scale 1:2,000 @A3

British National Grid

NGR: 381120E 384658N

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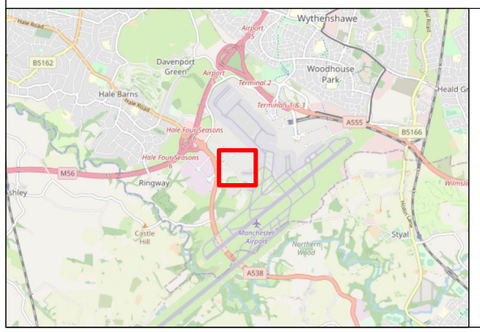

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Phase 1 Habitat Plan

Hangar 4, Manchester Airport

Columbia Threadneedle Investments

Legend

- Site boundary
- Introduced shrub
- Buildings
- Hardstanding
- Scattered tree

Notes:

Drawn by: rosie.durham
Checked by: GP
Office: Southampton

Figure No. 2
Revision No. A
07 February 2023

0 8.5 17 25.5 34 Meters
Scale 1:750 @A3

British National Grid
NGR: 381120E 384658N

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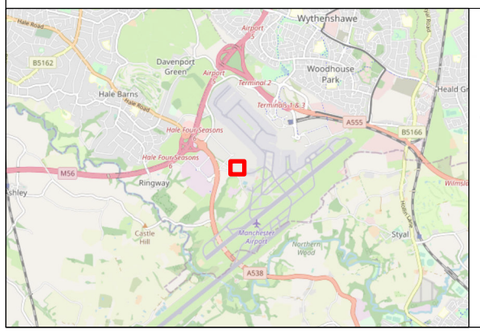

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APPENDICES

APPENDIX A: REPORT CONDITIONS

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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.

Tetra Tech reserves the right to share this Report and any related materials, surveys, drawings and/or documents at any time with the relevant Local Ecological Records Centre (LREC), any relevant statutory body or any equivalent organisation as Tetra Tech may reasonably require from time-to-time.

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.

APPENDIX B: TARGET NOTES & SURVEY DATA

Target Notes

Target Note	Description	Photographic Plates
TN1	Scattered Trees - Self-set trees were recorded next to the main hanger on the south corner. Species included ash *Fraxinus excelsior* and elder *Sambucus nigra.*	
TN2	Introduced Shrub - Two large sections of box honeysuckle *Lonicera nitida* were recorded on the southern corner of the building. Currently both sections had limited management only to avoid growth over the stairway to the main offices.	
TN3	Buildings - Two main buildings were recorded on site the main hanger (B1) and store room (B2). Additional ancillary buildings surround B1 such as generator rooms and pump rooms.	

TN4	Bare Ground (Hard Standing) – The majority of the site consisted of hardstanding used as parking for airport vehicles. Some buddleja *Buddleja agg* was recorded growing out of drain covers in the centre of the car park.	
B1	Building 1 is a large aircraft hanger constructed of metal I bar and concrete partitions. Large metal doors are situated on the west and east aspect. The roof is constructed of corrugated metal and is split into six half pitches. Around the perimeter of the main building are ancillary structures mainly consisting of brick build generator rooms and offices with either corrugated metal pitched roofs or reinforced concrete metal roofs. Currently the building has been retrofitted from the use of an aeroplane hangar to be used as a store for dry goods such as road salt and use as a transport hub for repair of ground vehicles in the airport. Lighting on the building is continually used overnight inside and around the building and works continue in the building 24 hours. Limited suitability was recorded for roosting bats during the assessment including a cavity in a brick wall on the south east corner of the structure in one of the ancillary office buildings as well as a section of lifted flashing on the same aspect (refer to photographs). This building has been considered as low suitability for roosting bats.	

B2	A prefabricated storeroom structure with a pitched roof constructed of corrugated metal with a red brick base. The building due to the metal construct did not provide suitability for roosting bats and has been considered to provide negligible suitability for roosting bats.	

APPENDIX C: KEY LEGISLATION

Habitats Directive

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

Birds Directive

The EC Directive on the Conservation of Wild Birds (791409/EEC) or 'Birds Directive' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.

Conservation of Habitats and Species Regulations 2017 (as amended)

Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I or II of the Habitats Directive respectively) to the European Commission. These sites, if ratified by Ministers, are then designated as Special Protection Areas (SPAs) within six years. Public bodies must also help preserve, maintain and re-establish habitats for wild birds.

The 2018 amendments mainly related to the impact of the *People Over Wind* decision and some implications arising for neighbourhood plan development and a range of other planning tools including Local Development Orders and Permission in Principle – see here for full details:

https://www.legislation.gov.uk/uksi/2018/1307/note/made

The 2019 amendments related to the EU exit. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant. The obligations of a competent authority in the 2017 Regulations for the protection of sites or species do not change.– see here for full details:

https://www.legislation.gov.uk/ukdsi/2019/9780111176573

The Regulations make it an offence to deliberately capture, kill, disturb or trade in the animals listed in Schedule 2, or pick, uproot, destroy, or trade in the plants listed in Schedule 5.

Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use; or
- take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

- disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
- The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to: intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant; unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Protection of Badgers Act 1992

The Act imposes a classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed *Reynoutria japonica*, with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act.

Protection of Badgers Act 1992

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: “any structure or place which displays signs indicating current use by a badger”.

Natural Environment and Rural Communities Act 2006

Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of Habitats and Species which are of Principal Importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 Habitats of Principal Importance and 1,150 Species of Principal Importance.

Hedgerow Regulations 1997

The Hedgerow Regulations were made under Section 97 of the Environment Act 1995 and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

Birds of Conservation Concern

This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The latest report was produced in 2015 (Eaton *et al*, 2015) and identified 67 red list species, 96 amber species, and 81 green species. The criteria are complex, but generally:

Red list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years.

Amber list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK.

Green list species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed.

Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Local Biodiversity Action Plan (LBAP)

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level),and are usually drawn up by a consortium of local Government organisations and conservation charities.

Some LBAP’s may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.

Wild Mammals (Protection) Act 1996

This Act offers protects a form of protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation.

Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

It's application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

Manchester Core Strategy Development Plan	
8 Objective 2 Economy and City Centre Policy MA 1	**Manchester Airport Strategic Site** The growth of Manchester Airport to accommodate 45 million passengers per annum by 2030 will be supported, and it is designated as a Strategic Site. This will involve the expansion of the developed Airport area. Areas for expansion are identified on the proposals map. The Green Belt boundary in this area has been amended so that areas needed for airport development have been excluded from the Green Belt. **Schedule of Uses 2030** The table below explains the uses which are expected across the Manchester Airport Operational Area within Manchester in 2030, just beyond the plan period. Table 8.2

Area	Area reference in MAG Masterplan	Uses
1a – Existing Area	N/A	Terminal, taxiways, aircraft apron, ancillary operational facilities, offices, hotels and other uses, surface access and car parking
1b - Existing Area (Airfield)	N/A	Runways, taxiways, airfield, operational and ancillary facilities, landscape mitigation, utilities and car parking.
2 - Cloughbank Farm	A	Taxiways, aircraft apron, aircraft maintenance, operational facilities, cargo facilities and landscape mitigation.
3 - Land to the west of the A538 (Oak Farm)	E	Operational facilities, cargo facilities and car parking and landscape mitigation.
4 - Land within and adjacent to Junction 5 of the M56	C	Commercial/cargo development including airline offices and hotel with a new vehicle access to Thorley Lane
5 - North of Ringway	B	RoadSurface access and Car Parking with new vehicle access to Ringway Road and Styal Road

The Manchester Airport Strategic Site includes areas 1a, 2, 3, 4 and 5. This site will accommodate the development described in the table above, which includes the significant development required to meet operational requirements by 2030. However, within the Strategic Site, development which does not reflect the schedule of uses above but is within those listed in the reasoned justification will be acceptable, where the applicant has demonstrated:

- that it does not impede the operation of the airport and the planned growth outlined in this policy,
- that the development is a part of the phased development of the airport organisation set out in the above table,
- that development is needed due to the operational expansion of the Airport, and
- that there would be no greater negative environmental effect, either alone or cumulatively, than would occur for the uses in table 8.2 (these are set out in the axis environmental baseline and environmental assessment reports, July 2010).

Area 1b is the southern part of the airport which includes the runway, ancillary facilities, existing and consented transport infrastructure and landscape mitigation. This land is expected to continue to operate in a similar way over the life of the plan. This land sits outside the Strategic Site, and because it is felt to contribute to

	some of the purposes identified in PPG2 will remain in the Green Belt. All development proposed as part of the Airport expansion should seek to ensure that any environmental effects of development are assessed at the planning application stage to ensure any impact is acceptable. It will be necessary to mitigate or compensate any negative effects. In particular, development should: • minimise any adverse impact on areas of international or national conservation, ecological and landscape value. In particular, development should avoid the Cotterill Clough SSSI. Where it is not possible to avoid harm, mitigation measures to compensate for any adverse impact will be necessary. Development within the expansion areas must implement the mitigation measures agreed with the Council, informed by an up to date environmental assessment, • support the retention and preservation of heritage assets. Detailed proposals which impact upon heritage assets within or close to the site, including listed buildings, will be required to show they have met the tests within PPS5. Development which has a detrimental impact on heritage assets should be necessary to meet operational capacity requirements, taking account of the availability of preferable development options within the Airport site. • Retain and relocate the allotments. • include surface access and car parking arrangements which encourage the use of public transport, walking and cycling, and satisfactorily manage impacts on highway networks • seek the maximum possible reductions in noise through compliance with the Manchester Airport Noise Action Plan and Manchester Airport Environment Plan. • demonstrate that the number of people affected by atmospheric pollution is minimised and the extent to which any impact can be mitigated. • Improve access to training and job opportunities, particularly for people in Wythenshawe.