DRUM FARM ENERGY STORAGE FACILITY

Preliminary Ecological Appraisal Report

Prepared for: RES UK and Ireland Limited

SLR Ref: 405.02606.00054
Version No: 1
March 2022

Document Control	
Document Properties	
Organisation	SLR Consulting Ltd.
Project Name	Drum Farm Energy Storage Facility
Report Title	Preliminary Ecological Appraisal
Author(s)	Charlie Kempson
Draft version/final	Final
Document reference	220506_405.02606.00054_PEA

Date	Revision No	Prepared By	Reviewed By	Approved By	Status	Comments

BASIS OF REPORT

This document has been prepared by SLR with reasonable skill, care, and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with RES UK and Ireland Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations, and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations, and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

CONTENTS

1.0 INTRODUCTION 3
1.1 Background 3
1.2 Site Description and Location 3
1.3 Details of the Proposed Development 3
1.4 Scope of this Report 3
1.5 Evidence of Technical Competence and Experience 3
1.6 Relevant Legislation and Policy 4

2.0 METHODS 5
2.1 Desk Study 5
2.2 Field Survey 5
2.2.1 Habitats 5
2.2.2 Fauna 6
2.2.3 Invasive Species 6
2.3 Limitations 6
2.3.1 Desk Study 6
2.3.2 Survey Timing 6

3.0 RESULTS 7
3.1 Desk Study 7
3.1.1 Statutory Designated Sites 7
3.1.2 Non-Statutory Designated Sites 7
3.1.3 Priority Habitat Inventories, including Ancient Woodland 7
3.2 Habitats 8
3.3 Protected, Notable and Invasive Species 8
3.3.1 Flora 8
3.3.2 Mammals 9
3.3.3 Amphibians (Including Great Crested Newt) 10
3.3.4 Reptiles 10
3.3.5 Birds 11
3.3.6 Invertebrates 11

4.0 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES 12
4.1 Generic Precautionary Working Methods 12
4.2 Habitats 12

4.3 Species 12
4.3.1 Mammals 12
4.4 Recommendations for Further Surveys 13
4.5 Potential Opportunities for Biodiversity Enhancements 14
APPENDIX 01: AERIAL PHOTOGRAPH OF THE SITE 15
APPENDIX 02: RELEVANT LEGISLATION AND POLICY 16
Conservation (Natural Habitats, &c.) Regulations 1994 16
Protection of Badgers Act 1992 16
Relevant Planning Policy 16
Scottish Planning Policy 16
Local Planning Policy 17
APPENDIX 03: HABITAT DESCRIPTIONS 18
APPENDIX 04: UK HAB SURVEY MAP 22
APPENDIX 05: PROTECTED SPECIES FIELD SIGNS TARGET NOTES AND MAP 23
APPENDIX 06: SITE LAYOUT PLAN 27

DOCUMENT REFERENCES

TABLES

Table 1 - Statutory Designated Sites Within 10km of the Site 7
Table 2 - HSI of the Waterbody on Site for Great Crested Newt 10

APPENDICES

Appendix 01: Aerial Photograph of the Site
Appendix 02: Relevant Legislation and Policy
Appendix 03: Habitat Descriptions
Appendix 04: UK Hab Survey Map
Appendix 05: Protected Species Field Signs Map
Appendix 06: Site Layout Plan

1.0 Introduction

1.1 Background

SLR Consulting Limited (SLR) was instructed by RES UK and Ireland Limited (the client) in January 2022 to carry out a Preliminary Ecological Appraisal (PEA) of Drum Farm (National Grid Reference NJ 44479 50480), herein referred to as the 'Site'. This PEA is being undertaken to provide the necessary ecological information required for the planning application with Moray Council, and to inform further site design, mitigation and the need for further survey work to inform a full planning application.

1.2 Site Description and Location

Drum Farm is located approximately 50 miles north-west of Aberdeen, within Moray, 453m east of the town of Keith (AB55 5NP).

The site is bordered by Drum Road and a farmhouse to the north, Westerton Road to the east and arable farmland to the south and west. A watercourse, Burn of Drum, exists to the south of site.

The main area of the site is shown on the aerial photograph in Appendix 01.

1.3 Details of the Proposed Development

The proposed development involves the installation of an energy storage unit in the north-western corner of the large arable field as detailed in Figure 1. The site consists of a large arable field with two linear features emanating from the northern and southern boundaries. The northern linear feature is an access track. The southern is due to become a drain.

1.4 Scope of this Report

This report presents the findings of the PEA. The report seeks to:

- establish baseline conditions and determine the importance of ecological features present (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the proposed development and make initial recommendations to avoid potentially significant effects on important ecological features, where possible;
- to identify potential requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys; and
- to identify opportunities for biodiversity enhancement as part of the project.

1.5 Evidence of Technical Competence and Experience

This report was written by Charlie Kempson BSc (Hons) MSc, a Project Ecologist at SLR. Charlie has experience in a range of ecological assessments, including in support of Preliminary Ecological Assessment (PEAs). This includes experience in vegetation survey, and protected species surveys including for badger, great crested newt, bats, and reptiles – as well as an understanding of the legal frameworks within the United Kingdom and their application in regard to developments. Charlie has a BSc (Hons) in Zoology and an MSc in Conservation Biology. He is a qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The report has been subject to Quality Assurance review by SLR Principal Ecologist Nicola Tyrrell CEnv MCIEEM.

1.6 Relevant Legislation and Policy

A summary of relevant Legislation[1] and Policy text is included in Appendix 02.

[1] SLR is not a legal practice, and the summary is provided as a reference only.

2.0 Methods

The baseline ecological data was collated by a combination of desk-based study and field survey consistent with all current standard methodologies and published good practice guidelines.

2.1 Desk Study

An ecological data search was requested from the North East Scotland Biological Records Centre (NESBReC) in February 2022 to provide records of statutory and non-statutory designated sites, protected and otherwise notable species, for the Site and land within a 2km radius of it.

An internet-based desk study was also undertaken, whereby the Multi-Agency Geographic Information for the Countryside (MAGIC) website (http://magic.gov.uk) was also searched for statutory designated sites, such as Special Areas of Conservation (SACs), within 10km of the site. 10km was chosen due to the proximity of the development to Burn of Drum, which – as a watercourse - could act as a functional link between the site and designated sites of a distance which would usually be screened out as being impacted by development.

The results of the data search have been summarised in this report. A copy can be provided to consultees if required.

2.2 Field Survey

2.2.1 Habitats

A Preliminary Ecological Appraisal was undertaken by Garry Riddoch, Senior Ecologist with Stagfire Ecology on 3rd February 2022. The survey covered the red line boundary of the site, as well as an approximately 50m buffer around the site boundary, which encompassed a narrow stream running parallel to the site in a north easterly direction.

The site was surveyed to identify the broad habitat types present in accordance with the UK Habitat Survey (UKHab) methodology, this was extended to include preliminary checks for notable, protected, or rare species of both flora and fauna. Particular features of interest were recorded on the field map, the locations of which are shown on Appendix 04.

The UK Habitat Classification (UKHab) is a comprehensive classification system for the UK that has been developed to benefit from changes in habitat categorisation and recording analysis in recent decades. The system comprises a principal hierarchy (the Primary Habitats) which include broad habitats and priority habitats and non-hierarchical Secondary codes. Habitat nomenclature and definitions have been designed to remain as close to existing systems as possible in order that data can be collected, analysed, and translated without ambiguity.

This level of survey includes the documentation of habitats to a recognised standard, but also includes the recording of field evidence indicating the presence or potential presence of species that could constitute a material consideration in planning terms, such as protected or notable plant or faunal species. Notes of principle habitat types, supported by photographs, were recorded.

Whilst not a full botanical or protected species survey, the method of survey enables experienced ecologists to obtain an understanding of the ecology of a site such that it is possible either:

- to confirm the conservation significance of the site and assess the potential for impacts on habitats/species likely to represent a material consideration in planning terms; or
- to establish the scope and extent of any additional specialist ecological surveys that will be required before such confirmation can be made.

2.2.2 Fauna

The site was broadly assessed for habitats and features with potential to support protected or notable species, together with any field signs of such species including, reptiles, red squirrel *(Sciurus vulgaris)*, pine marten *(Martes martes)*, badger (*Meles meles)*, bats, otter (*Lutra lutra*), amphibians including great crested newt (*Triturus cristatus)*, breeding birds and invertebrates.

Trees within the survey area were assessed for their potential to support roosting bats via a brief external assessment at ground-level, based on criteria within the third edition of the Bat Conservation Trust's (BCT) Good Practice Guidelines[2].

Habitat Suitability Index (HSI)

A HSI is a metric which represents the suitability of a waterbody as aquatic habitat for great crested newt. The index considers 10 variables; geographic location, pond area, pond drying, water quality, shade, fowl, fish, pond count, terrestrial habitat, and macrophytes. The final value is between 0 and 1, with 1 representing very high quality habitat, and 0 representing the lowest quality habitat.[3]

2.2.3 Invasive Species

Searches were also made for non-native invasive species listed such as Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

2.3 Limitations

2.3.1 Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that protected species not identified during the data search do in fact occur within the vicinity of the site. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

2.3.2 Survey Timing

The timing of the survey in February 2022 was outside the main botanical growing season and certain plant species may not have been evident. The timing of the survey could, however, have resulted in ground flora and invasive plant species being under-recorded.

Evidence of certain protected species may also be less prevalent at this time, for example evidence of badger activity.

None of the above limitations are considered a significant constraint at this stage given the intended purpose of the survey and stage of the project.

---

[2] Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

[3] Oldham R. S., Keeble, J., Swan M. J. S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.

3.0 Results

3.1 Desk Study

3.1.1 Statutory Designated Sites

The site is not designated as an international or national ecological site (e.g., Special Area of Conservation (SAC) or Site of Special Scientific Interest (SSSI). One statutory designated site, Mill Wood SSSI, exists within 2km of the site as detailed in Table 1.

Table 1 - Statutory Designated Sites Within 10km of the Site

Grid Ref.	Location in relation to Site	Site Name	Status	Abstract
NJ 44031 45252	Approximately 4.9km to the south.	Den of Pitlurg	Site of Special Scientific Interest	39.4Ha of upland birch woodland and valley fen.
NJ 45535 50571	Approximately 1km to the east.	Mill Wood	Site of Special Scientific Interest	8.1Ha of partially ancient woodland.
NJ 502 449	Approximately 7.7km to the southeast.	Mortlach Moss	Site of Special Scientific Interest / Special Area of Conservation	12.36Ha of alkaline fens.
NJ 51611 46532	Approximately 7.4km to the southeast.	Whitehill	Site of Special Scientific Interest	66Ha of fen meadow and lowland acid grassland.
NJ 53792 52594	Approximately 8.5km to the east.	Shiel Valley Woods	Site of Special Scientific Interest	71.9Ha of fen meadow and lowland acid grassland.

Bin Quarry SSSI is located within 10km of the site, but it's geological designation means it is screened out of this report due to its irrelevance to ecology.

The distance of these statutory designated sites from the site (paired with their lack of functional connectivity to the site), along with the scope and scale of the development, mean that the risk of adverse effects to statutory designated sites from this development are not expected. Statutory designated sites are not deemed to represent an ecological constraint to this development. Designated sites will not be considered further within this assessment.

3.1.2 Non-Statutory Designated Sites

The site is not designated as a non-statutory site (e.g., Local Wildlife Site (LWS)). There are no non-statutory designated sites within 2km of the site.

3.1.3 Priority Habitat Inventories, including Ancient Woodland

The NESBReC data search identified several parcels of ancient woodland within the boundary of Mill Wood SSSI (approximately 1km east from the site), as well as an unnamed area of ancient woodland approximately 750m south of the site. There is no ancient woodland recorded within the survey area.

3.2 Habitats

The following main habitat types and features were recorded within the survey area. It should be noted that localised occurrences of other habitat types may be present, and this list encompasses the main habitat types evident during the initial survey.

Within red-line boundary;

- c1.60 - arable field margins, sheep grazed, and;
- u1e - built linear features.

Outside red-line boundary;

- c1 – arable and horticulture;
- c1a – arable field margins;
- g1.94 – acid grassland, green lane;
- r1.191 – standing open water and canals, ditch;
- r2 – rivers and streams;
- u1b5 – buildings;
- u1d – suburban / mosaic of developed / natural surface, and;
- w1f7 - other lowland mixed deciduous woodland.

Descriptions of the site habitats are provided with photographs in Appendix 03, the locations and extent of which are shown on Appendix 04.

3.3 Protected, Notable and Invasive Species

3.3.1 Flora

Bird's-nest orchid (*Neottia nidus-avis*), bluebell (*Hyacinthoides non-scripta*), common twayblade (*Neottia ovata*), fragment orchid (*Gymnadenia conopsea*), goldilocks buttercup (*Ranunculus auricomus*), herb-Paris (*Paris quadrifolia*), rough horsetail (*Equisetum hyemale*), serrated wintergreen (*Orthilia secunda*) and small cudweed (*Filago minima*) have been recorded with 2km of the site. All of these species are listed on the North-East Local Biodiversity Action Plan (NE LBAP) as locally important species.

Bluebell is listed on Schedule 8 of the Wildlife and Countryside Act (1981), making it an offence to intentionally pick, uproot or destroy any part of the plant. Section 4.5.1 defines appropriate measures to search for bluebell on site.

Charlock (*Sinapis arvensis*), Hoary Plantain (*Plantago media*), Intermediate Wintergreen (*Pyrola media*), Large-Flowered Hemp-Nettle (*Galeopsis speciosa*) and Wild Pansy (*Viola tricolor*) have all been recorded in several locations in the broader 5km surrounding the site. All of these species are listed on Section 5 of the Scottish Biodiversity List, which means they must be given particular consideration when attempting to avoid negative impacts to flora during development. Section 4.5.1 defines appropriate measures for these species on site.

Four species of invasive non-native plant species have been recorded within 2km of the site; Giant Hogweed (*Heracleum mantegazzianum*), Indian Balsam (*Impatiens glandulifera*), Japanese Knotweed (*Fallopia japonica*) and White Butterbur (*Petasites albus*). These species are all listed in Schedule 9 of the Wildlife and Countryside Act (1981), which makes it an offence to establish them anywhere in the United Kingdom. All of the records of these species are a reasonable distance (>1km) from the survey site, and none were detected on site, which means the development is unlikely to cause further spread and establishment of these species.

3.3.2 Mammals

Bats

Roosting

Daubenton's (*Myotis daubentonii*) and common pipistrelle (*Pipistrellus pipistrellus*) have been recorded within 2km of the site, predominantly in the nearby town of Keith.

The farm buildings 100m outside the site boundary could potentially support bat roosting; however, the distance from proposed works negated the need for internal or external inspection. Furthermore, the features were not connected to the site (e.g., lack of tree line).

The lack of potentially suitable trees on site, as well as the nature of the development mean that the risk to roosting bats posed by this development is negligible. Trees exist on the opposite bank of Burn of Drum yet these are considered to be beyond the zone of influence of the proposed works due to distance.

Foraging & Commuting

As per the BCT's Good Practice Guidelines, the potential suitability of habitat for bats to either forage or commute has been assessed. This assessment concludes that the site has low suitability habitat for foraging or commuting, due to the lack of connectivity between features on site such as the isolated trees and the Burn of Drum, immediately adjacent to the site.

Winter Hibernation

The lack of suitable roosting structures, paired with the low suitability of surrounding habitat for foraging and commuting, makes the potential of the site to support hibernating bats low.

Therefore, at this stage in the development, bats are no longer considered to represent a likely ecological constraint.

Badgers

There are multiple records of badger within 2km of the development site.

During the walkover, several signs of badger activity were identified within the Site field boundaries. These are demarcated on the map in appendix 05 as target notes. These included snuffle marks (target notes 1 and 2), holes in fences (target note 2) and a latrine (target note 3), the closest of which was adjacent to the southwest site boundary. No setts were identified within 50m of the site. The Site does offer suitable foraging and commuting habitat with some limited opportunities for shelter creation along field boundaries.

This represents strong evidence for the presence of badger shelter (i.e., setts) near to Site despite the lack of setts on or within 50m. Suitable foraging habitat exists on site and in the wider environment.

Otter

There are records of otter within 2km of the survey site. One record relates to Burn of Drum that runs parallel to the site in a north-easterly direction.

The survey identified the presence of two otter 'couches' (i.e., places of above ground shelter that are legally protected), both situated on the stream at the southern boundary of the site (target notes 4 and 5 on map in appendix 05). The closest of these couches is of 102m from Site (target note 4). Both features did not extend underground to be considered to be holts; although, they may be used for this purpose in future if excavated by otter.

Other Mammal

Records of several other mammal species were returned from the NESBReC data search. These included; Brown hare (*Lepus europaeus*), Eurasian red squirrel (*Sciurus vulgaris*), mountain hare (*Lepus timidus*), pine marten

(*Martes martes*) and west European hedgehog (*Erinaceus europaeus*). None of these records are from within the survey site.

No signs of any of these species were identified during the walkover survey. Habitats found on Site offer suitability for brown hare, and west European hedgehog – but less so for red squirrel, mountain hare and pine marten. At this stage of the development, it cannot be ruled out that brown hare and west European hedgehog utilise the site. Red squirrel, mountain hare and pine marten are no longer considered a likely ecological constraint for this development.

3.3.3 Amphibians (Including Great Crested Newt)

No records of amphibians exist within 2km of the study site. The nearest record of great crested newt comes from over 40km northwest, near Forres. There was one waterbody recorded within the site boundary during the walkover. A habitat suitability index (HSI) for great crested newt has been undertaken for this waterbody, detailed in table 2. The HSI score of 0.000000165 indicates poor quality aquatic habitat. The most likely scenario is that this waterbody is a seasonally waterlogged area of the field. Suitable terrestrial habitat can be found within the field boundaries with more dense grassland verges, this however, is sub-optimal hibernating habitat.

Due to the lack of optimal terrestrial habitat, the poor quality and ephemeral nature of the aquatic habitat, and the lack of historical records on or around the site, amphibians are not deemed to represent a likely ecological constraint to this development and are omitted from further discussion.

Table 2 - HSI of the Waterbody on Site for Great Crested Newt

Factor	Score
Location	0.01
Pond area	0.05
Pond drying	0.1
Water quality	0.2
Shade	1
Fowl	1
Fish	1
Pond count	0
Terrestrial habitat	0.33
Macrophytes	0.5
HSI	**0.000000165**

3.3.4 Reptiles

No records of reptiles exist within 2km of the study site. No field signs of reptiles were found during the walkover survey. The arable nature of the Site offer largely sub-optimal habitat for reptiles. Suitable habitat was identified

in field boundaries where grassland was denser. This would be of limited value to reptiles, with some areas of field boundaries offering potential commuting routes and potential hibernation opportunities.

3.3.5 Birds

Records of 20 species of bird exist within 2km of the survey site. No Schedule 1 species were identified.

The lack of trees and more established vegetation, on the site limited suitable above-ground nesting habitat. The arable, grazed nature of the bulk of the site makes it largely unsuitable for ground-nesting birds.

The habitats present are considered suitable to support foraging and potential ground-nesting birds, dependant on the farming practices in operation and grassland sward present at that time.

3.3.6 Invertebrates

There are no records of protected or notable invertebrates within the site, or 2km around the site.

No invertebrates were observed during the site visit. Protected/notable terrestrial invertebrates are not considered as an ecological constraint to this development.

The Burn of Drum will support an aquatic invertebrate assemblage. The nature of the works and distance did not necessitate further surveys.

4.0 Ecological Constraints and Opportunities

The PEA has identified a number of potential ecological constraints and opportunities. Due to the nature of the potential constraints set out below, further surveys and mitigation methods would be required as detailed within this section.

4.1 Generic Precautionary Working Methods

It is advisable that precautionary working methods be prescribed within Construction Environmental Management Plan (CEMP) to minimise the risk of harm to habitats and fauna that may enter the construction site or be within the zone of influence of indirect impacts. Measures should include yet not be limited to:

- adherence to SEPAs Guidelines for Pollution Prevention;
- presence of an Ecological Clerks of Works (ECoW) to monitor the works:
    - within an agreed buffer area from this location that will be dependent on the agreed design and programme of the works and results of pre-construction surveys; and
    - at a frequency that will be similarly defined based on the need for licensed supervision, if necessary;
- the delivery of a toolbox talk to all site personnel prior to any pre-clearance/construction works commencing;
- the restriction of works, in so far as possible, within two hours after dawn and two hours prior to dusk to minimise the risk to mammals; and
- Designing construction and permanent lighting so that it does not illuminate the Burn of Drum watercourse banks and channel (i.e., where mammals activity is likely to be concentrated and disturbance most impactful).

4.2 Habitats

The majority of the habitat lost will be c1 – arable and horticulture habitat. This has value for foraging bird, mammals and invertebrates. Whilst not considered high value the loss of habitat should be minimised where possible with the landscaping of any features (e.g., bunds) seeking to maximise biodiversity value through planting of a native-species wildflower and grass seed mix of local provenance.

Similarly, the grass strip (i.e., g – grassland) should be retained and protected from effects of dust where possible.

The strip of r1-standing open water and canals habitat should be retained in so far as possible or replicated with equivalent habitat extent to maintain connectivity of habitat in the landscape.

The r2b –other rivers and streams habitat that constitutes Burn of Drem will not be directly impacted by the proposed works. Nevertheless, this feature will require to be protected via generic precautionary working methods (Section 4.1) and fully detailed measures outlined in a CEMP.

4.3 Species

4.3.1 Mammals

Badger

The observation of field signs indicate that badgers are active and foraging within the wider area and resident outside the site boundaries. No setts were identified on Site or within the survey area. The arable nature of the land, with more suitable habitat in the wider area, would suggest that it is possible that setts will be formed on site.

A pre-construction walkover will require to be carried out to provide an updated baseline of badger activity and search for setts. This should be with reference to methodology from both The Mammal Society (1989)[4], and Scottish Badgers (2018)[5] and be conducted three months prior to works commencing. This will allow adequate time to report and apply for a licence to NatureScot should disturbance of or exclusion/closure of any setts be necessary to lawfully permit works to proceed (that would otherwise be considered 'interference'). Works within 30m of a sett would require a licence and this buffer distance for licensing may need to be extended up to 100m for the more disturbing activities such as piling.

Badgers are most sensitive to disturbance during the breeding season. Licences aren't usually granted for works near to badger setts during this period, which runs from 1 December to 30 June inclusive. Surveys and works would need to be programmed accordingly.

On completion of the pre-construction survey, suitable avoidance and mitigation measures will be prescribed that are in tune with the works programme and detailed design. Opportunities for enhancements should also be included.

Otters

Records of otter within the data search and field signs identified during the walkover survey, including the observation of resting sites (i.e., couches) along Burn of Drum approximately 102m from Site, confirm the presence of otter.

The site itself is dominated by grassland for grazing with limited potential for otter to seek shelter in terrestrial habitats. It is therefore considered that otters are unlikely to be resident on Site.

That said, it is still possible for the site activities to indirectly impact otter via disturbance of otter shelter, pollution events in the absence of pollution prevention mitigation or entrapment/injury should otter enter the site during construction activities.

A pre-construction survey will require to be conducted three months prior to site clearance/construction works commencing to establish the presence of newly formed resting sites (i.e., holts and couches). The methods will take reference of standard guidance (Chanin, P, 2003a[6] and Chanin, P., 2003b[7]) and extent the equivalent extent of the site boundary plus 250m upstream and downstream along the Burn of Drum.

This will allow adequate time to report and apply for a licence application to NatureScot should disturbance of or exclusion/closure of any places of shelter be necessary to lawfully permit works to proceed. Works within 250m of a place of shelter will need to consider the suitability for breeding (no evidence of potential breeding sites currently known).

On completion of the pre-construction survey, suitable avoidance and mitigation measures will be prescribed that are in tune with the works programme and detailed design. Opportunities for enhancements should also be included.

4.4 Recommendations for Further Surveys

In order for works to commence, it would be recommended that a pre-construction site walkover take place by a suitably experienced ecologist to establish the presence of any newly formed badgers setts, places of otter shelter or other constraints. In the event that a badger sett or otter resting site should be identified, a review of working methods would be required and a license application to NatureScot may be necessary.

---

[4] The Mammal Society (1989). Suverying Badgers. ISBN: 0 906282 06 3.
[5] Scottish Badgers (2018). Surveying for Badgers: Good Practice Guidelines. Version 1.
[6] Chanin P (2003a) Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series No. 10. English Nature, Peterborough
[7] Chanin P (2003b) Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough.

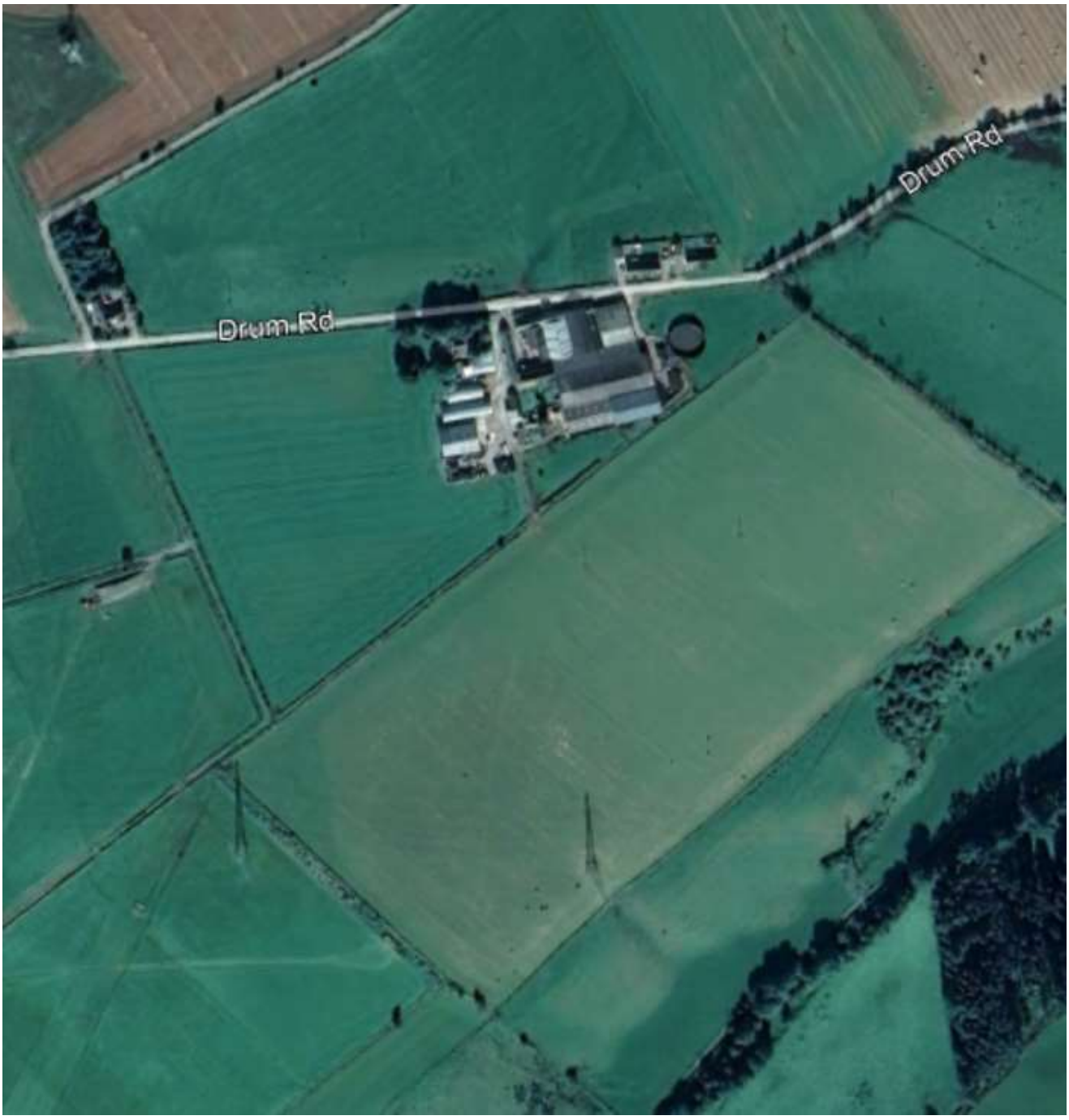
4.5 Potential Opportunities for Biodiversity Enhancements

Development plans are indicative at this stage, therefore, the recommendations listed below to provide nature conservation enhancements, as required under local planning policy, are generic. The list below is not exhaustive and may change depending on the detailed design of the development and any protected or notable species confirmed to be present following further survey work. The following recommendations are based on the current layout plan, Appendix 06.

The following measures may be applicable:

- planting of hedgerow to the south and east will comprise of native species, with a focus of including fruit bearing species to provide foraging and nesting habitat for birds and other protected species, such as badger.
- linear woodland proposed to be planted to the north and west of the site boundaries on a 1.5m bund will comprise of native species.
- installation of features such as artificial bat roosts and bird nesting opportunities will provide additional roosting and nesting opportunities for a range of species;
- creation of soil bunds around the perimeter of the site in order to prevent surface runoff into the stream. The ground flora of the bund should be planted with a wildflower mix native to the local environment, comprising of species which would be beneficial to protected/notable invertebrates, including their larval stages;
- wider landscape enhancements to improve connectivity of woodland and wetland habitats or to offset (compensate) for any predicted residual ecological impacts that cannot be accommodate within the site itself; and
- the construction of the surface water discharge pipe should consider measures to prevent pollution reaching the Burn of Drum. This could be an opportunity for creation of wetland habitat

APPENDIX 01: AERIAL PHOTOGRAPH OF THE SITE



APPENDIX 02: RELEVANT LEGISLATION AND POLICY

Conservation (Natural Habitats, &c.) Regulations 1994

The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (the Habitats Regulations) transposed Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into law in the devolved countries within the UK. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The regulations make it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

Regulation 61 of the Conservation of Habitats and Species Regulations 2010, requires a competent authority to make an appropriate assessment of the implications for European sites in view of a site's conservation objectives, before deciding to undertake, or give consent, permission or other authorisation for, a plan or project which:

a. is likely to have a significant effect on a European site, either alone or in combination with other plans and projects; and
b. is not directly connected with or necessary to the management of that site.

Protection of Badgers Act 1992

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to interfere with a badger sett intentionally or recklessly. Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

Relevant Planning Policy

Scottish Planning Policy

Scottish Planning Policy (SPP) identifies that biodiversity is important because it provides natural services and products which we rely on, that it is an important element of sustainable development and makes an essential contribution to the economy and cultural heritage of Scotland. All Public Bodies in Scotland, including planning authorities, have a duty to 'further the conservation of biodiversity' under the Nature Conservation (Scotland) Act 2004 and the SPP highlights that this should be reflected in development plans and development management decisions.

The natural environment forms the foundation of the spatial strategy set out in the National Planning Framework (NPF3). The environment is a valued national asset offering a wide range of opportunities for enjoyment, recreation and sustainable economic activity. Planning plays an important role in protecting, enhancing and promoting access to our key environmental resources, whilst supporting their sustainable use.

Paragraph 194 of the SPP sets out the following policy principles. The planning system should:

- Facilitate positive change while maintaining and enhancing distinctive landscape character;
- Conserve and enhance protected sites and species, taking account of the need to maintain healthy ecosystems and work with the natural processes which provide important services to communities;

- Promote protection and improvement of the water environment, including rivers, lochs, estuaries, wetlands, coastal waters and groundwater, in a sustainable and co-ordinated way;
- Seek to protect soils from damage such as erosion or compaction;
- Protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value;
- Seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats; and
- Support opportunities for enjoying and learning about the natural environment.

Paragraph 195 of the SPP states that:

'Planning authorities, and all public bodies, have a duty under the Nature Conservation (Scotland) Act 2004 to further the conservation of biodiversity. This duty must be reflected in development plans and development management decisions. They also have a duty under the Water Environment and Water Services (Scotland) Act 2003 to protect and improve Scotland's water environment. The Scottish Government expects public bodies to apply the Principles for Sustainable Land Use, as set out in the Land Use Strategy, when taking significant decisions affecting the use of land.'

Local Planning Policy

Moray Local Development Plan 2020, Volume 1

Environment Policy 2 (EP2)[8], Biodiversity, states;

- *'All development proposals must, where possible, retain, protect and enhance features of biological interest and provide for their appropriate management. Development must safeguard and where physically possible extend or enhance wildlife corridors and green/blue networks and prevent fragmentation of existing habitats. Development should integrate measures to enhance biodiversity as part of multi-functional spaces/ routes. Proposals for 4 or more housing units or 1000 m2 or more of commercial floorspace must create new or, where appropriate, enhance natural habitats of ecological and amenity value. Developers must demonstrate, through a Placemaking Statement where required by Policy PP1 which incorporates a Biodiversity Plan, that they have included biodiversity features in the design of the development. Habitat creation can be achieved by providing links into existing green and blue networks, wildlife friendly features such as wildflower verges and meadows, bird and bat boxes, amphibian friendly kerbing, wildlife crossing points such as hedgehog highways and planting to encourage pollination, wildlife friendly climbing plants, use of hedges rather than fences, incorporating biodiversity measures into SUDS and retaining some standing or lying dead wood, allotments, orchards, and woodlands. Where development would result in loss of natural habitats of ecological amenity value, compensatory habitat creation will be required where deemed appropriate.'*

[8] Moray Council. 2020. Moray Local Development Plant, Volume 1.

APPENDIX 03: HABITAT DESCRIPTIONS

UKHab Code	Description	Photographs
g1.94	**Acid grassland, green lane** Intermittent Gorse (*Ulex europaeus*), Hawthorn (*Crataegus monogyna*), Dog rose (*Rosa canina*), Rosebay willowherb (*Chamaenerion angustifolium*) and Creeping buttercup (*Ranunculus repens*).	 
c1.60	**Arable and horticulture, sheep grazing** Sheep grazing all throughout c1 habitats. Some stubble remnants of wheat or barley crop. Grass pasture or white clover (unsure of the species being sown).	 

UKHab Code	Description	Photographs
		
		
		
		
		

UKHab Code	Description	Photographs
r1.191	**standing open water and canals, ditch**	 
c1a	**Arable field margins** Only strip with significant field margin of rougher grass, thistles *Cirsium vulgare*.	
u1e	**Built linear features** Road passing Fairview in the northern part of the site and fencelines between fields.	
w1f7	**Other lowland mixed deciduous woodland** *Betula* sp., *Salix* sp. and *Alnus glutinosa*.	

UKHab Code	Description	Photographs
r1, w1f7	**Rivers and streams** Burn of Drum. Bordered on one side by lowland mixed deciduous woodland (*Betula* sp., *Salix* sp. and *Alnus glutinosa).*	 

APPENDIX 04: UK HAB SURVEY MAP

344000 344200 344400 344600 344800

850800 850600 850400

g 94 w1d u1b5 u1d c1 c1 u1e c1 c1 r1 191 c1 60 c1 60 c1 g 94

N

0 25 50 75 100

Metres

LEGEND

Site Boundary

Site Boundary 50 m Buffer

UKHabitat Survey

c1 - Arable and Horticulture

g - grassland

r1 - Standing Open Water and Canals

u1b5 - Buildings

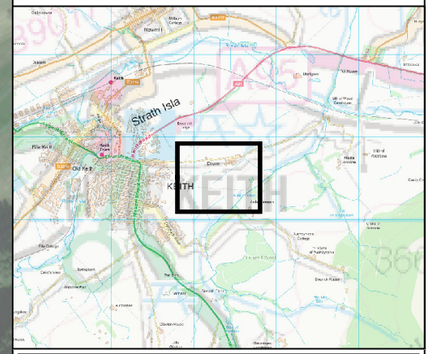
u1d - Suburban Mosaic of Developed/Natural Surfaces

u1e - Built Linear Features

w1d - wet woodland

u1e - Fences

Secondary Codes:
60: Sheep Grazed
94 : Green Lane
191: Ditch



SLR
4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH

T: +44 (0)131 335 6830
www.slrconsulting.com

DRUM FARM

ECOLOGY

UK HABITAT SURVEY

FIGURE 1

Scale 1:3,000 @ A3

Date APRIL 2022

02606.00054.0001.0 UKHab

© Crown copyright [and database rights] (2020) 0100031673 OS OpenData.
Aerial Imagery (2020) : Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

© This drawing and its content are the copyright of SLR Consulting Ltd and may not be reproduced or amended except by prior written permission. SLR Consulting Ltd accepts no liability for any amendments made by other persons.

APPENDIX 05: PROTECTED SPECIES FIELD SIGNS TARGET NOTES AND MAP

Badger		Grid Ref.	Picture
1	Feeding Signs	NJ4437650292 8 snuffle holes in field margins. Hole in fence	 

2	Feeding Signs	NJ4430450365 2 snuffle holes at fenceline	
3	Latrine	NJ4437950288 Fresh	
Otter			
4	Couch A	NJ4457250261 Couch in root system of leaning tree. Old spraint.	

			
5	Couch B	NJ4450950194 Couch below old corner strainer post. Spraint staining on horizontal post, covered hole with otter smell. Claw marks on supporting post – otter (or badger)	 

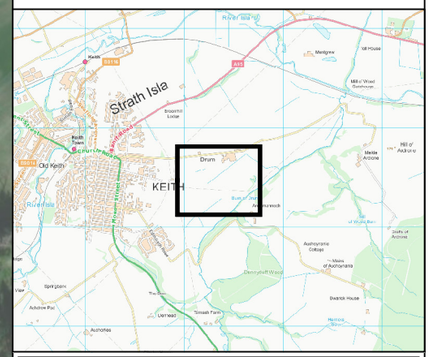
344000 344200 344400 344600

850800 850600 850400

N

LEGEND

- Site Boundary
- Badger Feeding Signs
- Badger Latrine
- Otter Couch



1 2 3 4 5

0 25 50 75 100

Metres

res

SLR

4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH

T: +44 (0)131 335 6830
www.slrconsulting.com

DRUM FARM

ECOLOGY

PROTECTED SPECIES TARGET NOTES

FIGURE 2

Scale 1:2,500 @ A3

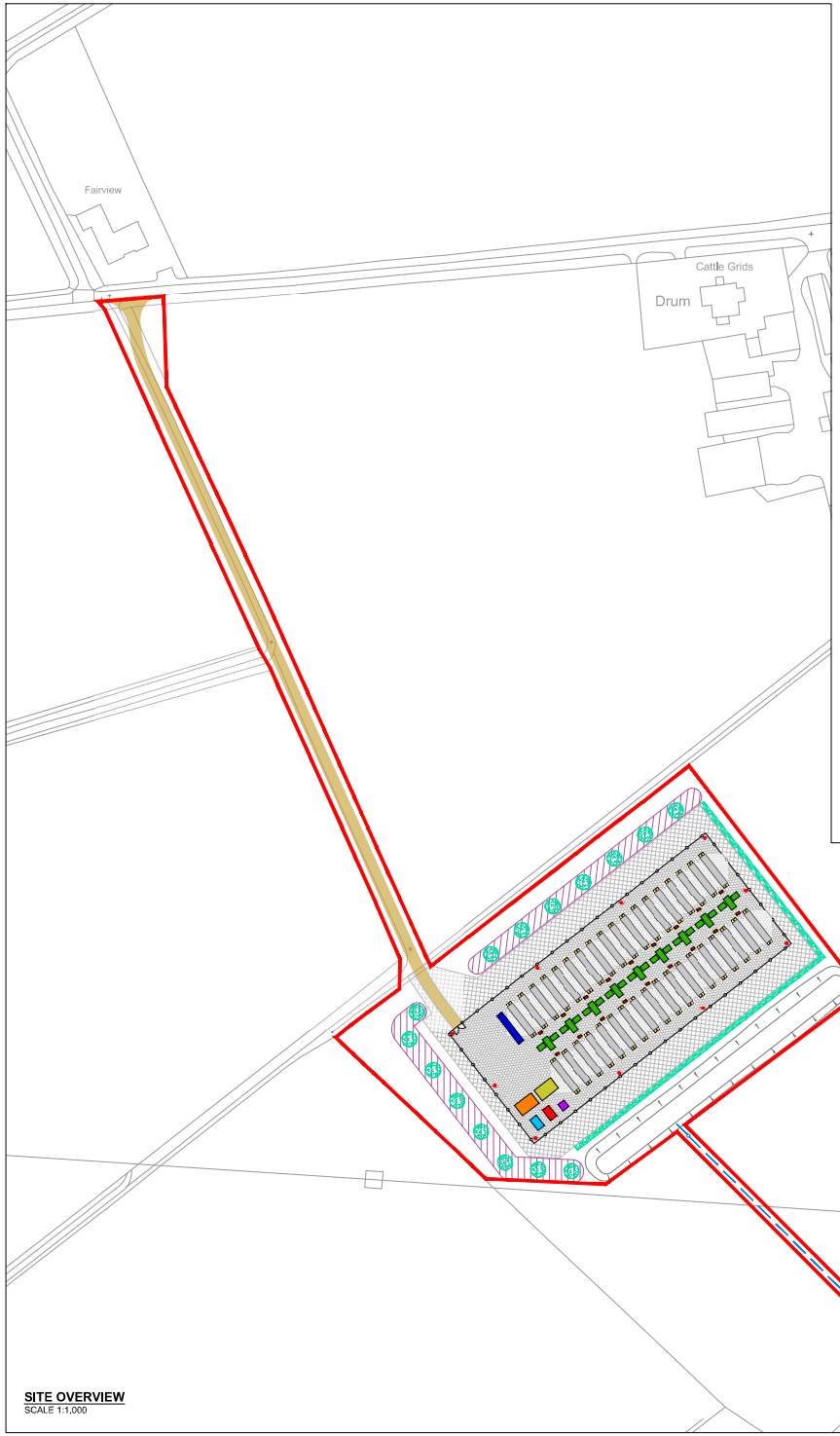
Date APRIL 2022

02606.00054.0002.0 Protected Species

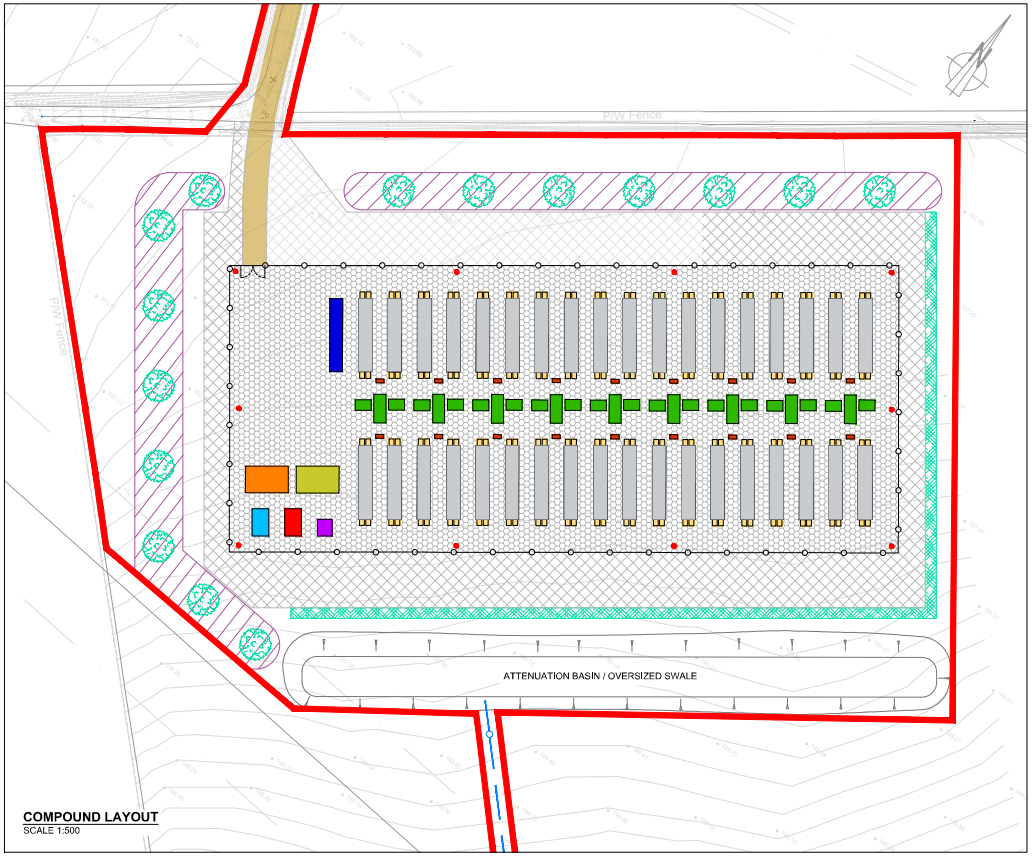
© Crown copyright [and database rights] (2020) 0100031673 OS OpenData.
Aerial Imagery (2020) : Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

© This drawing and its content are the copyright of SLR Consulting Ltd and may not be reproduced or amended except by prior written permission. SLR Consulting Ltd accepts no liability for any amendments made by other persons.

APPENDIX 06: SITE LAYOUT PLAN



SITE OVERVIEW
SCALE 1:1,000



COMPOUND LAYOUT
SCALE 1:500

KEY:

- APPLICATION BOUNDARY (DENOTED BY OUTSIDE EDGE OF LINE)
- BATTERY CONTAINERS
- HVAC UNIT
- AGGREGATION PANEL
- DNO SUBSTATION
- CLIENT SUBSTATION
- AUXILIARY TRANSFORMER
- HARMONIC FILTER
- SPARES CONTAINER
- PRE-INSERTION RESISTOR
- PCS / TRANSFORMER
- ACOUSTIC FENCING UP TO 3m IN HEIGHT
- SURFACE WATER DISCHARGE PIPE
- ACCESS TRACK
- SURFACE FINISH TYPICALLY COMPRISING COMPACTED TYPE 1, SINGLE SIZED STONE OR ASPHALT IF REQUIRED FOR EARTHING
- TEMPORARY CONSTRUCTION AREA / HARDSTAND
- PROPOSED TREE LINED HEDGE
- PROPOSED NATIVE WOODLAND PLANTING ON A 1:2 BUND UP TO 2m IN HEIGHT
- CCTV & LIGHTING

NOTES:

1. EQUIPMENT DETAILS AND CONFIGURATION WITHIN THE ENERGY STORAGE COMPOUND ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN
2. EXACT LOCATION OF SURFACE WATER DRAINAGE IS INDICATIVE AND SUBJECT TO DETAILED DESIGN
3. ACOUSTIC FENCING SPECIFIED AS NOISE ATTENUATION MEASURE BASED ON ACOUSTIC ANALYSIS

ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES
1	DC	MC	TS	2022-03-17	First Issue

PURPOSE: PRELIMINARY	COORDINATES: OSGB 1936
SCALE: AS SHOWN @ A1	LEVEL DATUM: N/A
LAYOUT DWG: N/A	T-LAYOUT NO.: N/A

PROJECT TITLE
DRUM FARM
ENERGY STORAGE FACILITY

DRAWING TITLE
INFRASTRUCTURE
LAYOUT

RES DRAWING NUMBER: 04872-RES-LAY-DR-PT-001 | REV: 1

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LIMITED AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION.

BEAUFORT COURT,
EGG FARM LANE,
KINGS LANGLEY,
HERTS WD4 8LR, UK
TEL +44 (0) 1923 299200
WWW.RES-GROUP.COM

EUROPEAN OFFICES

AYLESBURY
T: +44 (0)1844 337380

BELFAST
belfast@slrconsulting.com

BIRMINGHAM
T: +44 (0)121 2895610

BONN
T: +49 (0)176 60374618

BRADFORD-ON-AVON
T: +44 (0)1225 309400

BRISTOL
T: +44 (0)117 9064280

CARDIFF
T: +44 (0)2920 491010

CHELMSFORD
T: +44 (0)1245 392170

DUBLIN
T: +353 (0)1 296 4667

EDINBURGH
T: +44 (0)131 335 6830

EXETER
T: +44 (0)1392 490152

FRANKFURT
frankfurt@slrconsulting.com

GRENOBLE
T: +33 (0)6 23 37 14 14

LEEDS
T: +44 (0)113 5120293

LONDON
T: +44 (0)203 8056418

MAIDSTONE
T: +44 (0)1622 609242

MANCHESTER
T: +44 (0)161 8727564

NEWCASTLE UPON TYNE
newcastle@slrconsulting.com

NOTTINGHAM
T: +44 (0)115 9647280

SHEFFIELD
T: +44 (0)114 2455153

SHREWSBURY
T: +44 (0)1743 239250

STIRLING
T: +44 (0)1786 239900

WORCESTER
T: +44 (0)1905 751310