Greengage

Brighter strategies
for greener projects

Client: Cumberland Council

Project: Millom Iron Line

Report: Biodiversity Impact Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	May 2023	May 2023
Comments:		
Prepared by:	Laura Thomas	Laura Thomas
Authorised by:	Stephanie Harper	Morgan Taylor
File Reference:	551959ltJun23FV03_BIA.docx	551959ltJun23FV03_BIA.docx

CONTENTS

Tables

Figures

1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned to undertake a Biodiversity Impact Assessment by Cumberland Council of a site known as Hodbarrow Nature Reserve, Millom on the South-west coast of Cumbria.

This document is a combined report of the Phase II Surveys carried out to support a planning submission for the site which seeks *"erection of welcome building with café, retail space, staff facilities and cark park, repair and stabilisation works at Hodbarrow Beacon, repair and stabilisation works and installation of 'camera obscura' structure at Towsey Hole Windmill, installation of cladding and new living roof to existing bird hide, erection of new bird hides and viewing platforms, creation of new multi-use pathways with signage, gateway features and street furniture, making good of existing byway (BOAT) along sea wall, enhancement of wildlife habitats, and associated access, landscaping and drainage infrastructure."*

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed works to assess compliance against local and national planning policy. The BNG mandate set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

The wider Hodbarrow Nature Reserve site extends to 105 hectares (ha) and comprises lagoons, grasslands and scrubland. The site is a former iron mine and since 1986 has been owned and managed by the Royal Society for the Protection of Birds (RSPB). The development boundary does not include the Hodbarrow lagoon. The site boundary does however, include an area to the north extending to approximately 2.1 ha comprising hardstanding dense scrub, lowland meadow and calcareous grassland, where the proposed welcome building and associated car parking will be situated. Overall, the site boundary extends to 57.69ha.

Across the whole site area, proposals seek to retain 39.274ha of habitat, enhance 6.2085ha of habitat and gain 1.8552ha of natural habitat that is currently hardstanding. There will be 0.71 ha of habitat lost to facilitate the Welcome Building and the formalisation of footpaths, this habitat is predominantly dense scrub with small pockets of habitats used as existing desire lines and are subject to heavy trampling.

The proposals stand to result in a net gain of 24.45 biodiversity units associated with area-based habitats compared with pre-development value. This is equivalent to a total net increase of 32.92% in ecological value.

Detail relating to the proposed ecological compensation and enhancement actions in relation to habitat creation and management could be provided within a Landscape and Ecological Management Plan for the site which could be secured through planning condition. Should these recommendations be adhered to, the proposals stand to be compliant with legislation and current planning policy.

2.0 INTRODUCTION

Greengage was commissioned to undertake a Biodiversity Impact Assessment by Cumberland Council of a site known as Hodbarrow Nature Reserve, Millom on the South-west coast of Cumbria.

This document is a combined report of the Phase II Surveys carried out to support a planning submission for the site which *seeks "erection of welcome building with café, retail space, staff facilities and cark park, repair and stabilisation works at Hodbarrow Beacon, repair and stabilisation works and installation of 'camera obscura' structure at Towsey Hole Windmill, installation of cladding and new living roof to existing bird hide, erection of new bird hides and viewing platforms, creation of new multi-use pathways with signage, gateway features and street furniture, making good of existing byway (BOAT) along sea wall, enhancement of wildlife habitats, and associated access, landscaping and drainage infrastructure."*

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed works to assess compliance against local and national planning policy. The BNG mandate set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

This BIA has been undertaken in May 2023. Any further changes to the design will impact upon the BNG score and the metric will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. Biodiversity net gain aims to give an accurate reflection of the changes happening on site.

2.1 SITE DESCRIPTION

The survey area extends to approximately 57.69 hectares and is centred on National Grid Reference SD 17718 78724, OS Co-ordinates 317718, 478724.

The site is located on the edge of the Duddon Estuary in south-west Cumbria. For the purposes of this report the site has been split into the area proposed for the visitor centre (and associated car parking) and the wider site encompassing the Hodbarrow Nature Reserve. The Hodbarrow Nature Reserve extends to 105ha in total however the lagoon falls outside the planning boundary.

The proposed Welcome Building would be sited on a pocket of land of approximately 2.1ha to the north of the nature reserve which comprises dense scrub, calcareous grassland and an access road which leads to a Household Waste Recycling Centre off-site to the north.

The wider site was once the site of a former iron mine which opened in the early 1860's closed in 1968. The majority of buildings associated with the mine have been removed however the reserve is scattered with remnants from the mine in the forms of old stone walls, quarries, lighthouses, beacons and the partial remains of an unsuccessful sea wall. In 1905 a successful attempt at a large tidal breakwater was built to protect the ironworks from the sea and still stands today. Following the mines' closure the area behind the seawall was flooded and formed a, now freshwater, lagoon which supports large populations of wintering and breeding wildfowl and waders. The RSPB purchased the site in 1986 and their management practices include scrub clearance and the creation of limestone slag islands within the

lagoon which have successfully encouraged and sustained breeding populations of little terns (Sternula albifrons), common terns (Sterna hirundo) and sandwich terns (Thalasseus sandvicensis). The populations of breeding terns and wintering wildfowl contribute to the wider designation of Duddon Estuary and Morcambe Bay Special Protection Area (SPA) and Duddon Estuary Ramsar Site.

The RSPB reserve is part of a popular 3-mile circular walk which takes visitors on paths through the dense willow and bramble scrub, through calcareous grasslands, past the sand dunes and along the sea wall looking out over the lagoon to the north and the Irish sea to the south. The sea wall loops across to a caravan park 0.3km east of Haverigg. The mosaic of habitats on-site support rich and diverse plant communities and assemblages of invertebrates.

2.2 PROPOSED DEVELOPMENT

This document has been produced to support a planning submission for the site which seeks to develop a Welcome Building, associated car parking and create an accessible route around the nature reserve by formalising existing paths; a project known as the Iron Line.

The development seeks to secure the long-term conservation and enhancement of the habitats and species at site through a sustained commitment to management; the absence of which could create risks for some of the sensitive habitats due to successional change or continued degradation from human trampling.

Assessment of the site has been split between the:

- Welcome Building (and associated car parking) development which involves:
    - Clearance of existing dense scrub habitat and 0.0156ha (of 0.1891ha) Priority Lowland Meadow habitat to facilitate the development;
    - Retention of the remaining lowland meadow and calcareous grassland;
    - Development of a Welcome Building which will comprise a two-story building, the ground floor will include a café, a shop, toilets, staff room. The top floor will give a 360º view of the surrounding landscape. The sloped roof will be a biodiverse roof which will be seeded with a mix representative of the surrounding habitats;
    - The development of an access road for two car parks with a total of 80 spaces;
    - The narrowing of an existing road to form a path from a new car park to the Welcome Building. An area of 0.0156ha of hardstanding will be given back to nature and used to compensate for the loss of lowland meadow, the remaining 0.154ha of hardstanding that will be given back to nature that will be used to create calcareous grassland habitat; and
    - The hardstanding will be broken up and removed to other areas of the site. The bare ground will be seeded with a late summer cut of the adjacent calcareous grassland and lowland meadow habitats.
- Improvements across the wider site, which include:

- Narrowing existing Byway Open to All Traffic (BOAT) to fit one car with occasional passing places;
- Formalise desire lines to be retained through fencing off and laying with a natural, permeable surface;
- The closing off of existing desire lines which are not beneficial for sensitive habitats;
- 1.7012ha of habitat restoration/creation will be available through the formalising and closing of paths;
- Enhancement of 6.2085ha of habitats across the site;
- Maintenance and repairs to the old lighthouse and beacon;
- Installation of art and education features across the site;
- Improvements to the existing tern island hide;
- Installation of a biodiverse roof on the existing tern hide; and
- The building of two hides, one overlooking the 'hidden lagoon', one overlooking the old quarry lagoon and the third on the old sea wall.

2.3 PRELIMINARY ECOLOGICAL APPRAISAL

As part of the PEA, a Phase 1 Habitat Survey was conducted following the methodology of the Joint Nature Conservation Committee (JNCC) (2010) Handbook for Phase 1 Habitat Survey[1] and the Institute of Environmental Assessment (IEA, 1995)[2]. The following habitats were identified:

Welcome Building

- Scrub
  - Dense continuous scrub (A2.1)
  - Scattered scrub (A2.2)
- Grassland
  - Unimproved calcareous grassland (B3.1)
- Open Water
  - Standing water (G1)
  - Running water (G2)
- Miscellaneous
  - Bare ground/hardstanding (J4)
- Habitat Mosaic
  - Tall ruderal (C3.1) and Dense scrub (A2.1)

Site Wide

- Scrub
  - Dense scrub (A2.1)
  - Scattered scrub (A2.2)
- Grassland
  - Semi-improved neutral grassland (B2.2)
  - Unimproved calcareous grassland (B3.1)
  - Unimproved neutral grassland (B2.1)
  - Semi-improved calcareous grassland (B3.2)
  - Improved Grassland (B4)
- Tall herb and fern
  - Bracken (C1.1)
  - Tall ruderal herb (C3.1)
- Heathland
  - Dry Acid Heath (D1.1)
- Swamp, marginal and inundation
  - Swamp (F1)
- Open Water
  - Open standing water (G1)
  - Wet ditch (G1)
- Coastland
  - Boulders/rocks above high tide mark (H4)
  - Intertidal sand (H1)
  - Maritime cliff and slope, hard cliff & crevice ledge vegetation (H8.1 & H8.3)
  - Maritime coastal grassland (H8.4)
  - Open sand dune (H6.8)
  - Sand dune grassland (H6.5)
  - Sand dune scrub (H6.7)
  - Shingle/gravel above high tide (H3)
  - Strandline vegetation (H5)
- Rock Exposure and Waste
  - Quarry (I1.2)

- Basic natural inland cliff (I1.1.2)
- Exposed rock (I1.4)
- Natural rock exposure (other: basic)

- Miscellaneous
  - Buildings (J3.6)
  - Buildings/structures (J3.6)
  - Ephemeral/short perennial (J1.3)
  - Bare Ground/Hardstanding (J4)
  - Defunct species-poor hedge (J2.2.2)
- Habitat Mosaics
  - Sand dune grassland (H6.5) and Sand dune scrub (H6.7)
  - Scattered scrub (A2.2) and scattered bracken (C1.2)
  - Unimproved neutral grassland (B2.1) & tall ruderal (C3.1)
  - Dense scrub (A2.1) & Unimproved calcareous grassland (B3.1)
  - Bracken (C1.1), Scrub (A2.1) & Tall ruderal (C3.1)
  - Unimproved neutral grassland (B2.1) Tall ruderal (C1.3) & Scrub (A1.2)
  - Unimproved neutral grassland (B2.1) & A2.1 Dense Scrub)
  - Dense Scrub (A2.1), Unimproved calcareous grassland (B3.1) & Tall ruderal (C3.1)

Notable plant species and habitats of importance were identified in the PEA. A National Vegetation Classification survey was recommended for areas that are within the Zone of Influence (ZoI). Given the nature of the proposals, there are two zones of influence considered as part of the development:

- The area proposed for the Welcome Building and car park. The ZoI for this work is considered to be the development footprint comprising largely scrub, hardstanding; and
- The ZoI for the formalising of the paths is considered to be 20m for habitats and notable plants.

2.4 NATIONAL VEGETATION CLASSIFICATION

Proposed Welcome Building

The following NVC communities were recorded on the site and are described below. Table 2.1 gives the NVC communities and their distribution and importance.

Table 2.1 Proposed Welcome Building - NVC communities identified.

NVC Classification (Code)	Status	Value
Festuca ovina – Carlina vulgaris / (CG1)	Annex 1 habitat: Semi-natural dry grasslands and scrubland facies on calcareous substrates (H6210)	International
	HPI: Lowland Calcareous Grassland	
	LBAP: Calcareous Grasslands	
Briza media – Brachypodium sylvaticum grassland	Annex 1 habitat- Semi-natural dry grasslands and scrubland facies on calcareous substrates (H6210)	International
	HPI: Lowland Calcareous Grassland	
	LBAP Calcareous Grassland	
Arrhenatherum elatius grassland Centaurea nigra sub-community (MG1e)	HPI: Lowland Meadow	Regional
	LBAP Hay Meadows and Lowland Pastures	
Eleocharis palustris swamp – Eleocharis palustris sub-community (S19a)	HPI: Ponds	Regional
Holcus lanatus – Juncus effusus rush-pasture Juncus inflexus sub-community (MG10b)	n/a	Local
Other habitats (that do not qualify for priority status)		
Eleocharis palustris swamp – Eleocharis palustris sub-community (S19a)		Site
W23c Ulex europaeus – Rubus fruticosus scrub – Teucrium scorodonia sub-community (W23c)		Site
W24 Rubus fruticosus – Holcus lanatus underscrub.		Site

Wider Site and 20m buffers

The following NVC communities were recorded within the 20m buffer either side of the main paths on site and are described below. Table 2.2 gives the NVC communities and their national and regional distribution.

Table 2.2 Plant communities 20m buffer either side of proposed pathways

NVC Classification (Code)	Status	Level of Importance
Arrhenatherum elatius grassland/ Brachypodium pinnatum grassland (MG1/CG4)	Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	International
	HPI: Lowland Calcareous Grassland	
	LBAP: Calcareous Grasslands	
Cynosurus cristatus – Centaurea nigra / Avenula pubescens grassland / (MG5/ CG6)	Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	International
	HPI Lowland Calcareous Grassland and Lowland Meadows	
	LBAP: Hay Meadows and Lowland Pastures and LBAP: Calcareous Grasslands	
Festuca ovina–Carlina vulgaris/Lolium perenne-Cynosurus cristatus grassland (CG1 /MG6)	Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	International
	HPI: Lowland Calcareous Grassland	
	LBAP: Calcareous Grasslands	
Lolium perenne-Cynosurus cristatus grassland (CG6)	Annex 1: H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	International
	HPI: Lowland Calcareous Grassland	
	LBAP: Calcareous Grasslands	
Festuca ovina–Carlina vulgaris / (CG1)	Annex 1: Semi-natural dry grasslands and scrubland facies on calcareous substrates (H6210)	International
	HPI: Lowland Calcareous Grassland	
	LBAP: Calcareous Grasslands	
Ammophila arenaria–Festuca rubra semi-fixed dune community (SD7)	Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)	International
	HPI: Coastal Sand Dunes	
Festuca rubra–Galium verum fixed dune grassland	Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)	International
	HPI: Coastal Sand Dunes	

NVC Classification (Code)	Status	Level of Importance
(SD8)		
Arrhenatherum elatius grassland Centaurea nigra sub-community (MG1e)	HPI: Lowland Meadow	Regional
	LBAP Hay Meadows and Lowland Pastures	
Potamogeton pectinalus-Myriophyllum spicatum community (A11)	HPI: Eutrophic Standing Waters	Regional
Eleocharis palustris swamp-Eleocharis palustris sub-community (S19a)	HPI: Ponds	Regional
Lagoon	HPI: Eutrophic Standing Water *It is understood the lagoon is freshwater and so does not meet 'Annex I habitat Coastal Lagoons	Regional
Other habitats		
Arrhenatherum elatius grassland Festuca rubra sub-community (MG1a)		Site
Lolium ley (MG7)		Site
Equisetum fluviatile swamp (S10a)		Site
Ulex europaeus–Rubus fruticosus scrub–Teucrium scorodonia sub-community (W23c)		Site
Rubus fruticosus – Holcus lanatus underscrub (W24)		Site
Pteridium aquilinum- Rubus fruticosus underscrub Teucrium scorodonia sub-community (W25b)		Site
Argentina anserina–Carex nigra dune slack– Carex flacca sub-community (SD17b)		Site

Whilst there are priority habitats across the site a National Vegetation Classification survey has been undertaken only on habitats that fall within the Zone of Influence of proposals. Therefore, there may be some priority habitats on the wider site that have not been identified through in-depth survey but these are not considered to be impacted by the formalisation of paths and are therefore not considered further. It is likely that through the interventions proposed through this scheme, that these habitats could benefit form the long-term management.

3.0 METHODOLOGY

3.1 GOOD PRACTICE PRINCIPLES

To calculate the ecological value of the pre- and post-development site, the Natural England Metric 4.0 methodology was utilised, following good practice guidance from Natural England[3],[4] , and joint guidance from CIEEM, IEMA and CIRIA[5]. The good practice guidelines "provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature while progressing with sustainable development". This framework consists of 10 good practice principles which are outlined in Table 3.1.

Table 3.1 Good Practice Principles and Discussion

Good Practice Principle	Discussion
1. Apply the Mitigation Hierarchy	Habitats have been largely retained on site. First and foremost the development has sought to avoid harm to ecological features. The area of the Welcome Building and car park has been selected as it is currently comprised of common and widespread dense scrub habitat. An area of car parking has been moved to avoid Annex I habitat, in light of the 2022 National Vegetation Classification survey. Plans for a new hide which would involve clearing a large strip of scrub have been abandoned and the new hide will be situated in an area that does not require as much clearance. Some habitat loss will be required to formalise the paths around the site. These paths have been selected as they are already existing desire lines which are already subject to human disturbance through footfall. The paths require formalisation to ensure the site is accessible to all and through this formalisation, the paths will be narrowed. This avoids disturbing habitats to create accessible pathways. All habitat compensation has been provided on site rather than off site.
2. Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere	Irreplaceable habitats are largely retained on site. Nonetheless, 156sqm of 1891sqm of regionally important Priority Lowland Meadow habitat will be lost to facilitate an access road to the new car park. This option was chosen over losing Internationally important Annex I habitat and considered to be the least impactful; Natural England have been consulted throughout this decision process. A translocation exercise is recommended to relocate this habitat to areas of former hardstanding given back to nature. This will likely comprise the removal of the existing turf and soil to a depth of approximately 40 cm using a turf stripper. The success of the

Good Practice Principle	Discussion
	translocation will be monitored and, if necessary, seeds from the retained lowland meadow will be sown into this area.
3. Be Inclusive and Equitable	The architects, Gagarin, and landscape architects, Layer have been responsive to ideas from Greengage to enhance biodiversity value on site. There have been weekly meetings to discuss ecological constraints and opportunities on site.
4. Address Risks	Greengage has worked with Gagarin and Layer to improve biodiversity value on site and mitigate risks in the original design. The results of the NVC survey highlighted the need to change the placement of the Welcome Building and car park to avoid Internationally important habitats.
5. Make a Measurable Net Gain Contribution	The development is likely to achieve a measurable gain in biodiversity through the use of Metric 4.0. The calculations should be updated to reflect design changes and monitoring should take place to ensure the targeted conditions are achieved.
6.Achieve the Best Outcomes for Biodiversity	The landscape design for Millom Iron Line improves biodiversity value on site. It also secures the long-term management of a site that is currently subject to minimal interventions and at risk of dense scrub encroachment and habitat succession, which is already evident across the site. Habitat compensation is due to be delivered through the provision of higher distinctiveness habitats than that of the baseline. The proposed development is due to achieve a biodiversity net gain as discussed in Section 4.
7. Be Additional	The BNG for the proposed development, not only focuses on the site itself, but also aims to create strategic green corridors for people and wildlife. The design also aims to provide other habitat features for key fauna including ponds for Natterjack toads, islands for nesting birds, invertebrate habitat features and bird and bat boxes, which stand to improve the biodiversity value of the site further.
8. Create a Net Gain Legacy	The proposals seek to bring conservation grazing to site which will ensure the site is not subject to further dense scrub encroachment and habitat succession which will protect the sensitive grassland habitats. Through rotational livestock grazing plants can establish deeper roots between grazing periods which helps soil retain moisture and is protected from water and wind erosion. This will result in climate resilience during droughts and times of heavy precipitation during wetter winters, plus has the added benefit of protecting waterways from nutrient and sediment runoff[6]. The BNG on site will be secured and managed for at least 30 years.

Good Practice Principle	Discussion
9.Optimise Sustainability	The design for Iron line has been created with biodiversity at the forefront but the enhancements will enable the site to be enjoyed by people and accessible for everyone. The design, including the provision of green roofs and SuDs, will also help improve ecosystem services value, embedding climate resilience, whilst providing open, green space to improve people's wellbeing and mental health.
10. Be Transparent	Cumberland Council have commissioned Greengage Environmental Ltd to run the BNG calculations and communicate findings in a BIA report.

3.2 BIODIVERSITY METRIC

This metric uses Biodiversity Units as a proxy for the ecological value of area of linear based habitats. The areas of each habitat parcel are measured, with each parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat classification, representing its inherent ecological value, whereas condition refers to the state each parcel is in relative to predetermined set of criteria outlined in the supplementary Biodiversity Metric 4.0 guidance.

Strategic significance draws upon priorities and objectivise within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- High - "area/action formally identified within a local plan, strategy or policy";
- Medium - "location ecologically desirable but area/action not identified in local plan, strategy or policy"; and
- Low - " area/action not identified in any local plan, strategy or policy; or no local strategy in place".

For post-development habitat areas, additional multipliers are applied considering the time taken to reach maturity and difficulty of creation of the habitats, and whether the habitat creation is in a strategically beneficial location.

An assessment of the predicted change in ecological value is undertaken comparing the Biodiversity Units and assessing percentage change. Changes in broader habitat types (for example, 'Urban', 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

3.3 BASELINE CALCULATION

Retained habitats do not lose or gain any biodiversity units and therefore for the purpose of simplification, areas of retained habitats have not been included within the calculations.

To calculate pre-development Biodiversity Units, data collected during a Preliminary Ecological Appraisal (PEA) undertaken by Lucy Gibson Consulting and Appletons throughout May and August

2021 was assessed. The PEA survey date required translating from JNCC Phase 1 habitat survey into UKHab to enable use of the metric. Additionally, where information is available the NVC habitat and condition assessments undertaken by Joshua Styles which used the DEFRA 2.0 metric condition assessments which was relevant at the time the survey.

Where available, the National Vegetation Classification undertaken by Joshua Styles was assessed. Areas of each habitat type were taken from the baseline habitat map within QGIS and CAD (Appendix A) provided by Appletons. Only the areas of habitats that will be impacted (either through loss, enhancement or creation) have been included in the calculations. The CAD drawing of the habitats were overlayed by the CAD drawing provided by Layer to work out which habitats will be impacted. The PEA habitats were analysed alongside the NVC PDF maps and where we were confident in the location of the NVC classifications, these were used over the PEA habitats.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed using the species lists and descriptions from the PEA and NVC report. Where information to assess a criterion is lacking, the criterion has been assumed to be met unless knowledge or other evidence can be used to support otherwise.

The Hodbarrow Nature Reserve site is part of the Morecambe Bay and Duddon Estuary Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and is itself a Site of Special Scientific Interest (SSSI). The wider bay is designated for the presence of internationally important coastal habitats which support internationally and nationally important assemblages of breeding, over-wintering and migratory birds. Other species present include great crested newts (Triturus cristatus), natterjack toads (Epidalea calamita), rare and nationally scarce invertebrate species and at least one nationally scarce plant. Due to the above evidence the site is thought to be with a strategically significant area and therefore, all habitats pre and post development have been assigned a high strategic significance.

3.4 PROPOSED DEVELOPMENT CALCULATIONS

Across the whole site area, proposals seek to retain 39.274ha of habitat, enhance 6.2085ha of habitat and gain 1.8552ha of habitat that is currently hardstanding (Appendix B). There will be 0.71 ha of habitat lost to facilitate the Welcome Building and the formalisation of footpaths, this habitat is predominantly dense scrub with small pockets of habitats used as existing desire lines and are subject to heavy trampling. These areas have been provided by Layer and Greengage selected the most appropriate habitat type for the creation based on the existing surrounding habitats.

Targeted condition scores were assigned by Greengage, using the Metric 4.0 habitat condition criteria, whilst considering the likely future use of each area.

This time is recorded with Metric 4.0 as a temporal multiplier called 'delay in starting habitat', which is added to each post-development habitat type, and increases 'time to target condition'. As a general pattern, the longer the time elapsed between habitat clearance and creation, the longer it takes to achieve the targeted habitat condition, which can consequently negatively affect the metric score. A

three-year delay has been added to each post-development habitat type to cover the development months, with added time for contingency.

3.5 IRREPLACABLE HABITATS

Paragraph of paragraph 175(c) National Planning Policy Framework (NPPF) states:

"development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons 63 and a suitable compensation strategy exists"

As per Biodiversity Net Gain: Good Practice Principles for Development, a Practical Guide[7] Biodiversity Net Gain "does not apply to statutory designated sites or irreplaceable habitats". However, the good practice principles further note that planning permission may still be granted if the mitigation hierarchy has been applied and that the loss is outweighed by the development need. Whilst the irreplaceable habitats cannot be offset to achieve BNG and cannot be provided on a "like for like" basis, the guidance advises that the compensation is "designed in recognition of the nature and extent of the loss or damage, to make a contribution to biodiversity that is considered proportionate". Whilst the compensation of irreplaceable habitats cannot be determined by metrics, the guidance also notes that "checking a bespoke compensation design with some form of quantification that is agreed with the statutory nature conservation body may be beneficial in some circumstances". Therefore this report seeks to provide some quantification of such losses so that it can be checked that the bespoke design makes an agreeable and proportionate contribution to biodiversity.

The bespoke compensation should be agreed on a case-by-case basis with the determining body or planning authority.

A report commissioned by Natural England[8] provides evidence for considering the concept of irreplaceable habitats in the planning system. The four criteria for establishing irreplaceable habitat patches:

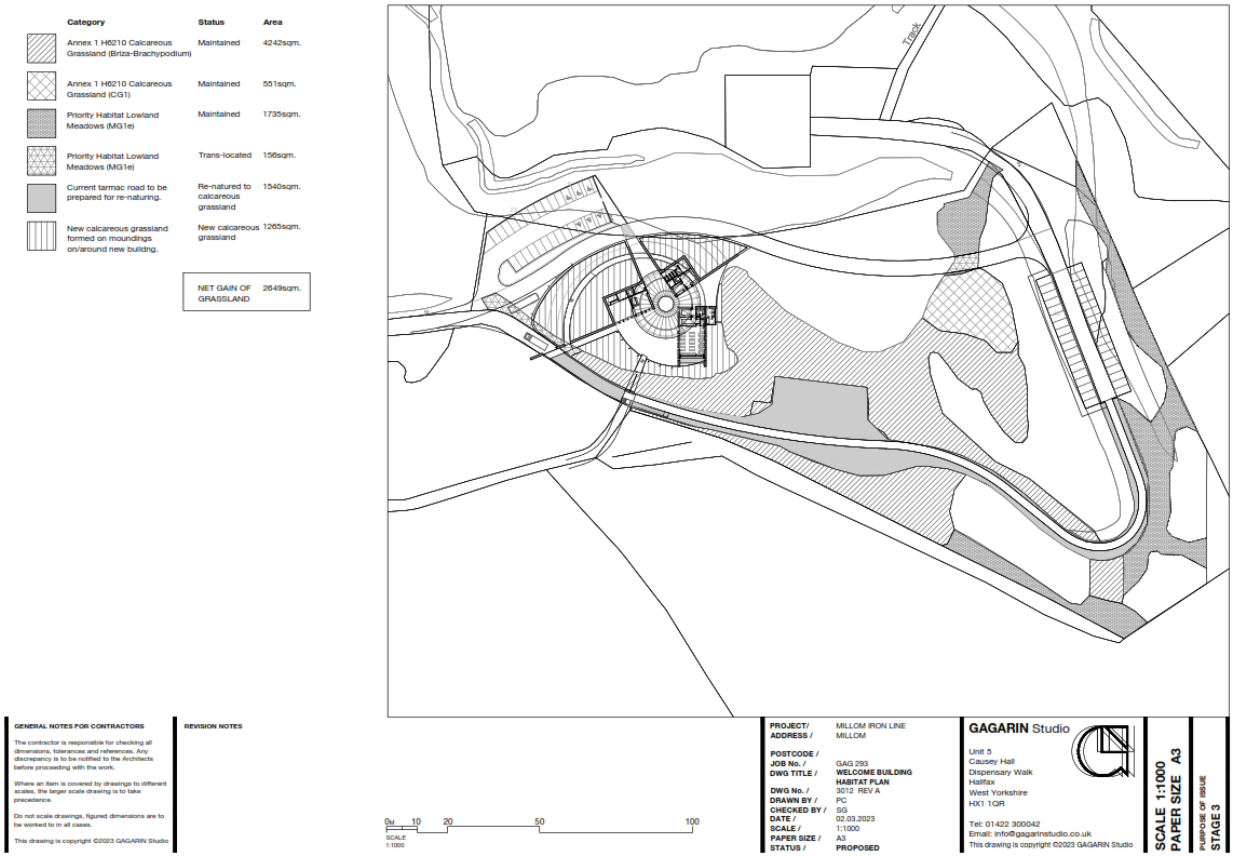
- Age: Habitats generally become more complex over time, for example by accruing greater species diversity or supporting species with more specialised requirements. Age will also directly elevate their importance as a carbon storage asset.
- Environmental context: Habitats may exist only as a result of a unique or very rare combination of physical, ecological or historical circumstances.
- Achievability of re-creation: Judgements as to whether or not the habitat and its key features can be re-created successfully within a realistic timescale (based on practical evidence and scientific research).
- Geographic position within the landscape: Increasingly the unique location of a habitat patch within the landscape, and thus its role in an ecological connectivity 'network', is recognised as of quite fundamental importance to its distinctiveness and irreplaceability.

Table 3.2 Key Criteria for "irreplaceability" developed for dry Neutral Lowland Grassland:

Key Criteria for "irreplaceability" developed	Met on site
Presence of designated species or habitats with protected status at the regional, national or international level. This could include rare or scarce vascular plant, fungal & lichen or invertebrate species. Protected species or habitats are not necessarily irreplaceable, but would in all cases require careful consideration.	Yes. The habitat itself is considered to be at least of regional importance. There were no plant species listed between regional and international level of importance but there was one species of at least local importance which was quaking grass (Briza media). The adjacent habitats are at least of International level of importance.
Presence of species-rich characteristic NVC MG5 community with good representation of positive indicator species (JNCC 2004 – lowland grasslands).	No- The lowland grassland community within the Welcome Building area is a MG1e community.
Known presence of an established permanent grassland of more than 20-30 years old, with no major disturbance and appropriate management.	The earliest aerial photograph available from 2004 shows the grassland is likely to be at least 20 years old. The site is currently unmanaged and without intervention is likely to continue succeeding into scrub and therefore does not have appropriate management to meet this condition (refer to Figure 3.1below).
Appropriate soil-nutrient levels. Available evidence shows a very strong inverse relationship between species richness in grassland and soil phosphorus levels.	The NVC survey describes the habitat as clearly recognisable as a priority grassland habitat type, this grassland meets all condition criteria with little variation. This habitat type closely matches criteria for the priority grassland type, whilst wildflowers in the sward show good affinities with this grassland type (MG1e). Furthermore, bare ground stands below 10% and the cover of undesirable species and scrub covers a total area not exceeding 5% of the sward. This indicates that soil conditions are appropriate for this type of grassland.

Figure 3.1 Habitat succession over time (top left 2004, top right 2014, bottom left 2018, bottom right 2020)

Figure 3.2 Figure demonstrating how the location of the Welcome Building was chosen to avoid as much as possible sensitive habitats.



The NVC recorded internationally designated Annex I habitats on site as well as regionally important habitats and widespread common. Based on the NVC results, the mitigation hierarchy was followed and the location of Welcome Building and car park was altered. Designs avoid development on the habitats of international importance; a small section of regionally-important habitat will be lost as a result of the development and the majority of the development will fall within the common and widespread scrub habitat. In June 2022, this was discussed with the botanist who undertook the NVC survey, the Natural England officer at the time responsible for the adjacent SSSI site and the Local Planning Authority.

In terms of the DEFRA 4.0 metric, the Nationally important habitat 'lowland meadows' is classed as a very high distinctiveness habitat. Losses and deterioration of irreplaceable or very high distinctiveness habitat cannot be accounted for within the metric as bespoke compensation to address specific losses and deterioration these habitats is required. Therefore, the loss of 156sqm of 1891sqm of regionally important Priority Lowland Meadow habitat has not been included within the calculations.

Bespoke compensation

In accordance with the DEFRA 4.0 metric guidance, the bespoke compensation for irreplaceable habitat should not be included within the calculation.

One of the principals for establishing whether a habitat is irreplaceable in the planning system states that judgements should be made based on practical and scientific evidence on the achievability of re-

creation[9]. Whilst the lowland meadows on the welcome building/car park site are likely to be at least 20 years old, it is currently unmanaged and at risk of habitat succession. Lowland meadows compared with other very high distinctiveness habitats such as ancient woodland can achievably be created[10]and take much less time to establish, with country-wide evidence of creation within 2 years[11]. As proposals seek to re-create the habitat within the same environmental context and adjacent geographic position within the landscape, it is considered realistically achievable to re-create this habitat. It will remain adjacent to retained pockets of lowland meadows and retain ecological functionality within the wider landscape.

A translocation exercise is recommended to relocate the section of lowland meadow to be impacted by the car park/road to elsewhere on the site. This will likely comprise the removal of the existing turf and soil to a depth of at least 40 cm or deeper using a turf stripper. Taking turves of the existing area to maintains the underlying soil profile and minimizes damage to individual plants and to the grassland community. The turves should be as thick as possible and placed on the desired area on the same day that they are removed to prevent deterioration of habitat in storage. The specific methodology will be incorporated into a Notable Habitats and Plants Mitigation Plan which could be incorporated into the Construction Ecological Management Plan (CEcMP) and Landscape Ecological Management Plan (LEMP) as appropriate.

The current access road to the recycling centre and passing place will be narrowed and therefore the 156sqm of lowland meadow should be placed in this area. This habitat should be monitored and should for any reason the translocation be unsuccessful, then seeding from an adjacent area of retained lowland meadow should be undertaken.

The construction and operational impacts on the sensitive habitats on site and the appropriate mitigation actions required are addressed within the Ecological Impact Assessment (Ref: 551959ItMar23FV01_EcIA). The success of the bespoke mitigation will be monitored for at least 30 years and remedial actions to re-store the lowland meadow will be put in place if required.

3.6 COMPETENCIES

Laura Thomas has an undergraduate degree in Biology (BSc Hons) and a Master's degree in Evolutionary and Behavioural Ecology, holds a Natural England Bat Survey Level 1 Class Licence (2021-10098-CL17-BAT) and is a Graduate member of CIEEM. Laura has over 5 years' experience in the commercial sector.

Stephanie Harper has an undergraduate degree in Biology (BSc Hons) and a PhD in Geography. Stephanie has over 15 years' experience in ecological surveying and assessment.

Morgan Taylor, who undertook second review, has a bachelors and masters degree in Marine Biology (MSci Hons), a Natural England CL17 Bat Survey Level 2 Class Licence (2015-7369-CLS-CLS) and CL10 Dormouse Survey Licence (2017-30817-CLS-CLS). Morgan is a Chartered Environmentalist, Full member of CIEEM and has over 12 years' experience in ecological surveying, having undertaken assessments of numerous development sites of this type. He leads the Ecology team at Greengage.

This report was written by Laura Thomas and reviewed and verified by Stephanie Harper and Morgan Taylor who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

3.7 CONSTRAINTS

The assessment methodology does not incorporate ecological features beyond area and linear based habitats. The potential for the site to support protected species, for example, is not captured by this assessment. The mitigation hierarchy in relation to protected and notable habitats and species much be followed. This report should accordingly be read in conjunction with the PEA and any other appropriate protected species surveys.

The shapefiles containing the GPS data for the NVC survey were corrupted and accurate mapping was unable to be re-created for the purposes of this report. Therefore, the shapefiles from the PEA were used alongside visual assessments of the PDFs of the original NVC maps to make assessments. Where there was any uncertainty of the location of NVC data, the PEA data would be used.

There were several inaccessible areas across the site which could not be surveyed in depth. Where a description of the inaccessible habitat was not provided it was assumed to be similar to the surrounding broad habitat.

The PEA was undertaken in 2021 and early 2022 using Phase 1 methodology and the findings have been translated into UKHab for the purposes of this report. As such, no habitat condition assessments were made at the time of survey. Therefore the condition assessments were undertaken for this report based on the data and photographs provided within the PEA and by the survey team to Greengage. Where information has been lacking to make a full condition assessment of a habitat, the criteria lacking data were assumed to have been passed for this report. This ensures that habitats subject to a loss have a higher value and therefore that compensation is provided at a higher value. However, this has the drawback that the habitats lacking information are assumed to be 'good' for example, leaving less scope for enhancement if required.

Condition assessments undertaken during the NVC surveys used the "most up-to-date Natural England Technical Supplement to accompany Biodiversity Metric 2.0" at the time of survey. The description supporting the condition assessments of the habitats within the NVC report were used to assign a condition based on the Biodiversity 4.0 Metric condition assessments for the purposes of this report.

The BNG assessment at this stage is predictive in nature. To ensure delivery of BNG, requirements outlined within this report must be adhered to, and a rigorous programme of monitoring and maintenance must be implemented.

4.0 RESULTS

4.1 BASELINE CONDITIONS

The baseline biodiversity value of the Zones of Influence on the reserve and welcome building/car park site is calculated to be **72.74** biodiversity units. There were no linear, nor river habitats in these areas and therefore, no corresponding biodiversity units. A breakdown of this calculation is provided in Table 4.1:

Table 4.1 Baseline Biodiversity Units

Parcel ref	Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
Welcome Building						
1	Urban	Developed land; sealed surface	0.154	V.Low	N/A - Other	0.00
2	Heathland and shrub	Mixed scrub	0.334947239	Medium	Moderate	1.54
3	Grassland	Lowland meadows	0.1891	V.High	Good	4.79
Wider Site						
4	Urban	Artificial unvegetated, unsealed surface	1.7012	V.Low	N/A-Other	0.00
5	Urban	Developed land; sealed surface (hide)	0.0035541	V.Low	N/A-Other	0.00
6	Heathland and shrub	Mixed scrub	3.420731169	Medium	Moderate	31.47
7		Mixed scrub	0.024351045	Medium	Poor	0.11
8		Mixed scrub	0.00027	Medium	Good	0.00

Parcel ref	Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
9		Bramble scrub	0.012438913	Medium	Condition Assessment N/A	0.06
10	Woodland and forest	Wet woodland	1.3736657	High	Moderate	18.96
11	Grassland	Other neutral grassland	0.01028619	Medium	Poor	0.05
12		Other neutral grassland (Tall ruderal)	0.00015	Medium	Poor	0.00
13		Other neutral grassland	1.655243129	Medium	Moderate	15.23
14		Other neutral grassland	0.0017	Medium	Good	0.02
15		Lowland calcareous grassland	0.015167759	High	Poor	0.10
16		Lowland calcareous grassland	0.013244319	High	Fairly Good	0.23
17		Lowland calcareous grassland	0.0051239	High	Good	0.11
18		Bracken	0.032026537	Low	Condition Assessment N/A	0.07
					TOTAL	72.74

*The units as measured by the metric.

In accordance with Metric 4.0 guidance, **'Developed land; sealed surface'**, **'Bracken'** and **'Bramble Scrub'** have no condition assessment. Condition Assessments for the remaining habitats can be found in Appendix C.

Welcome Building

'Mixed scrub' has been grouped for the purposes of the calculation as the condition assessments for the different areas of scrub achieved 'Moderate' condition. Species includes at least three woody species including hawthorn (Crataegus monogyna), willow (Salix sp.), bramble (Rubus fruticosus agg. Sp) and dog rose (Rosa canina) as well ferns such as harts tongue fern (Asplenium scolopendrium), male fern (Dryopteris filix-mas) and bracken (Pteridium aquilinum) and as false oat grass (Arrhenatherum elatius) and perennial species such greater willow herb (Epilobium hirsutum) and common hogweed (Heracleum sphondylium). Much of the areas of scrub were inaccessible and therefore is lacking in clearings and glades to meet this criterion, given the density of scrub it is considered that the age categories of scrub habitat is fairly uniform and therefore fails that condition. All areas have an absence of invasive non-native plants (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover. The scrub is considered to have met three of the five condition criteria.

'Lowland Meadows' were characterised by an abundance of false oat-grass, common knapweed (Centaurea nigra), cock's-foot (Dactylis glomerata) and red fescue (Festuca rubra). A broad range of forbs exist within the sward, including common bird's-foot trefoil (Lotus corniculatus), common vetch (Vicia sativa), yarrow (Achillea millefolium) and meadow vetchling (Lathyrus pratensis), which occur as constant to frequent components of the sward. The condition assessment was undertaken as part of the NVC survey under metric 2.0 which categorised the condition as 'Good' due to it being clearly recognisable as a priority grassland habitat type, meeting all condition criteria with little variation. Furthermore, bare ground stands below 10% and the cover of undesirable species and scrub covers a total area not exceeding 5% of the sward.

Wider site

'**Mixed scrub**' across site ranged from 'Poor' to 'Good'. Scrub species across the site include bramble (Rubus fruticosus L. agg.), hawthorn (Crataegus monogyna), goat willow (Salix caprea), grey willow (Salix cinerea), gorse (Ulex sp.), broom (Cytisus scoparius), dog rose (Rosa canina). The scrub by the old lighthouse was given a score of 'Good' for achieving all the condition criteria: a good representation of the UKHab definition with at least three woody species and not one species being dominant, presence of clearings and glades and having a well-developed scrub/grassland/tall forb edge. There is also an absence of invasive species or species indicating a sub-optimal condition. The age of the scrub was not described but it is assumed that new saplings can take advantage of the clearing and glades and this criterion was awarded.

The remaining areas of 'Moderate' scrub achieved four of the aforementioned criteria. The NVC report describes the areas of scrub as 'Fairly Good' (under metric 2.0) but failing to meet 'Good' criteria due to the density of scrub. As it has not achieved one of the conditions, in accordance with the Defra 4.0 condition assessment, the scrub is considered 'Moderate'. The NVC report focuses only on the scrub edges and there is likely to be lower variance of scrub structure as well as age categories within the areas of dense scrub.

Abbutting the area to the access road is an area of mixed scrub. It was given a condition score of poor due to being bounded by a road on one side and an expanse of retained dense scrub. Given its density it has been assumed it has a uniform age class with little opportunity for new growth. Appletons have confirmed the presence of invasive species including wall cotoneaster (Cotoneaster horizontalis) and variegated yellow archangel (Lamiastrum galeobdolon subspw).

'**Wet Woodland**' this area was described in the PEA as an impenetrable area of scrub that had features similar to that of willow carr with a water depth of 0.5m. Species noted included bulrush (Typha latifolia), common reed (Phragmites australis), broad-leaved pondweed (Potamogeton natans), marsh pennywort (Hydrocotyle vulgaris), marsh bedstraw (Galium palustre), large bittercress (Cardamine amara), water plantain (Alisma plantago-aquatica), hard rush (Juncus inflexus). This parcel has been described as wet woodland over willow scrub due to the water table and field layer. This parcel was given a score of 'Moderate'. The condition of woodland is based on a points system of which there are a maximum of 39 points available. The species list only mentions willow and no other tree or shrub species and therefore it achieves only one point for the number of trees and shrubs present, it also has less than 10% of temporary open space and no recognisable NVC plant community and subsequently only achieving one point for these categories. There were no non-native, invasive plants or those indicating nutrient enrichment such as nettles, cleavers or goose grass recorded and therefore all three points were awarded for these three categories. As the scrub was inaccessible there are a number of precautionary assumptions made on whether it meets certain criteria and three points were awarded on the assumption the trees were in good health, there was over 50% of deadwood within the plot and there were two or more veteran trees. Given the density of the woodland it was assumed that there is little opportunity for seedlings or saplings and it assumed only two age categories are present and there is only two storeys across the woodland given the lack of shrub layer. Overall, the wet woodland achieved 32 of 39 points and achieves a 'Moderate' condition.

South of the access driveway to the refuse centre is a parcel of land described within the PEA as a 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'. This habitat was showing successional changes towards scrub due to the frequency and density of stands of bramble within the grassland, in combination with scattered hawthorn, which formed a complex mosaic. There is information regarding the percentage cover of each habitat type and therefore this was assessed as '**Other Neutral Grassland**' and failed the criteria that bramble scrub accounts for less than 5%. It did not closely resemble the UKHab definition of Other Neutral Grassland with occasional Yorkshire fog (Holcus lanatus), ribwort plantain (Plantago lanceolata), creeping thistle

(Cirsium arvense), meadow buttercup (Ranunculus acris) being the only typical species listed and so failed this essential criterion for achieving Moderate or Good.

A patch of tall ruderal habitat was present on site which has been translated to **'Other neutral grassland'** for the purposes of this assessment as it does not meet UKHab description of ruderal/ephemeral habitat and assessing under an 'Urban' condition sheet is considered inappropriate. Species include frequent

Rosebay willowherb (Chamaenerion angustifolium), Great willowherb (Epilobium hirsutum), Hogweed (Heracleum sphondylium), Dock (Rumex Spp.), Yorkshire fog (Holcus lanatus), Cock's-foot (Dactylis glomerata), Creeping thistle (Cirsium repens). The area is situated on the hill behind the lighthouse and bordering as an ecotone between dense scrub and unimproved calcareous grassland habitat. It does not meet the typical characteristics of other neutral grassland described within UKHab and therefore, does not meet the first criterion which is essential for achieving moderate or good condition. Therefore, this habitat was considered 'Poor'.

'Other neutral grassland' also refers to the semi-improved grassland along the sea wall with paths frequently present and in active use. As such, the grassland varied between long strips of fairly rank habitat to areas that were shorter and less rank due to constant disturbance. It is considered that the ground conditions in these habitats was somewhat variable with localised areas of eutrophication. This habitat was given a score of 'Moderate' as it had the appearance and composition of its UKHab definition (albeit some calcareous grassland species were present, the majority were characteristic of neutral grassland) and the sward height was varied. The description within the PEA describes the constant levels of disturbance from footfall and therefore it failed a condition based on damaging levels of access. Bramble scrub was identified as frequent locally abundant (26 – 50% percentage cover according to the DAFOR scale) and therefore the condition for less than 5% scrub cover was failed. There were no notable large areas of bare ground and therefore this condition was met. Overall, the habitat achieved 4 of 6 criteria.

'Other neutral grassland' refers to the pocket of unimproved neutral grassland on site. 0.0017ha will be lost when formalising a desire line toward the beacon to make it more accessible for site users. This area was characterised by frequent cock's-foot (Dactylis glomerata), meadow foxtail (Alopecurus pratensis) and false oat-grass (Arrhenatherum elatius) as well as frequent crested dog's-tail (Cynosurus cristatus), common cat's-ear (Hypochaeris radicata), red clover (Trifolium pratense), eyebright sp (Euphrasia nemorosa/confusa), common knapweed (Centaurea nigra), white clover (Trifolium repens), occasional sweet vernal-grass (Anthoxanthum odoratum), and rarer occurrences of common ragwort (Jacobaea vulgaris) and common bent (Agrostis capillaris). The species present are characteristic of the UKhab description of this habitat type and therefore, this criterion has been met. A description of the sward height has not been provided so it has been assumed that the criterion of a varied sward height has been met. Whilst there is one undesirable species present (white clover), it is unlikely that this accounts for 5% of the area and bare ground, scrub and bracken are not listed within the habitat description or species list and are

therefore assumed absent, so these criteria have been met. Overall, based on a few precautionary assumptions, this habitat parcel meets 6 of the 6 criteria and achieves a 'Good' condition assessment.

There were several pockets of Calcareous Grassland across the site.

'**Calcareous grassland**' to the north-eastern corner of the central scrub area. The species listed within the PEA includes only shares one of the species listed with the UKHab definition, birds foot trefoil and therefore is not considered a good representation of this habitat type and therefore cannot achieve a condition higher than poor.

The NVC report gives a condition assessment of 'Fairly Good' for the Lowland **Calcareous Grasslands** adjacent to the informal crossroads near where the BOAT begins along the old sea wall. The grassland communities are classed as MG1/CG4 and CG1 and have a cover of over 30% wildflower and sedges and includes red list taxa. However the habitat appears to be in transition to the lower quality MG1 community and clearly fails one condition as it has over 5% bramble coverage. The NVC report also assigns a pocket of Lowland **Calcareous Grasslands** leading to the old lighthouse as Fairly Good. This habitat is subject to damaging levels of access as it has a desire line running through and bramble coverage exceeds over 5% and therefore does not meet these criteria. Furthermore, there is presence of occasional invasive species Sea buckthorn (Hippophae rhamnoides) within the wider expanse however none noted within the area being assessed. Both pockets fail to meet 'Good' condition as there is room for improvement.

The NVC report identifies the **'Calcareous grassland'** leading to new hide along old sea wall and along the path of by the central lagoon as 'Good'. Although in the former location, sea buckthorn was also noted in this area and therefore this criterion is not met.

4.2 PROPOSED SITE LAYOUT

Based on masterplan drawings, the proposed development is predicted to provide **98.74** biodiversity units as shown in Table 4.2.

Table 4.2 Post-Development Biodiversity Units

Enhanced Habitats					
Baseline habitat	Baseline condition	Proposed Broad Habitat	Proposed condition	Total habitat area (hectares)	Biodiversity Units
Wider Site					

Heathland and shrub - Mixed scrub	Poor	Heathland and shrub - Mixed scrub	Good	3.160827897	40.82
Woodland and forest- Wet Woodland	Moderate	Woodland and forest- Wet Woodland	Good	1.3736657	22.30
Grassland - Other neutral grassland	Moderate	Grassland - Other neutral grassland	Good	1.655243129	20.02
Grassland - Lowland calcareous grassland	Fairly Good	Grassland - Lowland calcareous grassland	Good	0.013244319	0.07
Grassland - Lowland calcareous grassland	Poor	Grassland - Lowland calcareous grassland	Moderate	0.015167759	0.13
Created habitats					
Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units	
Welcome Building					
Urban	Developed land; sealed surface	0.350547239	V.Low	N/A - Other	0.00
Urban	Biodiverse green roof	0.1265	Medium	Moderate	0.59
Grassland	Lowland calcareous grassland	0.154	High	Moderate	0.44
Heathland and shrub	Mixed scrub	0.0701652	Medium	Moderate	0.49
Wider site					
Heathland and shrub	Mixed scrub	0.067402088	Medium	Moderate	0.47
Grassland	Other neutral grassland	0.021520624	Medium	Moderate	0.15

	Lowland calcareous grassland	0.081822725	High	Moderate	0.23
	Lowland calcareous grassland	0.051579539	High	Moderate	0.15
	Lowland calcareous grassland	0.06122573	High	Moderate	0.18
	Lowland Meadow	0.043009397	V.High	Moderate	0.16
	Bracken	0.018411021	Low	Condition Assessment N/A	0.04
Sparsely vegetated land	Coastal sand dunes	0.009446454	High	Moderate	0.01
Urban	Open Mosaic Habitat on Previously Developed Land	1.051563123	High	Moderate	9.40
	Artificial unvegetated, unsealed surface	0.359452761	V.Low	N/A - Other	0.00
	Bioswale	0.095	Low	Poor	0.13
	Biodiverse green roof	0.0035541	Medium	Moderate	0.02
				TOTAL	98.74

The metric calculation reflects area-based habitats only as no linear, or river habitats are proposed within the post-development design.

Enhanced habitats

A large expanse of '**Mixed scrub**' habitat will be enhanced as part of the project. This baseline area of scrub failed to meet several conditions including the presence of seedlings, saplings, young and mature shrubs, having a well-developed edge with grassland/tall forbs present and presence of clearings and glades

and rides providing sheltered edges. In the first instance, proposals seek major clearance of scrub within this area ahead of the introduction of conservation grazing in the form of cattle. The aim would not be to eradicate scrub entirely however, through introduction of conservation cattle grazing, create glades, rides and prevent scrub encroachment onto sensitive habitats. This will give opportunities for younger scrub plants to develop and produce a variety in age categories, as well as allow grassland and tall forb edges to the scrub. This aligns with RSPB's visions for the site and the conservation grazing will ensure long term management of the scrub which is currently at risk of encroaching over much more of the site.

'**Wet Woodland**' the area of wet woodland falls within the area of scrub that will be cleared to enable conservation grazing. During the clearance it is recommended that some of the willow within the wet woodland is coppiced to create a more diverse woodland structure with some clearings meeting some of the conditions the habitat was previously not achieving. Clearance will also provide opportunities for more variety of age classes to grow and therefore it will likely achieve this criterion too. Therefore, through the clearance and conservation grazing the wet woodland habitat should achieve 'Good' condition.

The area of '**Other neutral grassland**' refers to the semi-improved grassland along the sea wall BOAT. The baseline condition is considered 'Moderate' and criteria it failed included there is damaging levels of access as well as over 5% bramble scrub cover. Through the formalisation of the path and BOAT, it should allow the habitats to recover. It is recommended that scrub clearance takes place within these areas of grassland too to ensure cover is less than 5% which could be managed going forwards through the use of conservation grazing and Nofence collars at certain times of the year if considered safe for the site users and cattle.

The area of fairly good '**Lowland calcareous grassland**' that will be enhanced is by the crossroads before the start of the sea wall to the east. Here, it failed some criteria as it appeared to be in transition to the lower quality false oat-grass (*Arrhenatherum elatius*) grassland (MG1 community) and clearly has over 5% bramble coverage.

There is a poor condition '**Lowland calcareous grassland**' located north-eastern corner of the central scrub area proposed for enhancement. This area failed the essential criterion that it should resemble its UKHab definition. Given its close proximity to other areas of calcareous grasslands it is considered realistically achievable to improve the condition to at least Moderate as it has the appropriate soil pH. To help the habitat achieve a similar community to the UKHab definition, clearance of scrub and perennial weeds should take place in this area, following which and seeds from the neighbouring habitat will be harvested after flowering and will be sown in this area within early Autumn.

Created Habitats

In accordance with Metric 4.0 guidance **Developed Land Sealed Surface** and **Artificial unvegetated, unsealed surface** have no condition assessment.

Welcome Building

Developed land sealed surface will be in the form of a new access road and the Welcome Building building and associated car parking.

Biodiverse green roof on the welcome building will be in the form of earth mounding using adjacent soils to conceal the lower levels of the building and to integrate it into the wider landscape. The biodiverse roof will be a substrate based biodiverse roof comprising a standard living roof build up as per GRO code 2021, with a substrate depth that ranges between 150-225mm. substrate will be chalk based although sandy piles and areas of more free draining cobbles will also be provided to create a mosaic of habitat structure which will create additional habitat for invertebrates. The seedbank will be from a post flower harvest of the surrounding calcareous grassland habitat. The roof should be managed to remove any invasives or those detrimental to native plant species. Overall, it is considered realistic that the biodiverse roof can achieve at least a 'Moderate' condition.

The existing road to the tip will be broken up and narrowed into a path giving 0.169602ha back to nature. At least 0.0156ha of this habitat will be used to compensate for the loss of 0.0156 lowland meadow required to build the new access road. As per 4.0 guidance, this compensation has not been used within the calculation.

The remaining 0.154 of tarmac will be broken up and removed to create areas of Annex I Calcareous grassland using the adjacent seed bank. Once the asphalt of the existing road has been broken up and removed the area can be prepared and sown with a seedbank from areas of calcareous grassland nearby. It will be maintained with grazing and aim to have less than 5% scrub habitat and 20% bracken. It will be monitored to ensure that any invasive species are removed immediately. It is expected to achieve at least 'Moderate' condition post development

There will also be 0.0701652ha of mixed scrub creation. This will be focused around areas of car park and along access roads where previous scrub has been removed. The scrub will create a physical barrier between the cars and protect the grasslands from eutrophication from increased nitrogen deposition. The mixed scrub will comprise a similar mix to the baseline (hawthorn, willow and bramble) with at least three woody species where not one species will dominate. It will be monitored for invasive species and any identified should be removed appropriately. It will have at least one well developed edge comprising lowland meadow and calcareous grassland. It will not be expected to have clearings or glades due to its requirement to act as a physical barrier and therefore it is unlikely to meet this criteria. Therefore, it is expected to achieve at least 'Moderate' condition.

Wider Site

The paths and roads across the site will be narrowed which will allow nature to recover. There areas gained have a higher chance of success if their nearest habitat type is targeted. In most cases the adjacent habitats are predicted to encroach on new areas of bare ground but in some instances such as the

grassland habitats, they may require some additional management to achieve this. There will be an effort across the site to remove the invasive species present by specialised contractors and the monitoring over the 30 years will ensure that any invasives are removed if detected. Is it assumed that the habitats will achieve at least moderate condition.

'**Mixed scrub**' will comprise at least three woody species with not one species claiming dominance. It will be free from invasive species and comprise a mixture of age categories. It will be managed by conservation grazing to create clearings and rides. It will be bound by scrub and the path/road and therefore unlikely to meet this condition. Therefore, 'Moderate' condition has been predicted.

'**Other neutral grassland**' the area adjacent to this gained parcel of land comprises a mosaic of unimproved neutral grassland, tall ruderal and dense scrub. It is recommended the gained area is managed to become neutral grassland as it is has a higher distinctiveness than tall ruderal and dense scrub. It is recommended that the soil is prepared before sowing with a seedbank from the adjacent habitat. During the creation of this habitat, it is recommended that the adjacent dense scrub is cut back to prevent encroachment on the neutral grassland and tall ruderal habitat which will then be managed through conservation grazing.

'**Lowland calcareous grassland**' this is adjacent to existing lowland calcareous grassland abutting the existing paths on site according to the NVC report. It is considered realistically achievable to create in the parcels of gained land as the soils are likely similar to the adjacent habitats and therefore suitable for meadow creation. It is likely that overtime these habitats will expand onto these new areas. However, the creation success can be sped up and managed to targeted condition through the following steps:

- Creation of firm seed beds free from perennial weeds;
- Seeds from the neighbouring habitats will be harvested after flowering;
- Seeds will be sown in early Autumn;
- Management of newly sown grassland through cutting and removal of vegetation.

The on-going management through conservation grazing should keep scrub below 5% and a mixed sward height will be achieved. Additional management interventions should include monitoring for invasives and removal if necessary and manual clearance of bracken should it begin to encroach in this area. The adjacent area in the NVC report has been assigned a 'Fairly Good' condition, failing to meet 'Good' condition due to the presence of >5% bramble. It is therefore considered realistic that the newly created grassland will achieve at least Moderate if not higher. It is therefore recommended that the scrub of the wider habitat is cleared back to allow the surrounding habitat to achieve 'Good' condition.

'**Lowland calcareous grassland**' this pocket of land is adjacent to what has been described as calcareous grassland within the NVC report and as part of a wider expanse of a mosaic of un-improved calcareous grassland, dense scrub and ephemeral short perennial vegetation according to the PEA. It is recommended the gained area is managed to become calcareous grassland as it is having a higher distinctiveness than ephemeral/short perennial habitat and dense scrub. It can be achieved through following the steps provided in the paragraph above. The NVC report describes the adjacent habitat as being in 'Moderate' condition and therefore, it is considered realistic to achieve at least 'Moderate' condition of this habitat. The NVC report assigns it moderate condition as the areas of bare ground consistently exceed 10% on average and so through the formalisation of paths, this may allow these areas of bare ground to recover from footfall.

'**Lowland Meadow**' this is adjacent to existing lowland meadow grassland according to the NVC report. It is considered realistically achievable to create in the parcels of gained land as the soils are likely similar to the adjacent habitats and therefore suitable for meadow creation. It is likely that overtime these habitats will expand onto these new areas however the steps provided for the calcareous grassland above should be followed for creation of this habitat too. The adjacent habitat meets 'Good' condition according to the NVC report and therefore, there it is likely that the created habitat can achieve at least 'Moderate' condition if not higher.

'**Bracken**' requires no condition assessment in accordance with the 4.0 metric. It is likely that the adjacent habitat will colonise the gained parcel of land without intervention.

'**Coastal sand dunes**' the crossroads where the paths meet the BOAT before the sea wall will be narrowed. The area of gained habitat lies adjacent to existing sand dunes, it is likely that the sand dunes will encroach on this area without intervention however intervention will be required to manage succession and prevent scrub encroachment on establishing and established coastal sand dune habitats.

'**Open Mosaic Habitat on Previously Developed Land**' will be created along the sea wall using the materials from the existing road which will be narrowed. The areas of bare earth will be seeded with nearby habitats such as the adjacent unimproved calcareous grassland which is known to support waxcap communities and can evidently survive the exposed conditions along the seawall. The structural diversity will create microclimates that will support invertebrates. It should be monitored for invasives and any invasive species identified should be removed by a specialist contractor. It is likely that this habitat will achieve at least 'Moderate' condition if not higher.

As part of the drainage strategy, mixed scrub will be lost and '**Bioswales**' created to attenuate and treat surface runoff. These will be designed to give more opportunities for natterjack toads on site and so will have minimal plant structural diversity as natterjacks require open habitat. There will be hibernacula and

refugia features surrounding the swales including piles of sand and stone. As there will be minimal planting and flowering plants in favour of suitable natterjack habitat, this area was awarded a condition score of 'Poor'.

Proposals seek to fit a '**Biodiverse living roof**' on the existing tern hide. The living roof will be substrate based, plug planted and seeded with a suitable coastal wildflower mix which should include wildflower species with value to pollinators. The substrate will be composed of recycled organic content (for example from other areas of the site) which would mimic the mosaic habitat of recently disturbed land, and allow for the growth of early successional communities such as mosses and lichens, as well as allow for bare patches. These roofs will also feature additional habitat features such a log piles, sandy piles, rope coils, stone piles in order to increase the interest for a wider range of invertebrates, including rare saprophytic Beatles and solitary bee species and provides multiple opportunities for a high number of species to live and breed (complete their life cycles). Overall, it is realistic that the roof can achieve at least a 'Moderate' condition if not higher.

5.0 EVALUATION AND DISCUSSION

Under these proposals, and in the absence of additional enhancement measures and habitat creation, the development stands to result in a net gain of 24.45 biodiversity units associated with area-based habitats from pre-development levels. This corresponds to a total net increase of 32.92% in ecological value. All trading rules will be satisfied on the acceptance of the bespoke compensation by the local authority.

Upon the acceptance of the bespoke compensation plans, the proposals are will comply with local and national planning policy (see Appendix D). and exceed the BNG Mandate targets which seeks a 10% uplift in biodiversity units.

5.1 ADDITIONAL ENHANCEMENTS

The site is currently subject to minimal management. The Environment Act, 2021 secures habitat management for the next 30 years at least and therefore this development will ensure the long-term conservation and enhancement of the habitats and species at site through a sustained commitment to management; the absence of which could put some sensitive habitats at risk due to successional habitat change.

Through implementation of the following interventions, it is likely that the long-term management can ensure that habitats across the site in good condition remain in good condition and that habitats in poorer conditions are improved.

It is likely that the higher management of site will benefit a lot of these areas across site and therefore updated BNG calculations should be done as part of the long-term management of the site to accurately reflect any positive or negative changes and identify where remedial actions are required.

Details on habitat enhancement and management to ensure delivery of BNG should be outlined in an Landscape and Ecological Management Plan (LEMP) and detailed landscaping plans, which could be secured through planning condition.

The LEMP should provide description of how habitats are to be created and managed for a period of at least 30 years.

Conservation Grazing

As described above, the use of conservation grazing will be introduced to the site to help manage habitats and help achieve the targeted conditions.

In keeping with RSPB visions for the reserve, major works are required to remove large areas of maturing scrub as well as a management regime of extensive grassland and scrub. Due to limited resources RSPB can only contribute to some scrub clearance once a year, with the aid of volunteers. The site has large areas of dense scrub encroachment and the sensitive habitats are at risk of habitat succession into scrub in the absence of management.

The scrub adds to the habitat heterogeneity of the site which is of value for many breeding birds and invertebrates as well as being visually interesting to site users. The aim would not be to eradicate scrub entirely however through introduction of conservation cattle grazing create glades, rides and prevent scrub encroachment on sensitive habitats. The prevention of dense scrub forming will overall increase the structural diversity of the site and benefit the habitats, notable plants, birds, invertebrates and amphibians. Once the major clearance of scrub has taken place, it is recommended that cattle are introduced.

Removal of Invasive species

Several species listed on Schedule 9 species as per the Wildlife and Countryside Act 1981 (as amended) were identified during the PEA including Montbretia sp., Japanese knotweed (Fallopia japonica), Cotoneaster sp. Including wall Cotoneaster, small-leaved cotoneaster (Cotoneaster microphyllus) and variegated yellow archangel.

Whilst sea buckthorn (Hippophae rhamnoides) is not an invasive species as per Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), it is considered to be an invasive species in the northwest of England. This was found across the site despite efforts from RSPB to eradicate.

The invasive species (inclusive of sea buckthorn) within the development footprint will be removed by specialist contractors and disposed of following best practice guidance[12]. Bio-security principals will be followed throughout the construction to prevent the spread of invasive species and an Ecological Clerk of Works (ECoW) shall be present during works, if required.

The presence of invasive species (inclusive of sea buckthorn) on site post-works will be monitored over the long-term and their control/removal will be undertaken as necessary as part of ongoing habitat management work.

Ecological Features

As referenced in the EcIA report, further qualitative ecological enhancement should also be targeted on site through the provision of tern islands and floating islands and sand martin tunnels for nesting birds as well as invertebrate habitat features such as pollinator posts or bee bricks and bat boxes, to help protect nationally and locally important species, including those specified in the Cumbria's biodiversity action plan.

6.0 SUMMARY & CONCLUSION

Greengage was commissioned by Cumberland Council to undertake a Biodiversity Impact Assessment of a site known as Hodbarrow Nature Reserve ('Hodbarrow') and area of land immediately to the north, on the south-west coast of Cumbria, in order to assess the change in ecological value of the site in light of the proposed development.

This report demonstrates that the development proposals will result in a net gain of 24.45 biodiversity units should existing plans be adhered to, equivalent to a 32.92% increase in ecological value and is in compliance with local and is compliant with the BNG Mandate which states a target of 10% net gain in biodiversity. All trading rules will be satisfied on the acceptance of the bespoke compensation by the local authority.

This BIA has been undertaken in May 2023. Any further changes to the design will impact upon the BNG score and the metric will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. Habitat condition criteria in Section 3.2 must also be adhered to. Any changes must be reflected in the biodiversity metric. It is recommended that revised calculations (including monitoring) are undertaken using Metric 4.0 in order to ensure consistency throughout the 30 years management.

Further improvements to biodiversity on site could be achieved through the introduction of conservation grazing across the site and removal and monitoring of invasive species within the development footprints. Qualitative ecological enhancement should also be targeted on site through the provision of features for nesting birds, invertebrate habitat features (such as pollinator posts or bee bricks) and bat boxes to help protect nationally and locally important species.

Details on any habitat creation and its ongoing management should be agreed with the Local Planning Authority and described in an LEMP (secured by planning condition) for the site. The LEMP must provide description of how habitats are to be created, managed and maintained for a period of at least 30 years.

APPENDIX A SITE PLAN AND HABITAT MAP

THE IRON LINE

- Wet ditch_polyline
- Waterbody_region
- Variegated yellow archangel_point
- Unknown habitat_region
- SwampFen_region
- Semi-improved grassland_region
- Sea buckthorn_point
- Scrub_region
- Scattered scrub_point
- Quarry_region
- Natural rock exposure (other)_region
- MosaicH67H65_Dune Scrub/Grassland
- MosaicB21C31A12 Neutral Grassland/Tall Ruderal/Scrub
- MosaicA21B31_Scrub/Calcareous Grassland
- Mosaic TR Bracken 50-50_region
- Mosaic Scrub TR Grass_region
- Mosaic C31 and B21_Tall ruderal/Neutral Grassland
- Mosaic C31 and A21_Tall ruderal/scrub
- Mosaic C11 A12 C31_Bracken/Scrub/Tall ruderal
- Mosaic B21a21_Neutral grassland/Scrub
- Montbretia_point
- Japanese knotweed_region
- J22 Species Poor Hedgerow_polyline
- J2_5 Wall_polyline
- Inland cliff_region
- Inaccessible_region
- Hard standing_region
- H84 Coastal Grassland_region
- H83 crevice and ledge veg_region
- H81 Maritime cliff_region
- H68 Open Dune_region
- H67 Dune scrub_region
- H65 Dune grassland_region
- H5 strandline vegetation_region
- H4 Boulders_region
- H3 Shingle Gravel above high tide_region
- H1 intertidal sand_region
- G1 Standing water and G2 Running water_polyline
- Ephemeral_region
- D1_1 Dry acid heath_region
- Cotoneaster_point
- Calcareous grassland_region
- C31 Tall ruderal_region
- Building_structure_region
- Bracken_region
- B32 SI Calc grass_region
- B21 Unimproved neutral grassland_region
- B4 Improved grassland_region
- potential badger hole

Title: Figure A.1

Habitat Shapefiles provided by: Appletons

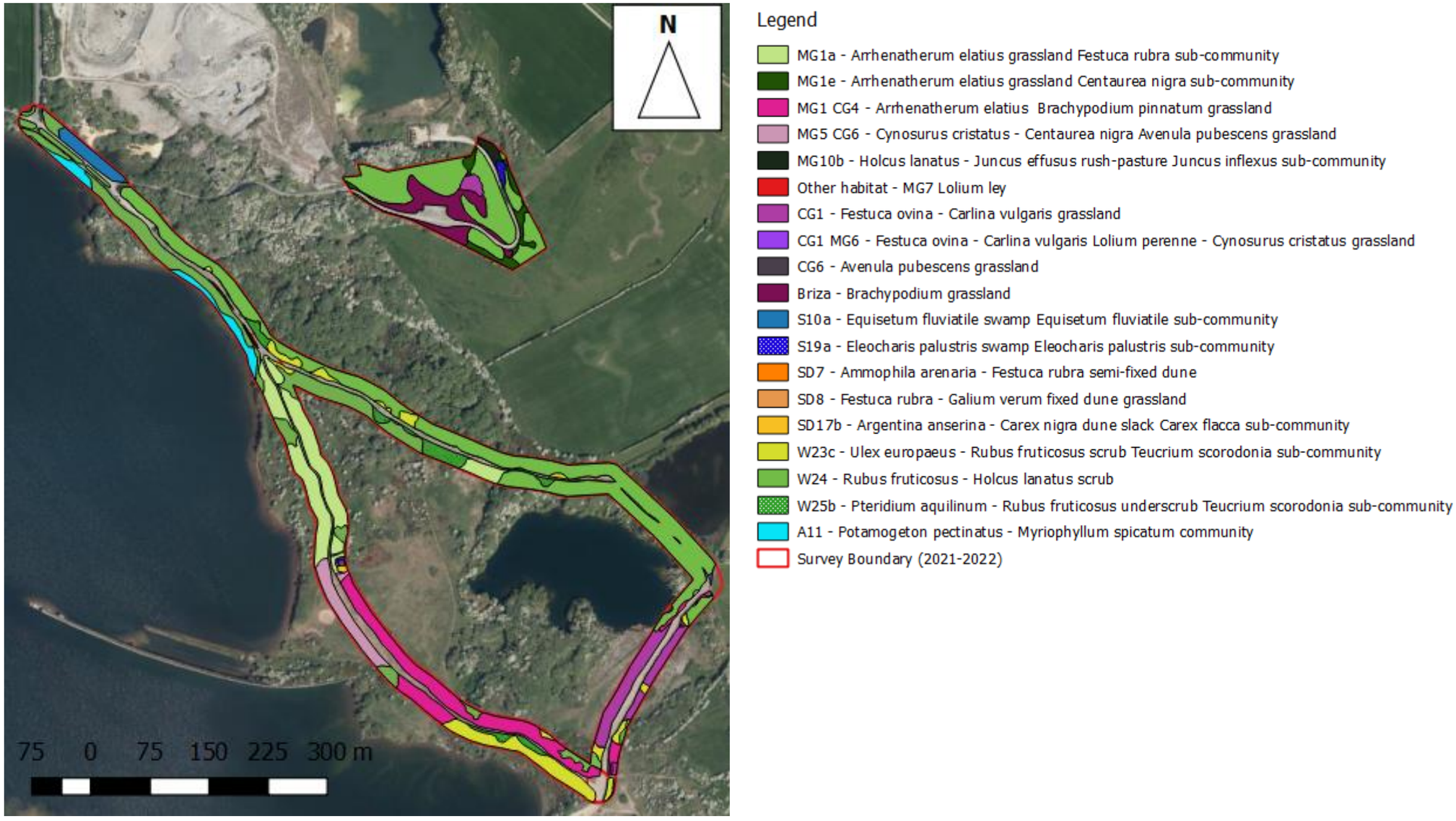
Project number: 551959
Sources: Google Satellite

Greengage

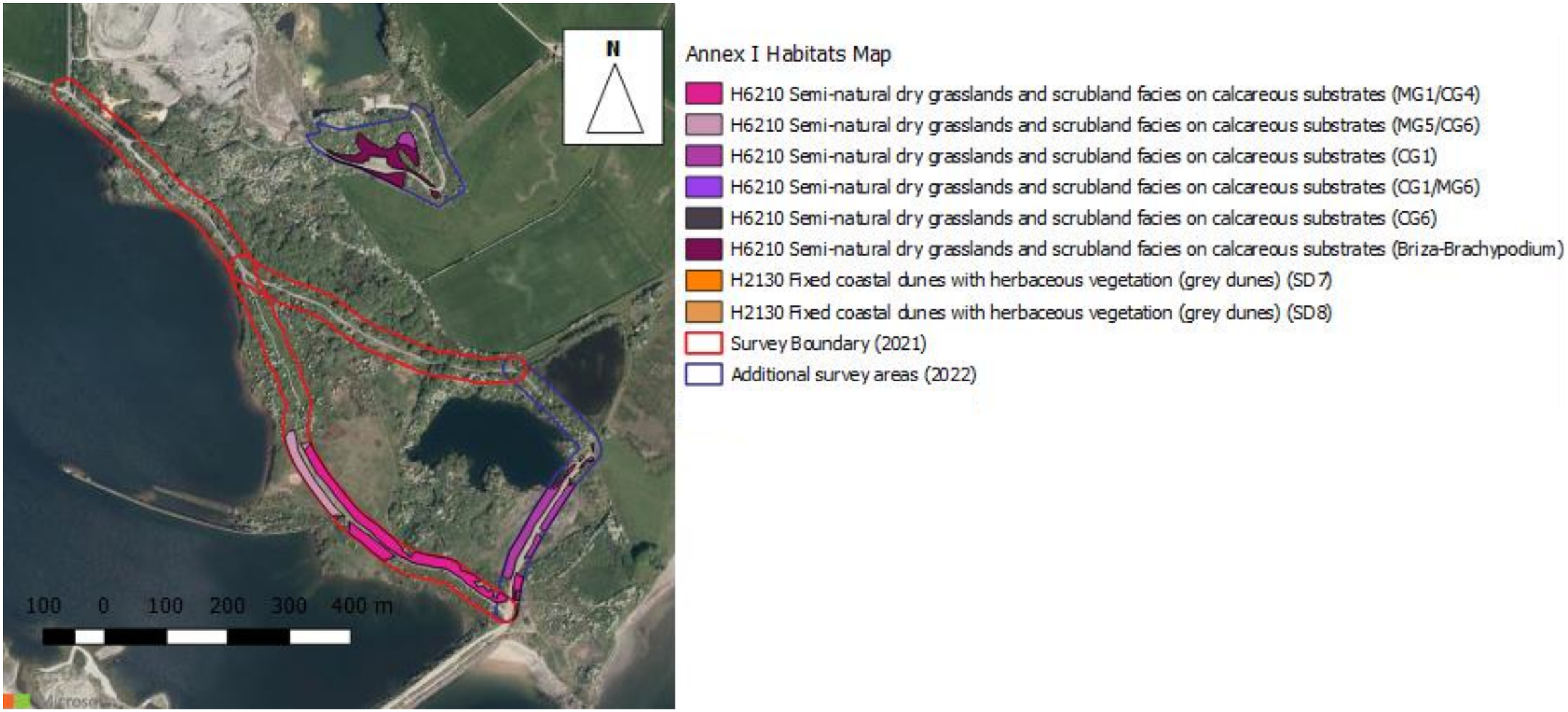
0 0.25 0.5 0.75 1 km

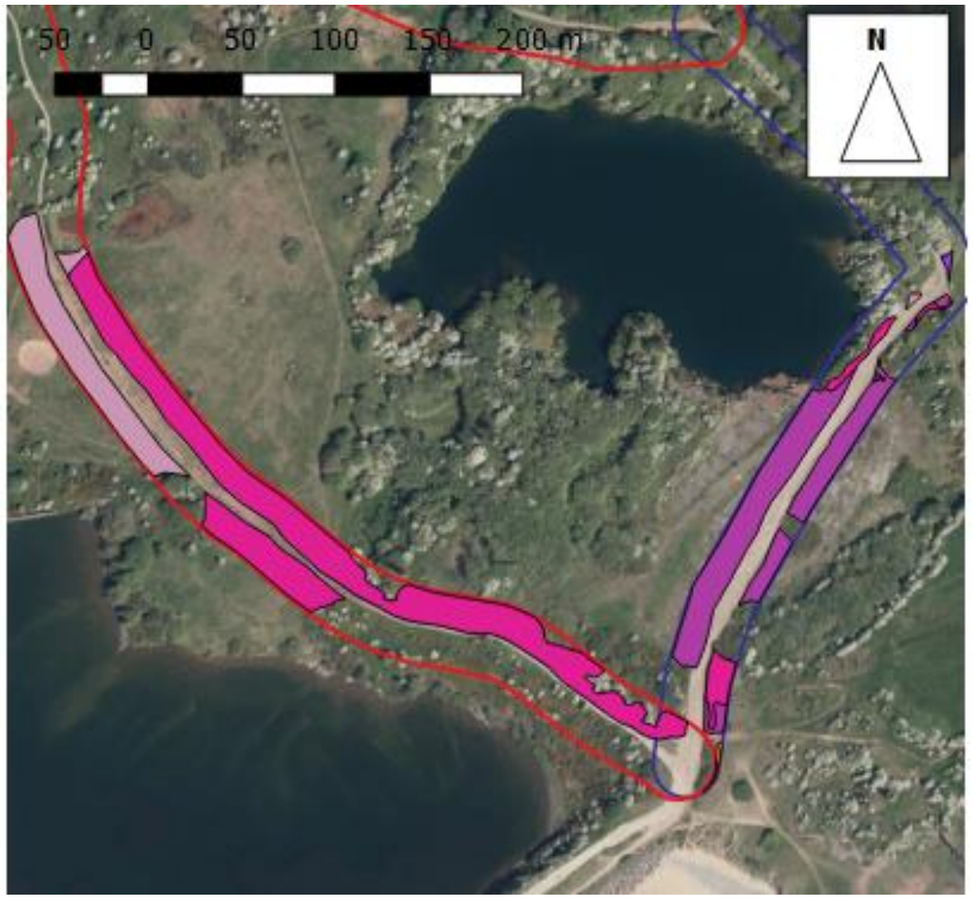
N

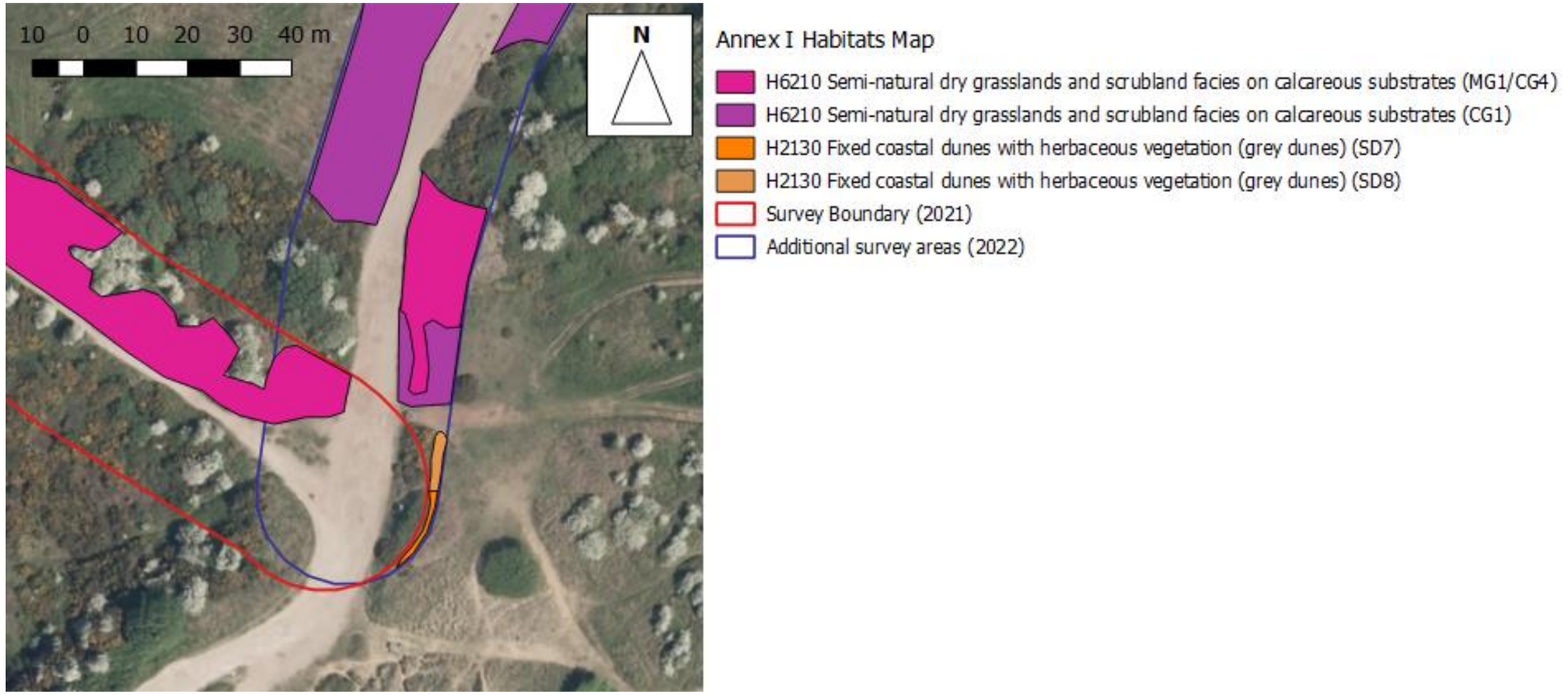
Appendix V: Phase 2 (NVC) Habitat Maps



Appendix III: Annex I Habitats Maps



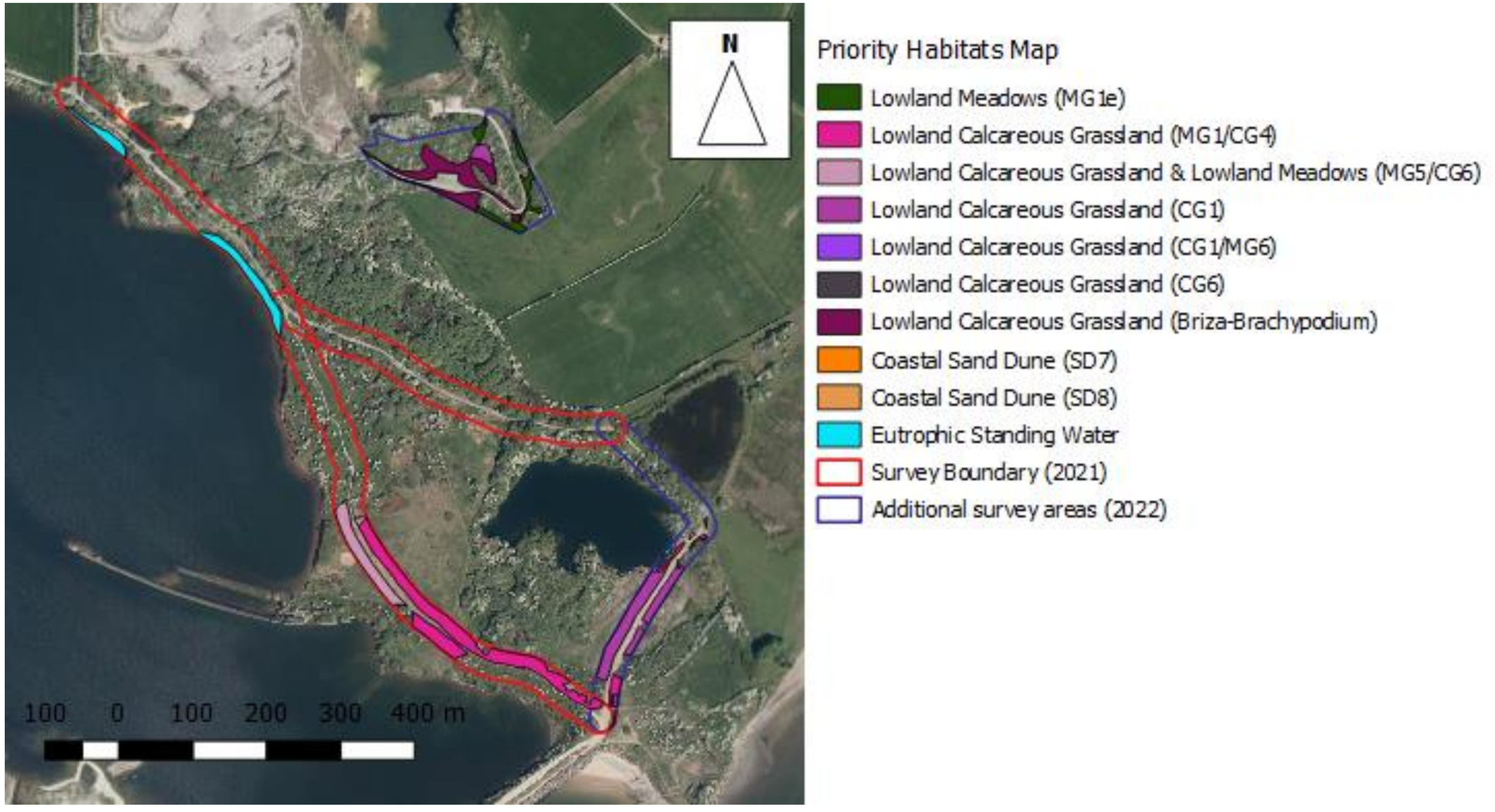

50 0 50 100 150 200 m
N
Annex I Habitats Map
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (MG1/CG4)
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (MG5/CG6)
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (CG1)
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (CG1/MG6)
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (CG6)
H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) (SD7)
H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) (SD8)
Survey Boundary (2021)
Additional survey area (2022)


10 0 10 20 30 40 m
N
Annex I Habitats Map
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (MG1/CG4)
H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (CG1)
H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) (SD7)
H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) (SD8)
Survey Boundary (2021)
Additional survey areas (2022)

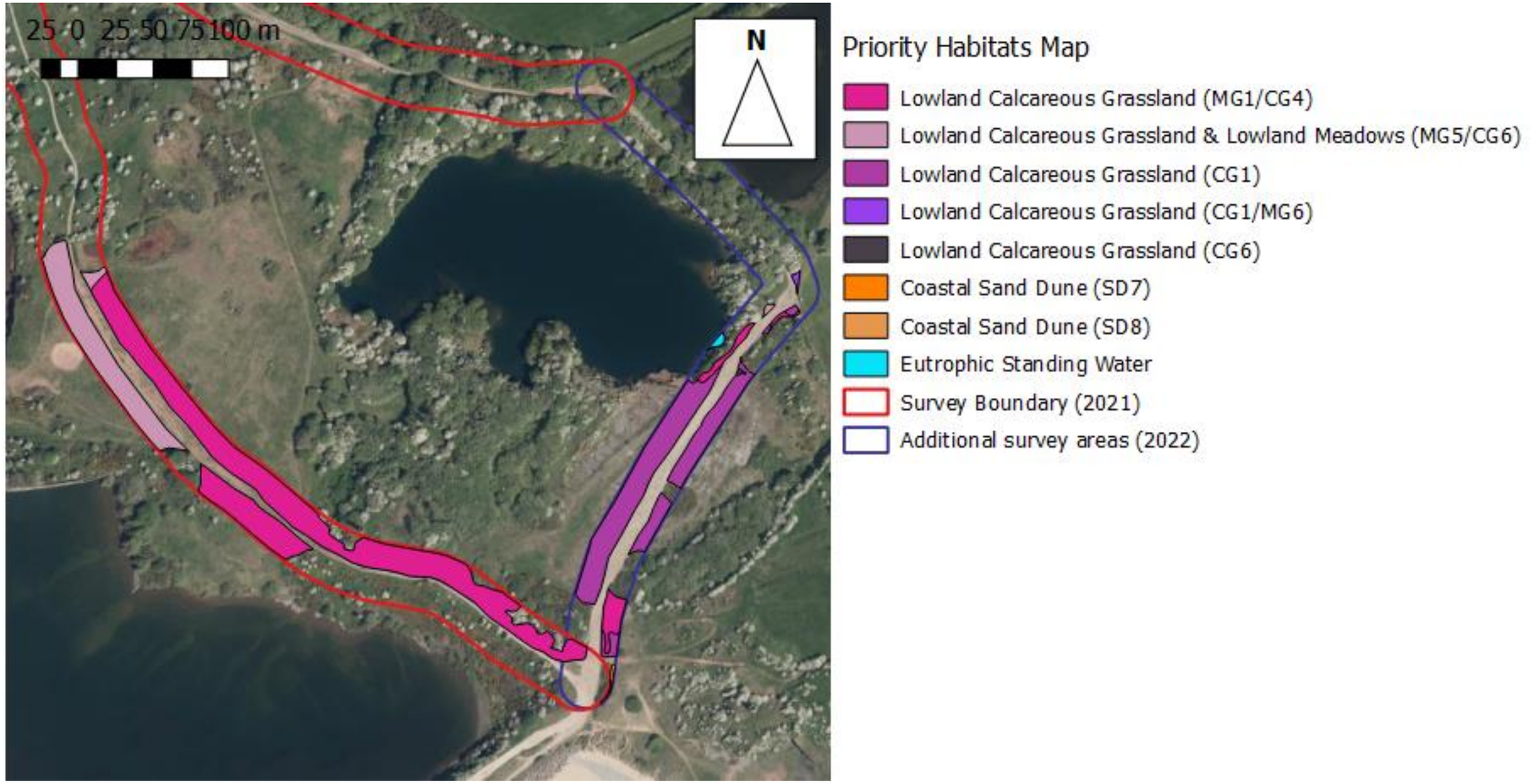
Annex I Habitat Map

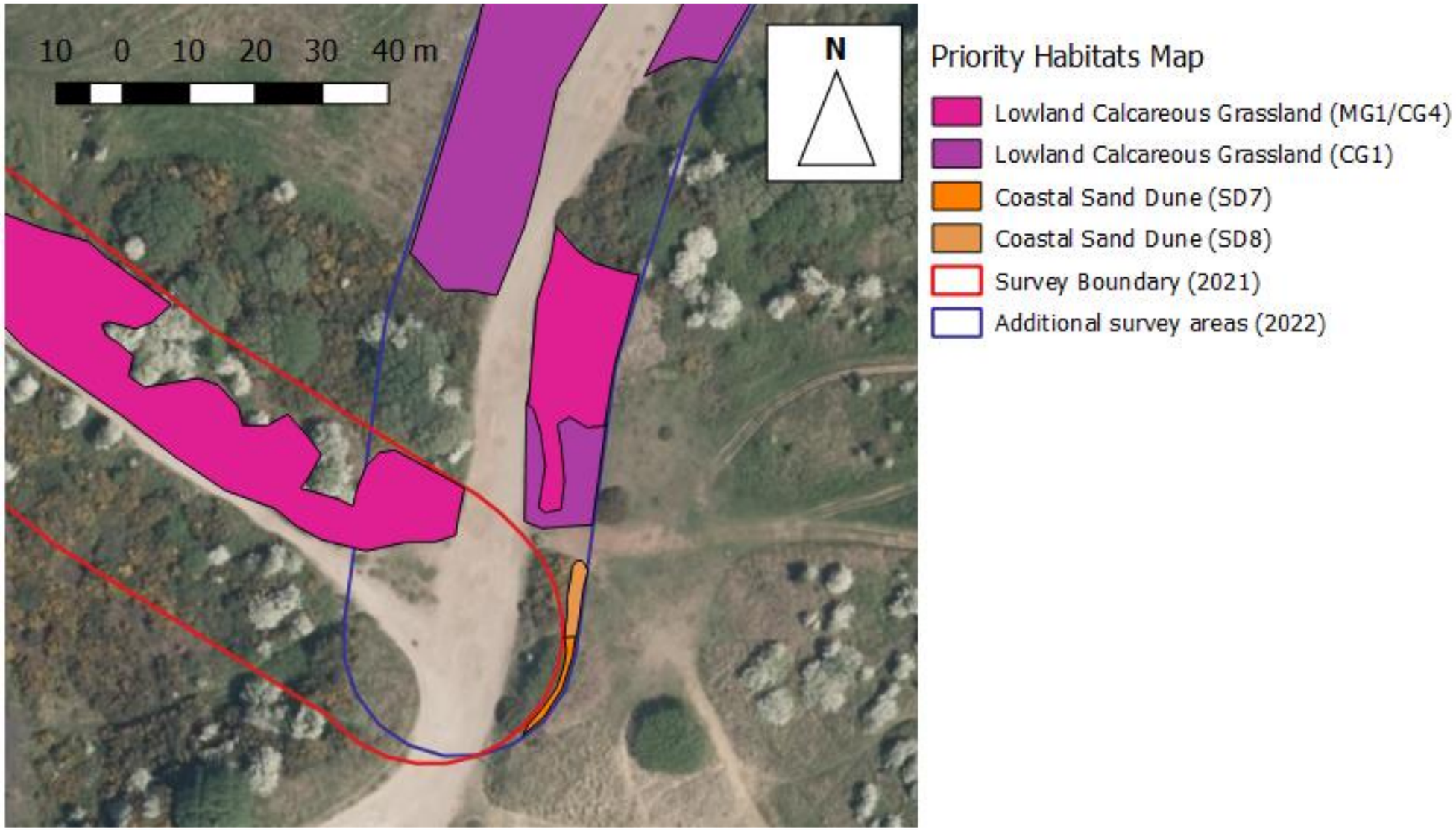
- H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (CG1)
- H6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Briza-Brachypodium)
- Additional survey area (2022)

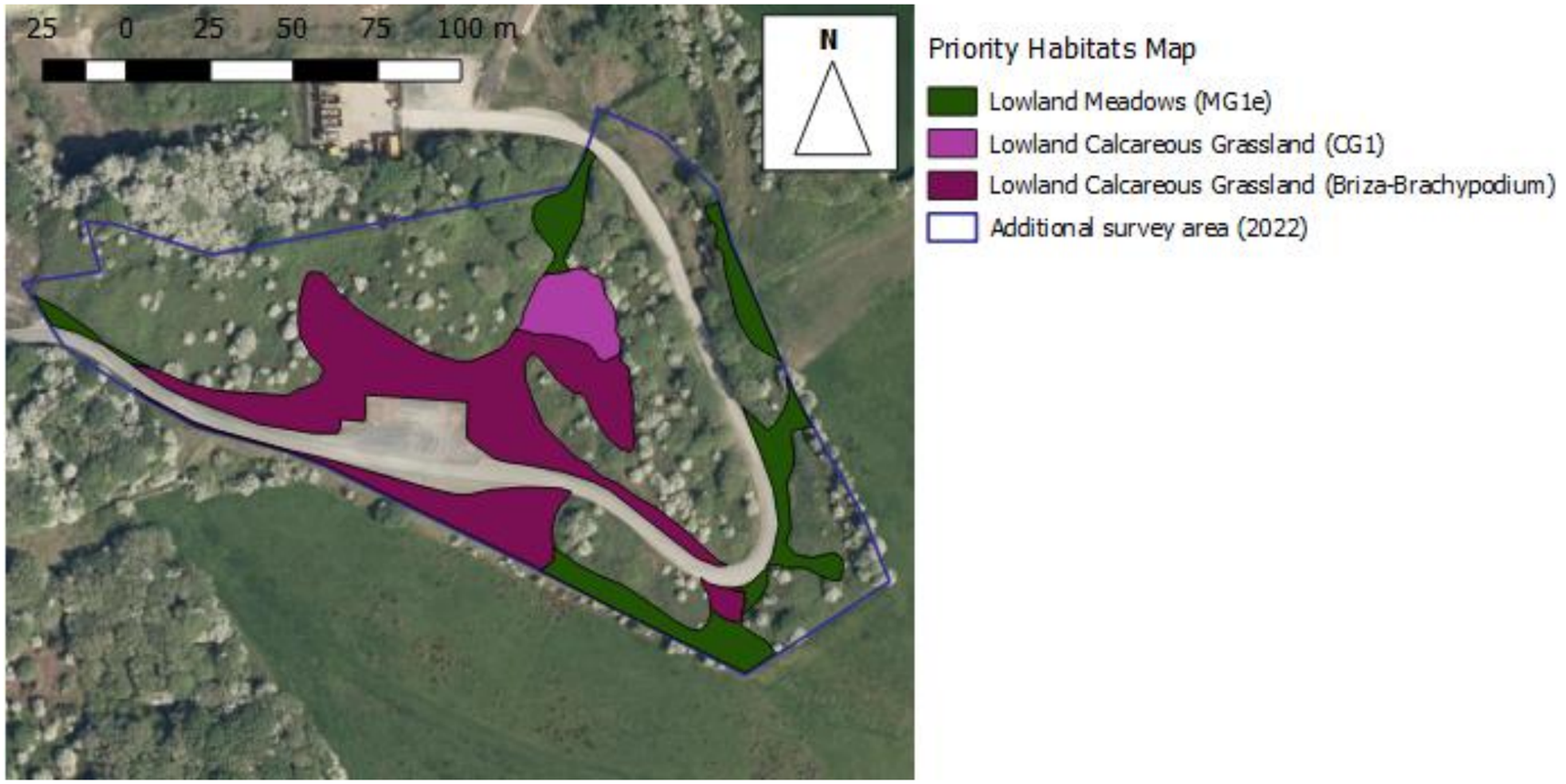
Appendix IV: Priority Habitats Maps




25 0 25 50 75 100 m
N
Priority Habitats Map
Eutrophic Standing Water (A11)
Survey Boundary (2021)

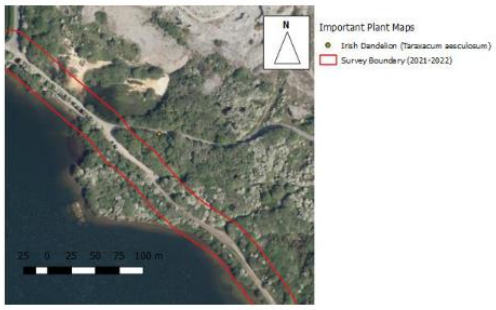

25 0 25 50 75 100 m
N
Priority Habitats Map
Lowland Calcareous Grassland (MG1/CG4)
Lowland Calcareous Grassland & Lowland Meadows (MG5/CG6)
Lowland Calcareous Grassland (CG1)
Lowland Calcareous Grassland (CG1/MG6)
Lowland Calcareous Grassland (CG6)
Coastal Sand Dune (SD7)
Coastal Sand Dune (SD8)
Eutrophic Standing Water
Survey Boundary (2021)
Additional survey areas (2022)


10 0 10 20 30 40 m
N
Priority Habitats Map
Lowland Calcareous Grassland (MG1/CG4)
Lowland Calcareous Grassland (CG1)
Coastal Sand Dune (SD7)
Coastal Sand Dune (SD8)
Survey Boundary (2021)
Additional survey areas (2022)


25 0 25 50 75 100 m
N
Priority Habitats Map
Lowland Meadows (MG1e)
Lowland Calcareous Grassland (CG1)
Lowland Calcareous Grassland (Briza-Brachypodium)
Additional survey area (2022)

Important plants identified in NVC reports

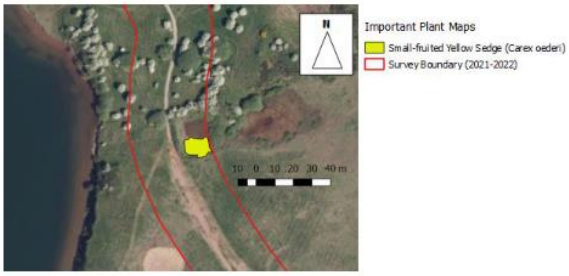
Irish Dandelion (*Taraxacum aesculosum*)



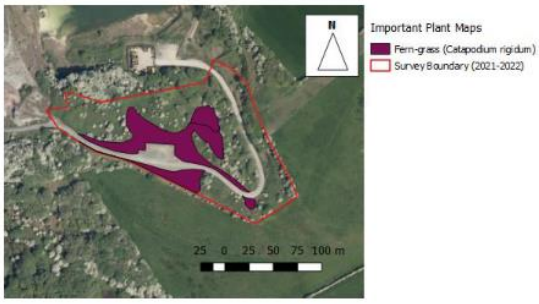
Moonwort (*Botrychium lunaria*)

Pillwort (*Pilularia globulifera*)

Small-fruited Yellow-sedge (*Carex oederi*)

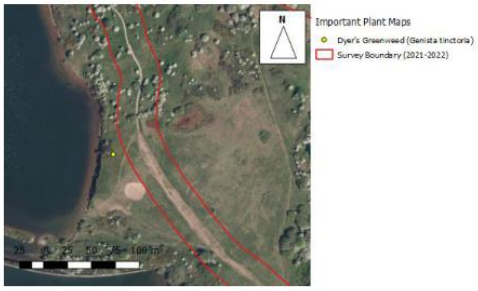


Fern-grass (*Catapodium rigidum*)

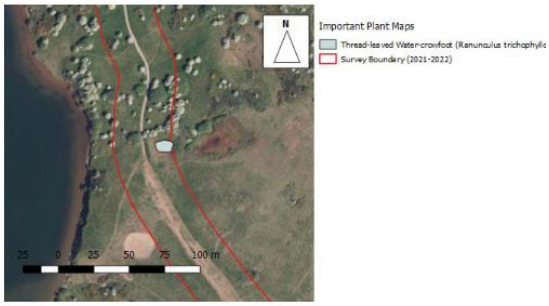


Slender Spike-rush (*Eleocharis uniglumis*)

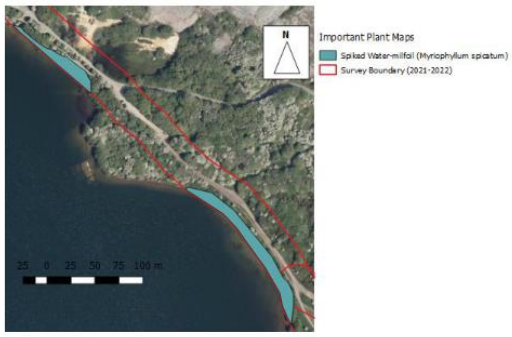
Dyer's Greenweed (*Genista tinctoria*)



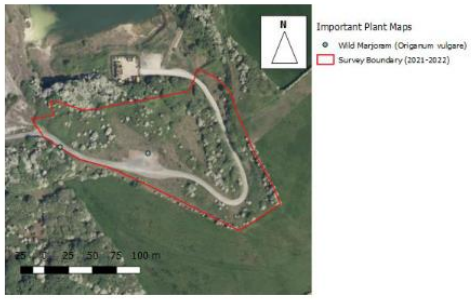
Thread-leaved Water-crowfoot (*Ranunculus trichophyllos*)



Spiked Water-milfoil (*Myriophyllum spicatum*)

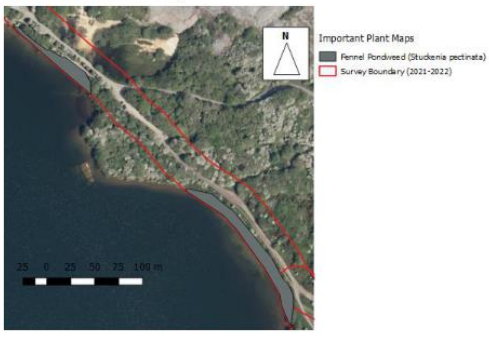


Wild Marjoram (*Origanum vulgare*)

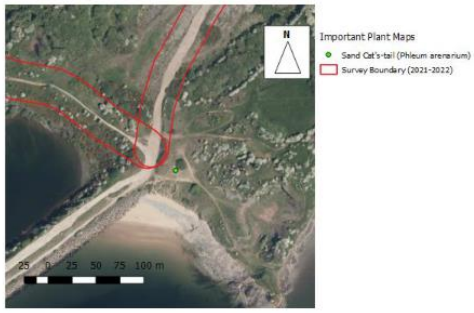


Creeping Willow (*Salix repens* var. *argentea*)

Fennel Pondweed (*Stuckenia pectinata*)



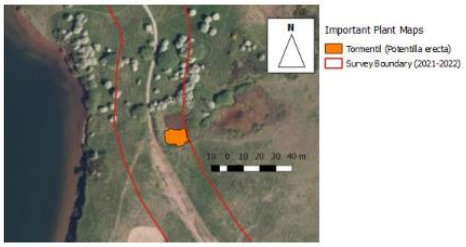
Sand Cat's-tail (*Phleum arenarium*)



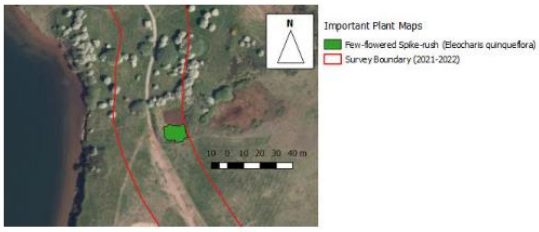
Blue Fleabane (*Erigeron acris*)

a Dandelion (*Taraxacum naevosiforme*)

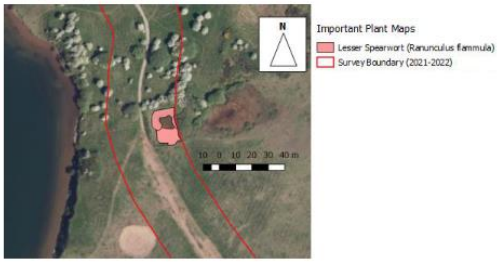
Tormentil (*Potentilla erecta*)



Few-flowered Spike-rush (*Eleocharis quinqueflora*)

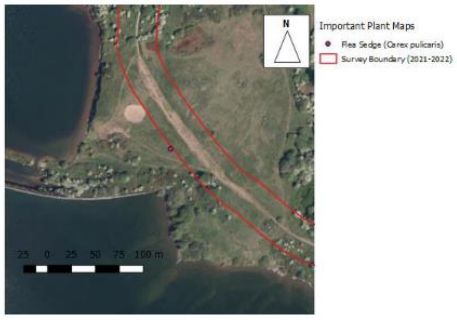


Lesser Spearwort (*Ranunculus flammula*)

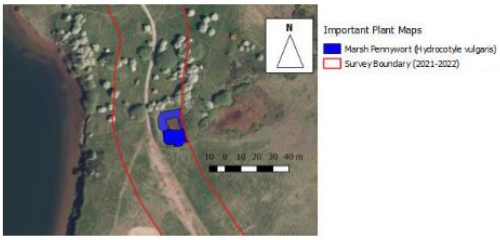


Matt-grass (*Nardus stricta*)

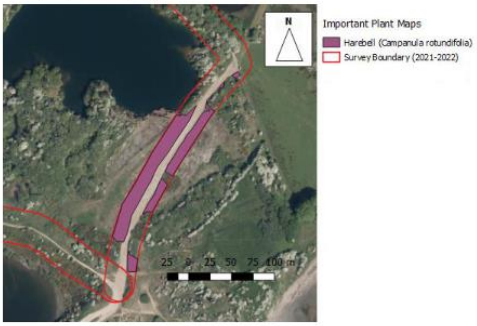
Flea Sedge (*Carex pulicaris*)



Marsh Pennywort (*Hydrocotyle vulgaris*)



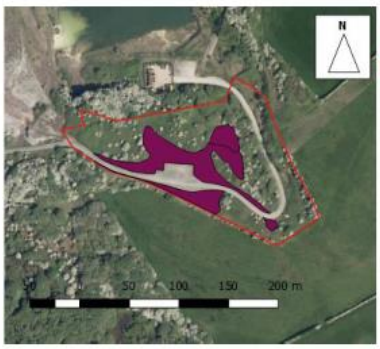
Harebell (*Campanula rotundifolia*)



Carline Thistle (*Carlina vulgaris*)

Wild Strawberry (*Fragaria vesca*)

Eyebright (*Euphrasia* sp.)



Quaking-grass (*Briza media*)

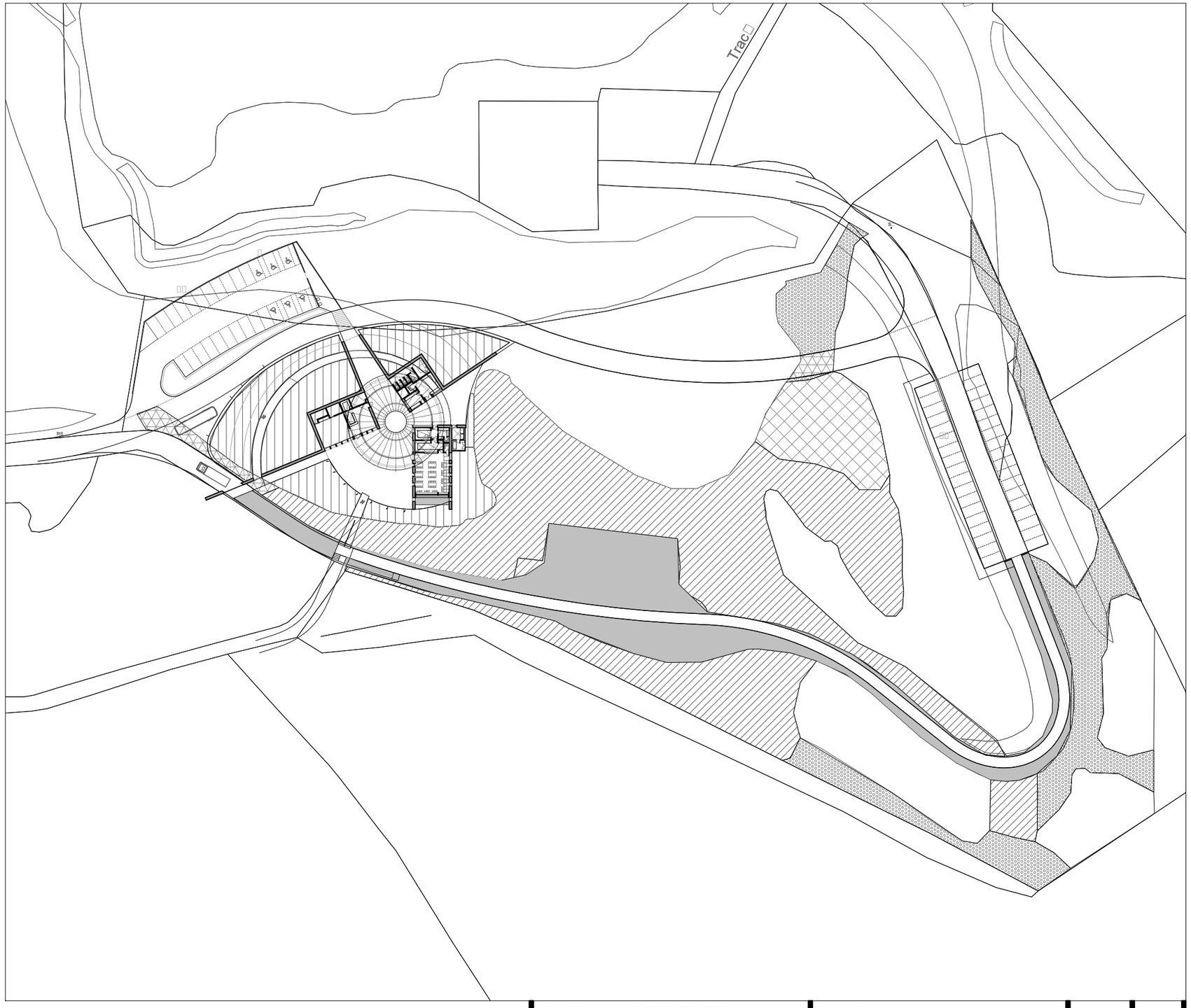
Northern Marsh-orchid (*Dactylorhiza purpurella*)

Heath Speedwell (*Veronica officinalis*)

APPENDIX B LANDSCAPE PLAN

Category	Status	Area
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]	[illegible]



0M 10 20 50 100

SCALE
1:1000

GENERAL NOTES FOR CONTRACTORS

[illegible]

[illegible]

[illegible]

REVISION NOTES

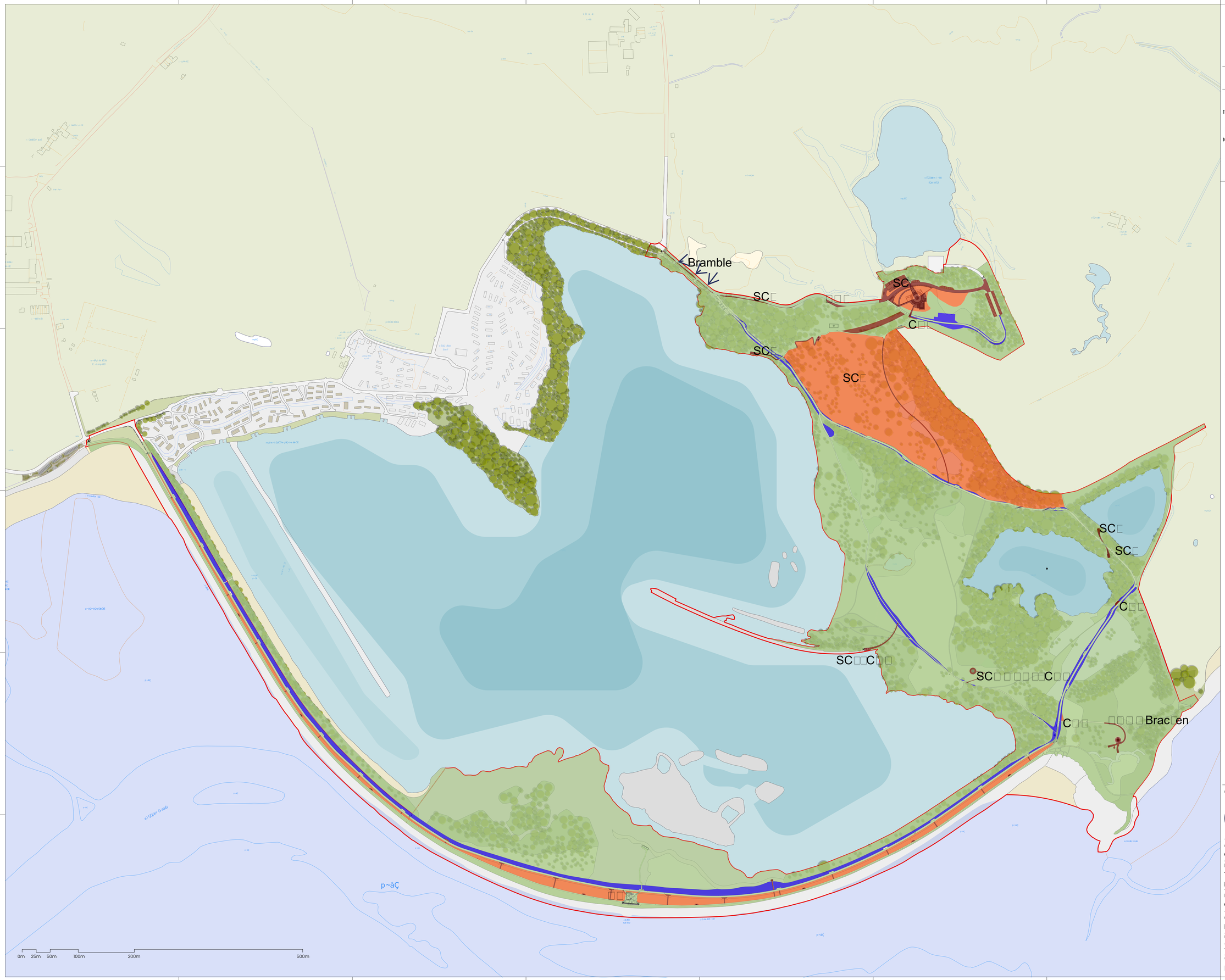
PROJECT/	[illegible]
ADDRESS /	[illegible]
POSTCODE /	
JOB No. /	[illegible]
DWG TITLE /	**WELCOME BUILDING HABITAT PLAN**
DWG No. /	[illegible]
DRAWN BY /	[illegible]
CHECKED BY /	[illegible]
DATE /	[illegible]
SCALE /	[illegible]
PAPER SIZE /	[illegible]
STATUS /	**PROPOSED**

GAGARIN [illegible]

[illegible]

SCALE 1:1000
PAPER SIZE A3

PURPOSE OF ISSUE
STAGE 3



NOTES:

1. DO NOT SCALE FROM THIS DRAWING. ALWAYS WORK TO NOTED DIMENSIONS.
2. ALL SETTING OUT, LEVELS AND DIMENSIONS TO BE CHECKED ON SITE PRIOR TO THE INSTALLATION OF MATERIALS AND ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE CONTRACT ADMINISTRATOR IMMEDIATELY.
3. THIS DRAWING MUST BE READ WITH THE RELEVANT SPECIFICATION DOCUMENTS AND DETAIL DRAWINGS. ANY DISCREPANCIES MUST BROUGHT TO THE ATTENTION OF THE CONTRACT ADMINISTRATOR IMMEDIATELY.
4. THIS DRAWING IS COPYRIGHT PROTECTED AND MAY NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN AUTHORITY.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

THIS DRAWING WAS PLOTTED ON:

18/05/2023

REVISION HISTORY

DATE	REV	ZONE	DESCRIPTION	CHK
17/04/2023	1		Areas adjusted. Drawing number changed (was ...1003)	CL
05/05/23	2		Draft planning issue	MDM
16/05/2023	3		Whiterock amendment	MDM

KEY

GENERAL INFORMATION

APPLICATION BOUNDARY

HABITAT CALCULATIONS

HABITAT AS EXISTING
392,740m2

HABITAT ENHANCED
62,085m2

HABITAT GAINED
18,552m2

HABITAT PERMANENTLY LOST
7,100m2

Codes correlate to condition assessments below

ORIGINATOR

Layer. studio

W layer.studio
T 01625 523 157
E manchester or newcastle@layer.studio

MANCHESTER
The Barn
One Hollin Lane
Styal
Cheshire
SK9 4JH

NEWCASTLE
Flintlab
1 Salters Road
Gosforth
Newcastle upon Tyne
NE3 1DH

Client

Cumberland Council

Project

The Iron Line

Millom, Cumbria

Drawing Title

GA | Habitat calculations

Created By	Checked By	Scale	Sheet Size
MDM	CL	1:3000	A1

Project Number	Originator	Volume	Level	File Type	Discipline	Number
289	LYR	XX-ZZ-DWG-L-1215				

Work Stage	Status	Revision
Planning	Draft	3

APPENDIX C CONDITION ASSESSMENTS

Heathland and Shrub- Mixed Scrub

Condition Assessment Criteria		SC1 Welcome Building Scrub	SC2 Drive to Welcome Building	SC3 Lagoon viewing spot	SC4 Central Scrub	SC5 Hide by Old sea Wall	SC6 Old lighthouse	SC7 New Hides
Grid reference		SD 17903 78987	SD 17616 78981	SD 17608 78887	SD 17856 78811	SD 17812 78362	SD 18033 78343	SD 18231 78567 and SD 18241 78526
Report used to assess condition		PEA	PEA	NVC (W24 community)	NVC/PEA (W24 Community)	PEA	PEA	NVC/ PEA
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Y	Y	Y	Y	Y	Y	N
2	There is a good age range - all of the following are present: seedlings, young shrubs and mature shrubs.	N	N	Y	Y	Y	Y	Y
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition1 make up less than 5% of ground cover.	Y	N	N	Y	N	Y	N
4	The scrub has a well-developed edge with scattered scrub and tall grassland	Y	N	Y	Y	Y	Y	Y

Condition Assessment Criteria		SC1 Welcome Building Scrub	SC2 Drive to Welcome Building	SC3 Lagoon viewing spot	SC4 Central Scrub	SC5 Hide by Old sea Wall	SC6 Old lighthouse	SC7 New Hides
	and/or herbs present between the scrub and adjacent habitat(s).							
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	N	Y	N	N	Y	N
Comments		Mixed scrub with more than 3 species. Some pockets were dominated by bramble. Ages were not described but given the density it was assumed there was a uniform age class with little opportunity for new growth	Dense mixed scrub bounded by road on one side and further dense scrub. No age categories described but assumed given the density there was a uniform age class with little opportunity for new growth	The NVC report identified 9 woody including Hawthorn, Gorse, Grey Willow, Goat Willow, Crab Apple, Buddleja, Elder and Bramble. A good age range and clearings and glades. But species indicator of sub-optimal condition Common Nettle is	The NVC report identified 9 woody including Hawthorn, Gorse, Grey Willow, Goat Willow, Crab Apple, Buddleja, Elder and Bramble. A good age range and clearings and glades. But species indicator of sub-optimal condition Common Nettle is	The PEA describes at least three woody species and some of the scrub as impenetrable scrub. There is a desire line dissecting some of the scrub creating a clearing. There were immature invasive sea buckthorn shrubs noted too.	The PEA describes at least eight woody species within the wider expanse of scrub. It is bound by calcareous grassland habitat and ruderal/ephemeral habitat. The scrub was dense and only partially accessible	NVC report describes three woody species in this area. The PEA states Grey Willow is dominant and both areas showing a level of nutrient enrichment

Condition Assessment Criteria	SC1 Welcome Building Scrub	SC2 Drive to Welcome Building	SC3 Lagoon viewing spot	SC4 Central Scrub	SC5 Hide by Old sea Wall	SC6 Old lighthouse	SC7 New Hides
			frequently more abundant than 5%	frequently more abundant than 5%			
Criteria passed	3/5	1/5	4/5	4/5	4/5	5/5	3/5
Condition	Moderate	Poor	Moderate	Moderate	Moderate	Good	Moderate

Condition Assessment Result	Condition Assessment Score
Passes 5 of 5 criteria	Good (3)
Passes 3 or 4 of 5 criteria	Moderate (2)
Passes 0, 1 or 2 of 5 criteria	Poor (1)
Notes	
Footnote 1 - Species indicative of sub-optimal condition for this habitat type include: tree-of-heaven (Alianthus altissima), holm oak (Quercus ilex), turkey oak (Quercus cerris), creeping thistle (Cirsium arvense), common nettle (Urtica dioica), cherry laurel (Prunus laurocerasus), snowberry (Symphoricarpos spp.), buddleia (Buddleja spp.), cotoneaster (Cotoneaster spp.), Spanish bluebell (Hyacinthoides hispanica) (or hybrids).	

Woodland – Wet Woodland (within central scrub area SC4)

Condition Assessment Criteria					
	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score

Condition Assessment Criteria					
1	Age distribution of trees1	Three age classes present	Two age classes present	One age class present	2
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland2	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3
3	Invasive plant species3	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	2
5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3
6	Open space within woodland4	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	3

Condition Assessment Criteria					
		which case lower threshold of 10% does not apply			
7	Woodland regeneration5	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1
10	Woodland vertical structure6	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	2
11	Veteran trees7	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	3

Condition Assessment Criteria					
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	2
13	Woodland disturbance8	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	3
Score			32		

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
Total score <26 (13 to 25)	Poor (1)

Condition Assessment Result	Condition Assessment Score
Notes	

All footnotes below refer to the EWBG woodland condition assessment methodology: EWBG (No date). Assessing your Woodland's Condition [online]. Available from: https://woodlandwildlifetoolkit.sylva.org.uk/assess

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage Lysichiton americanus; Himalayan balsam Impatiens glandulifera; Japanese knotweed Fallopia japonica; Cherry Laurel Prunus laurocerasus; Shallon Gaultheria shallon; Snowberry Symphoricarpos albus; Variegated yellow archangel Lamiastrum galeobdolon subsp. argentatum; and Rhododendron Rhododendron ponticum.

Footnote 4 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees.
Footnote 5 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 6 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.

Condition Assessment Result	Condition Assessment Score

Footnote 7 - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer.

Footnote 8 - See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:

1. Rot sites associated with wounds which are decaying >400 cm2;
2. Holes and water pockets in the trunk and mature crown >5 cm diameter;
3. Dead branches or stems >15 cm diameter;
4. Any hollowing in the trunk or major limbs;
5. Fruit bodies of fungi known to cause wood decay.

Footnote 9 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery or animal poaching; litter.

Med High Distinctiveness Grassland – Neutral Grassland

Habitat Parcel Ref	NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
Grid Reference	SD 17760 78972	SD 18014 78332	SD 17318 77929	SD 18268 78221

Habitat Parcel Ref		NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
Report used to make condition assessment		PEA	PEA	PEA	PEA
Condition Assessment Criteria					
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for	N	N	Y	Y

Habitat Parcel Ref		NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
	non-acid grassland types only.				
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y		Y	Y
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens1.	Y		Y	Y
D	Cover of bracken Pteridium aquilinum is less than 20% and	N		N	Y

Habitat Parcel Ref		NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
	cover of scrub (including bramble Rubus fruticosus agg.) is less than 5%				
E	Combined cover of species indicative of sub-optimal condition2 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species3 (as listed on Schedule 9 of WCA4) are	Y		N	Y

Habitat Parcel Ref		NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
	present, this criterion is automatically failed.				
F	There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Y		Y	Y
Comments		It did not closely resemble the UKHab	It does not meet the typical characteristics	It had the appearance and composition of its	The species present are characteristic of the UKhab

Habitat Parcel Ref	NG1 'Mosaic of Unimproved Neutral Grassland and Dense Scrub'	NG2 Tall ruderal habitat	NG3 Semi Improved Grasssland along Sea wall	NG4 Old lighthouse
	definition of Other Neutral Grassland with occasional Yorkshire fog (Holcus lanatus), ribwort plantain (Plantago lanceolata), creeping thistle (Cirsium arvense), meadow buttercup (Ranunculus acris) and failed the criteria that bramble scrub accounts for less than 5%.	of other neutral grassland described within UKHab and therefore, does not meet the first criterion which is essential for achieving moderate or good condition	UKHab definition but abundant Bramble and damaging levels of access	description of this habitat type. A description of the sward height has not been provided so it has been assumed that the criterion of a varied sward height has been met. Whilst there is one undesirable species present (white clover), it is unlikely that this accounts for 5% of the area and bare ground, scrub and bracken are not listed within the habitat description or species list and are therefore assumed absent, so these criteria have been met.
Essential Criteria passed	N	N	Y	Y
Number of criteria passed	4/6	/6	4/6	6/6
Result	Poor	Poor	Moderate	Good

Condition Assessment Result	Condition Assessment Score
Acid Grassland Types (Result out of 5 criteria)	

Condition Assessment Result	Condition Assessment Score
Passes 5 criteria	Good (3)
Passes 3 or 4 criteria	Moderate (2)
Passes 2 or fewer criteria	Poor (1)
Non-Acid Grassland Types (Result out of 6 criteria)	
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)

Footnotes	
Footnote 1	For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.
Footnote 2	Species indicative of sub-optimal condition for this habitat type include: creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris. There may be additional relevant species local to the region and or site.
Footnote 3	Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.
Footnote 4	Wildlife and Countryside Act 1981 (as amended).

Grassland Med & Higher Distinctiveness – Calcareous Grasslands

Habitat Parcel Ref		CG1 Old sea wall	CG2 Old Light House	CG3 By central lagoon	CG4 By sandy junction	CG5 South of path from Welcome Building
Grid Reference		SD17856 78386	SD18029 78303	SD18248 78438	SD18161 78237	SD1785378925
Report used to make condition assessment		PEA	PEA	NVC (MG1/CG4)	NVC (MG1/CG4)	PEA
Condition Assessment Criteria						
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type are consistently present.	Y	Y	Y	Y	N

Habitat Parcel Ref		CG1 Old sea wall	CG2 Old Light House	CG3 By central lagoon	CG4 By sandy junction	CG5 South of path from Welcome Building
	Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.					
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Y	Y	Y	Y
C	Cover of bare ground is between 1% and 5%, including localised areas, for	Y	Y	Y	Y	Y

Habitat Parcel Ref		CG1 Old sea wall	CG2 Old Light House	CG3 By central lagoon	CG4 By sandy junction	CG5 South of path from Welcome Building
	example, rabbit warrens1.					
D	Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble Rubus fruticosus agg.) is less than 5%	Y	Y	N	Y	Y
E	Combined cover of species indicative of sub-optimal condition2 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts	N	Y	Y	N	Y

Habitat Parcel Ref		CG1 Old sea wall	CG2 Old Light House	CG3 By central lagoon	CG4 By sandy junction	CG5 South of path from Welcome Building
	for less than 5% of total area. If any invasive non-native plant species3 (as listed on Schedule 9 of WCA4) are present, this criterion is automatically failed.					
Additional Criterion - must be assessed for all non-acid grassland types						
F	There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count).	Y	Y	Y	Y	Y

Habitat Parcel Ref	CG1 Old sea wall	CG2 Old Light House	CG3 By central lagoon	CG4 By sandy junction	CG5 South of path from Welcome Building
Note - this criterion is essential for achieving Good condition for non-acid grassland types only.					
Comments	Presence of Sea Buckthorn Existing desire line subject to damaging levels of access	Existing desire line present	NVC survey describes as Fairly Good. A priority and Annex I habitat that meets most of the condition assessment criteria with little variation and has a cover of over 30% sedge and wildflowers including red-listed taxa. However, this habitat appears to be in transition to a lower quality MG1 grassland, and clearly fails with regards to cover of Bramble which exceeds 5% within the sward. Existing desire lines by white rock junction		Only has one species of those listed in UKHab
Essential Criteria passed	N	Y	Y	Y	N
Number of criteria passed	5/6	6/6	5/6	5/6	
Result	Moderate	Good	Good	Good	Poor

Condition Assessment Result	Condition Assessment Score
Acid Grassland Types (Result out of 5 criteria)	
Passes 5 criteria	Good (3)
Passes 3 or 4 criteria	Moderate (2)
Passes 2 or fewer criteria	Poor (1)
Non-Acid Grassland Types (Result out of 6 criteria)	
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)

Footnotes	
Footnote 1	For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.
Footnote 2	Species indicative of sub-optimal condition for this habitat type include: creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris. There may be additional relevant species local to the region and or site.
Footnote 3	Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnotes	
Footnote 4	Wildlife and Countryside Act 1981 (as amended).

APPENDIX D LEGISLATION AND POLICY

D.1 LEGISLATION

The Environment Act, 2021[13]

The Environment Act, 2021 mandates the requirement for new development in England to deliver a minimum 10% biodiversity net gain (BNG), as measured by the agreed metric (the current relevant version being the Natural England Metric 3.0), secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of offsite biodiversity unit offsets, or the purchase of biodiversity credits.

The Act introduces the condition that no development may begin unless a biodiversity net gain plan has been submitted and approved by the local planning authority (LPA).

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

D.2 POLICY

National

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2021[14] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

Regional

Copeland Local Plan 2017-2035 (Preferred Options Draft)[15]

Policy DS5PO: Development Principles

In order to achieve sustainable development in the Borough and meet Local Plan objectives, development must, where possible:

Mitigation of and adaption to climate change

- Minimise carbon emissions, maximise energy efficiency and help us to mitigate and adapt to the effects of climate change
- Be located on sites where there is no risk of flooding and where the development does not increase the risk of flooding elsewhere
- Protect, enhance and create new areas of green infrastructure, recognising the important role that the natural environment and healthy ecosystems have to play in the future social and economic, as well as environmental sustainability of Copeland
- Make the most efficient use of land by building at appropriate densities and reusing existing buildings and previously developed land
- Minimise waste, maximise opportunities for recycling and use sustainable construction methods, taking into account circular economy principles
- Be located on sites which minimise the need to travel, with good, safe pedestrian links to services and facilities.

Protection, enhancement and restoration of the Borough's valued natural and cultural assets

Protect and enhance areas, sites, species and features of biodiversity or geodiversity value, important landscapes and the undeveloped coast including valued landscapes which form a setting to the Lake District National Park and areas of Heritage Coast.

- Conserve and enhance the Borough's cultural and heritage assets and their settings
- Provide and enhance recreational opportunities for the Borough's residents and its visitors, protecting existing provision where possible and ensuring that future development meet appropriate standards in terms of quantity and quality
- Protect the Borough's best and most versatile agricultural land from development
- Support the reclamation and redevelopment or restoration of the Borough's vacant or derelict sites, whilst taking account of landscape, biodiversity and historic environment objectives
- Minimise air, ground and water pollution, ensuring that development does not have a negative impact upon water quality (including waterbodies and bathing waters)

Creation and retention of quality places

- Be of high quality in terms of design so that it retains and enhances locally distinctive places and raises aspirations
- Provide or safeguard good levels of residential amenity and security, reducing the fear of crime and minimising the opportunities for crime and anti-social behaviour
- Be supported by the relevant infrastructure, ensuring it can accommodate traffic and access arrangements in ways that make it safe and convenient for pedestrians and cyclists to move around
- Address land contamination with appropriate remediation measures

Healthy Communities

- Adopt dementia-friendly design principles
- Provide opportunities for food growing
- Contribute to the creation of mixed communities, helping to reduce social isolation and create community resilience
- Retain and enhance valuable community facilities (including healthcare, cultural and education facilities)
- Include community energy generation to provide low carbon heat and/or power and address energy poverty
- Enhance local pedestrian links to promote physical activity

Policy DS6PO: Planning Obligation

1. Where it is reasonable, necessary and directly related to the development Copeland Borough Council, through planning obligations (until such time an alternative method is introduced), will

secure:

a) The enhancement of existing or provision of new infrastructure, facilities and services

b) Where appropriate future maintenance of car parking provision and sustainable transport solutions will be required in perpetuity;

c) Future maintenance and/or monitoring of other facilities delivered as a result of development for a period of 15 years or as agreed/identified in a specific Development Plan policy;

d) Future management and monitoring of biodiversity net gain will be required for a period of 30 years

2. The Council will expect planning obligations to be provided on site unless specific circumstances make off-site contributions more appropriate and;

3. When determining the nature and scale of any planning obligations sought, account will be taken of specific site conditions, the Infrastructure Delivery Plan and other material considerations.

Where an applicant considers that the provision of appropriate infrastructure would make the development unviable a viability assessment must be submitted to, and agreed by the Council, as early as possible within the planning application process.

Policy N1PO Conserving and Enhancing Biodiversity and Geodiversity

Potential harmful impacts of any development upon biodiversity and geodiversity should be identified and considered at the earliest stage

Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken

Avoidance – Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects

Mitigation – Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.

Compensation – Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided.

Compensation is a last resort and will only be accepted in exceptional circumstances. Where harm remains to a Natura 2000 site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.

Planning permission will be refused for any development if significant harm cannot be avoided, mitigated or compensated for.

Sustainable construction methods should be used where possible.

Development proposals where the principal objective is to conserve or enhance biodiversity and geodiversity interests will be supported in principle.

Policy N2PO: Biodiversity Net Gain

All development, with the exception of that listed in paragraph 49.8.10 above, must provide a minimum of 10% biodiversity net gain over and above existing site levels. This is in addition to any compensatory habitat provided under Policy N1PO. Net gain should be delivered on site where possible. Where on-site provision is not appropriate, provision must be made elsewhere in order of the following preference:

1. Off site in an area identified as a Local Nature Recovery Network;

2. Off site on an alternative suitable site within the Borough

3. Through the purchase of an appropriate amount of national biodiversity units/credits.

Details must be submitted to, and agreed in writing by the Council, before the development can commence.

Sites where net gain is provided (on or off site) must be managed and monitored by the applicant or an appropriate body funded by the applicant for a minimum period of 30 years. Annual monitoring reports detailing the sites condition post-enhancement must be submitted to the Council each year over this period.

Where there is evidence of deliberate neglect or damage to any of the Boroughs protected habitats and species in order to reduce its biodiversity value their deteriorated condition will not be taken into consideration and previous ecological records of the site and/or the ecological potential of the site will be used to decide the acceptability of any development proposals.

Policy N3PO: Local Nature Recovery Networks

The Council will support the identification and implementation of Local Nature Recovery Networks that extend beyond the Boroughs boundaries and provide important linkages for wildlife within Copeland and beyond.

Development which protects or enhances nature recovery networks will be supported in principle.

Policy N6PO: The Undeveloped Coast

The Council will ensure that the landscape character of the undeveloped coast is maintained by conserving the intrinsic qualities, natural beauty and open character of the undeveloped coast from inappropriate development. Inappropriate development includes that which affects views within or towards/from the St Bees Head Heritage Coast.

The following types of development will however be supported:

- Development which supports the management of the undeveloped coast for biodiversity;
- Development which provides or improves safe access to and interpretation of the undeveloped coast for residents and visitors such as appropriate fencing, signage and interpretation boards;
- Energy generating developments that that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity, landscape and heritage assets are carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for.

Policy N7PO: Green Wedges

The Local Plan Proposals Map identifies Green Wedges within the Borough. Development will only be permitted within a Green Wedge in the following circumstances unless the economic, environmental or social benefits of the proposal significantly and demonstrably outweigh any harm:

- where the open character of the Green Wedge and separation between settlements is maintained; and
- where the special characteristics and quality of the landscape are conserved and enhanced.

Policy N8PO: Protected Green Spaces

The Local Plan Proposals Map identifies Protected Green spaces which are of a high quality and/or value.

Development proposals that enhance Protected Green Spaces will be supported in principle.

The loss of such Protected Green Spaces will be resisted unless equivalent replacement provision of the same or better quality is provided within the same settlement.

Proposals to develop other green spaces, including play areas and allotments not identified on the

Proposals Map, should also comply with this policy where there is evidence that they are of value to the community.

Policy N9PO: Local Green Spaces

The Local Plan Proposals Map identifies important Local Green Spaces. Development will only be permitted within a Local Green Space in the following circumstances, where the open character of the Space and its community value is not compromised:

- Proposals which improve access to/from and within the LGS, or
- Proposals which provide opportunities for outdoor sport and recreation, or
- Proposals which allow a wider range of uses to take place within the LGS, or
- Proposals which enhance landscapes and visual amenity, or
- Proposals which provide/enhance habitats.

Development on sites adjacent to Local Green Spaces should provide an attractive frontage, natural surveillance and strong pedestrian connections to the LGS.

REFERENCES

[1] *Joint Nature Conservation Committee (2010);Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.*

[2] *Institute of Environmental Assessment (1995) Guidelines for baseline ecological assessment*

[3] *Stephen Panks, Nick White, Amanda Newsome, Jack Potter, Matt Heydon, Edward Mayhew, Maria Alvarez, Trudy Russell, Sarah J. Scott, Max Heaver, Sarah H. Scott, Jo Treweek, Bill Butcher & Dave Stone (2021). Biodiversity Metric 3.0: Auditing and Accounting For Biodiversity – User Guide. Natural England*

[4] *Stephen Panks, Nick White, Amanda Newsome, Jack Potter, Matt Heydon, Edward Mayhew, Maria Alvarez, Trudy Russell, Sarah J. Scott, Max Heaver, Sarah H. Scott, Jo Treweek, Bill Butcher & Dave Stone (2021). Biodiversity Metric 3.0: Auditing and Accounting For Biodiversity – Technical Supplement. Natural England*

[5] *Julia Baker, Rachel Hoskin & Tom Butterworth (2019); Biodiversity Net Gain. Good practice principles for development: A practical guide. CIRIA, London*

[6] *Savannah Bertrand, Anna Sophia Roberts, and Emma Walker (2022) The Climate and Economic Benefits of Rotational Livestock Grazing Agriculture and Climate Series https://www.eesi.org/articles/view/the-climate-and-economic-benefits-of-rotational-livestock-grazing#:~:text=As%20a%20result%2C%20the%20soil,from%20nutrient%20and%20sediment%20runoff.*

[7] *Baker, Julia. (2016). Biodiversity Net Gain: Good Practice Principles for Development. 10.13140/RG.2.2.24841.85608.*

[8] *Irreplaceable Habitats' Guidance for Surrey, Surrey Nature Partnership August 2020*

[9] *Irreplaceable Habitats' Guidance for Surrey, Surrey Nature Partnership August 2020*

[10] *Pete Harris, Alex Brearley and Kieron J. Doick (2022) LOWLAND NEUTRAL GRASSLAND Creation and management in land regeneration. Forest Research*

[11] *Bug Life (2020) B-line Restoring Ryedale's Lowland*

[12] *Defra (2022) https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants*

[13] *GOV.UK. (2021). Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted*

[14] *GOV.UK. (2021). National Planning Policy Framework. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework*

[15] *Copeland Borough Council (Sept 2020) Copeland Local Plan 2017-2035 (Preferred Draft Options)*