

Ecological Consultants Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

Land Adjacent Harrison's Engineering, Clitheroe, BB7 9TP



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ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

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1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in May 2023 to carry out a Preliminary Ecological Appraisal of Land Adjacent Harrison's Engineering, Billington, Clitheroe. It is proposed that part of an agricultural field is converted to additional car parking and storage.
- **1.1.2** A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.
- 1.1.3 The site was then visited by a licenced ecologist from Envirotech NW Ltd on the 29th June 2023. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.
- **1.1.4** The plant species assemblages recorded at the site are all common in the local area and are considered to be of low ecological value, consisting of improved grassland and species-poor hedgerow.
- **1.1.5** None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations owing to failing to contain the necessary number of woody species per unit length (1997).
- **1.1.6** Birds are likely to utilise Hedgerow 1 for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.
- 1.1.7 Three Schedule 9 invasive species- Himalayan Balsam, Japanese Knotweed and Giant Hogweed- were located approximately 5m from the edge of the site boundary along the bank of the River Calder. Care should be taken not to further spread these species along the banking during works. Precautionary measures have been outlined in this report regarding their containment and/or targeted removal.

2. INTRODUCTION

2.1 Background

- 2.1.1 In May 2023 Envirotech NW Ltd were commissioned by Harrison's Engineering to carry out a Preliminary Ecological Appraisal of Land Adjacent Harrison's Engineering, Billington, Clitheroe, central grid reference SD 72682 36098 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.
- **2.1.2** The survey was requested in connection with the proposed expansion of the site, part of the agricultural field adjacent to be converted to additional car parking and storage.



2.2 Objectives

2.2.1 The main objectives of the study were:

- The completion of a Phase 1 Habitat Survey including the preparation of a vegetation and habitat map of the site and the immediate surrounding area.
- The survey and assessment of all habitats for statutorily protected species.
- An evaluation of the ecological significance of the site.
- The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accordance with wildlife legislation, planning policy and other relevant guidance, and;
- The identification of any further surveys or precautionary assessments that may be required prior to the commencement of any development activities.

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

- **3.1.1** The Biological Records centre for Lancashire "LERN", the Envirotech dataset, the National Biodiversity Network (NBN) and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.
- **3.1.2** The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.
- **3.1.3** Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

3.2 Vegetation and Habitats

- **3.2.1** A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).
- **3.2.2** Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).
- 3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).
- **3.2.4** The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.
- **3.2.5** Habitats of Principal Importance (HPI) were cross referenced with Natural England's inventory against the site boundary and where found ground truthed.

3.3 Timing and Personnel

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken.

3.3.2 The site and surrounding land was visited on the 27th June 2023 by: -

 (BF) Mr Bradley Foster MENV (Hons) Natural England Bat Class Licence (Level 1 Agent) Natural England Barn Owl Licence (Agent) Natural England Great Crested Newt Licence (Level 1 Agent)

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

- **4.1.1** Great crested newts (*Triturus cristatus*) are protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife & Countryside Act (1981).
- **4.1.2** Where relevant, water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts.
- **4.1.3** The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of ponds for great crested newts.
- **4.1.4** Where relevant, pond assessments were undertaken in order to determine which waterbodies, based on their potential to support great crested newts, should be subject to presence/absence surveys.
- **4.1.5** There are no waterbodies suitable to breeding amphibians within a 250m radius of the site. Resulting, the site was considered sufficiently low risk for GCN such that no further assessments were warranted.

4.2 Badger

- **4.2.1** Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett.
- **4.2.2** A disturbance to badgers in their setts may occur as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established.
- **4.2.3** The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.
- **4.2.4** The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) to a distance of 30m for indications of use by badgers.
- **4.2.5** Signs of badgers which were searched for included:
 - Setts 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
 - Discarded bedding at sett entrances (this includes grass and leaves)

- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

- **4.3.1** All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, as a Protected Species. Taken together, these pieces of legislation make it an offence to:
 - Intentionally or recklessly kill, injure or capture bats;
 - Deliberately or recklessly disturb bats (whether in a roost or not);
 - Damage, destroy or obstruct access to bat roosts.
- **4.3.2** The Bat Conservation Trust (Hundt (2012) and Collins, J. (ed) (2016) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.
- **4.3.3** The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds.
- **4.3.4** Where relevant, trees and structures on and within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees on the site to allow an assessment of their potential to be used by bats to be made by a licensed surveyor. Trees were all assessed in accordance with Collins, J. (ed) (2016).

4.4 Birds

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as Species of Principal Importance (SPI).

4.4.2 Bird species and behaviour was noted during the other field surveys. All areas are covered equally, in order to avoid the subjective survey of better quality 'bird habitat'. All birds displaying breeding behaviour were recorded.

4.5 Brown Hare

- 4.5.1 The brown hare (Lepus europaeus) is a SPI.
- **4.5.2** The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.
- **4.5.3** Where present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

4.6 Invertebrates

- **4.6.1** A general assessment was made of the study area's suitability for supporting invertebrates during the phase 1 survey. The study area's lack of habitat diversity, species-poor composition and uniformity of vegetation structure (i.e., lack of variation in height and microtopography) resulted in our belief that a low diversity of invertebrates would be likely to occur across the site.
- **4.6.2** The extent of sampling was limited in that it could be confirmed that no SPI would be likely to be affected by the proposal.

4.7 Otter

4.7.1 Otters (*Lutra lutra*) are given protection by the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

This protection means that it is an offence to deliberately or recklessly:

- Kill or injure otters;
- Destroy, damage or obstruct their dens, and
- Disturb them whilst in the den.
- **4.7.2** Watercourses were assessed for their suitability and for the presence of otters within 10m of the banks. The banks and scrub vegetation were carefully searched for spraints, feeding remains, runs, prints and couches/holts.

4.8 Reptiles

- **4.8.1** All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.
- **4.8.2** The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.
- **4.8.3** Where relevant, searches of suitable refuges were also undertaken by carefully lifting potential refuges such as logs and stones before replacing them.
- **4.8.4** Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

4.9 Survey limitations

- **4.9.1** Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site. Bats were active at the time of the survey.
- **4.9.2** The duration, extent and scope of the surveys were considered sufficient to plan appropriate mitigation and recommend additional precautionary survey work required prior to the commencement of work.
- **4.9.3** No significant survey limitations were encountered.

5. **RESULTS**

5.1 Data Search

- 5.1.1 Envirotech and LERN hold no records of protected or notable species for the site. There are however records of protected or notable species within 2km (Figure 2). This includes records for Common Eel (*Anguilla anguilla*) and European Hedgehog (*Erinaceus europaeus*), Lancashire Key Species, within 33 and 66m of the site's boundaries. These are discussed in the relevant sections below.
- **5.1.2** The nearest non-statutory protected site is a corridor of the Lancashire Woodland Ecological Network, which overlaps with the north-eastern half of the site (Figure 3).
- **5.1.3** The nearest statutory protected site is Cock Wood SSSI, located 2.5km south-east of the site (Figure 4). This is isolated from the site by the village of Whalley.



Figure 2- LERN data search of the site.





6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

- 6.1.1 A drone was overflown on the site on the 27th June 2023. This produced a number of images which were stitched together to form an orthomosaic map, providing up to date aerial imagery of the site from which phase 1 habitat mapping has been based. Figure 5 shows the hi-resolution imagery overlain Google Earth only.
- **6.1.2** The site consists of a field of improved grassland, which is bound to the south-west and south-east by native hedgerow. There site is enclosed by the River Calder to the north, Harrison's Engineering to the east, farmland to the south and the A59 to the west.
- 6.1.3 See Figure 6 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.



Target Note	Description	Comment		
TN1	Bare Ground	In the south-east corner of the site (by the access gate) is a small area of bare ground. Bare ground has been partially colonised by ephemeral/short perennial species such as Pineapple Mayweed (Matricaria matricarioides), Plantain (Plantago major), Knotgrass (Polygonum aviculare) and Mouse-ear Cress (Arabidopsis thaliana).		
TN2	Intact Hedge- Species- poor (Hedgerow 1)	A tall hedgerow bounds the eastern edge of the field. The majority of the hedgerow consists of Hawthorn (<i>Crataegus monogyna</i>), with occasional Blackthorn (<i>Prunus spinosa</i>) and climbers such as Bindweed (<i>Convolvulus spp.</i>). This hedgerow is approximately 3m tall and 2m wide, being lined with Nettle (<i>Urtica dioica</i>), Cleavers (<i>Galium aparine</i>), Hedge Mustard (<i>Sisymbrium officinale</i>) and Bramble (<i>Rubus fruticosus agg</i>) along its base.		
TN3	Improved Grassland	The majority of the site consists of improved grassland, the grass ward dominated by Perennial Ryegrass (<i>Lolium perenne</i>) and White Clover (<i>Trifolium repens L.</i>). Additional species consist of Creeping thistle (<i>Cirsium arvense</i>), Creeping Buttercup (<i>Ranunculus repens</i>), Chickweed (<i>Stellaria media</i>), Broad-leaved Dock (<i>Rumex obtusifolius</i>), Hedge Mustard and Plantain. There are stands of Yorkshire Fog (<i>Holcus lanatus</i>), Cocksfoot (<i>Dactylis glomerata</i>), Timothy-grass (<i>Phleum pratense</i>), Meadow foxtail (<i>Alopecurus pratensis</i>), Rough-stalked Meadow Grass (<i>Poa trivialis</i>) and Couch Grass (<i>Elymus repens</i>) to the field margins.		
TN4	Schedule 9 Invasive Species	The north-east length of the site boundary sits approximately 5m from the River Calder's banking. The vegetation along the top of the bank consists of a combination of unimproved grass, tall ruderal and marginal vegetation. Species consists of Perennial Ryegrass, Yorkshire Fog, Rough-stalked Meadow Grass, Common Bent (<i>Agrostis capillaris</i>), Bramble, Broad-leaved Dock, Common Butterbur (<i>Petasites hybridus</i>), Canary Reed Grass (<i>Phalaris arundinacea L</i>), Common Reed (<i>Phragmites australis</i>), London Rocket (<i>Sisymbrium irio</i>), Burdock (<i>Arctium lappa</i>), Ragwort (<i>Senecio jacobaea</i>), Field Thistle, Mugwort (<i>Artemisia vulgaris</i>), Hairy willowherb (Epilobium hirsutum) and Willow (<i>Salix Sp.</i>). Himalayan Balsam (<i>Impatiens glandulifer</i>), Japanese knotweed (<i>Fallopia japonica</i>) and Giant Hogweed (<i>Heracleum mantegazzianum</i>) are each situated along the top of the bank.		
TN5	Defunct Hedge- Species- poor (Hedgerow 2)	Bounding the south-west of the site is a defunct hedgerow lined with stock fencing. The hedgerow consists of Hawthorn (<i>Crataegus monogyna</i>), with occasional Elderberry (<i>Sambucus nigra</i>), Bramble (<i>Rubus fruticosus agg</i>) and climbers such as Ivy (<i>Hedera helix</i>). This hedgerow is approximately 1.5m tall and 1m wide, being gappy and bare in places (with little green growth).		
Table 1 Details of Target Notes.				





Figure 7- Panoramic image of the site.







Table 2 Photographs

6.2 Vegetation

- 6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area.
- **6.2.2** The improved grassland has a low species diversity and ecological value. Species are indicative of regular disturbance. This habitat does not constitute a Habitat of Principal Importance (HPI).
- **6.2.3** The intact hedges bounding the site to the south-east and south-west are species poor and contain a low diversity of woody plant species, but all hedgerows are a HPI. They should be retained in any proposed scheme and where lengths need to be lost, they should be transplanted or new hedges planted as compensation.
- **6.2.4** Neither Hedgerow 1 or 2 are classified as important under the Hedgerow Regulations (1997) owing to failing to contain the necessary number of woody species per unit length.
- 6.2.5 Japanese knotweed, Giant hogweed and Himalayan balsam were each located along the top of the banking adjacent the River Calder. Whilst this area of the field is not situated within the site boundary, it is within 5m of it. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

6.3 Amphibian

- **6.3.1** There are 57 records for Great Crested Newt *(Triturus cristatus)* within a 2km radius of the site. The nearest of these records is located 375m east of the site (and beyond the opposite bank of the River Calder).
- **6.3.2** The core development area has a low value to amphibians being open and exposed. The boundary hedgerows could be utilised as refuges and/or hibernacula but there are no breeding ponds in proximity to the site.
- **6.3.3** Structural diversity at ground level across the site is very poor. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.
- **6.3.4** Amphibians would be unlikely to attempt to cross the site as it comprises an area that is mostly open with uniform length grass. Whilst not a physical barrier to the dispersal of amphibians, the site is regarded as being a potentially hostile environment to them.
- 6.3.5 The proposed development will not result in the permanent loss of or a substantial negative effect on any waterbodies or foraging areas linked to them. Boundary areas which may provide foraging or refuge sites, are to be retained or compensated for.

6.4 Badger

- 6.4.1 There are two records of Eurasian Badger (*Meles meles*) within 2km of the site. The nearest of these records is present 480m east of the site.
- 6.4.2 Badger setts do not occur on site and a lack of feeding signs or runs across the site would suggest that they do not occur within 30m of site boundaries.
- 6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.5 Bats

- 6.5.1 There are five records of two species of bat within a 2km radius of the site.
- 6.5.2 The foraging habitat at the site is very poor for bat species being open and exposed. The improved grassland offers negligible foraging opportunities for bats. Hedgerows are poor in terms of their structure, diversity and interconnectivity, especially to the south-west.
- **6.5.3** Despite being poor, hedgerows on site offer the best foraging habitat for as the remainder of the site consists of open grassland. Whilst these areas of the site are the most structurally diverse, they are not considered exceptional in the local area. More extensive areas of medium and high-quality habitat occur locally, including the gardens, woodland and residential gardens of surrounding villages.
- 6.5.4 It is not considered there would be significant degradation of foraging habitat as a result of the proposal so long as hedgerows are retained and or their loss is compensated for in any landscaping scheme. Care also needs to be taken to ensure that the River Calder, which is likely a major commuting and foraging route for bats, remains undisturbed during and following works.
- 6.5.5 We consider bat species are highly unlikely to rely on the site for feeding, but may occur in the local area and along the River Calder. Roosting by bats will not occur on the site.

6.6 Birds

- 6.6.1 There are 442 records of birds within 2km of the site.
- 6.6.1 The intact hedgerow to the south-east offer potential habitat for feeding and nesting birds. The gappy defunct hedge to the south-west of the site has an insufficient density to be of a high value to nesting birds.
- **6.6.2** The poor semi-improved grassland has a low potential for use by nesting birds as the grassland is grazed and as such is usually short. Trampling risks are also very high within this area of the site.
- **6.6.3** A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

- 6.6.4 Precautionary mitigation is considered appropriate. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.
- 6.6.5 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.

6.7 Brown Hare

- 6.7.1 Brown hare are a SPI. There are nine records of brown hare within 2km of the site.
- 6.7.2 No indication of brown hares was recorded on the site.
- 6.7.3 The site boundary has some potential for brown hares to create forms but use of the site is likely to be limited due to its open and exposed nature and regular human presence.
- 6.7.4 A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

6.8 Invertebrates

- 6.8.1 There are 61 notable invertebrate records within a 2km radius of the site.
- **6.8.2** No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.
- **6.8.3** Given the poor-quality habitats contained within the site in comparison to the wider area, it is not considered that this site is of any local significance for invertebrates.
- **6.8.4** The unimproved grass, tall ruderal and marginal vegetation bordering the River Calder has some value to species such as common butterflies, dragonfly and moths, but these habitats are not considered to be locally significant. This vegetation is also located beyond the site boundary.
- 6.8.5 Species such as Bumblebees which rely on nectar would be negatively impacted by the removal of Himalayan balsam along the river bank, as this is a good source of nectar. The benefits of the removal of Himalayan balsam are however considered to outweigh the loss of this nectar source.

6.9 Otter

- 6.9.1 There are two records of otter within 2km of the site. The nearest of these records is 240m north-west of the site, located within the River Calder.
- **6.9.2** No indication of the presence or past use of the site by otters was found, although there are otter records within the local area.
- 6.9.3 Whilst the River Calder will undoubtedly provide foraging and refuge opportunities, acting as a commuting/dispersal route through the local landscape, this species is

considered as being absent from the site and is unlikely to be significantly impacted by site development (pending all mitigation is followed).

6.9.4 All bank vegetation should be left undisturbed along the edge of the River Calder, so as to continue to provide suitable holt sites in the future. Precautionary mitigation would be appropriate in respect of construction activities which will need to be restricted at night.

6.10 Reptiles

- 6.10.1 There are no records for reptiles within 2km of the site.
- 6.10.2 The majority of the site has a very low value to reptiles being devoid of significant ground cover. There are no areas of the core development area which would be particularly favourable to reptiles such as scrub, brash, deadwood, spoil or bareground (for basking). The site consists of uniform grassland only.
- 6.10.3 Reptiles may occur along the boundary of the site and this provides linkage across the local landscape. It is however outside the site boundary and is unaffected by the proposal.
- 6.10.4 No specific mitigation for these species is considered necessary.
- 6.10.5 No indication of reptiles was recorded at the site.
- 6.10.6 As a consequence, precautionary mitigation would be appropriate in respect of construction activities so as to ensure reasonable avoidance measures are taken to avoid the killing or injury of these species.

6.11 Statutory and Non-Statutory Sites

Direct Impacts:

- 6.11.1 There are no statutory protected site which are connected to the site such that site development would directly affect the dispersal of species between them or directly impact upon their integrity.
- 6.11.2 The north-eastern half of the site however does sit within the Lancashire Woodland Ecological Network. This network was designed to provide linkages between known wildlife sites; allowing species populations to move freely between high-quality sites. The network highlights areas of high 'landscape integrity' where habitats are in relatively natural condition and have lower levels of human modification. We consider the site has been modified in recent history given its use as improved grassland, also being bound to the west by a major road and the east by Harrison's Engineering. There are no trees or areas of woodland on site.

Indirect Impacts:

- 6.11.3 There are no statutory sites which are connected to the site such that site development would indirectly affect the dispersal of species between them or indirectly impact upon their integrity.
- 6.11.4 As above, whilst the north-eastern half of the site is located within a non-statutory area, the site consists of modified grassland which contains no trees or woodland. Indirect impacts as a result of the development are likely to be low/negligible.

7. MITIGATION/RECOMMENDATIONS

7.1 Compensatory planting and habitat enhancement

- 7.1.1 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats. Wildflower seed could be used to plant verges to enhance the ecological value of the site and continuity between the site and the wider area.
- 7.1.2 Hedgerows around the site should be retained or improved where possible. Any lengths of intact hedgerow to be removed to facilitate development should be transplanted and/or replanted in order that there is no net negative impact on this HPI due to development. The roots of hedgerows should be adequately protected during development from compaction/ground disturbance.
- 7.1.3 Three Schedule 9 invasive species are located along the top of the River Calder's bank and within 5m of the site's north-eastern boundary. There is no legal obligation to remove Himalayan Balsam, Japanese Knotweed or Giant Hogweed from privately owned land but under the Wildlife and Countryside Act 1981 it is an offence to spread or encourage these species to grow on neighbouring land (or into the wild).
- 7.1.4 At a minimum, these invasive species should be clearly demarcated with an 8m exclusion zone (e.g., using Heras fencing and clear signage). No material containing these plants should be removed or disturbed unless part of their targeted removal. All footwear, equipment and machinery (e.g., digger tracks) should be scrubbed free of soil before leaving the site, ensuring balsam/hogweed seeds and knotweed rhizomes are not spread offsite.
- 7.1.5 Should targeted removal of these species be preferred, techniques will need to be completed with due care and attention and will typically need to be repeated over a 2-3-year control programme.

Himalayan Balsam- given its shallow roots, this species can be hand pulled at the lower stem from April-June, before the plant sets seed and flowers. Once pulled, the root should be snapped at its lowest point. Removed Himalayan Balsam should then be stacked (ideally off the ground), placed away from any watercourses and be left to desiccate. It can then be either burnt or disposed of as inert waste.

Japanese knotweed- this species is far more difficult to eradicate, though removal is possible if burned, buried or chemically treated (with a glyphosate-based weedkiller) by professionals.

Giant Hogweed- Due to the risk of contact with the plants sap, it is not considered safe practice to remove Giant Hogweed by hand when the plant is >1m tall. Giant Hogweed should instead be treated with a glyphosate-based weed killer. This treatment will likely need repeating over consecutive years, as a single hogweed plant can produce 50,000 seeds per head.

7.2 Amphibians

- 7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.2.2 The following points should also be followed.
 - All work must take place during daylight hours as amphibians are more likely to be commuting overnight and this will ensure the risk to any amphibians commuting through the site will be minimised.
 - During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.
 - The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.
 - Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.
 - All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

7.3 Badger

- 7.3.1 Badger setts are known to occur within 2km of the site. These setts will be undisturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.
 - All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.
 - Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.
- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

7.4 Bats

- 7.4.1 Work at night should be restricted and light spill onto the boundary should be minimised. To this effect, a sensitive light scheme should be considered for the site, so as not to deter bats from commuting through the site or foraging along the River Calder. We recommend the following: -
 - All artificial light should be downward facing and of a low intensity
 - Passive infrared sensors could be used on security lighting, which can then be activated for safety purposes only.
 - Consider the use of LED luminaires, which shine with a lower intensity and higher dimming capability.
 - Utilise shades of warm white (which appear more yellow/orange in appearance) over cold white light. Cold white light contains a greater degree of blue light, which attracts insects that then cannot be preyed upon by bats (which are hypersensitive to these wavelengths of light).
- 7.4.2 Overall, it is considered there is more than sufficient scope for mitigation and compensation at the site such that there will be no adverse impact on the favourable conservation status of bats affected by the proposal.

7.5 Birds

- 7.5.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within Hedgerow 1 of the site.
- 7.5.2 Any vegetation to be trimmed or cleared should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March- September. If vegetation clearance is to occur in the March-September period a check for nesting birds should be conducted first by a suitably qualified individual.
- 7.5.3 If nesting birds are found at the site all site works shall cease and further ecological advice shall be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6 Brown Hares

7.6.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any brown hare activity is subsequently found, all site works should cease and further ecological advice should

be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for badgers are also applicable to this species.

7.7 Invertebrates

- 7.7.1 Landscaping should include native or wildlife friendly species including night flowering plants.
- 7.7.2 Contaminants should not be allowed to enter the River Calder during works. To effect this, spill kits should be provided on site. Re-fuelling of all plant and machinery should be undertaken away from open drains and water courses. Drip trays should be used under static machinery.

7.8 Otter

- 7.8.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any otter activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.8.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for amphibians are also applicable to this species which is only likely to pass through the site at night.

7.9 Reptiles

- 7.9.1 There is no requirement for specific mitigation for these species. However, as a precautionary measure, in the unlikely event that any signs of any reptile activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.9.2 Dense scrub and woodland on the edge of the development site should be retained such that it is in proximity to open areas of ground which will also be suitable for basking.
- 7.9.3 The points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.



Figure 8- Proposed site plan

8. CONCLUSION

- **8.1.1** Ecological surveys, site appraisals and impact assessments were carried out with respect to Land Adjacent Harrison's Engineering, Clitheroe. It is proposed the site is converted to storage and additional parking.
- 8.1.2 Bats, Great Crested Newt and badgers are known to occur in the local area. However, there was no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which would be negatively affected by site development following the mitigation proposed.
- **8.1.3** The vegetation to be cleared has a low ecological significance in the local area; consisting of improved grassland bound by two species-poor hedgerows.
- 8.1.4 Contractors will be observant for protected species and all nesting birds. Should any species be found during construction, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

9. **REFERENCES**

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