



Preliminary Ecological Appraisal & Biodiversity Net Gain Report

*Proposed Aldi, Whitehaven
Avison Young & Aldi*

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PRELIMINARY ECOLOGICAL APPRAISAL & BIODIVERSITY NET GAIN REPORT
Proposed Aldi, Whitehaven

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1.0 EXECUTIVE SUMMARY

Total Ecology was commissioned by Avison Young in July 2023 to undertake a desk-based study and a Preliminary Ecological Appraisal (PEA) habitat survey of land within Whitehaven. The approximate central grid reference for site is **NX 97303 17539**. The survey is required prior to proposal to construct a new Aldi store on site, with associated car parking facilities and landscaping

The ecological assessment took place on 31st July 2023 in accordance with the UK Habitat Classification methodology (Butcher et al., 2020), using the most up to date version on the UK Habitat Classification (Version 2.0). Habitats were recorded on site and then mapped using QGIS, using the fine-scale minimum mapping unit as detailed within the UK Habitat Classification User Manual (25m², 5m length). Survey work was carried out by Laura Thompson BSc (Hons) ACIEEM, Senior Ecologist employed by Total Ecology.

Three main habitat land categories were identified on site under the Phase 1 system of habitat description with the site roughly split into an artificially unsealed car park to the north and willow scrub to the south. A small area of woodland is present to the east.

The site is likely to support roosting, foraging, and nesting birds including amber and red-listed species. Bats will likely commute through site, although no roosting opportunities are available. Small mammals including hedgehogs are likely to utilise site for cover and foraging and it is likely that common invertebrates will make use of clearings and vegetation within the willow scrub.

It is recommended that breeding bird surveys take place across the willow scrub of site to fully assess its importance to birds within the local area. As a less desirable alternative, willow scrub could be replaced elsewhere locally.

Works must take place outside of the main nesting bird season (March – August inclusive). Should it be necessary for works to be carried out during this period, then a site visit by an appropriately qualified ecologist will be necessary to ensure no nesting birds will be impacted by works.

It is recommended that the proposed site includes linear features to support continued commuting by bats. This could include a native hedgerow or a line of trees.

The site is likely to support hedgehogs and any works should be completed with care. Vegetation should be cut to 150mm before being completely cleared, with contractors remaining vigilant for hedgehog presence. Additionally, working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

The Biodiversity Metrics calculation shows a baseline of 2.86 habitat units on site with no river or hedgerow units present within this site. After proposals have been completed to the most up to date landscape plan, the site will provide 1.85 habitat units, resulting in a biodiversity net gain of -35.13% (a loss). Due to the loss of willow scrub and woodland with no suitable replacements, the trading summary of the metrics is also not satisfied by current proposals. Current proposals do not include any linear habitats, to account for woodland lost. It is recommended that a linear habitat is added to the landscape plan.

2.0 INTRODUCTION

2.1 Background

Total Ecology was commissioned by Avison Young in July 2023 to undertake a desk-based study and a Preliminary Ecological Appraisal (PEA) habitat survey of land within Whitehaven. The approximate central grid reference for site is **NX 97303 17539**. The survey is required prior to proposal to construct a new Aldi store on site, with associated car parking facilities and landscaping.

2.2 Site Description

The site is located within the port town of Whitehaven, Cumberland, Cumbria. The site is roughly within the north-west of the town and is currently an area of hardstanding carpark with an area of scrub to the south. The scrub sits atop an area of previously developed land. The site is surrounded by residential and commercial areas with Preston Street bounding to the west, and Cycle Route 72 to the east. Areas of amenity grass are present very close to the north-east and south-east of site (47metres and 62m respectively). Despite the local area generally being urban, there are some relatively natural greenspaces in the locality which include some areas of woodland west, south-west, and north-east of site, as well as some woodland adjacent to the site boundary. The site is also only 800m from the west coast.

2.3 Survey Objectives

The principal objective of the ecological assessment was to characterise and map the habitats present within the site. In addition, the study area was assessed for features that would indicate the presence of protected species, habitats of nature conservation importance and the presence of non-native invasive species that could represent a constraint to development. Any trees and surrounding habitats were assessed in terms of their potential to support, or actual evidence of, roosting bats. This assessment will form the basis of recommendations for further survey work and/or mitigation and compensation for the species.

3.0 METHODOLOGY

3.1 Desk Based Study

The Multi Agency Geographic Information for the Countryside (MAGIC) website was used to ascertain whether there are any designated sites of interest, on or near the site being surveyed. The Cumbria Biodiversity Data Centre (CBDC) was contacted for records of protected species and sites within 2km of the site.

3.2 Survey Approach

The ecological assessment took place on 31st July 2023 in accordance with the UK Habitat Classification methodology (Butcher et al., 2020), using the most up to date version on the UK Habitat Classification (Version 2.0). Habitats were recorded on site and then mapped using QGIS, using the fine-scale minimum mapping unit as detailed within the UK Habitat Classification User Manual (25m², 5m length). Use of Secondary Codes was not restricted. Optional and mandatory codes were used. Mandatory use of Secondary Codes are:

1. Habitat mosaics.
2. Priority and Annex 1 habitats that occur in multiple Primary Habitats.
3. Habitat origins.

The survey work was carried out by Laura Thompson BSc (Hons) ACIEEM, Senior Ecologist employed by Total Ecology. The information collected during the survey was then approximately mapped and can be found in Figures 3, Appendix A.

3.3 Controlled Invasive Species

The site was surveyed during an Ecological Walkover survey for the presence of invasive non-native species including Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum* and cotoneaster *Cotoneaster spp.*, which are listed under Schedule 9 part ii of the Wildlife and Countryside Act 1981 (as amended). Under section 14 of the Act it is an offence to cause the spread or relocation of either species.

3.4 Protected Species and Other Species of Nature Conservation Importance

An appraisal of the habitats present on the site was undertaken during the Ecological Walkover survey, to identify whether there were any signs to suggest the presence of populations of legally protected species or other species of nature

conservation importance including mammals, birds, reptiles, amphibians, and invertebrates or that the features present could potentially provide these species with suitable habitats. Where possible, a buffer of 30m outside of the site boundary was also assessed for signs of badger.

3.5 Biodiversity Metrics

The scheme was input into the Biodiversity Metrics 4.0 (Natural England 2022) using the following methodology:

- Distinctiveness is filled in automatically by the metrics following the guidance in the Biodiversity Metrics 4.0 Technical Annex 2 (Natural England 2023).
- Condition assessments were carried out using the Biodiversity Metric 4.0 Technical Annex 1 - Condition Assessment Sheets (Natural England 2023) during the site visit carried out 31st July 2023.
- The site was mapped in QGIS from data collected during the site visit. This provided areas for input into the BNG.
- Proposed areas of habitat mapping have been used from the Landscape plan provided by Nicola Hills Studio "NSH012 P101 Aldi Whitehaven Proposed Landscape Plan" with habitats defined by the "Aldi Whitehaven Planting Schedule" also provided by Nicola Hills Studio.
- Individual tree habitat size is estimated using the tree helper tool within the Metrics 4.0. Trees with a diameter of 300mm or less are classed as small and those between 300 – 900mm are medium; trees over 900mm are large. All newly planted trees are input as small, being unlikely to reach a larger size within the 30-year lifespan of the Biodiversity Metrics.
- The Cumbria Local Nature Recovery Habitat Network was consulted to assign the strategic significance of the site. The site location or immediate surrounds are not included within the LNR Habitat Network and therefore all areas of site have been included in the metrics as "Area/ compensation not within local strategy/ no local strategy".
- All habitats are recorded as "On site".

3.6 Surveyor Experience

Laura Thompson

Laura has been working in Ecology since 2011, while studying for her Biology degree from Newcastle University. Early years were spent carrying out a range of bat surveys for various companies. Laura has been employed by Total Ecology

since 2017, being promoted to Senior Ecologist in 2022; as a Senior Ecologist Laura undertakes all aspects of Ecology work from initial surveys through to follow-up protected species surveys and supervision work. Laura is an experienced bat Ecologist, having undertaken a range of preliminary roost assessments and nocturnal surveys over the years, as well as hibernation surveys, supervision works, and bat handling. Laura holds her class 2 bat licence in England, as well as a NatureScot bat licence, both English and Scottish licences for great crested newts, and is currently working towards her barn owl licence.

Laura has been working on BNG projects early in the process and is experience in using the Biodiversity Metrics from 2.0 onwards, keeping up to date with changes as they develop. She has experience of completing both large and small net gain projects and has attended training in using the metrics to solidify her skills.

3.7 Constraints and Assumptions

The habitat survey was carried out at the optimal time of year therefore no constraints were noted in relation to habitat classification.

Habitats due be created as part of the site proposals have been condition assessed in a conservative manner, designed to be realistic and achievable. Should habitats not reach these conditions, then biodiversity net gain of the project will be lower than that predicted.

4.0 SURVEY RESULTS

4.1 Desk Based Study

The results obtained from the MAGIC search revealed one designated site within 2km of site: St. Bees Head Site of Special Scientific Interest. Data returned from CBDC returned 7 non-statutory designated sites which include County Wildlife Sites, Local Geological Sites, Ancient Woodland, and a Site of Invertebrate Significance.

A summary of designated sites within 2km of the site is provided in Table 1 below.

Table 1 Designated sites within 2km.

Site Name	Designation	Approx. Distance from Site	Further Information
St. Bees Head	SSSI Site of Invertebrate Significance	780m south-west	<p>The site is designated for both geological and biological interest.</p> <p>Biological interest is represented by a number of habitats. Including natural cliff-top grassland and heath, sheer cliff face and cliff-fall rubble, shingle and wave-cut platform.</p> <p>The cliffs are also the only breeding site on the coast of Cumbria for a variety of colonial seabirds such as guillemots, fulmars, kittiwakes, razorbills, cormorant, puffins, shags, and herring gulls. The cliffs are also the only breeding site on the entire coast of England for black guillemots. Other species of bird are also known to regularly breed on site which include rock pipit which is known to breed in only one other site in Cumbria.</p> <p>The rugged cliff face supports a diverse flora in the crevices and ledges.</p>
Castle Park Wood	County Wildlife Site Ancient Woodland	562m north-east	No further information.
Midgey Gill	County Wildlife Site Ancient Woodland	683m north-east	No further information.
Woodhouse Quarry	County Wildlife Site	775m south-west	No further information.

Barrowmouth Bay	Local Geological Site	1.3km south-west	N/A
Bransty Quarries & Parton Cliffs	Local Geological Site	1.4km north	N/A
Redness Point	County Wildlife Site	1.8km north	No further information.

Table 2: Summary of Notable Species from CBDC Consultation Data

Common Name	Scientific Name	No. Records	Most recent date
Little gull	<i>Hydrocoloeus minutus</i>	2	2013
Mediterranean gull	<i>Ichthyaetus melanocephalus</i>	2	2010
Purple sandpiper	<i>Calidris maritima</i>	21	2010
Woodcock	<i>Scolopax rusticola</i>	4	2010
Red-throated diver	<i>Gavia stellata</i>	1	2011
Redwing	<i>Turdus iliacus</i>	7	2011
Otter	<i>Lutra lutra</i>	6	2018
Badger	<i>Meles meles</i>	2	1999
Pipistrelle species	<i>Pipistrellus sp.</i>	2	2014
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	3	2011
West European hedgehog	<i>Erinaceus europaeus</i>	67	2022
Brown Hare	<i>Lepus europaeus</i>	1	2019
Red squirrel	<i>Sciurus vulgaris</i>	186	2019
Slowworm	<i>Anguis fragilis</i>	23	2014
Grass snake	<i>Natrix helvetica</i>	1	1989
Common lizard	<i>Zootoca vivipara</i>	23	2017
Dingy skipper	<i>Erynnis tages</i>	6	2019
Wall	<i>Lasiommata megera</i>	47	2017
Small heath	<i>Coenonympha pamphilus</i>	10	2019
Grayling	<i>Hipparchia semele</i>	26	2019
Small blue	<i>Cupido minimus</i>	8	2019

4.2 Walkover Survey

Three main habitat categories were identified within the area under the UKHab system of habitat description. These were:

- h3j – Willow scrub
- u1c – Artificial unvegetated – unsealed surface
- w1g – Other broadleaved woodland

The following secondary codes were used to assist with description of the site:

- 81 – ruderal/ ephemeral
- 82 – vacant or derelict land
- 202 – young trees – self-set

Appendix A shows the habitat map for the site whilst Appendix B gives selected photographs.

h3j – Willow scrub

The majority of site, and almost the entire of the southern portion, is comprised of willow scrub, dominated by grey willow *Salix cinerea* with the presence of frequent – locally dominant bramble *Rubus fruticosus*, frequent buddleia *Buddleia davidii* and rare silver birch *Betula pendula*. Sycamore *Acer pseudoplatanus* saplings from adjacent woodland are present within the habitat. The scrub has a good structure, with clearings present throughout the habitat. Clearings feature grassland species with grasses including red fescue *Festuca rubra*, Yorkshire fog *Holcus lanatus*, cocksfoot *Dactylis glomerata*, rough meadow-grass *Poa trivialis*, and false oat grass *Arrhenatherum elatius*. A variety of herbs are present on site including creeping cinquefoil *Potentilla erectans*, bush vetch *Vicia sepium*, ribwort plantain *Plantago lanceolata*, carrot *Daucus carota*, common knapweed *Centaurea nigra*, creeping thistle *Cirsium arvense*, red bartsia *Odontites vernus*, black medick *Medicago lupulina*, birds-foot trefoil *Lotus corniculatus*, colt's-foot *Tussilago farfara*, silverweed *Potentilla anserina*, perforate St. John's-wort *Hypericum perforatum* and frequently occurring hemp-agrimony *Eupatorium cannabinum*. Non-native garden lady's-mantle *Alchemilla mollis* is occasionally occurring on site. The ground throughout site is comprised of earth or rubble, evidence of the site's previous use as developed land (secondary code 82). Where habitat is present over rubble, ephemeral growth is present (81).

u1c – Artificial unvegetated – unsealed surface

The area to making up the north of site is currently used as a car park and is made up large gravel. The ground is permeable, but no plants are present within this area. Buddleia is growing through walls surrounding the car park.

w1g – Other broadleaved woodland

An area of woodland is eastly adjacent to the site, with a small amount of this habitat within the site boundary. Trees present are sycamore and willow. The woodland is relatively open within the section present on site. There are 3 storeys present, one of which is a scrubby understory.

4.3 Controlled Invasive Species

No controlled species listed under Schedule 9 part ii of the Wildlife and Countryside Act 1981 (as amended) were recorded during the site visit.

4.4 Protected Species and Species of Nature Conservation Importance

Breeding and wintering birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy the nest (whilst being built or in use) or its eggs.

Bird species listed in Schedule 1 of the 1981 Act, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

In addition to statutory protection, some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Eaton et al. 2021):

- Red list (high conservation concern) species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Green list (low conservation concern) species fulfil none of the above criteria.

The amber listed species lesser black-backed gull *Larus fuscus* and willow warbler *Phylloscopus trochilus* were recorded during survey. Gulls were recorded flying over site and on land adjacent whereas willow warblers were recorded within willow scrub on site.

CBDC returned over 2000 records of birds within 2km of site. Records include redacted sensitive species which are likely to be Schedule 1 protected birds, as

well as red and amber listed species. Many species returned for the locality are wading and coastal species which use the coast close to site (as included within designated site descriptions above) but are unlikely to regularly occur within the red-line boundary. Red and amber listed which may use site include some gull species, woodpigeon *Columba palumbus*, kestrel *Falco tinnunculus* and many passerine species including several warblers and finches. Most of these species will likely forage and nest on site.

Mammals

Bats

All bat species and their roosts in Britain are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) through their inclusion on Schedule 5. The implementation of the Countryside and Rights of Way Act 2000 (CROW 2000) has amended the WCA 1981 to include 'reckless' damage to, or destruction of a roost, disturbance of bats whilst in a roost.

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the United Kingdom ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2017 (as amended). Combined, these make it an offence to kill, injure, capture or disturb bats or obstruct access to, damage or destroy roosts.

Paragraph 43 of the Regulations states: A person who deliberately disturbs wild animals of any such (European Protected) species, is guilty of an offence. For the purposes of this paragraph, the disturbance of animals includes in particular any disturbance which is likely: -

- a. to impair their ability-
 - i. To survive, to breed or reproduce, or to rear or nurture their young, or
 - ii. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b. to affect significantly the local distribution or abundance of the species to which they belong.

Under the law, a bat roost is any structure or place used for shelter or protection e.g. A building, bridge, or tree. Bats use many roost sites and feeding areas throughout the year, and they tend to re-use the same roosts for generations.

Ten records of bat were returned within 2km of site with records either unidentified species or pipistrelles. Five of ten records are for roosts within 2km of site, with one a maternity roost for common pipistrelle. Additionally, use of the MAGIC website reveals that one licence for destruction of a common pipistrelle roost was granted within 2km of site. This licence was granted in 2017 approximately 570m north-west of site.

There are no buildings as part of site and trees are generally small without suitable bat roosting features (such as holes, cracked and/ or lifted bark, etc.). There is therefore negligible risk of bats roosting on site. However, given the context of the habitat within the landscape, it is possible that foraging will take place within the area by common bat species. The site links green spaces within Whitehaven so that bats may also commute through site.

Badger

Badgers receive strict protection under the Protection of Badgers Act 1992, which makes it an offence to wilfully kill, injure or take a badger or interfere with a badger sett by damaging a sett or any part thereof. It is also an offence to wilfully destroy a sett, obstruct access to a sett or disturb a badger while occupying a sett. The 1992 Act defines a badger sett as 'any structure or place, which displays signs indicating current use by a badger'. Work that disturbs badgers whilst occupying a sett is illegal without a licence.

Badgers are largely nocturnal, omnivorous mammals and live predominately in social groups within setts. They are territorial, marking the borders of the territory with dung which is deposited in latrines or boundary dung pits. Territories occupied by a badger group or 'clan' can be between 14 and 300 ha in size dependant on the quality of the habitats present, with a cited average of 50 ha (Neale and Cheeseman, 1996). Badger territories will usually include a wide range of habitats and favour areas with a mosaic of habitats that include woodland, pasture and arable land and will locate their setts in a variety of habitats including woodland deciduous, coniferous and mixed), scrub, hedgerows, orchards, quarries, sea

cliffs, moorland, open fields and downland, although they show a marked preference for wooded areas.

Consultation data revealed 2 historic records of badger within 2km of site. Although scrub on site provides some cover for badgers to forage and create setts, the site is largely walled or fenced off from areas of other habitat, meaning no mosaic of habitats is present. No signs of badger were observed during the site walkover, and it is very unlikely that this species will use site.

West European Hedgehog

The west European hedgehog is protected by under Schedule 6 of the WCA (1981 as amended), making it illegal to kill or capture the species using certain methods. Hedgehogs are also protected under the Wild Mammals Protection Act (1996) making it illegal to treat a hedgehog cruelly. Due to a rapid decline in numbers the hedgehog is included on the International Union for Conservation of Nature (IUCN) Red List (IUCN, 2020).

In rural areas, preferred habitats include woodland edges, hedgerows in meadowland and rough pasture, where sufficient cover is provided for nesting. Hedgehogs are rarely found in marshy or upland habitats and in coniferous woodland. Hedgehog presence is a good indicator of plentiful ground-dwelling invertebrates, especially worms, caterpillars, snails, slugs and beetles which are preferred food items, and of varied habitat features, such as hedges and copses. Hedgehogs hibernate to conserve energy between November and March, when food is scarce, remaining largely inactive. During the rest of the year, they are predominantly nocturnal, and may travel 1-2km in a night within home ranges of 10-50ha. Badgers are natural predators, and the highest numbers are found in urban and suburban gardens where badgers are largely absent. Hedgehogs are widespread in lowland Britain but are patchily distributed.

A total of 63 records of hedgehog were returned within 2km of site which include fatalities as well as field records. Given the high number of records and the context of the site within Whitehaven, it is likely that hedgehogs will use site. None were seen during the survey, as the visit was carried out in daylight hours. Willow scrub habitat provides cover for hedgehogs as well as foraging opportunities.

Red Squirrel

Red squirrels have been declining in Britain for many decades, largely as a consequence of the introduction of the grey squirrel *Sciurus carolinensis*.

Red squirrels are arboreal mammals (living in trees) that can be found in all types of woodland. Broadleaved woodlands are the most beneficial to red squirrel due to the diversity of species and food availability. However, due to competition from grey squirrels, red squirrels are more commonly found in conifer woodlands (RSNE, 2020).

Red squirrels and their resting places are fully protected in Britain; it is an offence to deliberately capture, injure or kill a red squirrel, or to damage, destroy or obstruct their breeding or resting places. It is also an offence to disturb them whilst in their breeding or resting places.

CBDC returned 186 records of red squirrel within 2km of site with locations largely recorded vaguely as "Whitehaven". It is possible that red squirrels will commute across site given the number of local records. However, the site itself provides little in the way of suitable food and negligible opportunities for dray creation.

Invertebrates – butterflies

Several invertebrates are fully protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation of Habitats and Species Regulation 2017 as European protected species. Other invertebrates of principle importance include almost 400 species recognised as being a priority for conservation under Section 41 of the NERC Act (2006) having been included within the UK BAP. In addition, some invertebrate species form part of the Local BAP, or are listed as a Nationally Scarce or Red Data Book species in various published reports (see www.jncc.gov.uk for a list of publications relating to invertebrate Red Data Books).

Invertebrates are small, cold-blooded organisms, and their body temperature (and hence their activity level) is greatly influenced by the micro-climate in which they live. Consequently, vegetation structure, as well as species composition, has a profound effect upon the distribution and numbers of many species. Bare ground or short vegetation enables many insects to bask in sunshine to raise body temperature and become more active. Conversely, longer vegetation and shaded

conditions are cooler and provide more humid conditions favoured by those species susceptible to desiccation: many invertebrates lose water rapidly in warm temperatures. Although many invertebrates are highly mobile and can rapidly colonise newly available habitats, others are sedentary and typically move only short distances. This can apply even to those species which have the ability to fly quite strongly, for example some butterflies. Such limited powers of dispersal greatly restrict the ability of these species to re-colonise suitable sites after local extinctions and often result in fragmented and isolated populations. Another characteristic of many invertebrates is their great specialisation: they are able to occupy narrow niches and exploit tiny micro-habitats. This specialisation enables many species to coexist within a habitat, but can also mean the rarest species, which tend to display the greatest specialisation, are vulnerable to local extinction if their precise habitat requirements and life cycle needs disappear for any reason (JNCC, 2013).

CBDC returned several NERC Act species which are also red-listed, UKBAP, and Cumbria BAP species. These are small heath *Coenonympha pamphilus* dingy skipper *Erynnis tages*, wall *Lasiommata megera*, grayling *Hipparchia semele*, and small blue *Cupido minimus* butterflies. No records are for site itself, but they are present from around Whitehaven. The presence of scrub with clearings provides suitable habitat for many species of invertebrates. Those which are listed above also have specific food plant requirements which are mostly absent from site, as well as the need for bare ground, which is also lacking. The presence of bird's-foot trefoil means that dingy skipper could use site (species have been recorded as close as 800m to site) however, these areas lacked bare ground which may restrict their presence.

Reptiles

All reptile species present in England i.e., slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus*, grass snake *Natrix helvetica*, smooth snake *Coronella austriaca*, and sand lizard *Lacerta agilis* are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally or kill, injure or sell the animals. In addition, smooth snake and sand lizard are also fully protected under UK and EU law and require a European protected species licence from Natural England if a development affects them or their habitat.

Reptiles are cold-blooded (exothermic) and require external sources to raise their body heat. They hibernate during the winter months and use areas of exposed ground for basking during the summer months, but return to refuges, vegetation or underground during periods of prolonged exposure to the sun and at night.

Adders feed on small mammals, grass snakes feed on amphibians and slowworm and common lizard feed on a range of invertebrate species. As such reptiles require a varied habitat structure that provides shelter, a range of sunny and shady areas, food, and frost-free areas to hibernate in (JNCC, 2003b).

The consultation data from CBDC returned records for grass snake, slowworm and common lizard. No signs of reptiles were observed during the site walkover, with habitat on site not suitable for supporting these species. Additionally, species records provided are generally historical, from 1989 or 2014 (although common lizard has been recorded as recently as 2017).

5.0 BIODIVERSITY NET GAIN

5.1 Introduction/ Legislation

The aim of the biodiversity net gain is to ensure that developments include an increase in habitat biodiversity in comparison to the habitats on site before development. Documentation is available for classifying habitats so that there is consistency, and the approach is unified across the sector. The biometric calculator tool produced by Natural England and FPCR (2023) allows information to be processed so that biodiversity is quantified before and after development, allowing a % change in biodiversity to be produced. The tool is also useful for providing advice when estimating areas of habitat required for management or habitat creation when off-site compensation is needed.

This tool has been adopted as policy by many local authorities within the UK; the standard aim for net gain is a minimum of 10% and these need to be maintained for at least 30 years, dependent on the local policy aims and objectives. The Environment Bill received royal assent on the 9th November 2021 and is now an act of parliament (law). By January 2024, 10% Biodiversity Net Gain will be a statutory requirement for new development and requires biodiversity gains to be managed for a minimum of 30 years. These goals are enforceable by local planning authorities if included in their policy.

5.2 Habitat Condition Assessments - Baseline

The habitats within site currently have been assessed against the condition habitat criteria detailed below. The condition assessments for artificial unvegetated - unsealed surface is automatically filled in as "N/A – Other" within the Biodiversity Metrics 4.0.

5.2.1 Willow scrub

Scrub is dominated with grey willow, with only bramble recorded as an additional scrubby species. All scrub plants are about the same age, immature, with some smaller saplings present. The scrub has a relatively good structure with clearings present throughout. The lack of age variation and well-developed edge results in scrub being of poor condition.

Table 3 Scrub Condition Assessment (Natural England 2023)

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species ¹ , with no single species comprising more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	N	Good example of willow scrub but only grey willow and bramble present.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran ²) shrubs are all present.	N	Only young shrubs and saplings.
C	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴) and species indicative of sub-optimal condition ⁵ make up less than 5% of ground cover.	Y	No invasive non-native species.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	Surrounded by walls and fenced gardens so little opportunity for a well-developed edge.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Y	Clearings throughout habitat.
Number of criteria passed			2
Condition Assessment Result (out of 5 criteria)		Condition Assessment Score	Score Achieved × 1✓
Passes 5 criteria		Good (3)	
Passes 3 or 4 criteria		Moderate (2)	
Passes 2 or fewer criteria		Poor (1)	✓

5.2.2 Other woodland; broadleaved

Woodland on site is comprised of sycamore and willow only with regeneration noted heading into the scrub on site. Most trees are willow and therefore native. No non-native ground flora is present, with ground flora mostly the same as elsewhere on site. There are 3 storeys present, one of which is a scrubby understory. Woodland is in moderate condition.

Table 4 Woodland Condition Assessment (Natural England 2023)

Condition Assessment Criteria						
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	2	2 classes..
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland.	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	No browsing evidence.
C	Invasive plant species	No invasive species present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species >10% cover.	3	No invasive species recorded.
D	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.	Two or less native tree or shrub species across woodland parcel.	1	Two species present – only one native.
E	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.	2	About 70% native in block.
F	Open space within woodland	10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	3	Small amount of open space.
G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (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	Mature and saplings.
H	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	No obvious health issues/ dieback.

I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	1	No NVC community.
J	Woodland vertical structure	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.	3	3 storeys.
K	Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1	No veterans.
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1	No deadwood.
M	Woodland disturbance	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	No damaged ground evident.
Total Score (out of a possible 39)					28	
Condition Assessment Result				Condition Assessment Score	Result Achieved	
Total score >32 (33 to 39)				Good (3)	Moderate	
Total score 26 to 32				Moderate (2)		
Total score <26 (13 to 25)				Poor (1)		

5.3 Habitat Condition Assessments – Created

All habitats on site are due to be destroyed and replaced with new habitats. The expected condition of the replacement created habitats are included in this section of the report, made in a conservative manner.

Created habitats include developed land - sealed surface and built linear features which are both included in the metrics as “N/A – Other”. Introduced shrub is also included in landscaping plans and is included as “Condition Assessment N/A”.

Mixed Scrub

There is 0.0392 hectares of mixed scrub due to be planted on site. Scrub will be planted in drifts, with a total of 6 species to be planted. Two parcels of habitat are likely to achieve moderate condition, due to the form of planting which should create well-developed edges and clearings throughout the scrub. A third parcel, down the eastern site boundary, will only achieve poor condition due to the thin nature of the habitat meaning that neither a well-developed edge nor clearings will be possible within the habitat.

Table 5 Scrub Condition Assessment (Natural England 2023)

Condition Assessment Criteria		Criterion passed (Yes or No)	Criterion passed (Yes or No)
A	<p>The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type.</p> <p>At least 80% of scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except hazel <i>Corylus avellana</i>, common juniper <i>Juniperus communis</i>, sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i>, which can be up to 100% cover).</p>	Y – six species to be planted as per “Aldi Whitehaven Planting Schedule” (Nicola Hills Studio (2023)).	Y – six species to be planted as per “Aldi Whitehaven Planting Schedule” (Nicola Hills Studio (2023)).
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	N – Planting will take place at one time meaning different age ranges will not be possible to achieve.	N – Planting will take place at one time meaning different age ranges will not be possible to achieve.
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Y - No invasive non-native species due to be planted. Management should ensure less than 5% of sub-optimal indicators present.	Y - No invasive non-native species due to be planted. Management should ensure less than 5% of sub-optimal indicators present.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y - Planted in drifts to achieve well-developed edge.	N – area too small to have a well-developed edge.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Y – Planted in drifts to allow areas of clearing.	N – area too small for clearings.
Number of criteria passed		4	2
Condition Assessment Result (out of 5 criteria)		Condition Assessment Score	Score Achieved X/✓
Passes 5 criteria		Good (3)	
Passes 3 or 4 criteria		Moderate (2)	✓
Passes 2 or fewer criteria		Poor (1)	✓

Other Neutral Grassland

An area of grassland planting is proposed around the east and southern boundaries of site. The areas are due to be “meadow grass” within the proposed site plan but have been input into the metrics as other neutral grassland, a medium distinctiveness grassland which is more likely to be achievable than the priority habitat lowland meadow.

Grassland areas will be planted with Emorsgate Standard General Purpose Meadow Mixture EM2. Details of the mixture can be found here:

<https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/standard-general-purpose-meadow-mixture/> .

Table 6 Scrub Condition Assessment (Natural England 2023).

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
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. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Y	Use of a suitable seed mix will ensure this criterion is passed.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds, and small mammals to live and breed.	Y	Appropriate management will allow a varied sward height to occur.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ¹ .	Y	Small amount of bare ground likely to be present.
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y	Bracken not due to be planted anywhere on-site. Management of adjacent scrub will be necessary to ensure negligible encroachment of grassland habitat.
E	Combined cover of species indicative of sub-optimal condition 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 species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Y	A good-quality species mix will ensure low/ no presence of these species. Management will be necessary to ensure quality of habitat over life of metrics.
Additional Criterion - must be assessed for all non-acid grassland types			

F	There are 10 or more vascular plant species per m ² 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	Use of a good-quality seed mix will ensure this criterion is passed.
Essential criterion for Good condition achieved (for non-acid grassland)		Y	
Number of criteria passed		6	
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓	
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)		

Individual Trees – Urban Tree

Ten individual, urban trees are due to be planted around the north of site, mostly atop introduced or mixed scrub. Five of these are native field maples however, as these trees are planted atop scrub, it is likely that they will become a part of the scrub and will not be able to be counted as trees within the metrics. Therefore, only trees 5 – 9 have been condition assessed as below. These trees are all non-native. It is expected that all trees will have a regular pruning regime and will therefore be unlikely to reach 75% of their expected size. Table 8 below shows the estimated area of trees to be planted, taken from the Biodiversity Metrics 4.0.

Table 7 Individual Tree Condition Assessment (Natural England 2023).

Condition Assessment Criteria		Criterion passed (Yes or No) (T6 – 9)	Criterion passed (Yes or No) (T5)
A	The tree is a native species (or at least 70% within the block are native species).	N	N
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y – either individual or planted close enough together to have a continuous canopy.	Y – Individual and therefore passes automatically.
C	The tree is mature (or more than 50% within the block are mature).	N – Not likely to grow to maturity during the 30-year span of the metrics.	N – Not likely to grow to maturity during the 30-year span of the metrics.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide, or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N – Urban and ornamental nature of trees means they will likely be regularly pruned.	N – Urban and ornamental nature of trees means they will likely be regularly pruned.

E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N – unlikely to develop over 30-year span of metrics.	N – unlikely to develop over 30-year span of metrics.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y – atop mixed scrub.	N – atop developed land.
Number of criteria passed		2	1
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved \times \checkmark	
Passes 5 or 6 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)	\checkmark	\checkmark

Table 8 Predicted Individual Tree Area

Tree helper						
Tree size	Number of trees and area (ha) for each condition state					
	Poor	Area	Moderate	Area	Good	Area
Small	5	0.0204	0	0.0000		0.0000
Medium		0.0000		0.0000		0.0000
Large		0.0000		0.0000		0.0000
Total	5	0.0204	0	0.0000	0	0.0000

5.4 Biodiversity Metrics Results

The National Planning Policy Framework (NPPF) outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed in preference to using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

Taking the requirements of the NPPF into account, opportunities should be sought where possible for nature conservation enhancement at this site with an overall 10% net gain recommended. A precautionary approach has been taken when completing the metrics, making sure that proposals are realistic.

The Biodiversity Metrics calculation shows a baseline of 2.86 habitat units on site with no river or hedgerow units present within this site.

After proposals have been completed to the most up to date landscape plan, the site will provide 1.85 habitat units, resulting in a biodiversity net gain of -35.13% (a loss). Due to the loss of willow scrub and woodland with no suitable replacements, the trading summary of the metrics is also not satisfied by current proposals. Current proposals do not include any linear habitats, to account for woodland lost. It is recommended that a linear habitat is added to the landscape plan.

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Habitats

Three main habitat land categories were identified on site under the Phase 1 system of habitat description with the site roughly split into an artificially unsealed car park to the north and willow scrub to the south. A small area of woodland is present to the east.

The site is likely to support roosting, foraging, and nesting birds including amber and red-listed species. Bats will likely commute through site, although no roosting opportunities are available. Small mammals including hedgehogs are likely to utilise site for cover and foraging and it is likely that common invertebrates will make use of clearings and vegetation within the willow scrub.

6.2 Habitat Connectivity and Corridors

The site and/ or its surrounds are not highlighted within the Cumbria Local Recovery Network. However, within the local area, the greenspace of the willow scrub on site connects to an adjacent strip of woodland to the east, with a large, wooded area across the road to the west. It is possible that protected species will therefore use the willow scrub on site to commute through the area. This is especially true of flying species who will not encounter barriers such as walls or housing, such as bats and birds. The removal of willow scrub from site would lead to a reduction in connectivity.

6.3 Designated Sites

There are 7 statutory sites within 2km of the proposed work site, the closest of which is Castle Park Wood at 562m north-east of site. Sites are designated due to their plant and animal assemblages, as well as for geological value. It is unlikely that works to site will lead to a cumulative impact within the site area, given the distance of site from designated sites, and the nature of works, which will be localised.

6.4 Recommendations

The recommendations made below are relevant for 18 months from the date of issue of this report and are in line with current proposals. Changes to these proposals may lead to a change in recommendations.

Invasive Plant Species – No invasive plants were recorded on site and therefore no impacts are expected, and no further works are required.

Birds – Two amber-listed species of bird were recorded during the site visit and it is likely that other similar species will use site for roosting, foraging, and nesting. It is recommended that breeding bird surveys take place across the willow scrub of site to fully assess its importance to birds within the local area. As a less desirable alternative, willow scrub could be replaced elsewhere locally, so that the species this habitat supports could be provided with the same opportunities as those lost on site during works.

Works must take place outside of the main nesting bird season (March – August inclusive). Should it be necessary for works to be carried out during this period, then a site visit by an appropriately qualified ecologist will be necessary to ensure no nesting birds will be impacted by works.

Bats – As site is very likely utilised by commuting bats, it is recommended that the proposed site includes linear features to support continued connectivity. This could include a native hedgerow or a line of trees (this would also increase biodiversity on site, although would only be measurable as a linear feature).

Badger – It is very unlikely that badger use this site and no further survey effort is deemed necessary.

Hedgehog – The site is likely to support hedgehogs and any works should be completed with care. Vegetation should be cut to 150mm before being completely cleared, with contractors remaining vigilant for hedgehog presence.

Red Squirrel – No further works are recommended for red squirrels.

Other Mammals – Working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

Invertebrates – Although the site has the potential to support NERC-list invertebrate species, the suitable areas and food plants present on site are very

small which means potential impacts to these species will be negligible. Survey effort is therefore not recommended.

Reptiles – No further works are recommended for reptiles as the site is unlikely to support them.

Biodiversity Net Gain – Proposals for site currently result in a loss of biodiversity for the site. This should be rectified by either updating site proposals to include a greater area of scrub, trees, and other high-quality planting (including those suggested for specific species requirements above, such as a linear habitat for bats), or by supplementing on-site planting with off-site gains elsewhere. To satisfy trading requirements, some woodland planting should be carried out (either on or off-site). An alternative option would be to pay contributions into either a local or national BNG scheme.

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Nicola Hills Studio (2023) Aldi Whitehaven Planting Schedule

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APPENDIX A

Figures



- Legend
- Red Line Boundary
 - Buffered

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Project	Aldi, Whitehaven
Title	Site Location
Client	Aldi
Date	14/08/2023
Ref	Figure 1



Legend

Red Line Boundary

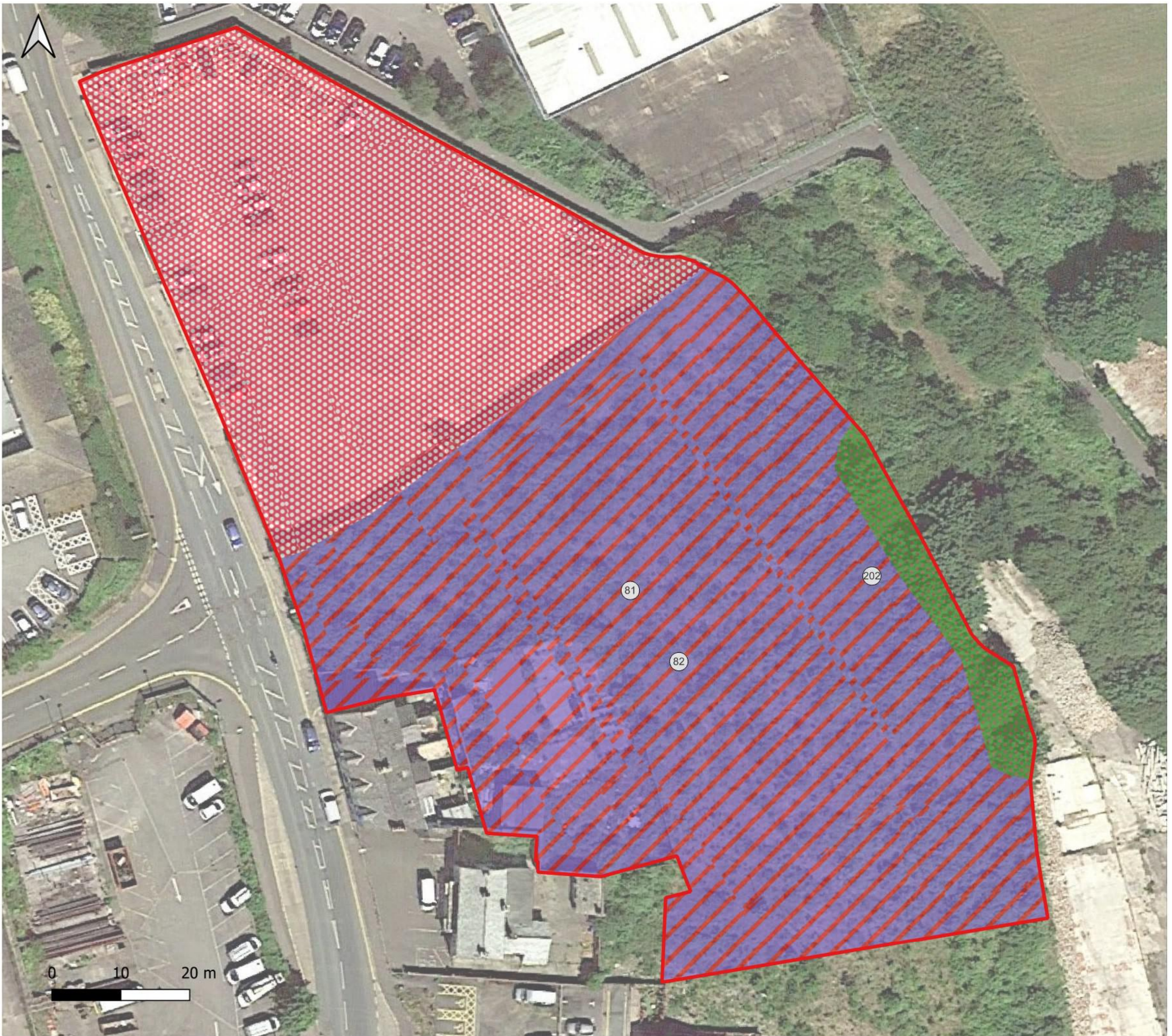
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Project	Aldi, Whitehaven
Title	Aerial Map
Client	Aldi
Date	14/08/2023
Ref	Figure 2




Legend

 Red Line Boundary

Habitats


 Artificial unvegetated, unsealed surface


 Other woodland; broadleaved

 Willow scrub

Secondary Code

 81 - ruderal or ephemeral

 82 - vacant or derelict land

 202 - young trees - self-set

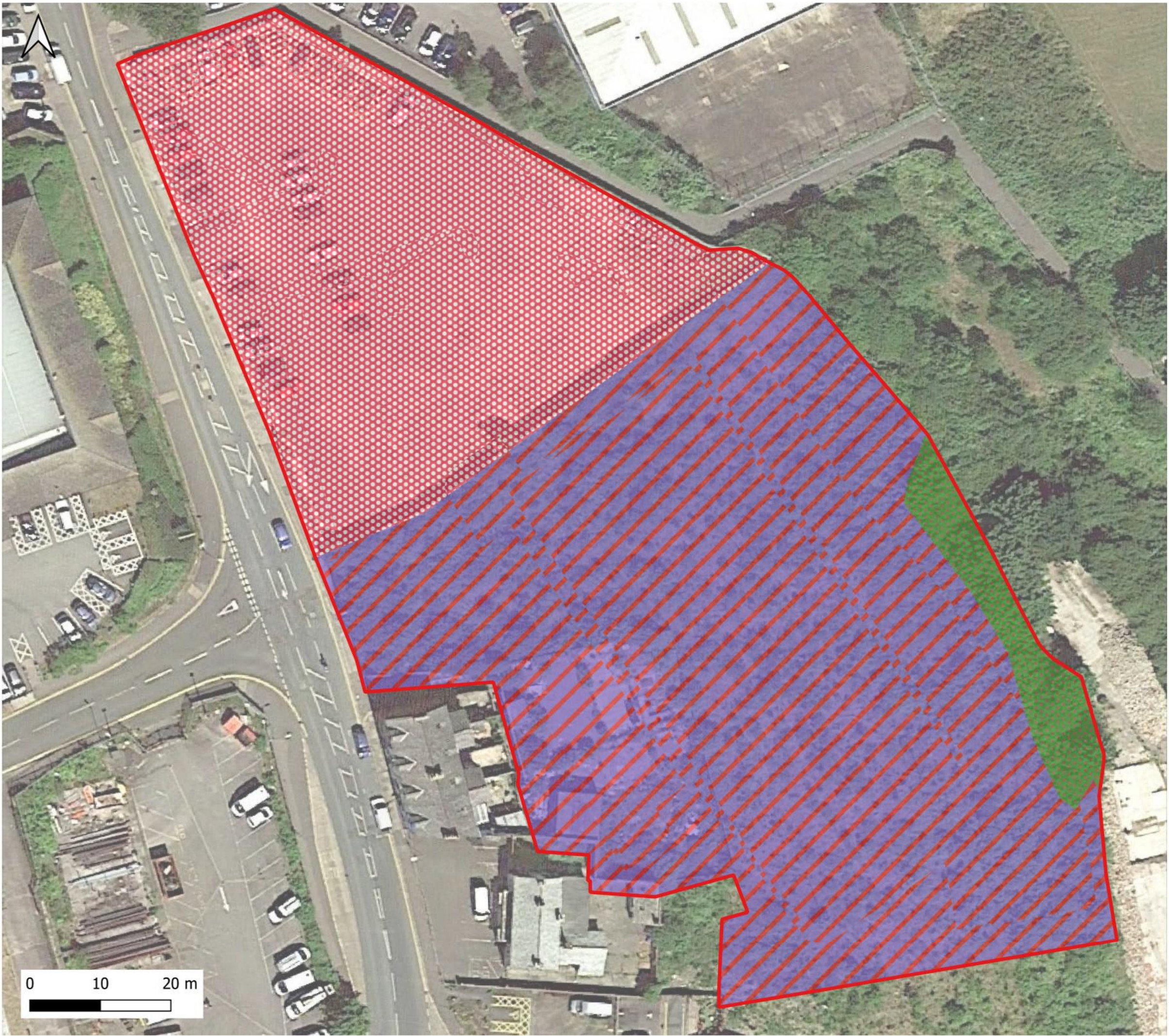
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Project	Aldi Whitehaven
Title	Habitat Map - UKHabs
Client	Aldi
Date	21/08/2023
Ref	Figure 3




Legend

 Red Line Boundary

HABITATS

Habitats Baseline

 Artificial unvegetated, unsealed surface

 Other woodland; broadleaved

 Willow scrub

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Project	Aldi Whitehaven
Title	Baseline Habitat Map
Client	Aldi
Date	19/10/2023
Ref	Figure 4a



- Legend**
- Red Line Boundary
 - Habitats Proposed
 - Built linear features
 - Developed land; sealed surface
 - Introduced shrub
 - Mixed scrub
 - Other neutral grassland
 - Individual tree Proposed
 - Proposed Small Urban Tree

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Project	Aldi Whitehaven
Title	Proposed Habitat Map
Client	Aldi
Date	19/10/2023
Ref	Figure 4b

APPENDIX B

Selected Photographs



Photograph 1: Willow scrub habitat.



Photograph 2: Scrub with ephemeral vegetation growing through unsealed surface.



Photograph 3: Clearing within scrub.



Photograph 4: Woodland habitat.



Photograph 5: Gravel, unsealed car park.

APPENDIX C

Report Conditions

Total Ecology Ltd

REPORT CONDITIONS

Aldi Whitehaven

This report is produced solely for the benefit of Avison Young and Aldi and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Total Ecology. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Total Ecology using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to Total Ecology by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other

structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Total Ecology accept no liability for issues with performance arising from such factors

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