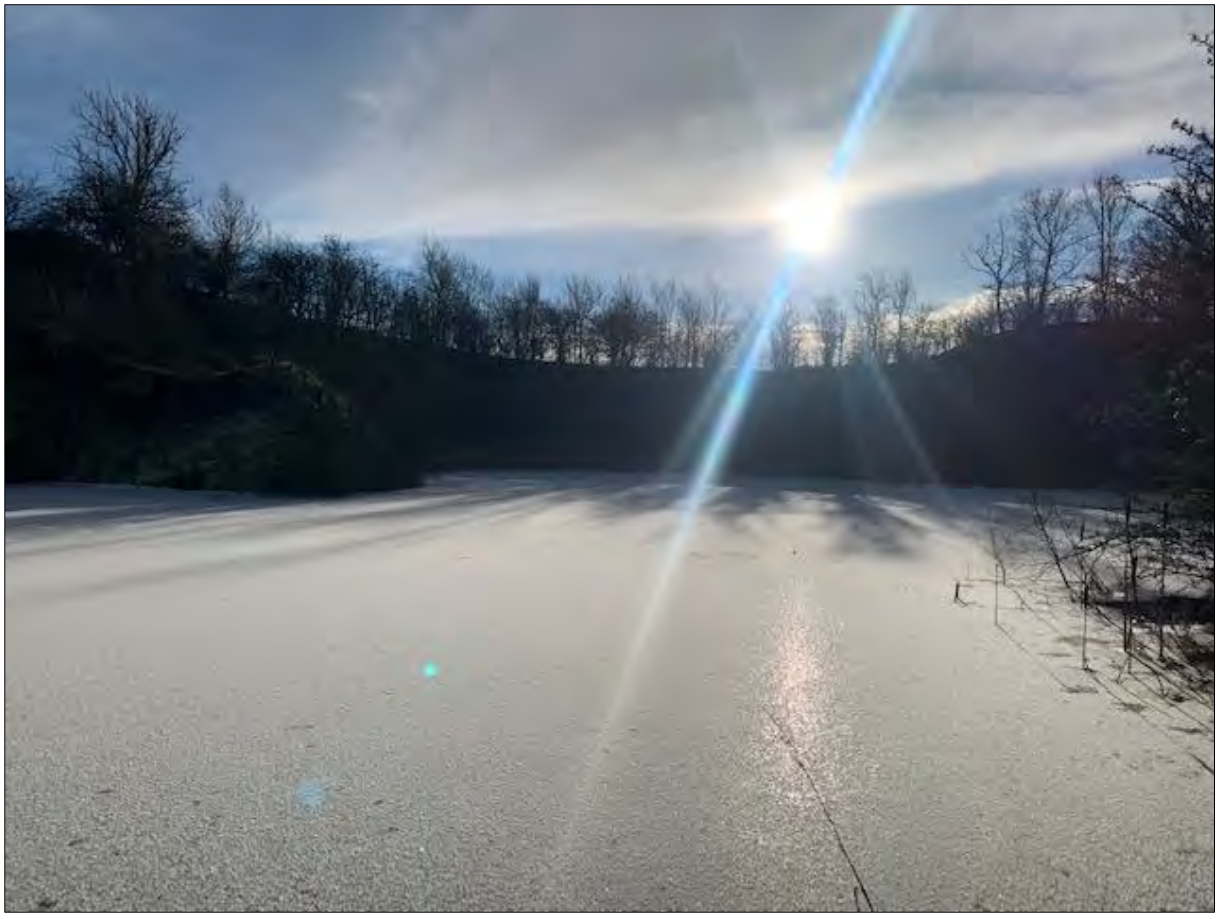
Dockra Quarry, Beith
Preliminary Ecological Appraisal



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EXECUTIVE SUMMARY

EnviroCentre Ltd was commissioned by Johnson Poole & Bloomer Ltd to conduct a Preliminary Ecological Appraisal (PEA) at a site referred to as Dockra Quarry, North Ayrshire.

The quarry will be re-purposed as a public open space and/or woodland accommodation, involving re-profiling, restoration of the quarry faces to gentle slopes and the construction of a formal pedestrian footpath.

There are no ancient woodlands, statutory or non-statutory designated ecological sites located within or adjacent to the site boundary.

A UK Habitats Classification survey identified three primary habitats on site including nationally important Standing Open Water and Lowland Mixed Deciduous Woodland as well as site level important Other Neutral Grassland.

The rock cliff within the site was identified as having low roosting potential for bats, and a tree along the southern boundary was assessed as moderate for roosting bats.

Badger activity was recorded within the survey area. Suitable habitat for protected species including bats, otter, badger, West European hedgehog and nesting birds is present within the site. Further survey for bats, including an activity survey and an elevated tree inspection have been recommended prior to further works commencing. These are detailed in **Section 4.2**.

The requirement for Protected Species Licences from NatureScot will be confirmed following further survey work for bats.

Recommendations for mitigation within the site have been suggested based on the findings of the survey. The full mitigation suggestions are presented in **Section 5.1**. Recommendations include but are not limited to the below.

- The Scottish Biodiversity List (SBL) priority habitats pond and lowland mixed deciduous woodland should be retained and enhanced where possible.
- The retained pond should be protected to avoid pollution or damage during works and to provide habitat for SBL amphibian species present on the site.
- Suitable tree root protection barriers should be implemented around retained woodland in the site.
- The tree assessed to have moderate potential for roosting bats should be retained. If this is not possible then further survey work is required prior to felling/pruning.
- Temporary light used during construction and permanent lighting should not illuminate the cliff face, the active badger sett, the pond or the woodland.
- Pre-works checks for bats, amphibians, otter, badger, hedgehog and birds should be undertaken prior to works commencing on site.
- High impact works such as ground works causing noise and vibration should be limited to daylight hours to avoid disturbance to commuting and foraging badger and bats.
- A watching brief and /or fingertip search will need to be undertaken before any works commence, if scrub requires removal during hedgehog hibernation period (October-April).
- Vegetation clearance should not be completed during the breeding bird season (March to August, inclusive).
- The pump system used to drain the quarry pond should consider the potential presence of fish within the pond. Should any fish be identified during the works, the project ecologist should be contacted and further mitigation put in place.

Enhancement measures have also been suggested to promote opportunities to contribute positively to biodiversity. These are presented in **Section 5.2**.

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Appendices

Tables

1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Ltd was commissioned by Johnson Poole & Bloomer Ltd to conduct a Preliminary Ecological Appraisal (PEA) at a site referred to as Dockra Quarry, North Ayrshire.

The 'site' is defined as the area demarcated by the red line boundary as illustrated on the Site Location Plan in Appendix A. The 'survey area' constitutes the area of the 'site' plus appropriate buffers, as detailed within the methods.

The results and recommendations in this document relate to the site boundary as provided by the client at the time of the survey.

1.2 Scope of Report

The aim of the study is to provide a baseline ecological evaluation of the site to inform any future development plans. The objectives were as follows:

- Conduct a desk study to gather previously recorded biological data relating to the site;
- Categorise and map the broad habitats present on the site;
- Search for field evidence or a range of protected or notable species which may frequent the survey area;
- Identify suitable habitat for protected or notable species in the survey area;
- Evaluate the habitats and species applicable to site against geographic levels of importance;
- Appraise the potential impacts to habitats and species should no avoidance, mitigation or compensation be applied within the proposed project;
- Make recommendations for any further survey to inform the proposed project and/or species licensing requirements.
- Suggest broad measures to avoid, minimise and compensate for the predicated negative ecological effects associated with the proposed project; and
- Suggest opportunities offered by the proposed development to deliver biodiversity gain.

1.3 Site Description

The site is situated south east of Reek Street in Gateside, at an elevation of 115m above sea level, centred at Ordnance Survey National Grid Reference (OSNGR) NS 36402 52548, and is approximately 5.23 hectares (ha). The site consists of a former quarry which now contains a kidney-shaped pond comprising the majority of the site's eastern half. The western half of the site comprises broadleaved woodland on high gradient topography. The quarry pond is approximately 5600m^2 with steep banks rising 10-12m above the standing water. Arable fields and grassland dominate the wider area in all directions with occasional scattered houses or agricultural buildings. The site is ecologically connected to the broader countryside via hedgerows, tree lines, and small stands of trees and scrub.

1.4 Project Description

The project aim is to drain the quarry and reprofile the walls for health and safety. A haul road will be constructed from the south east to allow plant/machinery access to the site. The quarry will be re-purposed as a public open space and/or woodland accommodation, involving re-profiling, restoration of the quarry faces to gentle slopes and the construction of a formal pedestrian footpath. Vegetation clearance and ground works are required for the access routes and material stockpiles, however, much of the woodland will be retained. A raised track will be established to the south across agricultural land to allow plant/machinery access. It is proposed that a smaller pond feature will be retained and enhanced and that the area will be re-planted with native species. The Proposed Restoration Contours Plan is provided in Appendix B.

1.5 Legislation, Policy and Guidance

Legislation, planning policies, conservation initiatives and general guidance relevant to this study include:

- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- The Protection of Badgers Act 1992;
- National Planning Framework 4 (2023)[1]
- The British Standard for Biodiversity;
- The Scottish Biodiversity Strategy;
- Scottish Planning Policy (2014); and
- The North Ayrshire Adopted Local Development Plan[2]
- North Ayrshire Local Biodiversity Action Plan[3].

A summary of protected species legislation is provided in Appendix C.

1.6 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

Whilst the Client has a right to use the information as appropriate, EnviroCentre Limited retains ownership of the copyright and intellectual content of this report. Any distribution of this report should

[1] Scotland's National Planning Framework 4 (2023) - https://www.gov.scot/publications/national-planning-framework-4/ (Accessed January 2023)
[2] North Ayrshire Adopted https://www.north-ayrshire.gov.uk/Documents/CorporateServices/LegalProtective/LocalDevelopmentPlan/ldp2.pdf (Accessed January 2023)
[3] North Ayrshire Local Biodiversity Action Plan - https://www.north-ayrshire.gov.uk/Documents/CorporateServices/Finance/approved-lbap.pdf (Accessed January 2023)

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2 METHODS

2.1 Desk Study

The following sources were checked:

- NatureScot Sitelink website[4] for statutory designated sites up to 5km from the site;
- North Ayrshire Adopted Local Development Plan (LDP)[5] for non-statutory designated sites up to 2km from the site;
- Records of ancient woodland and Scottish native woodland available through Scotland's Environment Web[6], within or adjacent to the site;
- The Scottish Biodiversity List[7] (SBL) for Priority Habitats and Species;
- The North Ayrshire Local Biodiversity Action Plan (LBAP) for Local Priority Habitats and Species; and
- Aerial imagery from Google Earth[8].

2.2 Field Survey

The survey was undertaken by EnviroCentre Ecologists Steve Duncan an associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM), and Rebecca Brown a graduate ecological consultant for EnviroCentre. The surveys were designed using the guidelines endorsed by NatureScot and CIEEM[9]. The surveys focussed on plants and habitats on the site and those faunal species that are most likely to be found in the habitats which make up the landscape in and around the site. The survey was undertaken on 18th January 2023 when conditions were sunny with intermittent cloud cover, no wind and no rain. The average air temperature was 2°C.

This section provides details of the methods adopted in the survey areas described in Table 2-1 below.

Table 2-1: Survey Areas

Habitat/Species/Species Group	Survey Area
UK Habitat Classification	Site
Ground Water Dependent Terrestrial Ecosystems (GWDTE)	Site plus any connecting wetland within 250m which may be impacted by works
Invasive Non-Native Species	Site
Bats	Site plus 50m buffer
Amphibians	Site plus ponds up to 500m
Otter (*Lutra lutra*)	Site plus up to 250m up and down stream of any watercourses (where accessible)
Water Vole (*Arvicola amphibius*)	Site plus up to 250m up and down stream of any watercourses (where accessible)
Badger (*Meles meles*)	Site plus 50m buffer
Brown hare (*Lepus europaeus*)	Site plus 50m buffer
West European Hedgehog (*Erinaceus europaeus)*	Site plus 50m buffer
Birds	Site plus 50m buffer
Invertebrates	Site plus 50m buffer

[4] Available at: https://sitelink.nature.scot/map (Accessed December 2022)
[5] North Ayrshire Adopted Local Development Plan: https://www.north-ayrshire.gov.uk/Documents/CorporateServices/LegalProtective/LocalDevelopmentPlan/ldp2.pdf (Accessed December 2022)
[6] Available at: https://www.environment.gov.scot/maps/scotlands-environment-map/ (Accessed December 2022
[7] Available at: https://www.nature.scot/scottish-biodiversity-list (Accessed December 2022)
[8] Available at: https://www.google.com/earth/ (Accessed December 2022)
[9] CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*. 2nd edition. available at: https://cieem.net/wp-content/uploads/2019/02/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-1.pdf

2.2.1 UKHabitat Classification Survey

A UK Habitat Classification (UKHab) Survey was carried out in accordance with the user manual. UKHab is a hierarchical system for rapidly recording and classifying habitat via satellite imagery and field survey. The system comprises 5 levels of Primary Habitats which include ecosystems, broad habitats, priority habitats and Annex I habitats, along with non-hierarchical secondary codes which provide information on the environment, management and origin of Primary Habitats. The secondary codes are also used to map habitat mosaics and identify notable species features. The information collected is used to identify ecologically sensitive features and recommend mitigation and enhancement measures in connection with a proposed development.

The surveyor utilised the UKHab Professional edition with a Minimum Mapping Unit (MMU) of 25m2 and aimed to categorise habitats to level 4. Where the level 4 habitat could not be determined due to a lack of indicative species, habitats were categorised to the broader level 3 habitat.

The information is used to identify ecologically sensitive features/habitats, inform relevant species surveys and, aid in the recommendation of mitigation and enhancement measures in connection with a proposed development.

Where applicable, alterations to UKHab symbology on maps may occur where relevant for clarity.

2.2.2 Groundwater Dependant Terrestrial Ecosystems

The Functional Wetland Typology[10] was used to aid identification of wetland habitats that derive their water from groundwater and surface water. This information is useful in identifying if and where further surveys are required to identify the presence and potential sensitivity of Groundwater Dependent Terrestrial Ecosystems (GWDTEs). To help assess ground water dependency, observations of local topography, underlying geology, and features such as springs, diffuse ground water emergence and floristic indicators of base enrichment were made.

2.2.3 Invasive Non-Native Species

The survey included a check for the presence of any invasive non-native species (INNS) including but not limited to the following:

- Japanese Knotweed (*Reynoutria japonica*);
- Giant Hogweed (*Heracleum mantegazzianum*); and
- Himalayan balsam (*Impatiens glandulifera*).

2.2.4 Bats

An assessment was undertaken in accordance with the criteria set out by the Bat Conservation Trust (BCT)[11]. The suitability of roosting, commuting and foraging habitats was classified according to the criteria in Table 2-2, overleaf.

[10] SNIFFER (2009) *WFD95: A Functional Wetland Typology for Scotland - Field Survey Manual. Version 1*. ISBN: 978-1-906934-22-4
[11] Collins, J.(ed.) (2016). *Bat Surveys for professional Ecologists: Good Practice Guidelines, 3rd edition.* Bat Conservation Trust

Table 2-2: Suitability Classification of Roosting, Commuting and Foraging Habitats for Bats

Suitability	Roosting Features	Foraging and Commuting Habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edges. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. The site is close to and connected to known roosts.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due their size, shelter, protection, conditions and/or surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis; or A tree of sufficient size and age to contain potential roost features but with none seen from the ground; or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or a patch of scrub.
Negligible	A structure or a tree with negligible features likely to be used by roosting bats.	Negligible habitat features likely to be used by foraging or commuting bats.

Potential Roosting Features (PRFs) in trees and structures are listed in Table 2-3, overleaf.

Table 2-3: PRFs in Trees and Structures Frequently Used by Bats for Roosting

PRFs in trees frequently used as bat roosts	Access points in structures frequently used as bat roosts	Frequently used roosting locations in structures
Hollows and cavities from woodpecker, rot and knot holes	Gaps in windowsills and window panes	Top of chimney breasts, gable ends and dividing walls
Hazard beams and other vertical or horizontal cracks and splits in stems or branches	Underneath peeling paintwork or lifted rendering	All beams and roof beams (ridge, hip etc.)
Partially detached plated bark	Behind hanging tiles, weatherboarding, eaves, soffit boxes, fascias and lead flashing	Junction of timber joints, mortise and tenon joints
Cankers, included bark and compression forks with potential cavities	Under tiles and slates	Behind purlins
Partially detached ivy with stem diameters in excess of 50mm	Gaps in brickwork and stonework	Between tiles/slates and the roof lining
Bat or bird boxes	Gaps in rendering behind gutters	Under flat roof materials

2.2.5 Amphibians

2.2.5.1 Great Crested Newt

Ponds within 500m of the site were assessed with regard to their suitability to support great crested newt, following the nationally adopted Great Crested Newt Habitat Suitability Index (HSI) method[12].

The HSI is a geometric mean of ten suitability indices, based on the measurement of the biological and physical features of each pond. The HSI calculation provides a 'score' between 1 and 0. The score assigned to each pond describes its suitability for great crested newt. Table 2-4 below provides a summary of scores and how they should be interpreted.

Table 2-4: HSI Interpretation

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

2.2.5.2 Common frog, common toad, palmate newt and smooth newt

An assessment of the suitability of habitats on site for amphibians was undertaken in accordance with the criteria set out by the Joint Nature Conservation Committee (JNCC)[13].

This assessment reviews habitat requirements necessary for amphibian populations, including:

- Breeding habitat – ponds or standing water that provide food and shelter;
- Terrestrial habitat – close to breeding ponds;
- Connectivity to additional suitable aquatic and terrestrial habitat;
- Foraging resources i.e., invertebrates; and
- Hibernation sites – normally below ground systems protected against weather and predators.

[12] ARG UK (2010) *Advice Note 5: Great Crested Newt Habitat Suitability Index.*
[13] JNCC (2004). *Common Standards Monitoring Guidance for Reptiles and Amphibians*. [Online] Available at: https://data.jncc.gov.uk/data/43e8e8ed-5f05-4613-a277-f116b34829f4/CSM-ReptilesAmphibians-2004.pdf (Accessed January 2023)

2.2.6 Otter

An assessment of the site to support otter was carried out following best practice guidelines[14]. Where identified, the following incidental field signs were recorded:

- Direct sightings;
- Spraints - Otter faeces/droppings used as territorial signposts. Often located in prominent positions and can be placed on deliberate piles of soil or sand. Three categories are used for describing otter spraint: Dried fragmented (Df); Dried intact (Di); and Not fully dry (Nd);
- Footprints;
- Feeding remains;
- Paths/slides - Distinctive path from and into the watercourse;
- Holts - Underground shelter which are generally found:
    - Within trees roots at the edge of the bank of a river;
    - Within hollowed out trees;
    - In naturally formed holes in the river banks that can be easily extended;
    - Or ready-made holes created by other large mammals such as badger; and
- Couches/lay-ups - Places for lying up above ground are usually located near a watercourse, between rocks or boulders, under dense vegetation.

2.2.7 Water Vole

An assessment of the site to support water vole was undertaken[15] in conjunction with the otter survey and covered the same area. Factors that influence the suitability of habitat for water voles include:

- Positive: The presence of riparian vegetation along the banks and in the water.
- Positive: A steep bank on a watercourse reducing the risk of burrow inundation.
- Positive: Slow-flowing, relatively deep (over 1m) watercourses.
- Negative: The presence of rocky or otherwise impenetrable substrates.
- Negative: Over-shading by trees.
- Negative: Fast flowing or shallow water, and flashy watercourses.
- Negative: The presence of American mink.

Where identified, incidental field signs were also recorded[16]. Field evidence for water vole includes:

- Direct sighting;
- Faeces - Distinctive 8-12 mm long and 4-5 mm wide cylindrical and blunt ended pellets;
- Latrine sites - Concentrations of faeces, often with fresh droppings on top of old ones;
- Runways - Often 5-9 cm broad and multi-branched within 2m of water's edge;
- Burrows - Distinctive 4-8 cm diameter, wider than high; entrances located at water's edge, though some entrances can be up to 3m from the water;
- Nests - Often in base of rushes, sedges or reeds and the size and shape of a rugby ball;
- Feeding stations - usually a pile of cut/chewed vegetation including grasses and sedges;
- Lawns - Short, grazed vegetation around land entrances, often used during nursing periods;
- Footprints; and
- Sound - Characteristic 'plop' when a vole enters the water.

[14] Chanin, P. (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology (No. 10). Peterborough: EN, CCW, EA, SEPA, SNH & SNIFFER.
[15] Strachan, Rob & Moorhouse, Tom. (2006). *Water Vole Conservation Handbook, Second Edition*.
[16] Dean, M., Strachan R. Gow, D. & Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds: Fiona Mathews and Paul Chanin. The Mammal Society, London.

2.2.8 Badger

A badger survey was undertaken in suitable and accessible habitat, with reference to the methodology described by Scottish Badgers[17] and NatueScot[1819], which aimed to identify the following field evidence:

- Setts (any structure or place, which displays signs indicating current use by badger/located within an active badger territory, as defined by NatureScot guidance[20]);
- Day beds (above ground area where badgers sleep, characterised by flattened vegetation or bundles of grass);
- Dung pits (single faeces deposit placed in a small excavation);
- Latrines (collection of faecal deposits often used by badger clans to mark home range boundaries);
- Foraging signs such as diggings or snuffle holes (badgers use their snout to turn over vegetation or soft soil to forage for bulbs and invertebrates);
- Paths (network of paths generally linking setts to foraging habitat);
- Breach points (gaps in fences or crossing points over roads);
- Scratching posts (marks on tree trunks/ fallen trees where badgers have left claw marks);
- Guard hair; and
- Footprints.

Badger foraging habitat was classified on a primary and secondary basis as per best practice guidance[21]. An assessment of the distribution of primary and secondary habitat (defined below) within the survey area was undertaken:

- Primary foraging habitat: short grazed or mown grassland, improved or unimproved, golf course habitat and broadleaved woodland (> 80% broadleaves); and
- Secondary foraging habitat: arable, rough grassland (not grazed by domestic stock or mown), scrub and mixed woodland.

2.2.9 Brown Hare

Guidance[22] was used to identify direct evidence of brown hare and to assess the suitability of the habitat for brown hare as follows:

- Direct sightings;
- Suitable habitat: lowland, mixed arable, hayfields and pasture land with hedgerows and field margins;

[17] Scottish Badgers: Surveying for Badgers – Good Practice Guidelines. Version 1: 2018. Available from: https://www.scottishbadgers.org.uk/userfiles/file/planning_guidelines/Surveying-for-Badgers-Good-Practice-Guidelines_V1.pdf (Accessed on December 2022)
[18] NatureScot: Licensing Guidance. Available from: https://www.nature.scot/sites/default/files/2018-10/Guidance%20-%20Licensing%20-%20Badgers%20-%20What%20is%20a%20Badger%20sett_.pdf (Accessed On December 2022)
[19] NatureScot: Protected Species Advice for Developers – Badger. Available from: https://www.nature.scot/species-planning-advice-badger (Accessed on December 2022)
[20] NatureScot definition of current use: "*There is no case law to clarify what signs of current use means. For the purpose of this guidance, and in the absence of such case law, we consider that the presence of field signs such as bedding, fresh spoil heaps, signs of recent digging, hair, latrines, or footprints in or around the potential sett or evidence of badgers entering or exiting the structure or place in question would indicate current use of the structure / place by a badger.*"
[21] The Highland Council. Best Practice Guidance – Model badger Protection Plan (BPP)– Badger foraging habitats (2006). Available from: https://www.highland.gov.uk/downloads/file/2635/badger_best_practice_guidance_badger_protection_plans_september_2006 (Accessed on December 2022)
[22] Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trewhella, W.J., Wells, D. and Wray, S. (2012). *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, Southampton

- Forms (resting places): typically beside a tuft of grass or rushes or a shallow scrape in soil, on a gentle slope with a good view ahead; and
- Droppings: hard round or slightly flattened pellets, about 1cm across, usually straw to mid brown coloured, scattered in small quantities or singular.

2.2.10 West European Hedgehog

The suitability of the habitats for hedgehog on site was assessed according to guidance[23]. Suitable habitats include:

- Grazed pastureland separated into small fields by hedgerows;
- Deciduous woodland corpses (oak, beech);
- Overgrown verges or margins; and
- Suburban gardens, woodpiles or parklands.

2.2.11 Birds

Habitats within the survey area were assessed for their suitability to support breeding and over wintering birds.

Observations of birds were also noted during the survey including incidental records of the following:

- Birds present – nesting or foraging onsite, flying over site, or corpses;
- Pellets/droppings.
- Nests – within trees or in ground vegetation.
- Eggs – intact/broken or within nest/below nest; and
- Feathers – adult or natal down.

2.2.12 Invertebrates

In addition to the desk-based assessment, a general habitat suitability survey was made of the site its suitability to host invertebrate species.

2.3 Survey Constraints

2.3.1 Desk Study

Desk studies are limited by the reliability of third-party information and the geographical availability of biological and/or ecological records and data. This emphasises the need to collate up-to-date, site-specific data based on field surveys by experienced surveyors. The absence of a species from biological records cannot be taken to represent actual absence. Species distribution patterns should be interpreted with caution as they may reflect survey/reporting effort rather than actual distribution.

[23] Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trewhella, W.J., Wells, D. and Wray, S. (2012). *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation.* The Mammal Society, Southampton

2.3.2 Field Survey

The survey was undertaken outside the optimal season for habitat assessment. A broad assessment of habitat can be undertaken outside of the optimal season, though it is noted that some flowering species may not be present.

Due to the presence of the quarry pond which presented a physical barrier as well as health and safety constraints, the cliffs on the eastern side of the pond and some of the sloping banks were unable to be fully inspected. These were viewed as thoroughly as possible using close-focus binoculars.

2.4 Evaluation of Ecological Features

European, national and local governments and specialist organisations have together identified a large number of sites, habitats and species that provide the key focus for biodiversity conservation in the UK and Ireland, supported by policy and legislation. These provide an objective starting point for identifying the important ecological features that need to be considered. A geographical level of importance, as described in Appendices D and E, has been assigned to the designated sites, habitats and species identified on the site and in the survey area. Where a feature is important at more than one level in the table, its overriding importance is that of the highest level. Usually only the highest level of legal protection is listed.

3 BASELINE ECOLOGICAL CONDITIONS

3.1 Statutory Designated Sites

No statutory designated sites are present within the site boundary. Five statutory sites designated for ecological features are present within a 5km radius of the site boundary, all of which are ecologically connected to the site via agricultral grassland, hedgerows and tree lines. These statutory designated sites are detailed in Table 3-1 below.

Table 3-1: Statutory Designated Sites

Site Name	Designation[24]	Distance and Orientation	Designated Features
Bankhead Moss	SSSI	2.0km south west	Raised bog
Bankhead Moss	SAC	2.0km south west	Active raised bog
Cockinhead Moss	SSSI	3.2km south	Raised bog
Cockinhead Moss	SAC	3.2km south	Active raised bog; Degraded raised bog
Castle Semple and Barr Lochs	SSSI	4.3km north	Breeding bird assemblage; Eutrophic loch

3.2 Non-Statutory Designated Sites

No non-statutory designated site is present within the site boundary or 2km of the site.

3.3 Ancient Woodland

No ancient woodland is present within or adjacent to the site. The closest ancient woodland is an unnamed long-established (of plantation origin) woodland approximately 1.1km north east of the site.

3.4 Habitats

Four habitats and boundary features, classified using primary and secondary codes, are present within the site, as summarised in Table 3-2 overleaf and detailed further below.

The site Habitat Plan can be found in Appendix F and Photographs in Appendix G.

[24] SSSI (Site of Special Scientific Interest), SAC (Special Area of Conservation)

Table 3-2: UKHAB Habitat Classification

Habitat Type	Habitat	Primary Codes	Defining Secondary Codes
Grassland	Other Neutral Grassland	g3c	10 - Scattered Scrub 78 – Abandoned 118 - Mesic
Rivers and Lakes	Standing Open Water and Canals	r1	14 - Scattered Rushes 352 - Disused Quarry
Sparsely Vegetated Land	Other Inland Rock and Scree	s1d	352 - Disused Quarry
Woodland	Lowland Mixed Deciduous Woodland	w1f	10 - Scattered Scrub 37 - Semi-natural Woodland 118 - Mesic

3.4.1 Other Neutral Grassland

Definition: Perennial rye-grass (Lolium perenne) is likely to be present at <30% with between 9 and 15 further species also present. Many of the more species rich swards will fall here, together with rank and unmanaged swards on neutral soils.

Other neutral grassland is present in restricted patches within the north of the site. The grassland is not under any active management and has a species composition of abundant springy turf-moss (*Rhytidiadelphus squarrosus*), with frequent cocksfoot (*Dactylis glomerata*), common bent (*Agrostis capillaris*), common knapweed (*Centaurea nigra*), common nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*), neat feather-moss (*Pseudoscleropodium purum*). Also occasionally present was greater plantain (*Plantago major*), ribwort plantain (*Plantago lanceolata*), common hogweed (*Heracleum sphondylium*), hairy bittercress (*Cardamine hirsute*) and broad-leaved dock (*Rumex obtusifolius*).

Other neutral grassland is a common and widespread habitat, both locally to the site and within the wider landscape. As a result, the on-site other neutral grassland is considered important at the site level.

3.4.2 Standing Open Water

Definition: Natural systems such as lakes, meres and pools, as well as man-made waters such as reservoirs, canals ponds and gravel pits.

One pond is present within former quarry in the east of the site (Photo 1 and 2). Narrow stands of marginal vegetation are scattered occasionally around the edges of the pond comprising bulrush (*Typha latifolia*), soft rush (*Juncus effusus*) and common reed (*Phragmites australis*).

Ponds are an SBL priority habitat and so the pond on site is considered nationally important.

3.4.3 Other Inland Rock and Scree

Definition: Natural and artificial exposed rock surfaces which does not fall under other definitions of inland rock.

Other inland rock and scree is present in the former of former quarry faces rising up from the northern and eastern edges of the pond within the site.

The other inland rock and scree is considered important at the site level.

3.4.4 Lowland Mixed Deciduous Woodland

Definition: Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich; occurs largely within enclosed landscapes, usually on sites with well-defined boundaries, at relatively low altitudes, although altitude is not a defining feature.

Lowland mixed deciduous woodland is present throughout the majority of the west of the site. The woodland appears to be semi-natural in origin and is not under active management. The woodland trees range from young to semi-mature and comprise abundant hawthorn (*Crataegus monogyna*) with frequent ash (*Fraxinus excelsior*), elder (*Sambucus nigra*) and goat willow (*Salix caprea*). Occasional gorse (*Ulex europaeus*), bramble (*Rubus fruticosus*) and dog-rose (*Rosa canina*) were present in the understorey.

The field level comprises abundant rough meadow-grass (*Poa trivialis*), common tamarisk-moss (*Thuidium tamariscinum*) with frequently occurring creeping buttercup (*Ranunculus repens*), dog violet (*Viola riviniana*) and pink purslane (*Claytonia sibirica*). Occasionally observed herb-robert (*Geranium robertianium*), germander speedwell (*Veronica chamaedrys*), wood avens (*Geum urbanum*), common nettle, scaly male fern (*Dryopteris affinis*), tree climacium moss (*Climacium dendroides*), fox-tail feather-moss (*Thamnobryum alopecurum*) and common smoothcap (*Atrichum undulatum*).

Lowland mixed deciduous woodland is an SBL priority habitat and so the deciduous woodland on site is considered nationally important.

3.5 Groundwater Dependant Terrestrial Ecosystems

Due to the topography of the site the quarry pond was assessed to be surface water fed and therefore not groundwater dependant. No potential GWDTEs were identified within the site or the survey area.

3.6 Invasive Non-Native Species

No INNS were identified within the site or the survey area.

3.7 Floral and Faunal Species

3.7.1 Disclaimer

Faunal species are transient and can move between favoured habitats regularly throughout and between years. This survey provides a snapshot of field signs present in the survey area in January 2023.

3.7.2 Bats

Two-hundred and forty-six records of bats were returned from the desk study from 2014-2016, within 2km of the site, including fourteen records of common pipistrelle (*Pipistrellus pipistrellus),* one record of brown long-eared bat (*Plecotus auratus*) and two-hundred and thirty-one records of soprano pipistrelle (*Pipistrellus pygmaeus*). The closest record of a soprano pipistrelle taken 0.5km southwest of the site. Two of the records for soprano pipistrelle counted 200 – 300 individuals indicating potential maternity roosts approximately 1.4km west of the site.

Buildings and Structures

No buildings are present within the site boundary or the survey area.

Rock Walls

The rock walls in the north east of the site have vertical faces up to 10m high (Photo 3). The walls are generally smooth and well vegetated, however some cracks and crevices were identified. Apparent gaps in the rock face may have potential to offer roosting protection for bats. The rock walls were assessed to offer low potential for roosting bats.

Trees

The trees within the site lacked the features which could be utilised by roosting bats, due to their age and good physical conditon. One semi-mature elder located along the southern boundary of the site has a tear-out feature at 1.5m up the western face of the trunk (Photo 4). This tree was assessed to have moderate potential suitability for roosting bats with reference to Table 2-2 “A structure or tree with one or more potential roost sites that could be used by bats due their size, shelter, protection, conditions and/or surrounding habitat but unlikely to support a roost of high conservation status.”

Habitats

The quarry pond supports a variety of aquatic invertebrate prey species which offers a suitable foraging resource for bats. The woodland within the site has fruit, berry and nectar producing plants which attracts invertebrates and provides foraging resources for bats.

The deciduous woodland, pond and modified grassland present within the site offer suitable commuting habitat for bats. These features connect to further suitable habitat in the wider area, via linear features including treelines, hedgerows and small watercourses.

Overall the site is assessed to provide moderate suitability for commuting and foraging bats as per Table 2-3 “Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water”.

Bats are European Protected Species (EPS) and are of international importance.

3.7.3 Amphibians

Great Crested Newt

No records of great crested newt were returned from the desk study. One pond is present within the site (Photo 5). No other ponds are present within 500m of the site.

The pond was found to offer ‘poor’ habitat for great crested newt. The HSI result is presented in Table 3-3 overleaf.

Table 3-3: Habitat Suitability Index for GCN in the Quarry Pond

Quarry Pond		
Factor	**Comment**	**Score**
1. Geographic Location	Marginal	0.5
2. Pond Area	Approximately 5610m^2	-
3. Permanence	Never dries	0.9
4. Water Quality	Moderate invertebrate diversity	0.67
5. Shade	100%	0.2
6. Waterfowl	Waterfowl present, minor impact	0.67
7. Fish	Minor fish presence	0.33
8. Pond Count	None	0.1
9. Terrestrial Habitat	Habitat that offers opportunities for foraging and shelter, but may not be extensive in area and does not completely surround pond.	0.67
10. Macrophytes	10%	0.35
Score		**0.41 (Poor)**

The terrestrial habitats in the site consist primarily of deciduous woodland and neutral grassland, which provides suitable habitats for commuting and foraging great crested newt.

Great crested newt are European Protected Species (EPS) and are therefore of international importance.

Common Frog, Common Toad, Palmate Newt and Smooth Newt

Three records of common frog (*Rana temporaria*) and one record of smooth newt (*Lissotriton vulgaris*) were retuned from the desk study from within 2km of the site, however, as these records are confidential, they cannot be detailed further.

The quarry pond with its small areas of marginal vegetation provides suitable commuting, foraging and breeding habitat for frogs and toads. The deciduous woodland and neutral grassland provide suitable foraging and resting habitat for amphibians.

Common toads are listed on the SBL and are of national (UK) importance. All other amphibian and reptile species found naturally in Scotland are given limited protection under the Wildlife and Countryside Act 1981 (as amended) and are considered of site level importance.

3.7.4 Otter

No records of otter were returned from the desk study.

No evidence of otter was found during the survey. The quarry pond has limited potential to support a fish population, which would provide a limited foraging resource for otter, however no fish were identified during the survey.

The woodland and pond on site has potential to support amphibians which provide a foraging resource for otter. There is a small area along the upper slopes of the quarry which has suitable soil and topography for holt creation, however no resting features were identified within the site. The site is relatively isolated from watercourses in the wider lanscape and is connected primarily by agricultural fields and sparse hedgerow which provide little protection for dispersing otter.

Overall the site is suboptimal for otter.

Otters are an EPS and are of international importance.

3.7.5 Water Vole

No records of water vole were returned from the desk study.

No evidence of water vole was identified during the survey. The banks of the quarry pond are generally comprised of gravel and stone with a thin layer of vegetation typically unsuitable for burrowing. The ponds margins are limited in size and species composition; however, the existing vegetation includes soft rush and common reed which provide typical foraging resources for water vole. Overall the site is suboptimal for water vole.

Water vole are protected under the WCA and are considered to be of national (UK) importance.

3.7.6 Badger

No records of badger were returned from the desk study.

No evidence of badger was identified within the site, but evidence fo badger activity in the locale was noted during the survey. One well-used outlier sett was located within the survey area approximately 90m south of the site.

The site has sections of sloping ground with soil types on higher ground which is suitable for badger sett creation. The pond provides a water resource for badger in the locale.

The broadleaved woodland in the west of the site provides primary foraging habitat providing earthworms and blackberries. The rough grassland in the north of the site provides further secondary foraging habitat for badger.

Badgers are protected under the Protection of Badgers Act 1992 and therefore are of national (UK) importance.

3.7.7 Brown Hare

No records of brown hare were returned from the desk study.

No evidence of brown hare was identified during the survey. The woodland and grassland within the site offer limited resting opportunities for brown hare. The surrounding arable fields which are bounded by hedgerows offer suitable resting, commuting and foraging habitats.

Brown hare are a SBL species and therefore of national importance.

3.7.8 West European Hedgehog

Five records of hedgehog were returned from the desk study between 2020-2021, from within 2km of the site: however, as these records are confidential, they cannot be detailed further.

The site and wider area provide suitable habitats for hedgehog such as grassland, scattered scrub, hedgerows and woodland. The grassland and woodland on site offer suitable foraging and resting resources for hedgehog present in the locale.

West European hedgehogs are a SBL species and therefore of national importance.

3.7.9 Birds

Suitable habitat for nesting, loafing and foraging birds is present within woodland, scattered scrub and grassland habitats within the site boundary.

Bird species encountered during the survey included:

Woodcock (*Scolopax rusticola*) which are listed on the Scottish Biodiversity List species and therefore are of national importance.

Teal (*Anas crecca*) which are on the BoCC amber list and is therefore of regional importance.

Blue Tit (*Cyanistes caeruleus*), Carion Crow (*Corvus corone*), Chaffinch (Fringilla coelebs), Long-Tailed Tit (Aegithalos caudatus), Magpie (*Pica pica*), Woodpigeon (*Columba palumbus*) and Wren (*Troglodytes troglodytes*) which are on the BoCC green list and all are of local importance.

All wild bird species are protected under the Wildlife and Countryside Act 1981.

3.7.10 Invertebrates

The site falls within a B-Line which is designated as an insect pathway linking existing wildlife networks.

A typical range of opportunities for invertebrates are available within the habitats on-site. The woodland which includes dead trees, grassland, scrub, derelict stone structures and pond on-site are likely to support a range of common and widespread species, including species on the SBL which are up to national importance.

4 POTENTIAL IMPACTS AND RECOMMENDATIONS FOR FURTHER SURVEY

4.1 Potential Impacts

- Loss or reduction of SBL Priority Habitats if the pond and lowland mixed deciduous woodland are to be lost to facilitate the works.
- Loss of Other Neutral Grassland habitat considered to be of site importance to facilitate the works
- Pollution of retained pond within the site.
- Destruction or disturbance to potential bat roosts in the PRF tree identified within the woodland along the southern boundary of the site.
- Loss and fragmentation of foraging and commuting habitat for bats, otter, badger, hedgehog, brown hare, amphibians and birds through removal of woodland and grassland habitat within the site.
- Loss of roosting/nesting habitat for bats and birds through removal of woodland within the site.
- Death/injury to hedgehog, hare and nesting birds if groundworks take place between March and September.
- Disturbance of foraging and commuting nocturnal and crepuscular species such as bats, otter, badger and hedgehog if artificial lighting is used during the construction period.
- Fragmentation of habitat designated as a B-line through removal of the woodland and pond.
- Increased provision of roosting resources for bats and birds through purpose-built and installed bat boxes and bird boxes on trees within the site.
- Provision of smaller pond feature to include more nature firiendly features.
- Increase of foraging and commuting provisions for species via careful landscaping.

4.2 Further Survey

4.2.1 Protected Species

The results from the protected species survey are generally considered valid for a period of 12 months. If works have not commenced by January 2024, an updated survey should be conducted prior to works to commencing to ensure baseline data recommendations are still valid.

Bats
The cliff face along the edge of the quarry pond assessed to have moderate potential for roosting bats is due to be subject to re-profiling works, which would result in loss of the identified PRF. Two bat activity surveys of the cliff should be undertaken during the summer bat activity season (May to August, inclusive) to identify the presence of any roosting bats and any requirement for a NatureScot protected species licence.

An endocopic tree survey should be undertaken of the tree assessed to have moderate potential for roosting bats, should be undertaken to inform licence requirements if works are considered to directly or indirectly affect this feature.

4.3 Licensing

The requirement for Protected Species Licences from NatureScot can be confirmed following the need for further survey work for bats.

5 MITIGATION AND BIODIVERSITY GAIN

5.1 Mitigation

The following mitigation/compensation is recommended to avoid and/or minimise the above potential impacts:

- The SBL priority habitats pond and lowland mixed deciduous woodland should be retained and enhanced where possible. Where this is not feasible, compensatory planting should be undertaken.
- The retained pond should be protected to avoid pollution or damage during works and to provide habitat for SBL amphibian species present on the site.
- Suitable tree root protection barriers around the retained woodland in the site and trees adjacent to the site should be implemented prior to any works commencing.
- The tree assessed to have moderate potential for roosting bats should be retained. If this is not possible then further survey work is required prior to felling/pruning.
- Temporary light used during construction and permanent lighting should not illuminate the cliff face, the active badger sett, the pond or the woodland as lighting can affect the commuting and foraging success of bats, badger and other nocturnal species.
- Pre-works checks for bats, amphibians, otter, badger, hedgehog and birds should be undertaken prior to works commencing on site.
- A toolbox talk about the presence of bats, otter, badger, hedgehog, brown hare, amphibians and nesting bird activity on site and in the locale, and what measures will be put in place to reduce the risk of injury or disturbance to these species during construction works should be delivered by the project Ecologist to be included within the site induction for all staff.
- High impact works such as ground works causing noise and vibration should be limited to daylight hours to avoid disturbance to commuting and foraging badger and bats.
- Any excavations created during works should not be left open for animals to fall into. Appropriate covers should be fitted at the end of every working day, at the very least, a shallow sloping edge or some form of ramp should be placed in the excavations to allow any animals to climb out.
- A watching brief and /or fingertip search will need to be undertaken before any works commence, if scrub requires removal during hedgehog hibernation period (October-April).
- It is recommended that vegetation clearance should not be completed during the breeding bird season (March to August inclusive, although some species may breed out with this period). If this is not possible a nesting bird check should be undertaken within 48hrs prior to works. Should any nesting birds be identified, an appropriate buffer zone should be maintained and works suspended until all dependent young have left the nest.
- The pump system used to drain the quarry pond should consider the potential presence of fish within the pond. Should any fish be identified during the works, the project ecologist should be contacted and further mitigation put in place.

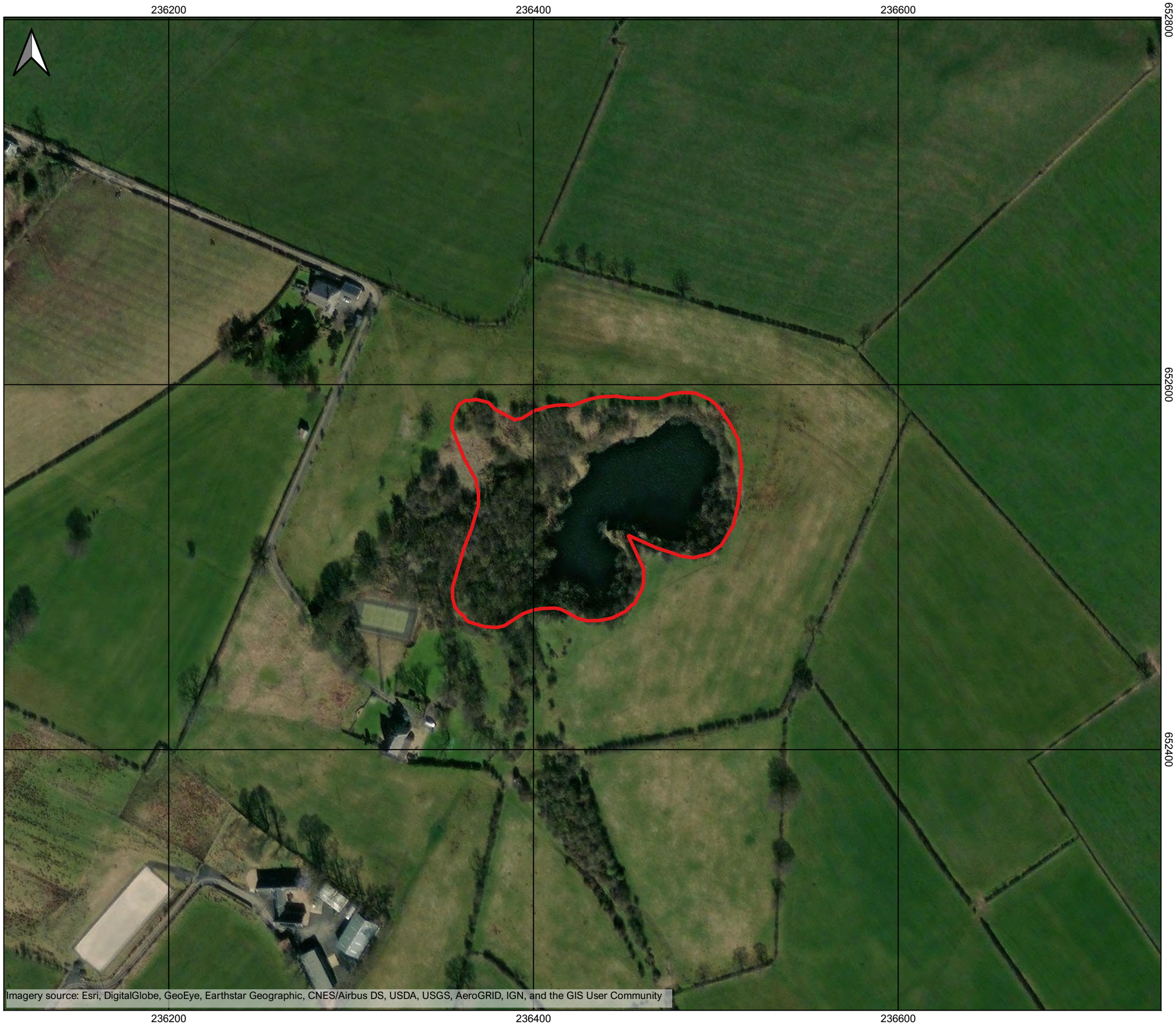
5.2 Opportunities for Biodiversity Gain

- It is recommended that any vegetation planting should include a wide range of native species of local provenance, including berry or nectar producing plants that encourage invertebrates and, therefore, bats, and to provide additional cover and foraging opportunities for badgers to utilise. Sourcing plants, seeds, trees of local provenance give the best outcome in terms of biodiversity. The inclusion of linear vegetative features into the design would also help provide commuting habitat for a number of species.

- The planting of trees, hedgerows and species rich green spaces is recommended to improve storm water management and enhance biodiversity within the site.
- Durable bat boxes could be installed at >3m on maintained trees within the woodland, recommended products include: https://www.wildcare.co.uk/wildlife-nest-boxes/bat-boxes/woodstone-woodcrete.html, https://www.nestbox.co.uk/products/eco-bat-box; https://www.nestbox.co.uk/products/eco-bat-shelter
- A reduced-size pond could be included in the design with consideration to amphibian requirements, including:
    - Gently sloping sides, a range of depths and irregular shape.
    - Creating a series of different wetland features rather than a single large pond
    - Varying sizes of ponds to offer a range of conditions and hydroperiods at any one time
    - Locating and designing to discourage the introduction of unsuitable species – notably fish and non-native plants
- The planting of the borders of the pond with native aquatic species would enhance habitat for invertebrates and increase the waterbodies value as a foraging and breeding resource for amphibians
- A variety of bird boxes could be installed on retained trees within the woodland to provide nesting resource. http://www.wildlifeboxuk.com.
- Additional foraging and sheltering resource for hedgehogs can be provided such as log piles, and hedgerows to replace some habitat lost as a result of the development. These also provide shelter for invertebrates. Artificial hedgehog nesting boxes could also be incorporated into the grassland or woodland areas within the site. https://www.nhbs.com/4/hedgehog-boxes

APPENDICES

A SITE LOCATION AND SURVEY AREA PLANS



Legend

Site Boundary

Do not scale this map

Client
Johnson Poole & Bloomer Ltd

Project
Dockra Quarry, Beith

Title
Site Location Plan

Status
DRAFT

Drawing No.	Revision	Date
177463-QGIS001	-	DD Mon YYYY
Drawn	**Checked**	**Approved**
BK	XX	XX

Scale
1:2,000 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

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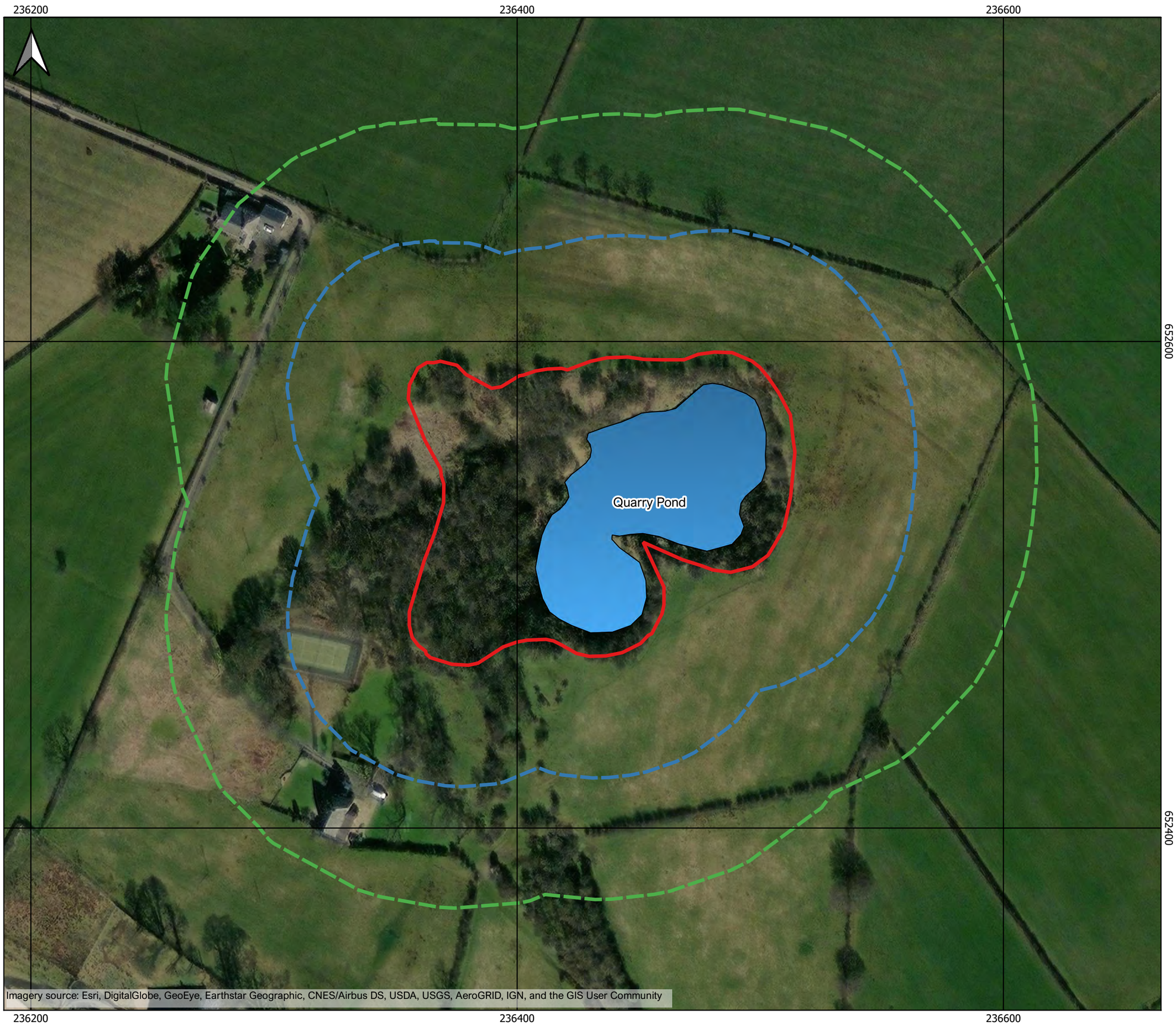

Legend

- Site Boundary
- 50mBuffer
- 100mBuffer
- Ponds within 500m Buffer

Do not scale this map

Client
Johnson Poole & Bloomer Ltd

Project
Dockra Quarry, Beith

Title
Survey Area Plan

Status
Final

Drawing No.	Revision	Date
177463-QGIS002	-	14 FEB 2023
Drawn	**Checked**	**Approved**
BK	SD	GN

Scale
1:1,500 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

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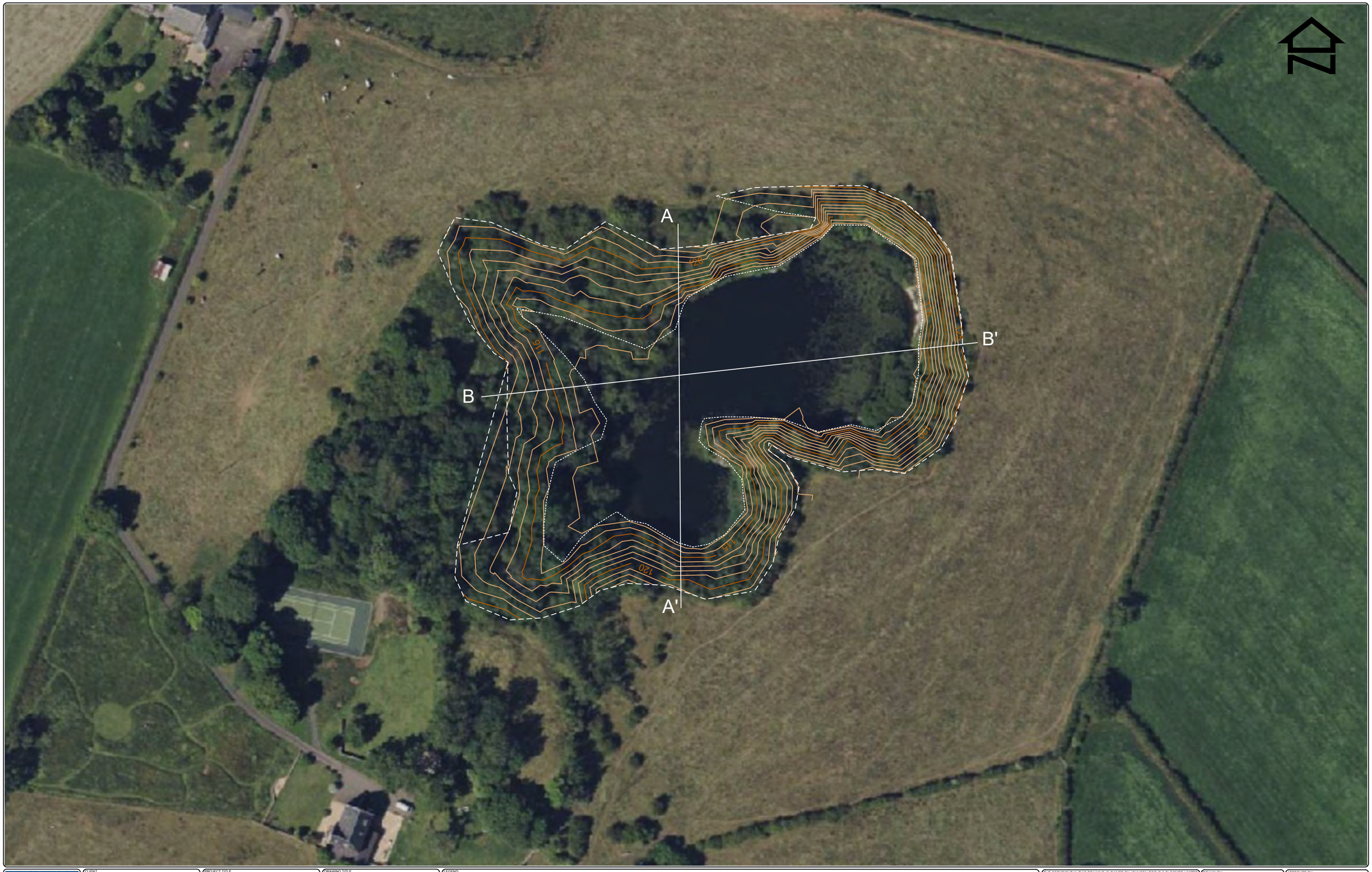
B PROPOSED RESTORATION CONTOURS PLAN

JOHNSON POOLE & BLOOMER CONSULTANTS GEO - ENVIRONMENTAL & MINERALS 50 SPEIRS WHARF GLASGOW G4 9TH TEL: 0141 331 1456



Johnson Poole & Bloomer Consultants
GEO-ENVIRONMENTAL & MINERALS

CLIENT: DUSKVIEW SERVICES

PROJECT TITLE: DOCKRA QUARRY

DRAWING TITLE: EXISTING TOPOGRAPHY

LEGEND

DATE	REVISION	No.

DRAWN BY: RC

APPROVED BY: TL

SCALES: 1:1000

ORIGINAL DRAWING SIZE: A3

DATE: OCT 2022

DRAWING No.: WG849-L-F-01

C SUMMARY OF PROTECTED SPECIES LEGISLATION

European Protected species (Bats, Otter and Great Crested Newt)

A European Protected Species (EPS) is a species listed in the EC Directive (92/43) The Conservation of Natural Habitats and of Wild Flora and Fauna (the "Habitats Directive"), which is transposed into UK law through the Conservation (Natural Habitats &c.) Regulations 1994 (the "Habitat Regulations") as amended. Under this legislation EPSs (*e.g.* all bat species) are protected from:

(a) Deliberate or reckless capture, injuring or killing;

(b) deliberate or reckless

(i) harassment of an animal or group of animals;

(ii) disturbance of such an animal while it is occupying a structure or place which it uses for shelter or protection;

(iii) disturbance of such an animal while it is rearing or otherwise caring for its young;

(iv) obstructing access to a breeding site or resting place of such an animal, or otherwise denying the animal use of the breeding site or resting place;

(v) disturbance of such an animal 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; or

(vi) disturbing such an animal 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;

(c) deliberate or reckless taking or destroying the eggs of such an animal; or,

(d) damaging or destroying a breeding site or resting place of such an animal.

(e) any person:

(i) possessing or controlling;

(ii) transporting;

(iii) selling or exchanging; or

(iv) offering for sale or exchange,

any live or dead animal or part of an animal or anything derived from such an animal which has been taken from the wild and which is of a species or subspecies listed in Annex IV(a) to the Habitats Directive – unless the animal from which the part or the thing in question is derived, was lawfully taken from the wild (i.e. taken from the wild in the European Union without contravention of appropriate domestic legislation and before the implementation date of the Habitats Directive (in that Country e.g. 1994 in UK) or if it was taken from elsewhere).

European Protected Species Licensing

For a licence to be issued these three tests must be satisfied:

- That the development is 'in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- That there is 'no satisfactory alternative'; and
- That the derogation (i.e. any permission/licence granted) is 'not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range'.

To obtain a licence a Method Statement is required that identifies the activities to be undertaken, the location of all resting sites (*e.g.* bat roosts), the potential effects and details of the proposed mitigation.

Water Vole

Water voles are protected under the WCA, Schedule 5, as amended by the Nature Conservation (Scotland) Act, 2004, to include both intentional and reckless acts.

Subject to certain exceptions, it is now an offence to ‘intentionally or recklessly’:

- Damage, destroy or obstruct access to any structure or place which a water vole uses for shelter or protection; or to
- Disturb a water vole while it is occupying a structure or place which it uses for that purpose.

Anyone who carries out, or knowingly causes or permits these acts to occur could be committing an offence. In Scotland, this legal protection is currently restricted to the water vole’s places of shelter or protection and doesn’t extend to the animal itself. Full protection, to also cover the animal, is proposed.

In some cases licences may be issued by NatureScot to enable certain otherwise illegal activities to take place. With respect to development-related activities, licences can be issued where there is likely to be damage to a water vole burrow, or disturbance to a water vole within its burrow, for social, economic or environmental reasons. Licences may only be issued for this purpose provided that there is no other satisfactory solution.

Red Squirrel/Pine Marten/Freshwater Pearl Mussel

Red squirrel, pine marten and freshwater pearl mussel are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Subject to certain exceptions, it is an offence to intentionally or recklessly:

- kill, injure or take (capture) an individual;
- damage, destroy or obstruct access to any structure or place which they use for shelter or protection;
- disturb an individual while it is occupying a structure or place which it uses for that purpose; or to
- possess or control, sell, offer for sale or possess or transport for the purpose of sale any live or dead animal or any derivative of such an animal.

Knowingly causing or permitting any of the above acts to be carried out is also an offence.

In some cases licences may be issued by NatureScot to enable certain otherwise illegal activities to take place for social, economic or environmental reasons (including development) as long as:

- the licensed activity will contribute to significant social, economic or environmental benefit;
- there is no satisfactory alternative; and
- there will be no significant negative impact on the conservation status of the species.

Badger

Under the Protection of Badgers Act (1992), as amended it is an offence to:

- Kill, injure or take a badger;
- Have in possession a dead badger or any part of a badger;
- Cruelly ill-treat a badger; and
- Damage, destroy, interfere or obstruct a badger sett or disturb a badger whilst it is occupying a sett.

In some cases licences may be issued by NatureScot to enable certain otherwise illegal activities to take place. With respect to development-related activities, licences can be issued where there is likely to be damage or disturbance to a badger sett, for social, economic or environmental reasons. Licenses may only be issued for this purpose provided that there is no other satisfactory solution.

Brown Hare

Brown hares are protected in the closed season under the Wildlife and Countryside Act 1981 (as amended).

Brown hare may be legally controlled in open season.

It is an offence to intentionally or recklessly kill, injure or take a brown hare:

- in its closed season (1 February to 30 September)
- without a legal right to do so (i.e. poaching) – includes rabbit also

It is also an offence to possess or control, sell or offer for sale, or transport for the purpose of sale any living or dead hare (or rabbit), or any derivative of such an animal, which has been killed without a legal right to do so.

Licensing allows named individuals to carry out actions that could otherwise constitute an offence. If you're planning any activities that could affect hares, you must make sure you stay within the law.

Hedgehog

Hedgehog are listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) which prohibits trapping and killing by certain methods.

Common Reptile

Common reptiles are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under the legislation you are not permitted to intentionally or recklessly permit or cause the killing and injury of individuals.

Licences permitting otherwise unlawful acts in relation to the above are not available for development purposes.

General Breeding Birds

All wild bird species in the UK are protected from killing, injury and taking under the Wildlife and Countryside Act 1981, as amended. It an offence to take, damage or destroy a nest while in use or being built, and to take or destroy the eggs of any nesting bird.

Birds listed on Schedule 1 of the Act are provided additional protection. It is an offence, with certain exceptions, to:

- Intentionally kill, injure, or take (handle) any wild Schedule 1 bird;
- Intentionally take, damage or destroy any nest whilst in use or being "built" by a Schedule 1 bird;
- Intentionally take or destroy a wild Schedule 1 bird egg;
- Have in one's possession or control a wild Schedule 1 bird (dead or alive), or egg, (unless one can show that it was obtained legally);
- Intentionally or recklessly disturb any wild Schedule 1 bird whilst "building" a nest or whilst in, on, or near a nest containing eggs or young; and
- Intentionally or recklessly disturb any dependent young of a Schedule 1 bird.

Licences can be granted by NatureScot to permit otherwise illegal acts; however licences cannot be issued for the removal of Schedule 1 birds to facilitate development.

Invasive Non-Native Species (Plants)

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant, or otherwise cause to grow, any plant in the wild at a location outside its native range.

'Native range' is defined in the 1981 Act as, "the locality to which the animal or plant of that type is indigenous and does not refer to any locality to which that type of animal or plant has been imported (whether intentionally or otherwise) by any person."

The Scottish Governments Non-natives Code of Practice[25] defines 'in the wild'. Just about everywhere is wild except for arable and horticultural land, improved pasture, settlements and private and public gardens.

In exceptional circumstances it may be possible to obtain a licence from NatureScot to permit the above offence.

[25] https://www.gov.scot/publications/non-native-species-code-practice/

D GEOGRAPHICAL LEVEL OF IMPORTANCE OF ECOLOGICAL FEATURES

Level of Importance	Sites	Habitats	Species
International	Designated, candidate or proposed Special Areas of Conservation, Special Protection Areas and Ramsar sites; UNESCO (Ecological) World Heritage Sites; UNESCO Biosphere Reserves; Biogenetic Reserves.	A viable area of habitat included in Annex I of the EC Habitats Directive; a habitat area that is critical for a part of the life cycle of an internationally important species.	A European Protected Species; an IUCN Red Data Book species that is globally Vulnerable, Endangered or Critically Endangered; a Category A internationally important bryophyte assemblage[26].
National (UK)	Sites of Special Scientific Interest/Areas of Special Scientific Interest; National Nature Reserves; Nature Conservation Review Sites; Marine Conservation Zones (UK offshore).	An area of habitat fulfilling the criteria for designation as an SSSI/ASSI or MCZ; a habitat area that is critical for a part of the life cycle of a nationally important species.	An IUCN Red Data Book species that is Vulnerable, Endangered or Critically Endangered in the UK; a species that is Rare in the UK (<15 10km grid squares); a Schedule 5 (animal) or Schedule 8 (plant) species included in the Wildlife and Countryside Act 1981; any species protected under national (UK) legislation where there is the potential for a breach of the legislation; a Category A nationally important bryophyte assemblage[27]; a species that is Vulnerable, Endangered or Critically Endangered in The Vascular Plant Red Data List for Great Britain[28].
National	National Parks; Marine Protected Areas; Marine Consultation Areas.	Habitats of principal importance for biodiversity in the relevant countries[29], including; Scottish Biodiversity List (SBL) Priority Habitats and Priority Marine Features	Species of principal importance for biodiversity in the relevant countries[31], including; SBL Priority Species and PMFs.

[26] Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands – 2nd edition. Scottish Natural Heritage Commissioned Report No. 449b

[27] Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands – 2nd edition. Scottish Natural Heritage Commissioned Report No. 449b

[28] Cheffings, C.M. & Farrell, L. (eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J., Taylor, I. (2005) *The Vascular Plant Red Data List for Great Britain. Species Status No. 7*. JNCC, Peterborough. Available at: https://hub.jncc.gov.uk/assets/cc1e96f8-b105-4dd0-bd87-4a4f60449907 (Accessed October 2022)

[29] These are all the habitats that were identified as requiring action in the UK Biodiversity Action Plan and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework, including any additions.

[31] These are all the species that were identified as requiring action in the UKBAP and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework, including any additions.

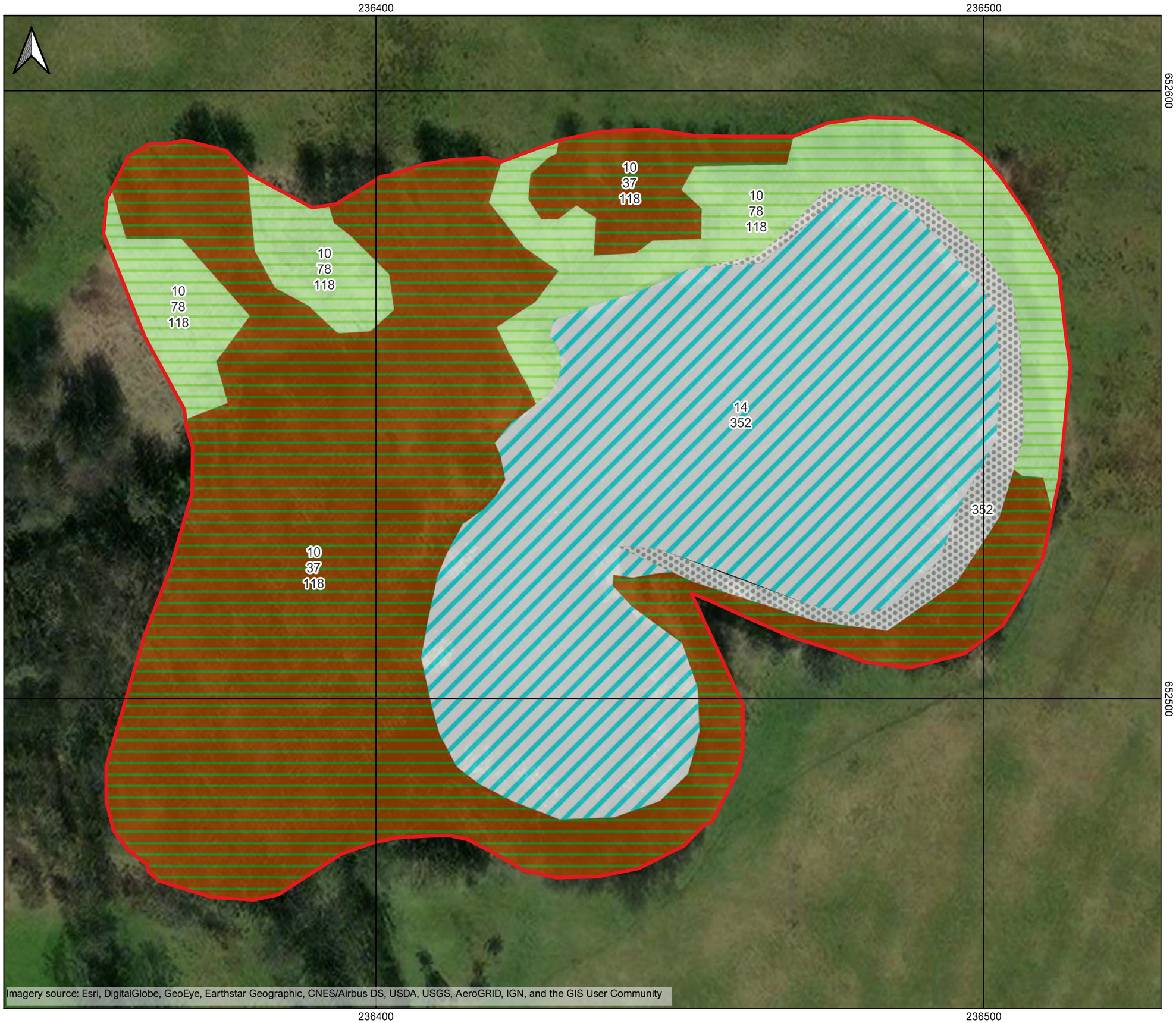
Level of Importance	Sites	Habitats	Species
		(PMFs)[30].	
Regional	Regional Parks.	Regional Local Biodiversity Action Plan habitats noted as requiring protection.	A species that is Nationally Scarce in the UK (present in 16-100 10km grid squares); a species that is included in the Regional LBAP; an assemblage of regionally scarce species.
County / Metropolitan	Woodland Trust Sites; Royal Society for the Protection of Birds Sites; Local Wildlife Sites.	County LBAP habitats noted as requiring protection; semi-natural, ancient woodland >0.25ha in extent.	A species that is included in the County LBAP; an assemblage of species that are scarce at the county level.
Local		Semi-natural, ancient woodland <0.25ha in extent; semi-natural habitats that are unique or important in the local area.	Species as defined by Local Authority lists (if available).
Site		Common and widespread habitats not covered above.	Common and widespread species not covered above.
Negative			An Invasive Non-Native Species (INNS) as defined by the GB Non-Native Species Secretariat (NNSS) and supported by the GB Invasive Non-native Species Strategy (2015); legally controlled species under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended by the relevant country legislation).

[30] In July 2014, Scottish Ministers adopted a list of 81 priority marine features (PMFs) – many of which are features characteristic of the Scottish marine environment. Most are on other conservation status lists so may be valued higher than this.

E GEOGRAPHICAL LEVEL OF IMPORTANCE FOR ORNITHOLOGICAL FEATURES

Level of Importance	Assessment Criteria		
	Legal Protection	**Conservation Status**	**Population Size**
International	Any species within Annex 1 of the EU Birds Directive	Any species which is listed as Critically Endangered or Endangered on the IUCN Red List	Supporting greater than 1% of the EC population
National (UK)	Any species within Schedule 1 of the Wildlife and Countryside Act	Any species on the BoCC Red List	Supporting greater than 1% of the UK population
National (England)		Any species that is listed as Species of Principal Importance for Conservation; any species on the BoCC Red List	Supporting greater than 5% of the English population
National (Scotland)		Any species on the Scottish Biodiversity List	Supporting greater than 5% of the Scottish population
National (Ireland & Northern Ireland)		Any species on the Birds of Conservation Concern in Ireland 2014-19 (BoCCI)	Supporting greater than 5% of the Irish population
National (Wales)		Any species in the Section 7 list of Species of Principal Importance for Conservation; Any species considered to be in decline in The State of Birds in Wales 2011 (SBW)	Supporting greater than 5% of the Welsh population
Regional		Any species on the BoCC Amber List	Supporting greater than 0.5% of the UK population
County		Any species that is listed as a Priority Species in the LBAP	Supporting greater than 0.05% of the UK population
Local		BoCC Green List; or species with no conservation concern; common and widespread throughout the UK	Supporting less than 0.05% of the UK population

F HABITAT PLAN



Legend

- Site Boundary
- g3c - Other Neutral Grassland
- w1f - Lowland Mixed Deciduous Woodland
- s1d - Other Inland Rock and Scree
- r1 - Standing Open Water and Canals

Secondary Codes

- 10 - Scattered Scrub
- 14 - Scattered Rushes
- 37 - Semi-natural Woodland
- 78 - Abandoned
- 118 - Mesic
- 352 - Disused Quarry

Do not scale this map

Client
Johnson Poole & Bloomer Ltd

Project
Dockra Quarry, Beith

Title
Habitat Plan

Status
DRAFT

Drawing No.	Revision	Date
177463-QGIS003	-	DD Mon YYYY
Drawn	**Checked**	**Approved**
BK	XX	XX

Scale
1:600 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

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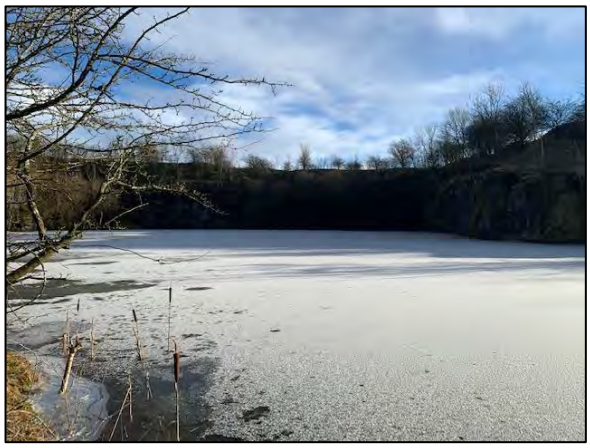
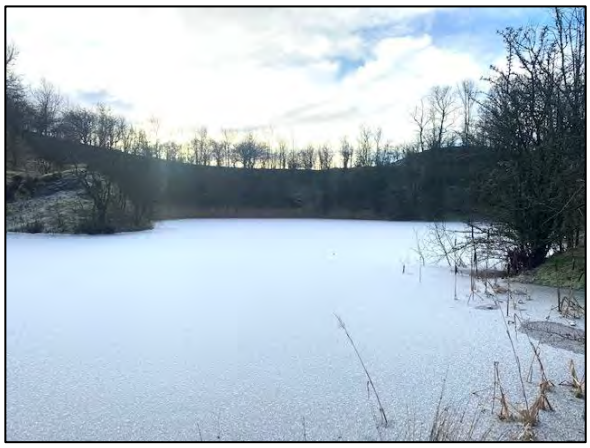
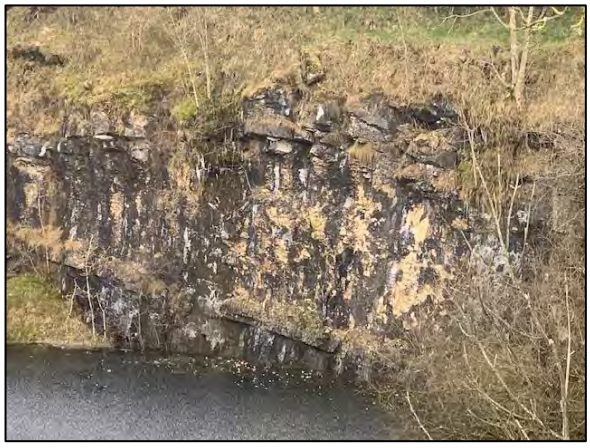
G PHOTOGRAPHS



Photograph 1



Photograph 2



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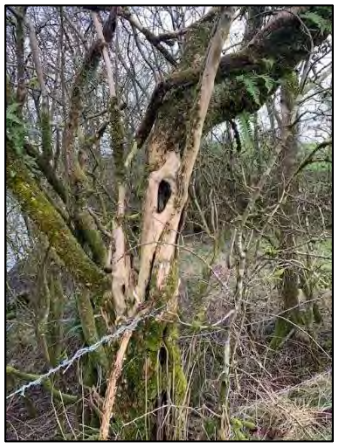

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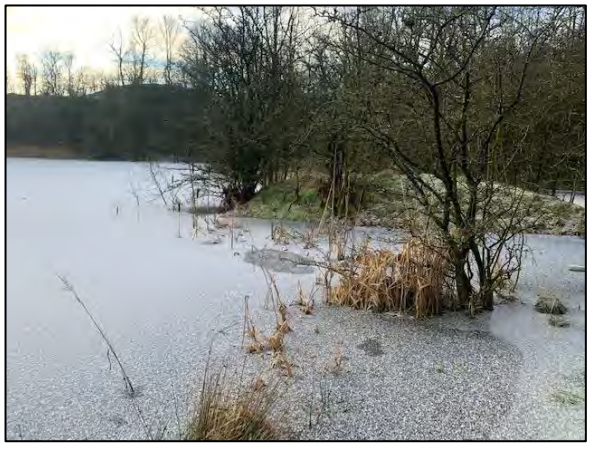
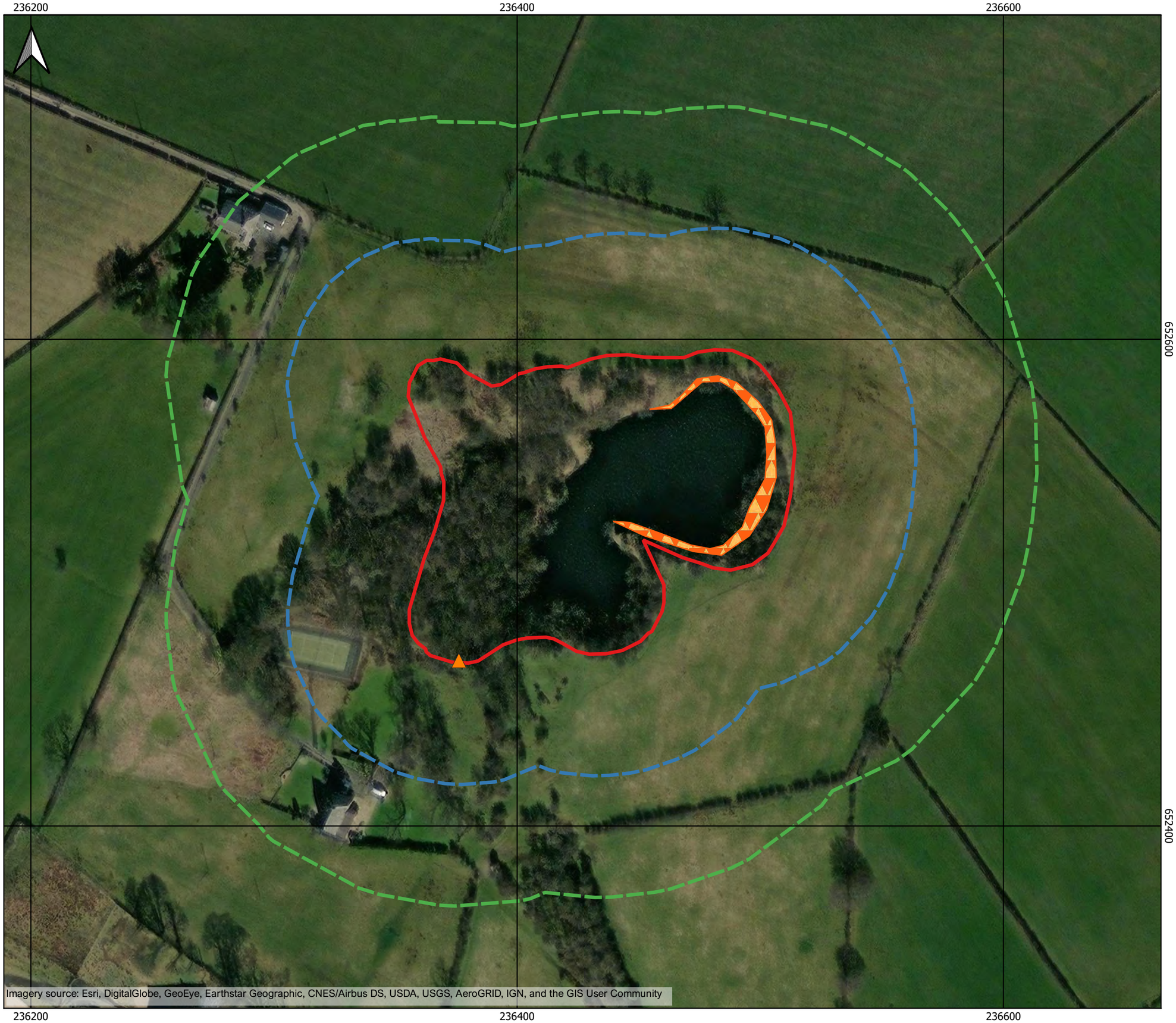


Photograph 5

H FAUNAL SURVEY RESULTS PLAN



Legend

- Site Boundary
- 50m Buffer
- 100m Buffer
- Cliff with Low Roosting Potential for Bats
- PRF Tree - Moderate

Do not scale this map

Client
Johnson Poole & Bloomer Ltd

Project
Dockra Quarry, Beith

Title
Faunal Survey Results Plan

Status
FINAL

Drawing No.	Revision	Date
177463-QGIS004	-	14 FEB 2023
Drawn	**Checked**	**Approved**
BK	SD	GN

Scale
1:1,500 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

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