Weighbridge Building at Minera Quarry Nature Reserve

Preliminary Ecological Appraisal and Preliminary Roost Assessment

Date	Author	Project Number	Approved by	Version	Comments
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Report Reference: EE.5081.25.LB

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Executive Summary

Site	Minera Quarry Nature Reserve, Maes y Ffynnon Road, Minera, Wrexham LL11 3DE NGR: SJ 25870 51943
Surveyors	Lucy Boyett (accredited agent on bat licence S095383/1), Lowri Parry and Anne Butler
Proposed work	Demolition of the former quarry weighbridge building and clearance of immediate surrounding vegetation, to be replaced with a new structure on the same footprint.
Areas affected	Minera Quarry Weighbridge building
Type of survey	Daytime Bat Walkover, Preliminary Roost Assessment & Preliminary Ecological Appraisal - 25/09/2025
Main results	• PRA found the building to have moderate potential for roosting bats and the surrounding area was of high suitability for flight-paths and foraging. • A small number of droppings were found within the building. • Data search returned records of great crested newts and four species of reptiles within a 1km search radius of the site. • Habitats within the immediate surrounding area of the building included broadleaved woodland, tall ruderal, hardstanding and bare ground.
Survey conclusions	• The droppings within the building indicate an occasional night roost/feeding perch for a single or low number of unknown bats, which will be destroyed as part of the proposed works. • Although the site had low suitability for GCN and reptiles, as they are known to be present in the area, their presence during the period of works cannot be discounted.
Further Surveys Required	• To further assess the potential presence of additional bat roosts, a minimum of two (and up to three) dusk emergence surveys are recommended during the appropriate survey period (May–August inclusive). • As there are known important hibernation roosts in the vicinity, it is also recommended that a hibernation survey of the building be undertaken.
Mitigation, Compensation and Enhancement	• Mitigation, compensation and enhancement measures with regards to bats will be updated once the emergence surveys have been undertaken. • General mitigation and enhancement measures have been included for bats, birds, GCN, reptiles and other species which may be present within the area.

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1.0 Introduction

1.1 Enfys Ecology Limited was commissioned by the Clywedog Valley Partnership, led by Groundwork North Wales, to conduct a Preliminary Ecological Appraisal (PEA) and Preliminary Bat Roost Assessment (PRA), of the Weighbridge building, Minera Quarry Nature Reserve, Wrexham, LL11 3DE.

1.2 The proposed works will comprise the demolition of the former weighbridge building, which is in a poor state of repair and the clearance of immediate surrounding vegetation. The building is to be replaced with a new structure within the same footprint (Figure 1.1).

1.3 The primary objectives (CIEEM, 2017a) of a Preliminary Ecological Appraisal Report (PEAR) are to:

- identify the likely ecological constraints associated with a project;
- identify any mitigation measures likely to be required;
- identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and,
- identify the opportunities offered by a project to deliver ecological enhancement.

1.4 This document has been produced to advise a client of ecological constraints and opportunities to inform their design options (avoidance), likely mitigation, restoration and compensation requirements, and the need for further surveys. In addition, the report may provide initial recommendations in relation to relevant ecological enhancement opportunities given the site's context. This report may not necessarily provide the Local Planning Authority with enough information to assess the ecological impacts of a proposal.

1.5 This report has been produced in accordance with CIEEM (2017a) 'Guidelines for Preliminary Ecological Appraisal' and CIEEM (2017b) 'Guidelines for Ecological Report Writing'.

1.6 The survey work to inform this report was carried out in September 2025. Habitats and species found within a discrete area of land are subject to change, this report should therefore be considered valid for a period of eighteen months in accordance with best practice (CIEEM, 2019).

1.7 Relevant legislation and planning policy information are included in Appendix A.

1.8 Should evidence of bats be found and it is deemed likely that the proposed works would disturb them a licence from Natural Resources Wales (NRW) would need to be obtained prior to any works commencing.

2.0 Site Description

2.1 *Survey Area*

2.1.1 The site comprised a single-storey, pitched-roof building, formerly used as a quarry office, which was in a derelict condition. The building was surrounded by a narrow strip of young trees and saplings and was located at the entrance to the Minera Quarry North Wales Wildlife Trust Nature Reserve, at the end of Maes-Y-Ffynnon Rd. The approximate central grid reference for the site is SJ 25869 51943 and is illustrated in Figure 2.1 below.



Figure 2.1 Site Location. The approximate site boundary is shown red.
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2.2 *Wider Area – Connectivity and Green Infrastructure*

2.1.2 The site was situated within a large area of broad-leaved woodland that follows the course of the River Clywedog. To the west lies the former quarry, which supports areas of limestone grassland, while the river itself runs adjacent to the site's southern boundary. The surrounding woodland is well connected along the river valley, providing continuous habitat links towards New Brighton and Bersham to the south east. The village of Minera is located approximately 1.1 km to the east.

2.2.1 (PPW 12, paragraph 6.2.1). Green infrastructure (GI) is defined in Planning Policy for Wales (PPW) Edition 12[1] as "*the network of natural and semi-natural features, green spaces, rivers*

[1] See: https://www.gov.wales/planning-policy-wales

and lakes that intersperse and connect places". Green infrastructure (GI) can function at a range of different scales; from entire ecosystems such as wetlands and rivers to parks, fields and gardens at the local scale and street trees, hedgerows, roadside verges, and green roofs/walls at the micro scale. Development proposals should take GI into consideration in order to avoid negative impacts on habitats and species, and seek ways to maintain and enhance biodiversity.



Figure 2.2 Wider site location. The approximate site boundary is shown red.
Base image Imagery©2025 Airbus, Bluesky, Infoterra Ltd & COWI A/S, CNES/Airbus, Landsat/Copernicus, Maxar Technologies, Map data @2025 Google

3.0 Methodology

3.1 *Desk Study*

3.1.1 A desk study was undertaken through Cofnod, the North Wales Environmental Information Service, to determine the presence of statutory and non-statutory sites for nature conservation, and records of protected, or species and habitats of principal importance listed under Section 7 of the Environment (Wales) Act 2016. Desk study data was provided by Cofnod on 11/09/2025. The records were used to inform the survey and recommendations, and to provide context for evaluating the species and habitats found during the survey. Any relevant species results from the desk study are referred to in Section 5.

3.1.2 The desk study used the following search radii for this project: 1km

3.2 *Daytime Bat Walkover*

3.2.1 A daytime bat walkover (DBW) was undertaken by Lucy Boyett, (suitably qualified ecologist) and assistant Lowri Parry on the 25th September 2025. The DBW was carried out following the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.2.2 The DBW intended to observe and record any habitat features suitable for bats to roost, commute, and forage both on site and in the surrounding area. Photographic and biological evidence was taken where necessary.

3.3 *Preliminary Bat Roost Assessment (PRA)*

3.3.1 The inspections of the building were carried out by Lucy Boyett (accredited agent on NRW Bat Licence S095383/1) and assistant Lowri Parry on 25th September 2025. The Preliminary Roost Assessment (PRA) was carried out following the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.3.2 The building was assessed for any signs of bats; these included droppings, feeding remains, live/dead bats, and other indicative marks. Features of potential use to bats such as crevices, cracks, holes, and potential access points into the roof space were also assessed. High powered torches were used to inspect any identified features, and an endoscope was used to further investigate gaps and crevices, where appropriate. Photographic and biological evidence was taken where necessary.

3.4 *Nesting Bird Assessment*

3.4.1 The inspections of building were carried out by Lucy Boyett (suitably qualified ecologist) and assistant Lowri Parry in tandem with the PRA.

3.4.2 The buildings were assessed for any signs of use by birds; these included droppings, in/active nests, live/dead birds, and other indicative marks. Features of potential use to birds such as crevices, holes, and potential access points into the building were also assessed and noted. High powered torches were used to inspect any identified features, and an endoscope was used to further investigate potential features, where appropriate.

3.5 *Limitations: Bat and Nesting Bird Surveys*

3.5.1 Due to the derelict nature of the building it was not deemed safe to enter the roof space and so this area was not inspected during the PRA.

3.5.2 Bats are highly mobile animals and it is possible that they may move into a building after the survey has occurred. Therefore, absence of bats cannot be absolutely guaranteed. The PRA was carried out in September 2025; which were within the appropriate survey window for preliminary assessments, as per the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.5.3 It is possible that birds can nest on or within a building at any point during the nesting bird season (March – September inclusive). Therefore, absence of nesting birds cannot be guaranteed.

3.6 *Extended Phase 1 Habitat Survey*

3.6.1 The survey was conducted by an experienced ecologist walking over the site and all habitat types were visited. Notes were taken on the habitat types present, and their suitability for protected species, and target notes were used to record any habitats or features of particular note, following the standard methodology (JNCC, 2010).

3.6.2 The extended Phase 1 Habitat survey of the site was conducted on the 25th September 2025 by Anne Butler, a suitably experienced professional ecologist. Conditions were dry and calm.

3.7 *Terminology*

3.7.1 In this report ‘site’ and ‘survey area’ are used to refer to the area surveyed by the ecologist, which is subject to the proposed development or planning application. The only exception may be some unavoidable use of ‘site’ when discussing designated sites such as SSSIs. ‘Search area’ refers to the area from which data was obtained for the desk study.

3.7.2 English species names are generally (but not exclusively) used in the text for readability, however Appendix C contains a list of species recorded and gives scientific names.

3.8 *Limitations*

3.8.1 The results of this survey consist only of those species encountered during a short space of time on one day. Species that use the site infrequently or are present at different times of the year may not be recorded, and the absence of species from the results of a single survey should not be taken as indicating the species' definite absence from the area in question. Descriptions of plant species concentrate on the most obvious and abundant species present as determinant of habitats present.

3.8.2 While reasonable efforts have been made to search for invasive non-native species (INNS), and any seen were recorded, this is not a comprehensive invasive species survey and does not claim or imply the definite absence of Japanese knotweed or other invasive plants, for which a specific survey should be commissioned.

4.0 Preliminary Roost Assessment: Results

4.1 *Data Search*

4.1.1 A data search from Cofnod (North Wales Environmental Information Service) returned a significant number of bat records within 1km of the site, including brown long-eared, common pipistrelle, Daubenton's, lesser horseshoe, Natterer's, whiskered and whiskered/Brandt's. The majority of these records are of hibernation roosts approximately 200m from the site.

4.1.2 The former quarry structures in the surrounding area are well-known and significant hibernation roosts for several bat species and are surveyed annually by Clwyd Bat Group, the area also has potential as a swarming site.

4.2 *Daytime Bat Walkover (DBW)*

4.2.1 The area surrounding the site offers highly suitable habitat for bats to forage and commute. The building is situated within extensive woodland that is well connected to the wider landscape, including the River Clywedog valley running alongside the site. The immediate surroundings are likely to be regularly used by foraging bats and are close to, and connected with, known roosting sites.

4.3 *Preliminary Roost Assessment (PRA)*

4.3.1 The building was in a derelict state, with multiple entry points through broken windows. The roofline was also in a poor state with a number of Potential Roosting Features (PRF) identified externally.

4.3.2 See Section 4.5 and Table 4.1 below for further information on the buildings construction, Table 4.2 for PRFs and photographs and Table 4.3 for evidence of bats and nesting birds found.

4.4 *Nesting Birds*

4.4.1 The building provided suitable nesting opportunities for birds, both within internal rooms through the broken windows and along the roofline. Table 4.2 provides further information on the features and any evidence found.

4.5 *Structure Description*

4.5.1 The single-storey building comprised two sections: a main pitched-roof section and a smaller flat-roofed section on the eastern elevation. The pitched roof was clad with corrugated metal, and both sections were constructed of brick. The walls of the pitched-

roof section were rendered, although the render had deteriorated and fallen off in some areas. The details of the building are described in Table 4.1.

Table 4.1: Building descriptions

Description	Example Photos
Exterior	
• Single-storey brick-built building comprising two sections: a main pitched-roof section and a smaller flat-roofed section on the eastern elevation. • Roof clad with corrugated metal and along the roofline were wooden fascias and bargeboards with no soffits. • Walls of the pitched-roof section were rendered, although the render had deteriorated and fallen off in some areas. • Windows boarded up with OSB board, boarding missing or damaged in places.	 

Interior	
• Number of internal rooms, formally used as offices. • The rooms were open throughout with an open loft hatch and the ceiling was damaged in multiple areas, allowing potential movement between the roof space and internal rooms.	 

Table 4.2: Potential Roosting Features for bats and nesting birds

Description	Example Photos
• There was direct access into the internal space through a hole in the window and damaged area of roof on the southern elevation of the flat roof building section.	
• Number of potential roosting features behind fascias and bargeboards across the building.	
• There were a number of boarded up windows, some with gaps allowing potential access behind.	

• Internally, the ceiling was missing in places, allowing access into the roof space.	 

Table 4.3 Evidence of bats and birds

Evidence	Photos
• A small number (approximately ten), of scattered bat droppings were found within one of the internal rooms, the majority of which were on a windowsill. These looked to be old and degrading.	 

5.0 Results: Preliminary Ecological Appraisal

5.1 *Desk Study: Statutory and Non-Statutory Designated Sites*

5.1.1 Cofnod returned details of two statutory designated sites and seven non-statutory sites, within 1km of the site. Table 5.1 below, details the names and distances of these statutory and non-statutory sites from the survey area.

Table 5.1 Statutory and non-statutory sites within a 1km radius of the site

Site	Designation	Distance (m)	Reason for designation
Minera Quarry	North Wales Wildlife Trust (NWWT) Reserve	Site is within the reserve	Various habitats, supports a large amount of biodiversity and rare bat and nesting bird species.
Ruabon/ Llantysilio mountains & Minera	Site of Special Scientific Interest (SSSI)	10m	Heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats.
Berwyn and South Clwyd Mountains	Special Area of Conservation (SAC)	40m	Contains blanket bog, dry heath and a crucial wildlife habitat.
Old Farm	Wildlife Site for Wrexham	191m	Semi-improved neutral grassland
Eisteddfod Quarry	Wildlife Site for Wrexham	564m	Semi-improved neutral grassland
Eisteddfod Grassland	Wildlife Site for Wrexham	624m	Semi-improved neutral grassland
Pen y Nant, Minera	Wildlife Site for Wrexham	823m	*Fraxinus - Acer - Mercurialis* woodland, marsh/marshy grassland, semi-natural broad-leaved woodland, unimproved neutral grassland
New Brighton	Wildlife Site for Wrexham	872m	Acid dry dwarf shrub heath, Continuous bracken, Dense/continuous scrub, semi-improved acid grassland, semi-improved neutral grassland
Bwlchgwyn Quarry	Wildlife Site for Wrexham	944m	Acid dry dwarf shrub heath, continuous bracken, improved grassland, scattered scrub, semi-improved acid grassland, semi-improved neutral grassland

5.2 *Desk Study: Species Records*

5.2.1 Cofnod held 1636 records of 339 different species within 1km of the site from the previous 20 years which are UK and European protected, notable or locally important species. individual records can include a number of sightings and therefore reflect the minimum number of plants or animals of a given species observed in the area.

5.2.2 The results of the desk study for protected fauna are detailed in Table 5.3. Results of the Cofond data search are provided in Appendix B; full data (e.g. specific locations) has not been provided for sensitive data.

5.2.3 There are no records of notable flora from within the study site.

5.2.4 There are 88 records of invasive non-native plant species within 1km of site. The records are mainly along the stretch of the River Clywedog. The River Clywedog is within 1km of site, the nearest point being 12m south of site. These records are inclusive of Himalayan balsam, Japanese knotweed, cherry laurel, butterfly-bush, New Zealand pigmyweed, montbretia and white stonecrop. The nearest record of an invasive non-native plant species was Himalayan balsam, 166m northeast of site.

5.3 *Phase 1 Habitat Survey*

5.3.1 Habitat Types

The following Phase 1 habitat and feature types were recorded within the site:

- A1.1.2 Broad-leaved Plantation Woodland
- C.3.1 Tall Ruderal
- J.3.6 Building
- J4 Bare Earth
- J5 Hardstanding

5.3.2 A Phase 1 Habitat map of the site is provided in Figure 5.1 and a description of the habitats including some species information are provided in Tables 5.2 and 5.3 below.

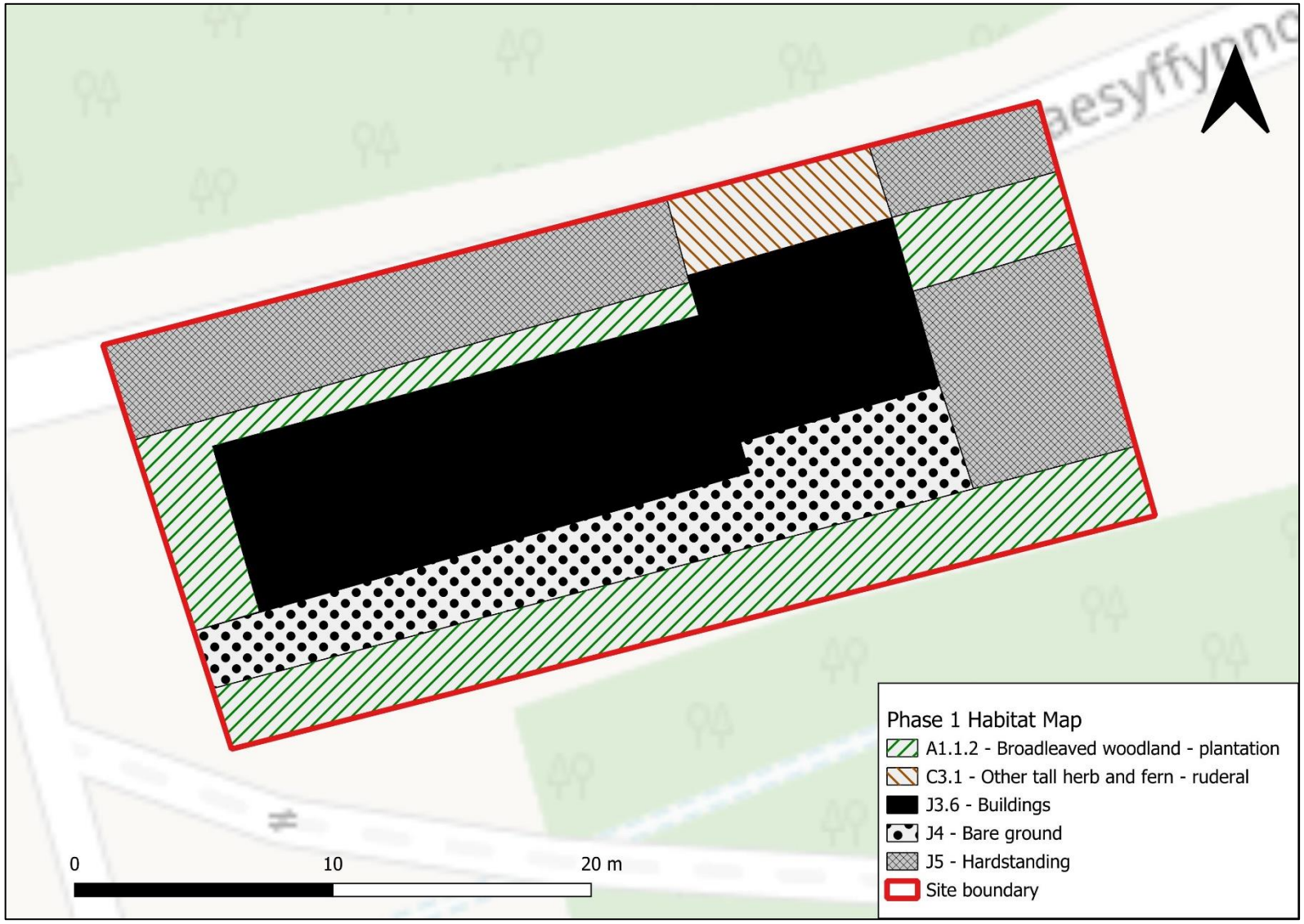
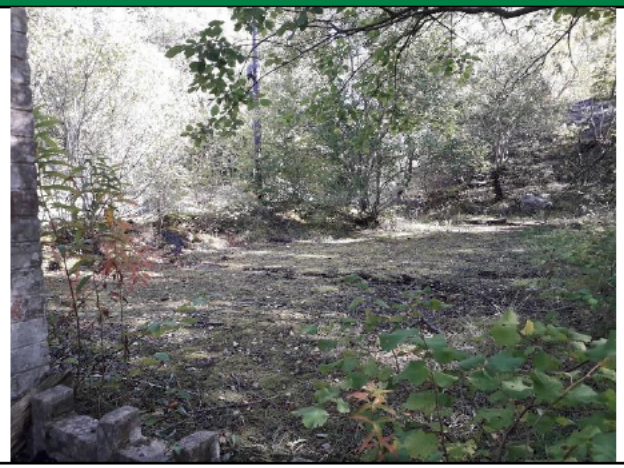


Figure 5.1 Phase 1 Habitat Map

Table 5.2 Habitat Descriptions

Description	Photo
Broad-leaved Plantation Woodland	
The area surrounding the building comprised plantation woodland. On the northern elevation, the vegetation consisted predominantly of goat willow and silver birch, which appeared to have been planted in a row and were of a similar age. Also present were ash, hazel, and birch saplings. The understorey featured false brome, red fescue, bramble, broad-leaved willowherb, and ragwort. Forbs recorded included black knapweed, germander speedwell, dandelion, and rough hawkbit. The understorey was uneven and interspersed with patches of gravel. A single broad-leaved helleborine was also noted.	
Hardstanding and Bare Earth	
An area of bare ground was present to the south of the building, supporting several hazel saplings and dog rose. The hardstanding on the eastern side of the building was colonised by mosses, including pointed spear-moss. A small area of tall ruderal vegetation in the north-eastern corner of the site supported rosebay willowherb, great willowherb, wood horsetail, broad-leaved plantain, black knapweed, and common figwort.	

5.4 *Flora*

5.4.1 There was a moderate floral diversity within the relatively small strips of habitat immediately surrounding the site.

5.4.2 None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended) or listed under Section 7 of the Environment (Wales) Act 2016. No other nationally or locally rare species were recorded.

5.4.3 Appendix C contains a list of plant species recorded during the survey.

5.5 *Invasive Species*

5.5.1 No invasive non-native species were recorded within the site boundary during the survey.

5.6 *Fauna*

5.6.1 The presence of bats with regards to the building is discussed in Section 6.

5.6.2 The survey results for other protected species including records within 1km of the survey are described in Table 5.3 below.

Table 5.3 Summary of Protected Species Survey

Species	Suitability of habitat	Nearest record to site within last 20 years
Amphibians – great crested newts (GCN)	The narrow woodland strips adjacent to the building may offer limited shelter and foraging opportunities for amphibians. However, the broader surrounding area provides more suitable habitat for resting and foraging. The nearest ponds are >650m to the west of the site.	There are 4 records of great crested newts within 1km of the site; the closest is 700m west from the site. 33 records of other amphibians including common frog, common toad, smooth newt and palmate newt.
Badger	No evidence of badgers was seen. The wider area is suitable for badger foraging and they are very likely to use the site if present in the area.	[redacted]
Bats	Suitability of the building is discussed in Section 6. The trees within the site boundary were not of a size or maturity to support gaps, cracks, or other Potential Roosting Features (PRFs). However, the tree line is likely to offer suitable habitat for bats commuting and foraging through the area. The wider surrounding landscape also provides highly suitable conditions for roosting, commuting, and foraging bats.	Significant number of bat records within 1km of the site, including brown long-eared, common pipistrelle, Daubenton's, lesser horseshoe, Natterer's, whiskered and whiskered/Brandt's. The majority of these records are of hibernation roosts approximately 200m from the site. The former quarry structures in the surrounding area are well-known and significant hibernation roosts for several bat species and are surveyed annually by Clwyd Bat Group, the area also has potential as a swarming site.

Species	Suitability of habitat	Nearest record to site within last 20 years
Reptiles	The small habitat strips within the site offered limited suitability for reptiles in isolation; however, the wider surrounding area provides highly suitable habitat, and reptiles are known to be present in the area.	Many slow worm records, closest record ~132m to the south west. Closest grass snake record ~164m to the west. Closest common lizard records ~187m to the west. Adder records >800m to the west
Birds	The building and the strips of woodland and tall vegetation within the site provided potential nesting areas for birds	There were 698 records of birds returned within a 1km radius of the site. Records include numerous Schedule 1 species: peregrine, redwing and red kite.
Otter	The Aber Sychnant/River Clywedog runs along the southern boundary of the site. Water is present only seasonally, and the channel was dry at the time of survey. While this river corridor may provide suitable habitat for otters at certain times of the year, its seasonal nature reduces the likelihood of otter presence.	There was 1 otter record returned, which was 764m from the site.

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6.0 Discussion: Bats

6.1 ***Proposed works***

6.1.1 The proposed works will comprise the full demolition of the current building, and the clearance of immediate surrounding vegetation. This will be replaced with a new building on a similar footprint and the creation of a small parking area on the northern elevation.

6.2 ***Daytime Bat Walkover***

6.2.1 The site itself, comprising a single-storey building and a narrow strip of young trees and saplings, provides moderate suitability for bat flight paths and foraging habitat. However, it forms part of a much wider landscape that offers high suitability for commuting and foraging bats. The surrounding areas, including mature woodland and structures associated with the former quarry, provide highly suitable roosting opportunities. Several known important hibernation roosts are present nearby.

6.3 ***Preliminary Roost Assessment***

6.3.1 The building features a corrugated metal roof, which generally offers low suitability for roosting bats. However, the roofline is in poor condition and contains several Potential Roosting Features. In addition, the boarded and broken windows provide potential access points and additional opportunities for roosting. In line with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016; 2023), the building is therefore assessed as having moderate suitability for roosting bats.

6.3.2 A small number of old bat droppings were recorded inside the building, likely indicating use as a feeding perch or occasional night roost by a single bat or a small number of individuals.

6.3.3 **Given these findings, it is recommended that at least two (up to three) dusk emergence surveys are undertaken during the appropriate survey season (May–August inclusive) to further assess roosting activity.**

6.3.4 **As there are known important hibernation roosts in the vicinity, it is recommended that a hibernation survey of the building be undertaken. While a full visual inspection may not be possible, a static detector should be installed within the roof space and left in place for a period over the winter months.**

6.3.5 The recommended emergence surveys will determine whether bats are using the building for roosting and, if so, clarify the nature of this use. These surveys will also provide valuable information on how bats are utilising the surrounding habitats and identify which species are present in the area.

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6.4 *Effect of Proposed Works on Bats*

6.4.1 Once bat activity and roosting behaviour are understood, the potential impacts of the proposed works on bats can be appropriately assessed and appropriate mitigation, compensation and enhancement measures will be recommended.

6.4.2 When the building was in use historically there would have been associated lighting with its use as an office, however as it has been disused for a number of years there is currently no lighting at the site. Any new lighting installed has the potential to impact bats using the immediate area for foraging or commuting.

6.4.3 The row of trees surrounding the building is likely to be used by bats for both foraging and commuting. Although all vegetation will be removed to allow for the development, the amount of vegetation loss is relatively small compared to the surrounding woodland. Consequently, this loss is not expected to have a significant impact, as only a very limited amount of habitat will be affected, and overall connectivity is unlikely to be reduced.

7.0 Discussion: Other Species and Habitats

7.1 *Impacts on Designated and Notable Sites*

7.1.1 The Ruabon/Llantysilio Mountains and Minera Site of Special Scientific Interest (SSSI) lies adjacent to the proposed development, with one section approximately 10 m to the south and another around 40 m to the north of the site. The SSSI is designated for its heathland, moorland, limestone, and neutral grassland habitats, as well as its associated species interest, including upland breeding birds, rare and uncommon plants, and the use of mines and caves by hibernating bats, including lesser horseshoe.

7.1.2 While any pollution or disturbance arising during construction or operation has the potential to adversely affect the SSSI in the absence of mitigation, the risk of significant impacts is considered low, given the relatively small scale and limited extent of the proposed works.

7.1.3 As hibernating bats are a key feature of the designation, the mitigation hierarchy will be applied to ensure any potential impacts on bats and associated habitats are avoided or minimised.

7.2 *Habitats and Flora*

7.2.1 A narrow strip of trees and tall ruderal vegetation will be lost as part of the proposed works. The floral diversity within the development footprint was moderate, comprising species

typical of the habitats present on site. All recorded plant species are also likely to be present within the wider nature reserve, including the broad-leaved helleborine, which is known to occur widely across the site. Consequently, the proposed works will result in only a very small loss of habitat in the context of the overall reserve.

7.2.2 None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended), or listed under Section 7 of the Environment (Wales) Act, 2016. In addition, no nationally or locally rare species were recorded.

7.2.3 No invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 were recorded within the site boundary, however Himalayan Balsam was recorded along the River Clywedog (downstream from the site). The proposed works will not impact this area and so the works are unlikely to cause any further spread of INNS.

7.3 *Broad-leaved Helleborine*

7.3.1 A single broad-leaved helleborine was recorded along the strip of soil on the northern side of the building. While this species is neither legally protected nor considered notable within the vice-county of Wrexham, and is also present elsewhere on the site, it represents an interesting element of the local flora. To retain this specimen, it should be translocated to a suitable location within the nature reserve at an appropriate time of year.

7.4 *Great crested newts*

7.4.1 No ponds are located within the immediate vicinity of the site; however, ponds containing confirmed records of great crested newt (GCN) are situated approximately 700 m to the west. Although the likelihood of GCN occurring within the works area is considered low due to the distance from the nearest known breeding pond, there remains a small possibility that individuals could be present during destructive works. The habitats to be lost—comprising narrow strips of vegetation and areas of hardstanding—are of low suitability for GCN and will not represent a loss of valuable terrestrial habitat.

7.5 *Birds*

7.5.1 The removal of the building and surrounding vegetation will result in the loss of suitable nesting habitat for birds. However, given the abundance of suitable habitat in the surrounding area, the loss of this relatively small amount of vegetation is not expected to have a significant impact on the availability of nesting opportunities.

7.6 *Reptiles*

7.6.1 Given the presence of adder, grass snake, common lizard and slow worm in the wider area, there is a small possibility that reptiles could be present within the works area. The habitats

to be lost are of relatively low value to reptiles and their removal is not expected to impact local populations or connectivity. However, as reptiles may occasionally be present within or near the site, Reasonable Avoidance Measures will be implemented during works to minimise the risk of harm and reduce any potential impacts.

7.7 *Otter*

7.7.1 As the watercourse was dry at the time of survey, the presence of otter during the construction period is considered unlikely. Consequently, the proposed development is not anticipated to have any significant effects on otter, either during works or post-construction.

8.0 Avoidance and Mitigation

8.1 *The Step-Wise Approach*

8.1.2 Development proposals should take green infrastructure into consideration in order to avoid negative impacts on habitats and species, and seek ways to maintain and enhance biodiversity. Impacts on habitats and species should be treated in a step-wise manner (Planning Policy Wales PPW12, paragraph 6.4.15), by seeking to:

- **Avoid** damage to biodiversity in its widest sense by maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species where present, through careful development design and consideration of long-term maintenance and management and ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species.

- **Mitigate** or **restore** by identifying measures to address the specific negative effects by repairing damaged habitats and disturbed species. The measures should seek to restore in excess of like for like, accounting for disturbance and time lags for the recovery of habitat and species, and in every case, mitigation or restoration measures should seek to build ecosystem resilience within the site and where possible the wider area.

- As a last resort off-site **compensation** for unavoidable damage must be provided. This must be of significant magnitude to fully compensate for any loss.

- All development must **deliver a net benefit** for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed).

8.2 *Avoidance and Mitigation*

8.2.1 *Designated Sites*

Potential impacts on the adjacent designated sites will be avoided by minimising the risk of pollution entering the River Clywedog. This will be achieved by adhering to the Guidance for Pollution Prevention: Works and Maintenance in or Near Water (GPP 5).

8.2.2 *Broad-leaved Helleborine*

To retain the single specimen of broad-leaved helleborine and any other of the same plants found, they should be translocated to a suitable location within the nature reserve at an appropriate time of year.

8.2.3 ***Bats***

Bat mitigation requirements will be defined following emergence and hibernation surveys to confirm any roosting activity, including species present and type of use.

As a feeding perch/night roost has been identified by the droppings present, a licence from NRW will be required prior to the start of works.

The new building will incorporate external lighting for security and safety purposes, designed in accordance with the ILP (2023) guidance "*Bats and Artificial Lighting at Night: Guidance Note GN08/23*." External lighting will consist of wall-mounted, downward-facing bulkhead fittings with 0% upward light output (ULOR) and a 'warm white' colour temperature. All lights will be controlled by motion sensors, with activation limited to two minutes when necessary. A single floodlight will be installed at the building entrance to provide safety for individuals leaving the office during hours of darkness. This light will be angled downwards, specified with a 'warm white' output, and operated via a motion sensor. All sensors will be configured to avoid activation by vehicles entering the Minera Quarry Nature Reserve car park or by pedestrians accessing or leaving the reserve.

8.2.4 ***Birds***

As there is potential for nesting birds within the building and the trees and tall vegetation, the vegetation removal and building demolition should be avoided during the bird nesting season (April to September inclusive). If this is not possible, a nesting bird check must be carried out no less than 48 hours before works commence. If birds are found nesting during any point in the works, all works to that area must **stop** and only continue once the chicks have fledged.

8.2.5 ***Great crested newts and reptiles***

As there is potential for GCN to be present within the site, it is advised that an EPS licence is obtained from NRW prior to the start of works.

Amphibians and reptiles may be present within or close to the area of the proposed works, and so Reasonable Avoidance Measures, as detailed below, must be adhered to at all times during works.

- Prior to the start of works a tool box talk will be given to all contractors by the ecologist covering GCN and reptile identification, legislation and the details of the proposed Method Statement/Reasonable Avoidance Methods.

- All vegetation and site clearance activities will be undertaken in consultation with the project ecologist, with a licensed Ecological Clerk of Works (ECoW) overseeing works where deemed appropriate.

- Prior to the start of works, vegetation surrounding the building should be kept short to discourage reptiles and amphibians from the area.

- Prior to clearance of any taller vegetation, it will be strimmed to a length of 10 -15cm and left for at least 24hrs, before strimming to ground level. Clearance must be undertaken in a directional manner, working from one side of the site to the other, in a direction that will encourage any species present to move to an area of suitable habitat that has good connectivity to the wider area and is not isolated.

- Any clearance of long vegetation, or removal of scrub, log and brash piles etc must be undertaken when daytime temperatures rise to 15°C at the time of works, and there has been a period of at least 5 consecutive nights above 5°C prior to the works. If works are carried out in warm conditions when reptiles and amphibians are active, they can remove themselves from danger, and can be discouraged from the works area by strimming and vegetation clearance.

- If the works are to be undertaken during the winter, any suitable hibernation habitat must be relocated from any proposed works areas during the summer when reptiles and amphibians are active. No clearance of potential hibernation features should be completed between November and March (inclusive).

- Working areas should be kept to the minimum required.

- To avoid creating refugia which may attract reptiles and amphibians, materials should be stored on pallets, spaced timber, or otherwise elevated.

- Trenches or other excavations must be covered overnight using plywood (or equivalent boards), which must be sealed at the edges with sand or soil or graded at one end. Trenches must be checked by the site supervisor at the end of the day to ensure that they have been adequately secured.

- Trenches must be checked for reptiles and amphibians each morning, and any discovered must be moved to the artificial hibernacula. Reptiles must only be handled whilst wearing gloves.

- If at any point in the works a reptile or amphibian is found all works in the vicinity of the sighting must immediately cease, and the animal moved from the site by hand (wearing gloves). If this is not possible then an ecologist must be called. The ecologist will review the situation and advise on further action.

- Captured animals should be released immediately into the woodland edge where there is good habitat connectivity, and no destructive works are planned.

8.2.7 ***General Site***

Suitable Reasonable Avoidance Measures (RAMs) will be implemented to reduce the potential impact to species that may be found on site or passing through the site. All measures in this section should be implemented as appropriate.

The following measures should be implemented at all times during the works:

- Working areas should be kept to the minimum required.
- Works should be avoided within 1 hour of dawn and dusk where possible to avoid disturbance to nocturnal animals. If works during this time are needed, all lighting should be directional and directed away from boundary edges and any surrounding habitat.
- Storage of fuel must follow best practice. Potential pollutants should be restricted to site compounds and hardstanding areas.
- Should it be necessary to have any excavation left open overnight a suitable ramp (such as a plank or branch) must be provided to allow badgers, and other animals to escape the pit. Ramps could be created by grading the slope at the edges or using scaffold boards.
- All materials brought onto site are to be stored on hard standing. Materials will be stored on raised pallets or bagged, to prevent amphibians (or other wildlife) from taking refuge beneath them.
- Any terrestrial mammals seen must be allowed to leave the area on their own. If this is not possible e.g. the animal is injured or trapped then an ecologist must be called.
- If at any point in the works an amphibian or reptile is found within the works area all works in the vicinity of the sighting must immediately cease. Common amphibians should be moved from the working area by site workers (wearing gloves) and placed in a nearby hedgerow. Reptiles will usually retreat to a safe area of their own accord.
- Any terrestrial mammals seen must be allowed to leave the area on their own. If this is not possible e.g. the animal is injured or trapped then an ecologist must be called.

8.2.8 ***Biosecurity***

General biosecurity measures which should be adopted as part of any development project and are provided in Appendix D.

9.0 Compensation and Enhancements

9.1 Planning Policy Wales (PPW12, paragraph 6.4.5) confirms that planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non-native invasive species), locally or nationally and must work alongside nature and it must provide **a net benefit for biodiversity** and improve, or enable the improvement, of the resilience of ecosystems.

9.2 ***Bats***

9.2.1 To compensate for the loss of features within the building and to enhance the site for roosting bats, at least six bat boxes should be erected within the surrounding trees.

9.2.2 The boxes should be at least 3m above the ground and should be placed in a group of three, with the three boxes facing different directions such as south, south-east and south-west as agreed with an ecologist and must be placed where there will be the least likely disturbance from light. The boxes should be made from woodcrete or woodstone to ensure the longevity of the boxes.

9.3 ***Birds***

9.3.1 To compensate for the loss of features, which could be used by nesting birds at least three bird boxes should be erected onto surrounding trees. Bird boxes should include:

- Boxes with a 32mm entrance (sparrow boxes)
- Boxes for smaller birds (25-28mm entrance)
- Boxes with 45mm opening (starling box)

9.3.2 These boxes should be secured mounted on the trees using non-harmful nails (non-rusting, ideally aluminium). The boxes should ideally be woodcrete or woodstone boxes rather than wooden boxes as they will last longer and with limited maintenance.

9.4 ***NWWT Minera Quarry Nature Reserve***

9.4.1 Although there is limited opportunity to provide on-site compensation or habitat enhancement measures due to space constraints, the surrounding Minera Quarry Nature Reserve is subject to an established management plan that is actively implemented to conserve and enhance habitats for wildlife. The reserve is continually being improved through this ongoing management.

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9.4.2 The proposed building will provide improved facilities for the NWWT staff and volunteers who maintain and enhance the reserve, thereby supporting and strengthening the long-term conservation management of the wider site. In this way, the development will indirectly contribute to habitat enhancement and biodiversity benefits within the surrounding nature reserve.

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APPENDIX A Legislation and Planning Policy

Bats

All species of bat, their breeding sites and their resting places in England and Wales are protected through a 'dual' system of protection, under the England and Wales Habitats Regulations and Wildlife and Countryside Act (1981) as amended. Because two regimes give legal protection to bats, the implications of both regimes must be fully understood.

Regulation (Reg.) 43 of the England and Wales Habitats Regulations makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats (which includes any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate or to affect significantly the local distribution or abundance of the species to which they belong);
- damage or destroy a breeding site or resting place of a bat; or
- possess, control, transport, sell or exchange, or offer for sale or exchange, any live or dead bat or part of a bat or anything derived from a bat or any part of a bat

Under Section 9 of the W&CA (s.9(4)(b), 9(4)(c) and 9(5) only), it is an offence (in relation to bats) to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place of shelter or protection;
- intentionally or recklessly obstruct access to any structure or place used by a bat for shelter or protection; or
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead bat or any part of, or anything derived from a bat (or be responsible for adverts suggesting the intention to do this).

Under both laws Natural Resources Wales are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest. It is not illegal to tend to a disabled bat pending recovery.

Birds

Under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way (CRoW) Act 2000, all wild birds, their nests and eggs are protected during the breeding season (typically March to August inclusive). This makes it an offence to:

- Intentionally kill, injury or take any wild bird.
- Take, damage or destroy the nest of a wild bird included in Schedule ZA1.
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built.
- Take or destroy an egg of any wild bird.

National Planning Policy

National Planning Policy in Wales is set out in Planning Policy Wales, Edition 12 , issued in February 2024. This document sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

PPW Edition 12 Section 6.4 states that "*biodiversity underpins the structure and functioning of ecosystems*" and identifies that the "*planning system has a key role to play in helping to reverse the decline in biodiversity and increase the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement*". The broad framework for implementing the Environment (Wales) Act 2016 Section 6 Duty, securing a net benefit for biodiversity and building resilience through the planning system includes addressing all of the following attributes: diversity, extent, condition, connectivity, and adaptability to change.

Green infrastructure (GI) is defined in Planning Policy for Wales (PPW) Edition 12 as "*the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places*". Green infrastructure can function at a range of different scales, from entire ecosystems to street trees and is capable of providing several functions at the same time and as a result offers multiple benefits, for social, economic and cultural as well as environmental resilience.

Development proposals should take biodiversity and green infrastructure (GI) into consideration in order to avoid negative impacts on habitats and species, and seek ways to maintain and enhance biodiversity. Impacts on habitats and species should be treated in a step-wise manner (PPW 12, paragraph 6.4.15), by seeking to:

- **Avoid** damage to biodiversity in its widest sense by maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species where present, through careful development design and consideration of long-term maintenance and management and ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species.
- **Mitigate** or **restore** by identifying measures to address the specific negative effects by repairing damaged habitats and disturbed species. The measures should seek to restore in excess of like for like, accounting for disturbance and time lags for the recovery of habitat and species, and in every case, mitigation or restoration measures should seek to build ecosystem resilience within the site and where possible the wider area.
- As a last resort off-site **compensation** for unavoidable damage must be provided. This must be of significant magnitude to fully compensate for any loss.
- All development must **deliver a net benefit** for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed).

PPW12 also sets out the national policy requirements in relation to planning permissions where protected species, trees, hedgerows and woodlands and *irreplaceable natural resources* have the potential to be impacted.

APPENDIX B Data Search

Desk Study Data included as separate Appendix

APPENDIX C Plant Species List

This list is not exhaustive but refers to species observed during the site visit. Mosses (except indicators of bog habitat if present), lichens, algae and other lower plants and fungi were not identified. No protected or notably rare plant species were found.

Table C.1: Plant Species List

English Name	Scientific Name
Ash	*Fraxinus excelsior*
Black knapweed	*Centaurea nigra*
Bramble	*Rubus fruticosus* agg.
Broad-leaved helleborine	*Epipactis helleborine*
Broad-leaved plantain	*Plantago major*
Broad-leaved willowherb	*Epilobium montanum*
Caper	*Capparis spinosa*
Cock's-foot grass	*Dactylis glomerata*
Common figwort	*Scrophularia nodosa*
Creeping bent grass	*Agrostis stolonifera*
Dandelion	*Taraxacum officinale* agg.
Dog rose	*Rosa canina*
False oat grass	*Arrhenatherum elatius*
False brome	*Brachypodium sylvaticum*
Germander speedwell	*Veronica chamaedrys*
Goat willow	*Salix caprea*
Great willowherb	*Epilobium hirsutum*
Hawksweed	*Hieracium sp*
Hazel	*Corylus avellana*
Pointed spear moss	*Calliergonella cuspidata*
Ragwort	*Jacobaea vulgaris*
Red fescue	*Festuca rubra*
Rosebay willowherb	*Chamaenerion angustifolium*
Rough hawkbit	*Leontodon hispidus*
Silver birch	*Betula pendula*
Tutsan	*Hypericum androsaemum*
Vetch	*Vicia sp*
Wood horsetail	*Equisetum sylvaticum*
Yorkshire fog	*Holcus lanatus*

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APPENDIX D General Biosecurity Measures

Biosecurity means taking measures to ensure that good practices are in place to minimise the risk of importing and spreading invasive non-native species (INNS), pests and infectious disease. As non-native species or diseases could be transmitted in any water or material, a good biosecurity routine is essential, even if invasive non-native species are not apparent.

General good-practice biosecurity measures include:

- A toolbox talk detailing the general risks of invasive non-native species (INNS) relevant to the site and the project should be delivered to all workers, showing the various life stages and how to recognise these plants and animals.

- A cleaning station should be set up at the site exits including facilities to wash boots and vehicles.

- **All** footwear of staff leaving site (for **any** reason and no matter for how short a time) should be cleaned (i.e., visually free of soil and debris) before leaving site.

- Soil and vegetation should be washed off with clean water (and brushes). Water (which should not be contaminated with any disinfectant or other pollutants) should then be disposed of by pouring on site to soak away. No water should be disposed of directly into a watercourse.

- The wheels or tracks (and any other part which has come into contact with the soil) of all vehicles which have entered the area must be thoroughly washed and be free of soil and debris before leaving the site.

- No one should remove any soil or vegetation from the working area for any reason.

It may be necessary to produce a site-specific and project-specific Biosecurity Risk Assessment to support the construction-phase of the project, once detailed design works have been completed and timings and construction methods are known. This Biosecurity Risk Assessment should identify the specific biosecurity risks associated with the works and detail operational procedures to minimise the risk of spreading invasive non-native species (INNS) and other biosecurity risks.

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