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Technical Report

Extended Phase I Habitat Survey and Desk Study

Magellan Wrexham New Facility

Magellan Aerospace Ltd

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1 Introduction

1.1 Terms of Reference

In March 2019 Atmos Consulting Ltd (Atmos) were commissioned by Magellan Aerospace Ltd to undertake an extended Phase I habitat survey and desk study on the Llay Industrial Estate site in Wrexham, North Wales, hereafter referred to as the 'Site'. The purpose of the survey was to consider the potential ecological constraints relating to an extension of the existing Magellan factory into land within the wider landholding.

In June 2020, further detail as to the plan for the proposed extension (Fig 2) was provided by email to Atmos, therefore the below assessment is based on this proposed design and an updated phased 1 habitat survey undertaken in the summer of 2020.

This report is supported by an Ecological Mitigation and Management Plan (in preparation) and should be read in conjunction with it.

1.2 Site Location and Description

The Site is set within an industrial estate in Llay, North Wales and has a central national grid reference (NGR) of SJ 32923 56351. It is an area of vacant undeveloped land that is surrounded by and lies in between current industrial buildings and car parks. The wider area compromises of agricultural land and woodland.

1.3 Development Proposals

The Site is proposed for an extension to the existing adjacent Magellan factory on Llay Industrial Estate. The proposals incorporate a factory building together with car parking, access and landscaping, as illustrated on Figure ref. MA TACP PS ST DR A 701 dated 07/09/2020 which is included within the planning submission.

1.4 Objectives

The objectives of this study were to;

- undertake an extended Phase I habitat survey to describe the baseline ecological status of the Site;
- to determine the potential of the Site to support protected species;
- to make an assessment of the likely effects that development of the Site could have on protected species; and
- to put forward recommendations for further ecological survey work/mitigation that may be required.

2 Relevant Legislation

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, (the Habitats Regulations) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites ('Natura 2000 Sites termed Special Areas of Conservation SACs or Special Protection Areas (SPAs). The Regulations designate these sites as being important for either habitats or species (listed in Annexes I and II of the Habitats Directive respectively).

Wildlife and Countryside Act 1981

National legislation for the special protection of selected species is provided in the Wildlife and Countryside Act 1981, as amended (WCA) and the Habitats Regulations.

Under Section 1(1) and 1(2) of the WCA, all British bird species, their nests and eggs (excluding some pest and game species) are protected from intentional killing, injury or damage. Under Sections 1(4) and 1(5), special penalties are applied to bird species included in Schedule 1 of the WCA and protection is extended for these species to disturbance to birds whilst building, in or near a nest and disturbance to dependant young. Schedule 5 provides special protection to selected animal species other than birds, through Section 9(4) of the WCA, against damage to "any structure or place which any [wild animal included in the schedule] uses for shelter and protection" and against disturbance whilst in such places.

Non-native invasive plants are listed in Schedule 9 of the WCA which makes it an offence to spread or enable them to be spread in the wild. The list includes species such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*.

A number of animals, known as European protected species (EPS), are provided full protection through inclusion in Schedule 2 of The Habitats Regulations. The Habitats Regulations provide protection against deliberate disturbance to those animals wherever they are present and provides tests against which the permission for a development (that may have an effect on a Schedule 2 protected species) must be assessed before permission can be given.

In addition to species protection, the WCA and Habitats Regulations also set out requirements/procedures for the notification, designation and protection of a range of statutory site designations in order to preserve important nature conservation resources.

All public authorities have a requirement to pay due regard to the conservation and enhancement of habitats and species through Section 42 of the Natural Environment and Rural Communities Act 2006 (NERC). Section 41 states, "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper

exercise of those functions, to the purpose of conserving biodiversity". To this end, Section 41 of the NERC provides for the establishment of a list of habitat and species that are considered to be of "principal importance for the conservation of biological diversity in Wales".

Bats

All bat species in the England and Wales are protected through the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2017). Bats are commonly referred to as European Protected Species (EPS).

It is an offence to deliberately or recklessly:

- capture, injure or kill a bat;
- harass an individual or group of bats;
- disturb a bat while it is occupying a structure or place used for shelter or protection;
- disturb a bat while it is rearing or otherwise caring for its young;
- obstruct access to a breeding Site or resting place, or otherwise deny the animal use of the breeding Site or resting place;
- disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs;
- disturb a bat in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;
- disturb a bat while it is migrating or hibernating;

It is also an offence of strict liability to:

- Damage or destroy a breeding Site or resting place of a bat even if they are not in use at the time (i.e. a summer roost during the winter period).

Great Crested Newt

Great crested newt *Triturus cristatus* are afforded full statutory protection as a European protected species listed on Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 2017 (1994, as amended), which transpose into British law the European Community's Habitats Directive (92/43/EEC).

Under the terms of Regulation 39(1), with certain exceptions, a person commits an offence if he/she:

"*(a) deliberately captures, injures or kills any [a great crested newt];*

(b) deliberately disturbs wild [great crested newts].

(1A) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely —

(a) to impair their ability –

(i) to survive, to breed or reproduce, or rear or nurture their young; or

(ii) in the case of animals of a hibernating or migratory species, to hibernate of migrate; or

(b) to affect significantly the local distribution or abundance of [great crested newts];

(c) deliberately takes or destroys the eggs of [a great crested newt]; or

(d) damages or destroys a breeding site or resting place of [a great crested newt]."

It is also an offence under Regulation 39 to keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild Great crested newt, or any part of, or anything derived from one.

All of the above protections apply regardless of the stage of the life of the animal in question.

Protection of great crested newts' is also provided for in the Wildlife and Countryside Act 1981, as amended. The great crested newt is listed on Schedule 5 of the Act, and is afforded partial protection under the terms of section 9(4)(b) and (c) and (5). This makes it an offence if any person:

9(4) "*… intentionally or recklessly … (b) … disturbs any [great crested newt] while it is occupying a structure or place which it uses for shelter or protection; or (c) … obstructs access to any structure or place which any [great crested newt] uses for shelter or protection.*"

9(5) "*… (a) sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead [great crested newt], or any part of, or anything derived from, such an animal; or (b) publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things*".

There are provisions in the above legislation for the licensing of activities to facilitate development that would otherwise constitute an offence. However, the statutory agency Natural Resources Wales (NRW) advises that the requirement for licensing should be carefully considered by developers, on a site/activity-specific basis, and recommends consideration of non-licensed mitigation such as reasonable avoidance measures relating to timing of works and sensitive site clearance to minimise potential for adverse impacts to this species where this can be achieved.

3 Methodology

3.1 Desk Study

A review of online data[1] was undertaken in March 2019 to gather details of statutory nature conservation designations within 2 km of the Site, e.g. Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs).

COFNOD, the North Wales Environmental Information Service, was contacted in March 2019 to obtain the following ecological data:

- Details of non-statutory designated sites of nature conservation importance within 2 km of the Site, e.g. areas included on the Ancient Woodland Inventory (AWI), Sites of Nature Conservation Interest (SNCIs) and Local Wildlife Sites (LWSs); and
- Details of legally protected species or otherwise notable species within 2 km of the Site.

A review of Ordnance Survey maps and aerial images was undertaken to identify the presence of waterbodies within 500 m of the Site. Great crested newts *Triturus cristatus*, which are protected together with their habitats, can travel relatively large distances between breeding ponds and terrestrial habitat. Following guidance issued by Natural England (English Nature, 2001), land within 500 m of a great crested newt breeding pond should be treated as potential great crested newt terrestrial habitat and evaluated accordingly.

3.2 Consultation

A Consultation with the Senior Species Officer Matt Ellis from Natural Resources Wales (NRW) took place on 8th April 2019 in which appropriate mitigation for great crested newt and dingy skipper *Erynnis tages* was discussed and agreed. Discussions took place with Emma Broad from Wrexham County Borough Council with regards to the proposed development. Due to the presence of dingy skipper in the area, it was proposed that the Site be managed for the butterfly.

3.3 Extended Phase I habitat survey

An extended Phase I habitat survey was undertaken by a suitably experienced ecologist on the 21st March 2019. It included land within the site boundary and a suitable buffer, where access permitted. An updated survey was carried on 14th August 2020 following the same methodology. A Phase I habitat survey is a standardised

[1] Using the MAGIC website (www.Magic.gov.uk) which provides authoritative geographic information about the natural environment from across government.

[2] Species listed within published red data lists or within national and local policies as being of conservation concern. These include species listed under the Wrexham Local Biodiversity Action Plan (Wrexham LBAP) and Species of Principal Importance in Wales (NERC Act 2006)

method of recording habitat types and characteristic vegetation, as set out in the *Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit* (JNCC, 2010). The Phase I survey method is 'extended' through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance.

In addition to mapping out habitats, a series of target notes were produced to highlight features of ecological interest, or any other features that may present a potential constraint to the proposed development. Whilst not a full protected species or botanical survey, the extended Phase I method enables a suitably experienced ecologist to undertake a baseline ecological appraisal of the site that:

- Provides a preliminary evaluation of the nature conservation significance of the site and assesses the potential for impacts on habitats/species likely to represent a material consideration in planning terms; and
- Determines the scope of further specialized surveys that may be required to inform an ecological impact assessment.

3.3.1 Limitations

Whilst the initial extended Phase I habitat survey was undertaken outside of what is considered the optimum time for undertaking such surveys (typically April to September, inclusive), the potential limitations encountered by some species not being in evidence at the time of year have been overcome by the updated survey in August 2020. There are therefore no limitations which are considered to affect the robustness of the survey or the conclusions that can be drawn from it.

4 Results

4.1 Desk study

4.1.1 Designated Nature Conservation Sites

Statutory Designated Sites

There are three statutory nature conservation sites within 2 km of the Site, two designated as a Sites of Special Scientific Interest (SSSI) and one as a Local Nature Reserve (LNR).

Llay Bog SSSI

Llay bog SSSI is located approximately 1.2 km south of the Site. The site is of interest for a small peat bog in an ice hollow in the glacial drift deposits. The bog margin, adjacent to the boundary ditch, is more mesotrophic than the central area.

Chwarel Singret SSSI

Chwarel Singret is located approximately 1.3 km west of the Site. The site is of special interest for its geological features and is thus not considered further from an ecological perspective.

Alyn Waters LNR

Alyn Waters LNR is located 1 km north of the Site. This LNR is a series of woods along the River Alyn and some regenerating neutral grassland. The woods have an ash/oak canopy with much sycamore *Acer pseudoplatanus* or are wet and dominated by alder *Alnus glutinosa*. The grasslands are on an old sand and gravel quarry. There are many interesting species here, including, common spotted orchid *Dactylorhiza fuchsii*, bee orchid *Ophrys apifera*, yellow-wort *Blackstonia perfoliata*, kidney vetch *Anthyllis vulneraria*. There are breeding skylarks *Alauda arvensis* to the east of the river and otters *Lutra lutra* along the river.

Non-statutory Designated Sites

The Site does not lie directly within any non-statutory designated sites. There are 46 Ancient Woodland Sites (AWS) located within a 2 km radius, with the nearest AWS being just over 200 m from the Site. There are also eleven Local Wildlife Sites (LWS) within the same radius, details of these can be seen below.

Table 1: Local Wildlife Sites (LWS) within 2 km of the Site

Site name	Distance and direction from Site	Description
Nant-y-Gaer and Llay valley	0.15km (SE)	Semi-natural woodland along two joining valleys. Has mainly sycamore *Acer pseudoplatanus* and ash *Fraxinus excelsior* canopy, with oak *Quercus spp* to the south with species such as bluebell *Hyacinthoides non-scripta*. The valley floor is a semi improved grassland with some scrub and bracken *Pteridium aquilinum*.

Site name	Distance and direction from Site	Description
Alyn Waters	1km (S)	A series of woods along the River Alyn and some regenerating neutral grassland within the Alyn Waters Country Park.
Burton Tower Lake	1.2km (NE)	Fishing lake which is of ornithological importance.
Blast Road Pond	1.3km (SW)	An old gravel pit which is now a fishing lake. On the west side is a very steep unimproved grassland slope.
Rackery Wood	1.4km (NE)	Oak/ash woodland with much planted beech *Fagus sylvatica* and some alder *Alnus glutinosa* woodland along the stream. To the east is a very small area of marshy semi-improved grassland.
Ballswood Quarry and Cockpit Wood	1.4km (E)	An active sand quarry site with large areas of primary grassland and scrub developing on old workings. The grassland is very diverse, with many calcicoles within a loose sward.
Bryn Alyn and Wormswood	1.4km (SE)	A series of semi-natural woods and semi-improved grasslands around a meander of the River Alyn. On the south side of the river is Wilderness Wood which is a mixture of wet alder and sycamore woodland. There are semi-improved meadows between these two woods and one more along the river which has many bee orchid *Ophrys apifera* spikes.
Bryn-y-Gaer	1.6km (NW)	Broad-leaved woodland on a low hill to the east of Caergwrle. There is a disused silica quarry to the east and a remnant hill fort. The quarry has a diverse flora colonising the disturbed ground.
Rhydyn Hall Grassland	1.7km (W)	Grassland on slope down to River Alyn.
Sydallt Wood	1.8km (W)	A woodland on the banks of the River Cegidog. The canopy is of planted beech and oak with occasional ash and sycamore.
Hope Mountain and Ffrwdd Wood	1.9km (W)	An extremely large site with broad-leaved woodland, scrub, bracken, neutral, acid and calcareous grassland, marshy grassland and swamp.

4.1.2 Species of Conservation Interest

Plants

There are records of numerous vascular plant species from within the search area, with bluebell the only species protected under Schedule 8 (Wildlife and Countryside Act, 1981). There are nine records of bluebell, with the closest being just over 1 km from the site and the most recent record dating from 2015.

Invertebrates

There are three records of the dingy skipper *Erynnis tages* between 1990 and 2013, with the closest of these located 0.4 km from the Site. There were no incidental records of any invertebrate species made during the initial survey. During the updated survey several species of butterfly were observed; speckled wood *Pararge aegeria*, meadow brown *Maniola jurtina* and cabbage white *Pieris rapae*.

Fish

There have been five fish species recorded within 2km of the Site; Atlantic salmon *Salmo salar*, brown trout *Salmo trutta*, rainbow trout *Salmo trutta*, eel *Anguilla Anguilla* and bullhead *Cottus gobio*. All these species were recorded between 1994 and 2005 in the River Alyn and the closest record was 1.5 km from the Site.

Amphibians

Five amphibian species have been recorded within 2 km of the Site; common toad *Bufo bufo*, common frog *Rana temporaria*, palmate newt *Lissotriton helveticus*, smooth newt *Lissotriton vulgaris* and great crested newt *Triturus cristatus*. Great crested newt was the closest recorded amphibian, there has been 185 records within the search area between 1988 and 2018, and the closest record 0.3 km from the Site.

Reptiles

There are 24 records of grass snake *Natrix Helvetica* between 1998 and 2017, which the nearest record being 0.35 km from the Site. There is one record of adder *Vipera berus* from 2009 and was almost 2 km from the Site.

Birds

Numerous bird species records were obtained during the data search, although none of these were records from within the Site itself. A list of species that have been recorded within 2 km of the site is presented in Appendix B.

Bats

There are no records of bats within the Site, although seven species have been recorded within 2 km; Daubenton's bat *Myotis daubentonii*, noctule bat *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus,* and a further two species groups – pipistrelle and *Myotis*. Common pipistrelle was the most recorded bat species with the closest record being 0.85 km from the Site. There were 11 records between 1984 and 2008.

Otter

There are 40 otter *Lutra lutra* records from 1991 to 2017, with the closest record being 1.5 km from the Site.

Water Vole

Two records of water vole *Arvicola amphibious* were obtained from the data search. They were records in 2001 and 2004, the closest record was 1.7 km from the Site.

Badger

Although there are no records of badger *Meles meles* within the Site itself, there have been 47 records between 1971 and 2018 within the 2 km buffer.

Further mammals

There are records of hedgehog *Erinaceus europaeus*, hare *Lepus europaeus* and polecat *Mustela putorius* within 2 km of the Site. There are 21 records of hedgehog between 2006 and 2018, and 5 records of hare between 2005 and 2017. The hedgehog was recorded 1.2 km from the Site and the hare 0.75 km. There were also 3 records of polecat 1.8 km from the Site between 1972 and 2018.

Non-native invasive species

There are records of eleven invasive plant species from within 2 km of the Site; giant hogweed *Heracleum mantegazzianum*, Himalayan balsam *Impatiens glandulifera*, himalayan cotoneaster *Cotoneaster simonsii*, Japanese knotweed *Fallopia japonica*, Japanese rose *Rosa rugosa*, montbretia *Crocosmia pottsii* x *aurea* = *C.* x *crocosmiiflora*, New Zealand pigmyweed *Crassula helmsii*, parrot's-feather *Myriophyllum aquaticum*, Rhododendron ponticum, variegated yellow archangel *Lamiastrum galeobdolon subsp. Argentatum* and wall cotoneaster *Cotoneaster horizontalis*. Japanese rose and parrot's-feather were the closest recorded species being 0.4 km from the Site, but there are no records of invasive species on the Site itself.

Twelve records mink *Neovison vison* were obtained during the data search between 2005 and 2016, with the closest record being 0.9 km from the Site.

4.2 Extended Phase I Habitat Survey

4.2.1 Habitats

The Site is mainly compromised of semi-improved neutral grassland (TN7). The Site is an area of undeveloped industrial land which has been colonised by herbaceous vegetation and scrub. The habitats recorded on the Site are described below and illustrated in Figure 1. Further details and images of the habitats present can be found as target notes in Appendix A.

Semi-improved neutral grassland

The grassland on Site supported species that were indicative of neutral grassland, comprising ribwort plantain *Plantago lanceolata*, vetch *Vicia Sp.*, ragwort *Jacobaea vulgaris*, knapweed *Centaurea nigra*, broad-leaved dock *Rumex obtusifolius,* red clover *Trifolium pratense,* dove's-foot cranesbill *Geranium molle,* cock's-foot grass *Dactylis glomerata*, creeping cinquefoil *Potentilla reptans,* annual meadow grass *Poa Annua,* black medick *Medicago lupulina,* coltsfoot *Tussilago farfara* and tufted hair-grass *Deschampsia cespitosa.* There were also tall ruderal species such as teasel *Dipsacus fullonum* and hogweed *Heracleum sphondylium.* There is also a small, wetted area that appears to be seasonal and supports species such as soft rushes *Juncus effusus* and several species of sedges *Cyperaceae sp* (TN3).

During the updated survey, many of the same species were identified as well as several others: pignut *Conopodium majus*, cow parsley *Anthriscus sylvestris*, yarrow *Achillea millefolium* and bird's-foot trefoil *Lotus corniculatus* (TN9).

Scrub and scattered trees

As there is no grazing or management of the grassland, this has led to the encroachment of scrub (TN5) with species such as hawthorn *Crataegus monogyna*, gorse *Ulex europaeus*, blackthorn *Prunus spinosa, Forsythia*, and holly *Ilex aquifolium* being scattered throughout the Site. There are some dense areas of scrub as well as more established tree species scattered in the Site (TN6); silver birch *Betula pendula*, willow *Salix*, ash *Fraxinus excelsior* and oak *Quercus spp*. Within the scrub are areas of piles of rock and timber spoils. In the intervening time between the 2019 and 2020 surveys, the scrub and trees were noted to have become denser and taller (TN10).

Boundaries

The northern boundary of the Site is an old fence with wooden posts covered in ivy *Hedera helix* (TN1). There is a line of evenly spaced mature sycamore *Acer pseudoplatanus* just outside of the boundary line. The southern boundary is a steep bund covered (TN2 & 4) in mosses, ivy, bramble *Rubus fruitisocus* and the occasional young tree. Both the north and west boundaries are comprised of industrial fencing.

4.2.2 Species of Conservation Interest

Amphibians

Although there are no permanent waterbodies on the Site itself, there are records of GCN off-site within 500m within the site of a former colliery which contains waterbodies. This colliery is located on land approximately 330m west of the Site and is connected to the Site by continuous semi-natural vegetation.

The Site therefore provides potentially suitable connected terrestrial habitat for great crested newt, with the rough grassland and scrub providing suitable shelter and the piles of rock, rough ground and timber spoil offering potential hibernation habitat for the species.

Invertebrates

The Site provides suitable habitat for a range of common invertebrate species, providing both unmanaged semi-improved grassland and scrub habitat. There are records of dingy skipper from within the Industrial Estate, although none from the proposed development Site itself. During the first survey its food plant, birds-foot trefoil, was not recorded on the Site, it is considered possible that this plant could have been missed due to the time of year of the survey and could be present on the Site.

During the updated survey, which was carried out within the optimal season, several patches of bird's-foot trefoil were found on Site. Particularly to the south of the Site, but none on the bund which runs along the southern boundary. Several species of butterfly were identified during the survey however, dingy skipper was not one of those incidental observations.

Reptiles

The Site has some potential to support common reptile species such as common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*. It is also connected to wider aquatic habitats such that it may support grass snake *Natrix natrix*. The vegetation and the piles of waste materials on the Site are considered to offer potential basking, sheltering and

hibernation habitat for reptiles. There are records of grass snake 350m north of the Site with limited connectivity due to the industrial estate, however, and the area to the south of the Site offers connectivity and suitable habitat for reptiles.

Birds

A number of bird species were seen and heard during the visit. Features such as trees and scrub are considered to offer potential nesting areas for nesting birds as well as offering food sources. Several species recorded near the Site such as dunnock *Prunella modularis* and song thrush *Turdus philomelos*, listed in Appendix B, could potentially use the Site

Bats

There are no buildings on the Site and the Site did not support any semi-mature or mature trees at the time of the survey. There is a row of sycamore trees just outside of the northern boundary of the Site, they are considered to have negligible potential for bats. Although the Site is located within an industrial estate, the habitat comprises rough grassland, scrub and linear features which is considered to have high suitability for foraging and commuting bats.

Badger

There were no signs of badger presence found within the Site during the survey but it is considered possible that this species could create setts on the site and the Site is also considered to provide suitable foraging habitat for the species.

5 Evaluation and Recommendations

5.1 Habitats

The area is predominantly semi-improved neutral grassland with areas of scrub. The Site is relatively undisturbed and would likely support a number of species, as set out below.

5.2 Species

Invertebrates

With local records of dingy skipper and the presence of the species' foodplant bird's-foot trefoil on Site within the proposed development boundary, there is potential for the species to utilise the Site as part of its' lifecycle. It is therefore recommended that compensation habitat is provided on the undeveloped areas of the Site for this species and other invertebrates.

The existing earth bank shown in Figure 2 to run in an east – west direction is to be retained. It is recommended that the bird's-foot trefoil to be lost on Site is transplanted here at an appropriate time of year, together with plug plants of the same species to create suitable habitat for dingy skipper, particularly on the south-facing slopes.

It is also recommended that the other grassland areas to be created across the Site are comprised of a suitable native nectar-rich wildflower grassland mix to optimise biodiversity gains and provide nectar sources for a variety of invertebrates.

Further information on the mitigation and management for dingy skipper is provided in the Ecological Mitigation and Management Plan (in preparation).

Amphibians

Great crested newts are a European Protected Species (EPS) and are provided full protection through inclusion in Schedule 2 of the Conservation of Habitats and Species Regulations 2010.

At the south west of the Site, there is an area that connects to the Llay Colliery which is known to support great crested newts, it was surveyed in 2018 and it was found to have a peak count of 46 breeding pairs of adult GCN within the waterbodies.

Although the proposed development Site does not offer any potential breeding habitat, it does provide suitable terrestrial habitat for the species and, by virtue of the proximity of the Site and suitable connecting habitat, on a precautionary basis it is therefore assumed that they are present on the Site.

Therefore, in the absence of mitigation, it is likely that the site clearance and construction works would result in damage and disturbance to great crested newts and their habitat. Accordingly, an EPS development licence will be obtained from NRW prior to commencement of works. This has been discussed an agreed in principle with the

NRW Senior Species Officer[2] . A summary of the proposed mitigation and compensation is provided below.

- Production of Method Statement and Application Form based on utilising existing GCN data from the off-site colliery, as agreed with NRW;
- Suitable site clearance methods i.e. installation of exclusion fencing with a minimum capture period of 30 days. Any GCN found to be relocated over the fence towards the former colliery site;
- Provision of ecological toolbox talks upon commencement of works and ecological supervision of site clearance once site has been trapped and declared free of GCN; and
- Provision of compensatory terrestrial habitat on site in the retained habitats i.e. areas of rough grassland and scrub, creation of hibernacula from rocks and habitat piles for refuges to be secured managed for GCN for an appropriate timescale.

Further details are provided in the Ecological Mitigation and Management Plan (in preparation) which sets out the proposed measures to avoid and minimise potential effects on GCN, as well as details on the long-term management of the Site. It is considered that with these measures in place, the favourable conservation status of GCN will be maintained, and that terrestrial habitat present on the Site which may form part of their lifecycle, continues to be present.

It is recommended that any conditions attached to the consent for this development reference that GCN mitigation is to be carried out in accordance with the Ecological Mitigation and Management Plan (in preparation). This will therefore enable a GCN licence to be applied for upon consent as opposed to the need to discharge conditions relating to GCN beforehand.

Reptiles

All native reptile species are afforded partial protection under the Wildlife and Countryside Act 1981 (as amended). A number of recent reptile records were obtained during the data search, with grass snake being recorded close to the Site. The Site could act as potential hibernation, sheltering, or basking habitat. Although, the site has relatively low connectivity to these existing records, it is linked to other areas of suitable reptile habitat i.e. the disused Llay colliery.

To ensure that reptiles are not harmed during the site clearance and construction phase of the development, it is recommended that reasonable avoidance measures are put in place during site clearance and construction. These measures can be implemented alongside the measures that are to be put in place to avoid negative impacts on great crested newt and could include capture and exclusion from the Site as well as the provision of compensatory habitat which will also be suitable for reptiles.

Birds

The Site currently provides potential for nesting birds to be present during the breeding season, particularly the areas of scrub and trees on the Site.

2 Via telephone call between Matthew Ellis, Senior Species Officer NRW and Alex Hatton. Senior Ecologist Atmos on 8th April 2019.

Nesting birds and their nests receive protection under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally or recklessly take, damage or destroy the nest of any wild bird whilst it is in use or being built. It is therefore recommended that any works to clear the site are undertaken outside of the bird breeding season (which is typically March to August, inclusive). If this is not possible (e.g. if the timing conflicts with the removal of amphibians from the site) then a nesting bird check will have to be carried out prior to clearance works. If an active nest is found then these works would have to be delayed until the young have fledged and are no longer dependant on the nest.

It is recommended that compensatory nesting habitat is provided within the proposed new factory in the form of integrated bird boxes along the east, west and northern elevations of some of the walls of the new factory to optimise biodiversity gains. It is recommended swift nest boxes or bricks are installed within the proposed building where there are suitable elevations at least 5m in height, along with sparrow nest boxes as these species are known to be present in the area.

Bats

It is considered unlikely that bats roost on the Site due to the lack of suitable roosting habitat. The Site currently provides suitable habitat for commuting and foraging bats, including rough grassland and the edges of scrub habitat, but it is considered that the loss of this habitat is unlikely to have a significant impact on the local bat population due to the relatively small size of the Site and the presence of larger areas of suitable foraging habitat in the vicinity.

It is recommended that the habitats on Site are enhanced for bats through the planting of wildflower grasslands which attract invertebrates as a food source for bats.

It is also recommended that where feasible, bat boxes are integrated into some of the walls of the new factory to optimise biodiversity gains.

Badgers

Although there were records of badger activity in the wider area, there were no signs of badger activity recorded on the Site or in the immediate area around the site during the survey.

As badgers are a mobile species and could create a new sett at any time it is recommended that a pre-construction survey is carried out prior to the construction of the development. It is also recommended that best practice methods are employed during the construction phase, including covering excavations overnight and placing a mammal ladder or plank within them so that if a badger, or other mammal, finds its way into the Site it will not become trapped.

6 References

JNCC (2010). Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit. Revised re-print. Joint Nature Conservation Committee.

7 Figures

7.1 Figure 1 Extended Phase 1 figure

Magellan

Magellan Aerospace UK Limited

Phase 1 habitat survey

Key

- Site boundary
- Scrub - dense/continuous
- Scrub - scattered
- SI Neutral grassland - semi-improved
- Fence
- Earth bank
- Target Note

atmos CONSULTING

0 10 20 40

Metres

N

Scale @ A3: 1:800

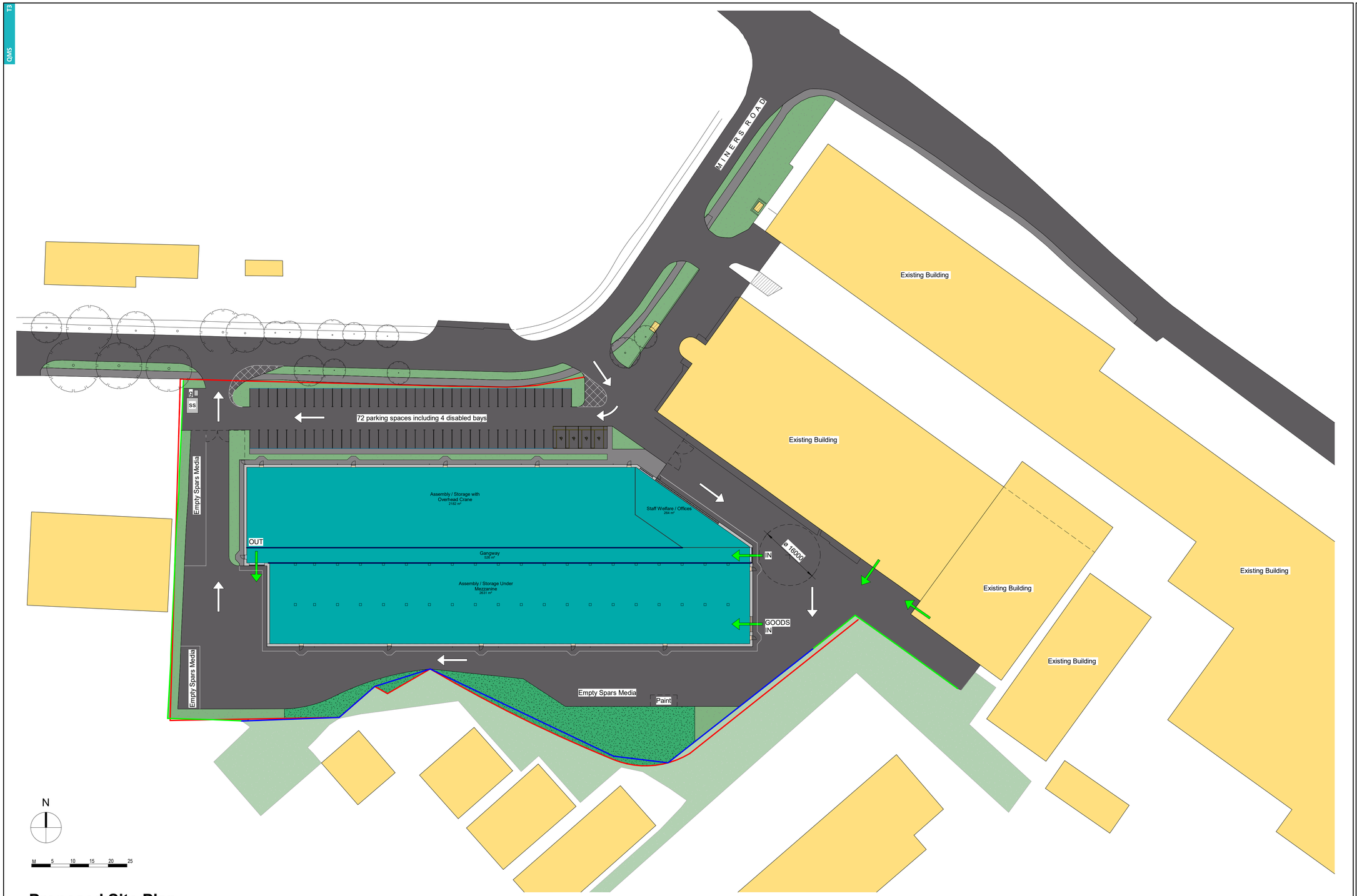
20/07/2020 56000/HB/002a

Drawn by: KM Checked by: TH Approved by: FM

7.2 Figure 2 Proposed Layout

T3

QMS



Proposed Site Plan

1 : 500

General Notes

1. Contractor to verify all dimensions and check level datums on site
2. All of the designs are the sole property of TACP Architects Ltd and may not be used without their written agreement
3. All prints, specifications and their copyright are the property of TACP Architects Ltd
4. Do not scale off drawings
5. All dimensions shall be checked on site before commencment of shop drawings, manufacture and all discrepencies must be reported to TACP Architects Ltd

Revisions

Rev	Date	Description	By	Check

Consultants

Client

Magellan Aerospace (UK) Limited

Project Title

Magellan Wrexham New Facility

Drawing Title

Proposed Site Plan

Scale	Date	Drawn By	Checked By	Office
1 : 500@A1	18/09/20	ACR	MG	Wrexham

Job Number	Project•Originator•Zone•Level•Type•Role•Number	Revision
20028	MA-TACP-PS-XX-DR-A-701	

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Appendices

Appendix A. Target notes and images

Target note	Image
TN1. The row of sycamore trees at the north of the site, just outside of the boundary. They have negligible potential to support roosting bats.	
TN2. The bund south of the proposed building will be retained and used for mitigation purposes for GCN and dingy skipper.	
TN3. There was a small wetted area which looked seasonal. There were wetland species such as soft rushes *Juncus effusus* and several species of sedges *Cyperaceae sp* were present.	

Target note	Image
TN4. The site is connected to the area of the GCN records via this embankment where the old colliery is located.	
TN5. Further areas of scrub with species of gorse *Ulex europaeus* and oak *Quercus* sp.	
TN6. Small area of scrub with species of young silver birch Betula pendula and willow Salix sp. Other species included ivy *Helix hedera*, bramble *Rubus fruticosus*, hawthorn *Crataegus monogyna* and holly *Ilex aquifolium*.	

Target note	Image
TN7. Semi-improved neutral grassland throughout the site. With areas of scrub encroachment.	
TN8. The vegetation and the piles of waste materials that could provide suitable habitat for reptiles.	
TN9. Bird's-foot trefoil was scattered across the Site with dense areas of the plant. The plant was at it's most dense at the NGR SJ 32946 56348 at a 30 m buffer.	

Target note	Image
TN10. The scrub and trees appeared to have become denser since the 2019 survey.	

Appendix B.

Table 1: Bird species recorded within 2km of the Site

Common name	Latin name
Lesser Redpoll	*Acanthis cabaret*
Common Sandpiper	*Actitis hypoleucos*
Long-tailed Tit	*Aegithalos caudatus*
Mandarin Duck	*Aix galericulata*
Skylark	*Alauda arvensis*
Kingfisher	*Alcedo atthis*
Pintail	*Anas acuta*
Shoveler	*Anas clypeata*
Teal	*Anas crecca*
Wigeon	*Anas penelope*
Mallard	*Anas platyrhynchos*
Gadwall	*Anas strepera*
Meadow Pipit	*Anthus pratensis*
Swift	*Apus apus*
Pochard	*Aythya ferina*
Tufted Duck	*Aythya fuligula*
Canada Goose	*Branta canadensis*
Barnacle Goose	*Branta leucopsis*
Goldeneye	*Bucephala clangula*
Dunlin	*Calidris alpina*
Little Ringed Plover	*Charadrius dubius*
Black-headed Gull	*Chroicocephalus ridibundus*
Dipper	*Cinclus cinclus*
Cuckoo	*Cuculus canorus*
Mute Swan	*Cygnus olor*
House Martin	*Delichon urbicum*
Lesser Spotted Woodpecker	*Dendrocopos minor*
Yellowhammer	*Emberiza citrinella*
Reed Bunting	*Emberiza schoeniclus*
Merlin	*Falco columbarius*
Peregrine	*Falco peregrinus*
Hobby	*Falco subbuteo*
Kestrel	*Falco tinnunculus*
Brambling	*Fringilla montifringilla*
Snipe	*Gallinago gallinago*
Oystercatcher	*Haematopus ostralegus*
Swallow	*Hirundo rustica*
Herring Gull	*Larus argentatus*
Common Gull	*Larus canus*
Lesser Black-backed Gull	*Larus fuscus*

Common name	Latin name
Linnet	*Linaria cannabina*
Grasshopper Warbler	*Locustella naevia*
Jack Snipe	*Lymnocryptes minimus*
Red Kite	*Milvus milvus*
Spotted Flycatcher	*Muscicapa striata*
Curlew	*Numenius arquata*
Wheatear	*Oenanthe oenanthe*
House Sparrow	*Passer domesticus*
Tree Sparrow	*Passer montanus*
Grey Partridge	*Perdix perdix*
Coal Tit	*Periparus ater*
Cormorant	*Phalacrocorax carbo*
Willow Warbler	*Phylloscopus trochilus*
Green Woodpecker	*Picus viridis*
Golden Plover	*Pluvialis apricaria*
Slavonian Grebe	*Podiceps auritus*
Marsh Tit	*Poecile palustris*
Dunnock	*Prunella modularis*
Bullfinch	*Pyrrhula pyrrhula*
Goldcrest	*Regulus regulus*
Sand Martin	*Riparia riparia*
Stonechat	*Saxicola rubicola*
Woodcock	*Scolopax rusticola*
Common Tern	*Sterna hirundo*
Starling	*Sturnus vulgaris*
Garden Warbler	*Sylvia borin*
Whitethroat	*Sylvia communis*
Lesser Whitethroat	*Sylvia curruca*
Shelduck	*Tadorna tadorna*
Green Sandpiper	*Tringa ochropus*
Redwing	*Turdus iliacus*
Song Thrush	*Turdus philomelos*
Fieldfare	*Turdus pilaris*
Barn Owl	*Tyto alba*
Lapwing	*Vanellus vanellus*