



Hallam Land Management Ltd

**Land off Carr Road, Deepcar**

**Ecology: Additional Information Document**

October 2018

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## 1.0 INTRODUCTION

- 1.1 The following document has been produced to provide additional information for the Local Planning Authority (LPA) to assist in determining an outline planning application for up to 93 residential dwellings and associated infrastructure including open space (Planning Reference Number: 17/04673).
- 1.2 The document does not include the significant amount of ecological information provided to the LPA over the period of January – July 2017 prior to receipt of the Secretary of State's Screening Direction and submission of the planning application. The document provides the LPA with a single document, drawing together the additional ecological information provided over the determination period. This includes:
- The ecological responses to the LPA provided on 04 April 2018 and 08 May 2018;
  - Information provided at meetings on 21 May 2018 and 30 May 2018.
- 1.3 Since the meetings in May 2018, the development team have been waiting confirmation of Sheffield Cities Parks Department preferred drainage route through the Fox Glen. This route was agreed in principle in October 2018. Further details on the chorology of the application are provided by DLP Planning.

## 2.0 STAFFING

- 2.1 The following provide the qualification and experience of the ecological staff who have completed various elements of the survey work. Employee names have been omitted from the following table but the names, if required, can be provided to bonified consultees, on requested. This restriction is an internal policy of FPCR Environment & Design Ltd to provide employees with a degree of anonymity on documents which will be released into the public domain.

**Table 1: Qualification & Experience of FPCR Ecologist Working on this Project.**

Survey Type	Surveyor Qualifications	Experience Relating to the Survey
Phase 1 Habitat Survey	Surveyor 1. Ecologist, BSc (Hons), MCIEEM.	Six years consultancy experience completing Phase 1 Habitat survey, breeding / winter bird surveys and other protected species surveys including visual inspection of features for bats and badgers.
Botanical Survey (Fox Glen – Drainage Area) Water Framework Directive Assessment (Screening)	Surveyor 2. Principal Ecologist.	Experienced field botanist; currently holds a Level 6 BSBI Field Identification Skills Certificate and is a British Bryological Society county recorder. 12 years planning/consultancy experience (7 years reviewing and providing advice to Local Authority planning officers on planning application ecological assessments, 5 years as a consultant ecologist). In depth knowledge of Local Sites (has previously worked as a Local Wildlife Sites officer for the Wildlife Trusts) and management of habitats for nature conservation objectives.
Updated Hedgerow Survey	Surveyor 3. Ecologist MSc, BSc (Hons). MCIEEM	10 years consultancy experience undertaking a range of ecological survey including: phase 1 habitat assessment, hedgerow survey, invasive species survey and protected species surveys.

Breeding Bird Survey (2016)	Surveyor 4. Senior Ecologist, BSc (Hons), MCIEEM.	Eight years consultancy experience completing all types of bird surveys including winter bird survey, breeding bird survey, vantage point surveys to inform ecological assessment, Environmental Impact Assessment and Habitat Regulation Assessments.
Winter Bird Survey (2016 / 2017) Breeding Passage Survey (2017)	Surveyor 5. Ecologist BSc (Hons).	Seven year's consultancy experience completing all types of bird surveys including winter bird survey, breeding bird survey, vantage point surveys.
Bat Activity Surveys (2016)	Surveyor 3. Ecologist MSc, BSc (Hons). MCIEEM	10 years consultancy experience undertaking all types of bat surveys including activity transect surveys, dusk emergence/dawn re-entry surveys and deploying automated Wildlife Acoustics Inc. Song Meter® SM2BAT+ bat detectors.
	Surveyor 6. Assistant Ecologist BSc (Hons)	Three years consultancy experience undertaking all types of bat surveys including activity transect surveys, dusk emergence/dawn re-entry surveys and deploying automated deploying automated Wildlife Acoustics Inc. Song Meter® SM2BAT+ bat detectors.
	Surveyor 7. Assistant Ecologist BSc (Hons)	Five years consultancy experience undertaking all types of bat surveys including activity transect surveys, dusk emergence/dawn re-entry surveys and deploying automated deploying automated Wildlife Acoustics Inc. Song Meter® SM2BAT+ bat detectors. Member of the companies' bat analysis team and is competent in identifying species using BatSound® Pro (Pettersson Elektronik) software package and AnalookW© (Chris Corben) software package.
	Surveyor 8. Assistant Ecologist BSc (Hons)	Four years consultancy experience undertaking all types of bat surveys including activity transect surveys, dusk emergence/dawn re-entry surveys and deploying automated deploying automated Wildlife Acoustics Inc. Song Meter® SM2BAT+ bat detectors. Member of the companies' bat analysis team and is competent in identifying species using BatSound® Pro (Pettersson Elektronik) software package and AnalookW© (Chris Corben) software package.
Reptile Surveys (2016)	Surveyor 3. Ecologist MSc, BSc (Hons). MCIEEM	10 years consultancy experience in identifying reptiles and undertaking artificial reptile refugia surveys, reptile translocations and compiling reptile mitigation strategies.
	Surveyor 7. Assistant Ecologist BSc (Hons)	Five years consultancy experience in identifying reptiles and undertaking artificial reptile refugia surveys.
	Surveyor 9. Assistant Ecologist MSc, BSc (Hons)	Three years consultancy experience in identifying reptiles and undertaking artificial reptile refugia surveys.
White Clawed Crayfish, Otter and Water vole (2017)	Survey 10. Associate Ecologist. BSc.	16 years consultancy experience completing a wide range of protected species survey including water vole, otter and white clawed crayfish. A licensed crayfish worker 2016-22651-CLS-CLS. Experienced in providing client with appropriate advice on mitigation or avoidance strategies where these species are confirmed.

	Surveyor 3. Ecologist MSc, BSc (Hons). MCIEEM	10 years consultancy experience undertaking a range of ecological survey including water vole / otter survey and provide recommendations for mitigation where presence of the species is recorded. Currently training to obtain white claw crayfish survey licence.
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### 3.0 HEDGEROW ASSESSMENT

3.1 The location / extent of hedgerow H1 is shown on the update Phase 1 Habitat Plan (see attached Figure 1). The methods of how the assessment was completed are provided at paragraphs 3.7 – 3.9 of the submitted Ecological Assessment. An updated Hedgerow Record and Evaluation Sheet is provided at Appendix 1.

### 4.0 FIELD SURVEY: SPECIES

4.1 The following section provides additional information and clarification on the survey methods, results and interpretation as requested. Outline mitigation proposals for the species discussed below are provided in Section 5, where required.

#### Brown Hare

4.2 A consultation exercise was completed with Sheffield Biological Records Centre. This consultation exercise only reported four records of brown hare. Three of these records were from Bretton Lakes which are 14.3km to the north of the site and the remaining record was from Oxspring, Sheffield Road is 4.1 km to the north of the site. Given the distance and isolation of the proposed development area it is unlikely that the populations recorded at these locations would be affected by the proposals.

4.3 The majority of the grassland within the site was heavily grazed by horses and as such provided limited habitat for brown hare. The southern field was cut for hay and would therefore provide an extremely limited resource for brown hare following the hay cut. Over the extensive survey period, none of the surveyors reported the presence of brown hare as incidental records, despite being present on site just after dawn and just after dusk.

4.4 From the consultation results, the habitat assessment and the observations during the extensive survey period it is reasonable to conclude the presence of brown hare is not a significant constraint to the proposals.

4.5 Whilst we note two individual brown hares were reported within the site and there are other records within the same grid square, the dominant habitat within the site is sub-optimal for brown hare. As this species has a wide geographical range and optimal habitat for this species are present in the wider environment, the site is unlikely to provide a significant proportion of the habitat required by the local population. Therefore, any potential effects at a population level are unlikely to be significant.

#### Reptiles

4.6 All of the surveys were completed in optimal conditions to confirm the presence / absence of common species of reptiles. Table 2 below provides the time of the survey and the survey conditions during the survey (as extracted from FPCR's web-based data storage application).

**Table 2: Reptile Survey Conditions & Timing.**

Survey Occasion	Date	Start Time	Finish Time	Weather
1	06/06/2016	09:45:00	10.45.00	sunny, 20% cloud, light breeze, 16°C
2	09/06/2016	16:45:00	17.40.00	sunny, 40% cloud cover, 17°C
3	16/06/2016	10:00:00	10.45.00	Sunny 10% cloud cover, 10°C
4	22/06/2016	10:24:00	10.55.00	overcast, sunny, cloud cover, light breeze, 16°C
5	24/06/2016	09.55.00	10.35.00	Sunny 60% cloud, 16°C
6	29/06/2016	10:15:00	10.50.00	sunny, 10% cloud, 17°C
7	04/07/2016	07:55:00	08.50.00	sunny, 50% cloud cover, light breeze, 15°C

- 4.7 Whilst one of the survey was completed at the being of July 2016, this survey was completed in optimal conditions and early enough in the morning that common species of reptiles, if present, would still have been activity using refuges. Furthermore, the application of the survey methods used would have identified the presence of reptiles on earlier survey if a significant population had been present with the proposed development site.
- 4.8 Consequently, completing one of the surveys at the beginning of July 2016 is not a significant constraint to the surveys and the information submitted to the LPA is adequate to allow the determination of the potential effects of the proposals on common species of reptiles.

### **White Clawed Crayfish, Otter and Watervole**

- 4.9 An additional survey to confirm the presence or absence of these species along the Glough Dyke was completed in April 2018. The full methodologies, results and conclusions of these survey are present at Appendix 2.
- 4.10 Over the survey, no evidence of these species was identified. Consequently, the presence of these species has not been identified as a potential statutory constraint to the proposed development or the drainage works including the connection or surface water discharge to the Clough Dyke.

### **Bats**

- 4.11 Sheffield City Council (SCC) confirmed the guidance applied when application effecting bats is the standing advice provided at 'Bat: surveys and mitigation for development projects'<sup>1</sup>. This guidance confirms the when the potential effects of a development are being assessed the Bat Conservation Trust Bat Survey Guidelines (2016)<sup>2</sup> should be used.
- 4.12 One of the driving principles of this guidance is the application of 'proportionality' to avoid extensive unnecessary surveys. The guidelines also confirm that the level of survey work completed should consider the design of the project and the potential impacts of the scheme.
- 4.13 The dominant habitat across this site were open short grazed grassland which does not provide an optimal foraging or commuting resource for bats. The woodland / hedgerow provides some

<sup>1</sup> Natural England (28 March 2015). Bat: surveys and mitigation for development projects. Available at: <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects>. [Accessed 31/07/2018]

<sup>2</sup> Bat conservation Trust (2016) Professional Ecologists: Good Practice Guidelines, Bat Conservation Trust, London



suitable foraging and commuting routes for the local bat population but both of these features are retained / enhanced by the landscaping which will minimise any potential effect to these receptors. Given the proposals it is reasonable to conclude that the impact to the local population have been minimised, therefore the completion of season surveys was proportional to the potential effects and allowed an adequate assessment of the use of the site.

- 4.14 Whilst comments related to the positioning static detectors in the same place on each of the survey occasions have been raised, this is not required by the current guidance. The current guidance requires survey to provide a '*representative sample of bat activity across all habitats*'. This would not have been provided if the static detectors were situated in one location on the site.
- 4.15 Situating in similar location within a site maybe required for complex sites where statistical analysis is required. However, as the result of both the static and transect surveys have demonstrated, the site is use by common / widespread species and this site is not a complex site for which statistical analysis is required.
- 4.16 The static detectors were positioned at potential access point to the site (Statics 2 and 3) and adjacent to the woodland edge (Static 1). Locating the static in these positions provide a representative sample of activity across the site included at the potential accesses to the site. Whilst we note the level of activity adjacent to the woodland was higher than at the potential access points to the site, this only serves to confirm the retained woodland provide a resource for the local population and usage of other areas is not significant (Appendix 3).
- 4.17 As the woodland is retained / buffered and enhancements including the balancing facility / additional planting to the south of the site will provided further benefits for the local bat population using the woodland edge. Through the implementation of these measures and the creation of a dark corridor adjacent to the woodland edge the proposals are likely to improve this resource for the local bat population in this area of the site.
- 4.18 The results from other areas of the site confirm the level of use was lower. These lower levels of activity do not confirm these routes are significant commuting route which are required by the local population. Furthermore, such low levels of activity do not confirm these areas are commuting route which provide regularly access to roost sites, therefore these areas are not afforded protection by the Conservation of Habitats & Species Regulations 2017.
- 4.19 Given the assessment provide in the submitted Ecological Assessment and the additional information provided above, the application of the methods used does provide adequate information to allow the LPA to determine the application.

## **Birds**

- 4.20 Natural England's have responded to Sheffield City Councils consultation request confirming that from the submitted information, the development proposals are unlikely to affect the Conservation Status of either the North Pennine Moors (Phase 1) SPA or SSSI. Consequently, any residual concerns of the LPA do not relate to qualifying species on either statutory designation but relate to:
- species listed on the Red or Amber Birds of Conservation Concern lists;
  - priority species listed in S41 of the NERC Act 2006.

- 4.21 Specifically, for the proposals being considered by the LPA, the council residual concerns only relate to two species: lawing and meadow pipit. Lawing is listed on the Birds of Concern Red List and as a priority species on S41 of the NERC Act 2006. Meadow pipit is listed on the Bird of Concern Amber list and as a priority species on S41 of the NERC Act 2006. The current opinion of Sheffield City Council is full mitigation for these species should be provided within the red line development.
- 4.22 The level of protection afforded to these species through the NERC Act 2006 is to limited and worded such that the LPA must have '*regard*' for such priority species at listed on S41 of the NERC Act 2006. Consequently, if in the overall planning balance, the LPA decide there is a need for the development and the level of harm to the species is not significant planning permission can be granted.
- 4.23 Natural England standing advice to LPA states: '*Where birds are displaced by development, especially Section 41 birds and red and amber listed species, a suitable amount of replacement habitat should be considered.*'
- 4.24 The consideration of a suitable amount of replacement habitat must be considered in line with the significance of the potential effects to the species. Consequently, where only minor effects to species are identified which at a population level are not significant the need for replacement habitat need to be viewed in the overall planning balance.
- 4.25 The following provides a summary of the current assessment of the lapwing and meadow pipit population using the site.

### Lapwing

- 4.26 Lapwing were not identified within the site over the 2016 breeding bird period. Over the passage survey completed in March / April 2017 the numbers of lapwing observed using the site were limited with peak count of 5 and 12 animals. Over the survey period the majority of the lapwing observed were seen 'flying' over the site and not physically using the site (Table 3). Only two individuals were identified using the site and these were observed in the western field which is retained and enhanced by the proposals. Applying the precautionary principle, it is assumed that this could represent a maximum of two pairs given the location and the size of the western field.

**Table 3: Breakdown of Lapwing Data over the Survey Period**

Survey date	No. lapwing recorded	Description of behaviour
05.05.16	0	None Recorded
21.06.16	0	None Recorded
20.07.16	0	None Recorded
25.05.17	6	Flyovers
09.06.17	0	n/a
26.06.17	5	1 bird was flying and landed in the Western field. 4 were flyovers.
14.03.17	2	<b>2 birds</b> (potential pair) were stationary in the Western field.
24.03.17	5	<b>2 birds</b> (potential pair) were stationary in the Western field, which then joined 3 others in a display flight.

06.04.17	4	<b>2 birds</b> (potential pair) were present in the Western field, which then joined 2 flyover birds in a display flight.
20.04.17	12	<b>2 birds</b> (potential pair) were stationary in the Western field. 10 were flyovers.

- 4.27 Regional estimates for lapwing pairs over the breeding season were estimated as 17,392 pairs in Yorkshire/Humberside for 1998 (Wilson, Vickery and Browne (2001)) but nationally the BTO have reported overall decreases of approximately 42% since 1995. On a regional perspective recovery of the lapwing to similar populations levels identified in 1995 have been recorded, which following the population increases report over 1998 - 2004 and then declines from 2004 – 2011, the Yorkshire Bird Report 2014<sup>3</sup>.
- 4.28 Following a precautionary approach, disregarding the regional recovery recently report, and accepting the national 42% population decline, the total number of lapwing pairs in Yorkshire/Humberside is estimated to be approximately 10,087.
- 4.29 Using this population estimate the two lapwing pairs onsite, would be approximately 0.02% of the total number of pairs for the regional. To put this in context, if we were dealing with qualifying species on either a SPA or SSSI, which we are not, Natural England would not consider 0.02% to have a significant effect on the assemblage of a designated site and would therefore no object to the development proposals.
- 4.30 These results confirm the site does not provide a significant proportion of the habitat required for the maintain the status of the local population. Furthermore, when compared to the numbers of lapwing using other sites in the wider environment the number observed is not significant and the dispersal from this site to land immediately surrounding the site is unlikely to result in a significant effect to the overall population.

### Meadow Pipit

- 4.31 In 2016 only, individual meadow pipits were observed during the breeding bird surveys. The winter bird survey completed over 2016 /17 only identified one flock of 40 animals on one survey occasion. On the remaining surveys the counts were individual animals. Throughout the breeding and passage surveys completed in March / April 2017, flocks of 43 and 16 were identified in March but the numbers observed in April were significantly lower. These results demonstrate the site only provide a limited resource for the local population and is only occasionally used in passage within their natural range.
- 4.32 Whilst an Amber listed species, meadow pipit is described as common residents and local record show the species to be widespread locally. Consequently, the numbers of this species recorded across this site will only represent a small proportion of the overall population which is unlikely to be significant.

### Invertebrates

- 4.33 The habitats were short grazed grassland / management of the habitats reduces the suitability of the habitats to be used by invertebrates and detailed invertebrate survey were not identified as being required for the site.

<sup>3</sup> Yorkshire Naturalists Union (2014). Yorkshire Bird Report.

- 4.34 We note species such a wall brown butterfly have been reported within the site. Further recorded of butterfly and moth species were returned during the consultation exercise. The majority of these records were concentrated around Wharnccliffe Heath LNR and Bank at Bolsterstone LWS.
- 4.35 These species included: gatekeeper *Pyronia tithonus*, dingy skipper *Erynnis tages*, large white *Pieris brassicae*, painted lady *Vanessa cardui*, peacock *Aglais io*, red admiral *Vanessa atalanta*, ringlet *Aphantopus hyperantus*, small heath *Coenonympha pamphilus*, wall *Lasiommata megera*, white letter hairstreak *Satyrrium w-album*, early tooth-striped *Trichopteryx carpinata*, white ermine *Spilosoma lubricipeda*, orange tip *Anthocharis cardamines*, and holly blue *Celastrina argiolus* subsp. *britannica*.
- 4.36 From review of the basic habitat requirement of these species the proposed mitigation and enhancements outline at Section 5 with provide appropriate habitats for these species. With the application of such measures, the potential effects to such species will be avoided through embedded mitigation, thus avoiding the requirement for additional survey work.

## 5.0 SPECIES: OUTLINE MITIGATION & ENHANCEMENTS

- 5.1 The following section outlines the mitigation and enhancements proposals for the outline planning application which is currently being determined by the LPA. Should planning permission be granted, these proposals will be the subject of an appropriate planning condition(s) which will bring forward detailed designs and management prescriptions which will follow the principles outlined below. Consequently, detailed planting proposed are not required at this stage to allow the favourable determination of this application.
- 5.2 This section only deals with the mitigation / enhancement required for habitats and species identified or potentially present within the site. Additional mitigation including appropriate method working method required to minimise and avoid potential effects to offsite receptor including Fox Glen and Clough Dyke are provided in Sections 6 – 7 and Appendices 4 - 5. The proposals included in these documents can also be the subject of appropriately worded planning conditions.
- 5.3 The following provided a summary of the outline development / mitigation proposals and the potential effects of these proposals on the species identified throughout the site. These proposals include the landscape planting on the western boundary as this planting is necessary to minimise other potential effects and as such a balanced judgement will have to be determined by the Local Planning Authority. Additional planning submissions by DLP Planning provide further detail relating to the overall planning

### Mitigation proposals with retention of the western boundary planting

- 5.4 The mitigation / enhancements proposals include with this package are outlined on the Outline Green Infrastructure Proposals (Drawing Reference: 7301-L-02. Green Infrastructure Indicative Principle Plan). These proposals would provide:
- Woodland planting and hedgerow planting will be provided on the western boundary. This planting will improve overall habitat connectivity to the Fox Glen.
  - Public access from the western field will be removed to reduce public disturbance for wildlife. The central area of this field will be subject to a grazing regime which will be agreed through the submission of an ecological management plan. The outer edge of the field will be seeded

- with a species rich grassland, fenced and subject to cutting on an annual basis which will be detail in a management plan.
- A wader scrape will be provided to the north west of the retained land. This wader scrape will be left to naturally colonise.
  - Native species hedgerow planting will be provided on the eastern boundary on this west field to reduce public access. This hedgerow will be managed in accordance to the prescriptions agreed in a management plan.
  - Woodland edge planting will be provided to the south west of the site adjacent to the edge of the Fox Glen LWS. Where implement this planting will provide a graded edge from 4-2m and will contain should contain some elm in the overall mix. This planting will be subject to appropriate management under a management plan.
  - Species rich grassland will be provided in area throughout the open space and around the balance facility. This grassland will be subject to appropriate management to ensure the development and maintenance of a diverse grassland sward.
  - The balancing facility will be design to hold some water throughout the year to allow the development of species rich wet grassland and marginal planting. The balancing facility will also be subject to management under a management plan.
  - A dark corridor of movement will be provided adjacent to the Fox Glen and around the balancing facility to provide suitable foraging conditions for the local bat population. This can be achieved through the application of a suitable lighting strategy and planting where necessary.
  - The provision of a range of bat / bird boxes on retained mature trees or installed on appropriate residential dwellings throughout the site.

### **Brown Hare**

- 5.5 The creation and management of the habitat in the western field will provide appropriate mitigation / enhancements for this species to ensure the conservation status of the species is not affected.

### **Bats**

- 5.6 The habitat enhancements within and adjacent the western field, the hedgerows, the species rich grassland throughout the GI, the wetland habitat within the balancing facility and the implementation of new woodland edge planting will all serve to provide improved foraging / connectivity for the local bat population. These enhancements will be further secured through the provision of a dark corridor to the west of the site, adjacent the Fox Glen and on land within / surrounding the balancing facility. Additional enhancement for the local population will be provided through the provision of bat box on retained mature trees and new residential properties.
- 5.7 Through the implementation of these features the proposals will maintain the current level of use and provide enhancements for the local bat population.

### **Birds**

- 5.8 The habitat enhancements within and adjacent the western field, the hedgerows, the species rich grassland throughout the GI and the wetland habitat within the balancing facility the implementation of new woodland edge planting will all serve to provide suitable habitat for the local bird population.

Additional enhancements for the local population will be provided through the provision of bird boxes on retained mature trees and new residential properties.

- 5.9 In terms of the overall mitigation package, the submitted breeding / passage report confirms that of the 12 species identified as being of conservation concern (i.e. BoCC Red List Species and /or NERC Act Species), the proposals would be:
- Locally beneficial for eight species (Starling, Fieldfare, Redwing, Mistle Thrush, Song Thrush, Dunnock and Bullfinch);
  - Locally adverse for one species (Lapwing); and
  - Negligible for three species (Curlew, Linnet and Grey Wagtail).
- 5.10 For overwinter species the winter bird report confirms that of the seven species identified as being of conservation concern (i.e. BoCC Red List Species and /or NERC Act Species), the proposals would be:
- Minor positive for three species (Song thrush, Dunnock and House Sparrow);
  - Minor negative for two species (Starling and Redwing); and
  - Negligible for two species (Mistle Thrush and Linnet).
- 5.11 With the application of these proposals the two pairs of lapwing would be displaced from the site to the retained open countryside surrounding the site but as this species is locally common and considering the assessment presented in Section 4 this would not be a significant effect to the local population of lapwing.
- 5.12 These proposals would maintain suitable habitat for the small number of meadow pipit identified over the survey period and the effect of the development to this species would be negligible.

### **Invertebrates**

- 5.13 The assessment confirms that suitable habitats for the various invertebrates identified or recorded locally will be provided within the GI of the site.
- 5.14 The species rich grassland through the GI and species rich margins around the western field could provide appropriate condition for: gatekeeper, painted lady and wall brown. With the incorporation of fine grasses and a bird's foot trefoil these grassland areas will also provide appropriate conditions for dingy skipper and small heath.
- 5.15 The woodland edge mix and the hedgerows will provide appropriate conditions for: peacock, ringlet, early tooth moth, white ermine moth, orange tip and holly blue. With the incorporation of a small amount of elm either in the woodland edge mix or the hedgerows these habitats would provide suitable areas for white letter hairstreak. The balancing facilities and scape would also increase the overall habitat availability for ringlet.
- 5.16 The garden habitats created as part of the development proposals would provide further mitigation and enhancements for: painted lady, red admiral and orange tip.
- 5.17 No mitigation or enhancement are proposed for large white as this species requires arable weed species which will not be provide within the scheme. However, this species is of low conservation concern and given the habitat requirement is unlikely to be present in the site.

- 5.18 Through the application of these habitats the proposals and the long-term management of these habitats minor positive effects to invertebrate are predicted.

## **6.0 WATER FRAMEWORK DIRECTIVE (SCREENING) ASSESSMENT**

- 6.1 The proposals including the drainage connection to the Glough Dyke do not require the submission of a formal Water Frame Directive (Screening) Assessment as the proposed works will not directly affect a main river. The Environment Agency has not challenged this approach and the Environment Agency decline to comment on the application as the proposals do not affect main rivers.
- 6.2 The standard approach required by a Water Framework Directive (Screening) Assessment provides a formal framework by which the potential effects of the proposed drainage outfall from the balancing facility to the Clough Dyke can be assessed clearly as requested by the LPA. This formal assessment is presented in Appendix 4.
- 6.3 The Water Framework Directive (Screening) Assessment concludes the potential effects to the Glough Dyke, habitats and species associated with the Clough Dyke and downstream receptor can be avoided through the application of the proposed mitigation including:
- designing the surface water drainage strategy following Sheffield City Councils standard Sustainable Urban Drainage Guidance<sup>4</sup>;
  - restricting discharged rates to normal greenfield rates as required by the Environment Agency;
  - the application of additional features such as silt traps within the proposed development; and
  - the application of appropriate construction methods during construction.
- 6.4 Further detail for the measures outlined above and within the Water Framework Directive (Screening) Assessment can be secured by an appropriate worded planning condition.

## **7.0 POTENTIAL EFFECTS TO THE FOX GLEN LOCAL WILDLIFE SITE (LWS)**

- 7.1 To facilitate construction of the surface water outfall to the Glough Dyke some limited disturbance to the Fox Glen LWS has been accepted. A botanical assessment of the ground flora affected by the potential routes including the working area was completed in May 2018. The survey methods, results and conclusions are presented at Appendix 5. Arboricultural consideration of the works have been assessed separately.
- 7.2 The results of this assessment concluded that the ground flora in the working area is not particularly diverse. The ground flora was formed by a small number of common / widespread species and bluebell were only recorded as being occasional or rare in this section of the woodland.
- 7.3 The area of woodland affected by the drainage run did not conform to the criteria to be selected as upland oak woodland. Consequently, the proposed drainage routes would not be habitat type.
- 7.4 Some limited disturbance to Song thrush, tree creeper and willow tit has been identified. However, as the works are localised no significant effect to these species has been identified and any short-term impacts from disturbance can be minimised through appropriate timing of the works.

<sup>4</sup> Bell, D., Ward, R., Kaye, G., Nowell, R., & Swales, P. (2015). South Yorkshire Interim Local Guidance for Sustainable Drainage Systems. [online]. Available at: <https://www.sheffield.gov.uk/content/dam/sheffield/docs/planning-and-development/planning-applications/South%20Yorkshire%20Interim%20Local%20Guidance%20for%20SuDS.pdf> [Accessed 26/07/2018]

- 7.5 Given the minimal impact of the works, other than the implementation of appropriate timing outside the main breeding bird season is the translocation of any bluebells found in the working area to areas of woodland not affected by the works. Positive enhancements for the woodland and willow tit are recommended through the implementation of a grade woodland edge along the south western elevation of the site.
- 7.6 Again, further details of the measure outlined above and within the assessment document provided at Appendix 5 can be secured by an appropriately worded planning condition.

## **8.0 CONCLUSIONS**

- 8.1 The above document confirms that the level of survey work completed across the site is adequate to inform the mitigation package required to avoid significant effect to biodiversity through the application of the principle outline in this document and shown on the Outline Green Infrastructure Proposals Plan. These principles can be subject to standard planning conditions for the provision of ecological mitigation following the principles outlined and requiring long term management of the habitats provided in accordance to the broad principle provided. The detailed design would provide the detailed planting specification for the proposal which are outlined.
- 8.2 The additional survey work completed confirms the presence of white clawed crayfish, otter and water vole are not a statutory constraint to the proposed development. The survey work completed to support the Water Framework Directive (Screening) Assessment confirm with the application of standard method and drainage controls the proposals will not affect the ecological value of the Glough Dyke. The Fox Glen LWS assessment confirms the drainage run through the LWS will not result in significant effects to the LWS with the application of some minimal mitigation.
- 8.3 From the assessment present in this document and the original submission to the LPA it is clear that the proposals will not result in significant effects to any of the species recorded within the site, in fact the proposals will provide benefits for a number of the species recorded.
- 8.4 It is clear that the only outstanding matter is the potential displacement of two pair of lapwing from the western field if the landscape planting on the western boundary is provided. From an ecological perspective such an impact would not be significant but given the limited protection offered to this species from the NERC Act 2006 the overall balance need to be considered when assessing the potential effects to this species and whether the landscape planting is retained or removed.
- 8.5 From this assessment it is our professional opinion that the minor negative effects to lapwing are acceptable and ecology should not be a reason that this planning application is refused.



## Figures & Drawings

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