

A38 Derby Junctions

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8.112 Scheme Impacts upon Alfreton Road Rough Grassland Local Wildlife Site and NPSNN Compliance

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Site and NPSNN Compliance**

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Scheme Impacts upon Alfreton Road Grassland Local Wildlife Site and NPSNN Compliance

ExA Question: At Issue Specific Hearing (ISH7) (9 June 2020) the Examining Authority (ExA) requested a written summary explaining why a) Highways England considers that no further mitigation is needed in respect of impacts on the Alfreton Road Grassland Local Wildlife Site (LWS) and b) why Highways England’s position is not contrary to policy in the National Policy Statement for National Networks (NPSNN).

Highways England Response:

a) Scheme Impacts and Mitigation

Below is a summary of the biodiversity assessment for Alfreton Road Rough Grassland LWS relating to the Scheme as presented in the Environmental Statement (ES) Chapter 8: Biodiversity [REP9-009]. The assessment takes into consideration the proposed mitigation and monitoring measures proposed for the LWS as set out in the Outline Environmental Management Plan (OEMP) [REP12-002].

Alfreton Road Rough Grassland LWS is approximately 4.09ha¹ in size and is located partially within the Scheme boundary at Little Eaton junction (refer to ES Figure 8.5 [APP-099]). The LWS is designated for its floodplain grassland. Refer to Table 8.10: Summary of designated and non-designated sites scoped into the assessment – Little Eaton Junction in ES Chapter 8: Biodiversity [REP9-009] for details.

As detailed in the Ecological Impact Assessment of Alfreton Road LWS Technical Note submitted at Deadline 4 [REP4-023], approximately 1.64ha (40%) of the Alfreton Road Rough Grassland LWS falls within the Scheme boundary. Of this 1.64ha, approximately 0.13ha would be retained unchanged; approximately 0.87ha would be temporarily lost to construction activities and reinstated (landscaping primarily with species-rich grassland and broadleaved plantation woodland – refer to the environmental masterplan ES Figure 2.12F [APP-068]); and approximately 0.64ha would be permanently lost (to build the new slip road). In summary, approximately 16% of the LWS would be permanently lost due to the Scheme.

Table 1 provides a summary of the Scheme impacts upon the Alfreton Road Rough Grassland LWS in terms of area retained, area reinstated, and area permanently lost.

Table 1: Summary of Approximate Areas Retained, Created and Lost at Alfreton Road Rough Grassland LWS

Alfreton Road Rough Grassland LWS	Area	Percentage of Total Area of LWS (approx.)
Total area of the LWS within the Scheme boundary	1.64 ha	40%
<ul style="list-style-type: none"> • (Semi-improved neutral grassland) • (Standing water) • (Broadleaved plantation woodland) 	(1.61 ha) (0.02 ha) (0.01 ha)	
Area retained within Scheme boundary	0.13 ha	3%

¹ The LWS area measurement provided is approximate based on digital mapping information provided by Derbyshire Wildlife Trust. The figure has changed from 4.08 ha as reported in the ES to 4.09 ha following cleansing of the data set to OS Mastermap (as per the Biodiversity Metric Assessment Report [REP12-010]).

Alfreton Road Rough Grassland LWS	Area	Percentage of Total Area of LWS (approx.)
<ul style="list-style-type: none"> • (Semi-improved grassland) • (Standing water) • (Broadleaved plantation woodland) 	(0.10 ha) (0.02 ha) (0.01 ha)	
Area reinstated (temporarily lost and landscaped) <ul style="list-style-type: none"> • (Species rich semi-improved neutral grassland - created) • (Broadleaved plantation woodland - created) 	0.87 ha (0.38 ha) (0.49 ha)	21%
Area lost (permanently lost for the slip road and landscaping in the central reservation) <ul style="list-style-type: none"> • (Hard standing - created) • (Amenity grassland - created) • (Broadleaved plantation woodland - created) 	0.64 ha (0.44 ha) (0.19 ha) (0.01 ha)	16%
Total area of the LWS outside of Scheme boundary (retained) <ul style="list-style-type: none"> • (Semi-improved grassland) • (Standing water) 	2.45 ha (2.11 ha) (0.34 ha)	60%
Total area of LWS	4.09 ha	100%

The LWS has areas of New Zealand Pigmyweed *Crassula helmsii* (invasive plant species under Schedule 9 of the Wildlife and Countryside Act 1981) which is currently affecting the LWS's intrinsic biodiversity value (refer to ES Figure 8.10: Biodiversity Baseline [APP-104]).

The Scheme and associated activities are not considered to undermine the conservation objectives of the LWS or negatively affect the conservation status of habitats or species for which the site is designated i.e. the floodplain grassland and/or its interest in wetland birds. The area of the LWS that would be unaffected by the Scheme (outside of the Scheme boundary) supports the 'core' biodiversity importance of the LWS. The 'core' area of biodiversity importance is defined by Highways England as the floodplain semi-improved grassland i.e. the inundation area and drawdown zone, outside of the Scheme boundary which is of most interest botanically and for birds. The definition of 'core' habitat is based on botanical and bird survey information collected for the Scheme from 2015 to 2018 using criteria taken from Derbyshire Wildlife Trust (DWT) (2003, 2011) Local Wildlife Assessment Guidance, as assessed in ES Chapter 8: Biodiversity [REP9-009] and summarised in Table 2 below.

Mitigation included in the Scheme design as associated with the LWS (as detailed in Section 8.9 Design, mitigation and enhancement measures in ES Chapter 8: Biodiversity [REP9-009]) includes the following:

- **The extent of permanent habitat loss of the LWS has been minimised:** The Scheme avoids loss of habitat in association with the inundation and drawdown zone which is of most importance botanically and for birds using the LWS. The open water and the majority of the seasonally flooded neutral grassland will not be impacted by the Scheme works.
- **Planting of a dense shelterbelt:** This woodland shelterbelt will help screen birds such as lapwing, little ringed plover and oystercatcher and wintering birds using the pastures

at the LWS from road traffic disturbance (refer to environmental masterplan ES Figure 2.12F [APP-068]).

- **Control of non-native invasive plant species in the works area and management of the habitats to be created (for up to 5 years post-construction):** This will be an improvement on the existing situation. The landowner does not manage the site and the site is not currently subject to any management regime. Managing the invasive species within the Scheme boundary will aid in maintaining the status of retained habitats.
- **Temporary screen fencing would be provided during construction works:** Such screen fencing will be monitored, and will minimise visual disturbance to nesting wintering birds during the Scheme construction phase.
- **Timing of construction works:** Construction works to the north of the seasonally flooded field will be timed where possible for the end of the summer to the early autumn (late September/October), as this covers the period when no target species (for example lapwing, little ringed plover, oystercatcher) have been recorded using the LWS (during 2015 and 2017 surveys). Such works are currently planned within construction Phase 1 at Little Eaton junction as detailed in ES Chapter 2: The Scheme [APP-040], Section 2.6.
- **Dam Brook diversion of benefit to birds (enhancement as part of the Scheme design):** The features associated with Dam Brook diversion at Little Eaton junction, together with the two highway drainage attenuation ponds, new ecology ponds and the flood alleviation channel planted to form a wet woodland, will be of benefit to birds, including those using the LWS.

Given the mitigation proposed as detailed above, ES Chapter 8: Biodiversity [REP9-009] concludes that there will be a non-significant (neutral) effect on the Alfreton Road Rough Grassland LWS due to habitat loss. The confidence in this prediction is certain/ near-certain. The timing of habitat loss will consider impacts upon ecological species, particularly nesting birds and wintering birds (as assessed separately within ES Chapter 8: Biodiversity [REP9-009]).

Given the mitigation as proposed in ES Chapter 8: Biodiversity [REP9-009] and illustrated in ES Figure 2.12F [APP-068] and defined in the OEMP [REP12-002], Highways England do not consider that any further mitigation measures are required.

In addition, it is not considered appropriate that the Scheme or Highways England secures the protection or enhancement of the wider LWS located outside of the Scheme footprint (either via the Scheme or via Designated Funds). This is the case given that the land is in private ownership, noting that Highways England has contacted the landowner to see if they are interested in enhancing the site for ecology. The landowner has confirmed that they have no interest in the site being enhanced or managed for ecological purposes, and indeed did not know that the site is designated as a LWS.

However, as detailed in the Ecological Impact Assessment of Alfreton Road LWS Technical Note [REP4-023], Highways England are exploring opportunities for enhancing local ecology in the vicinity of the Alfreton Road Rough Grassland LWS via a Designated Fund project being investigated outside of the Development Order Consent (DCO) (as referenced in ES Chapter 8: Biodiversity [APP-046]).

Table 2: Summary of botanical and bird baseline information in association with the LWS for within and outside the Scheme boundary

Survey Type	Reference	Summary results within the Scheme boundary	Summary results outside the Scheme boundary
Botanical	<p>[APP-182] Appendix 8.4a: Botanical Survey in 2018</p> <p>[APP-183] Appendix 8.4b: Botanical Survey in 2017</p> <p>[APP-184] Appendix 8.4c: Botanical Survey in 2015</p>	<ul style="list-style-type: none"> Grassland within the Scheme boundary (covering only the area within Area 2E, as shown on Figure 8.10: Botanical Baseline [APP-104] to be directly affected by the Scheme) was surveyed and assessed based on DWT LWS Grassland Assessment criteria in 2015 and 2017. If a score of 8No. or more indicator species was attained, then the habitat was considered worthy of consideration for local wildlife status. In 2015, the botanical survey found 3No. grassland indicator species (meadowsweet <i>Filipendula ulmaria</i>, meadow crane's bill <i>Geranium pratense</i>, and water forget-me-not <i>Myosotis scorpioides</i>). In 2017, the botanical survey found 3No. grassland indicator species (meadowsweet, meadow crane's bill and water forget me-not). In 2018 the botanical survey covered the whole LWS (Area 2E and 2F, as shown on Figure 8.10: Botanical Baseline [APP-104]) and found 7No. grassland indicator species across the LWS (meadowsweet, meadow crane's bill, sharp-flowered rush <i>Juncus acutiflorus</i>, water forget-me-not, silverweed <i>Potentilla anserina</i>, selfheal <i>Prunella vulgaris</i>, lesser stitchwort <i>Stellaria graminea</i>). The higher elevated grassland areas impacted to the north of the site remained in the lower number of grassland indicator species as per previous years. As stated in the 2018 Botanical Report Appendix 8.4a [APP-182], 'in general the area had similar species as recorded previously with local stands of perennial weeds such as common nettle, creeping thistle and spear thistle being present. In general, there are tall ruderal and scrubby areas, overgrazed and large areas of New Zealand pigmyweed 	<ul style="list-style-type: none"> The inundation/ drawdown zone was surveyed and assessed based on DWT standing water draw down zone assessment criteria in 2015 (Area 2F – potentially indirectly impacted by the Scheme). If a score of 5No. or more indicator species was attained, then the habitat was considered worthy of consideration for local wildlife status. In 2015, 8No. indicator species were found (toad rush <i>Juncus Bufonius</i>, creeping ben <i>Agrostis stoloniferat</i>, common water forget-me-not, amphibious bistort <i>Polygonum amphibium</i>, celery leaved buttercup <i>Ranunculus sceleratus</i>, silverweed, water chickweed <i>Myosoton aquaticum</i> and marsh foxtail <i>Alopecurus geniculatus</i>). In 2018, 5No. indicator species were found (water forget-me-not, marsh foxtail, silverweed, floating sweet grass <i>Glyceria fluitans</i> and creeping bent). The number of indicator species recorded in 2015 (8No. outside the Scheme boundary) and 2018 (5No. outside the Scheme boundary) met or surpassed the requisite 5No. species for LWS consideration.

Survey Type	Reference	Summary results within the Scheme boundary	Summary results outside the Scheme boundary
		<p>(<i>invasive non-native plant species</i>)', which is affecting its intrinsic value.</p> <ul style="list-style-type: none"> The number of grassland indicator species recorded in 2015 (3No. within the Scheme boundary), 2017 (3No. within the Scheme boundary) and 2018 (7No. across the whole LWS) all fell short of the requisite 8No. species for LWS consideration. 	
Breeding Birds	<p>[APP-193] Appendix 8.8: Breeding Bird Survey in 2017</p> <p>[APP-194] Appendix 8.8: Breeding Bird Survey in 2015</p>	<ul style="list-style-type: none"> In 2015, 2No. lapwing <i>Vanellus</i> (one pair) were recorded on the edge of the Scheme boundary. No breeding behaviour observed. 1No. little ringed plover <i>Charadrius hiaticula</i> was recorded as non-breeding on a single survey. 2No. dunnock <i>Prunella Modularis</i> (one pair) were recorded as probable breeding. In 2017, 2No. lapwing (one pair) recorded on one occasion on the edge of the Scheme boundary (assumed to be nesting). 1 to 2No. dunnock territories on the edge of the Scheme boundary. 	<ul style="list-style-type: none"> In 2015, a peak of 6No. Lapwing were recorded non-breeding, 2No. Oystercatcher <i>Haematopus ostralegus</i> were recorded as feeding and non-breeding. Other common species: 2No. mallard <i>Anas Platyrhynchos</i> (pair) recorded breeding, a peak count of 14 No. mallard (7No. pairs) recorded as non-breeding, a peak count of 6No. teal <i>Anas crecca</i> (3No. pairs) non-breeding, and 2No. cormorant <i>Phalacrocorax carbo</i> (pair) recorded non-breeding. In 2017, a peak of 6No. Lapwing were recorded non-breeding. 2No. little ringed plover (pair) possible breeding, no breeding behaviour observed. Other common species: Minimum 1No. breeding pair moorhen <i>Gallinula chloropus</i> (nesting), minimum 1No. breeding pair coot <i>Fulica atra</i> (nesting), peak of 2No. mute swan <i>Cygnus olor</i> non-breeding, peak of 2No. non-breeding Canada goose <i>Branta canadensis</i>, 1No. non-breeding pair of teal, 4No. non-breeding black-headed gull <i>Chroicocephalus ridibundus</i>, 5No. non-breeding little egret <i>Egretta garzetta</i>, 2No. non-breeding grey heron <i>Ardea cinerea</i>. In summary, almost all the waterbirds were outside the Scheme boundary and this is entirely because of the distribution of suitable habitat. Refer to paragraph 8.10.68 of the ES Chapter 8 [REP9-009]: "The grassland that would be permanently lost is typically dry and has some scattered scrub, which makes the

Survey Type	Reference	Summary results within the Scheme boundary	Summary results outside the Scheme boundary
	Updated breeding bird pre-construction surveys are currently being carried out in 2020 ²	No lapwing has been recorded within the LWS (3No. visits out of 5No. completed). 2No. (one pair) of little ringed plover have been recorded outside of the Scheme boundary in the southern half of the field (Visit 1); and 1No. little ringed plover in the same area (Visit 2). No little ringed plover was recorded on Visit 3. 2No. oystercatcher flyovers were recorded separately outside of the Scheme boundary (Visit 3).	<i>area less suitable for species such as lapwing, possible little ringed plover and oystercatcher. The typically flooded southern part of this field is the optimal habitat which supports these and other wetland birds. The southern habitat area would not be directly affected by the Scheme.</i>
Wintering Birds	[APP-195] Appendix 8.8d: Wintering Bird Survey 2017/18	<ul style="list-style-type: none"> There were no records of direct use of habitats by wintering birds (target species were wildfowl, waders, gulls and kingfishers <i>Alcedo atthis</i>) within the Scheme boundary in 2017/18 (and 2015/16). 	<ul style="list-style-type: none"> Direct use of wintering birds was recorded in association with the permanent and ephemeral waters and surrounding open grassland within the southern half of the LWS. Consistent with their preferences for feeding and roosting. No wintering bird population on site approached the 1% level of the national population which would have constituted a nationally significant wintering bird population. The peak count for all species did not approach 0.5% of their respective UK wintering populations (as per figures quoted in BTO: https://www.bto.org/understanding-birds/birdfacts/find-a-species) At the county level, reference is made to Derbyshire Wildlife Site Selection Guidelines 2003 – Birds. In Derbyshire, an LWS is considered for designated

² Results yet to be formally reported

Survey Type	Reference	Summary results within the Scheme boundary	Summary results outside the Scheme boundary
			<p>based on the site fulfilling either of the following criteria, associated with winter bird populations:</p> <ol style="list-style-type: none"> 1. Any site from which the following have been recorded: (i) 60 breeding and wintering bird species; or (ii) 100 breeding, winter and passage bird species. 2. Any site that supports a significant wintering wildfowl population, which is a site that the Derbyshire Ornithological Society and the Wildfowl and Wetlands Trust have assessed to be one of the most significant sites in the county. <p>Bird report Paragraph 4.1.3 states: '<i>Wintering bird species assemblages were also not sufficiently diverse to fulfil Derbyshire LWS designation criteria</i>'.</p>

b) Compliance with National Policy Statement for National Networks (NPSNN)

NPSNN Paragraph 5.31 states:

“Sites of regional and local biodiversity and geological interest (which include Local Geological Sites, Local Nature Reserves and Local Wildlife Sites and Nature Improvement Areas) have a fundamental role to play in meeting overall national biodiversity targets, in contributing to the quality of life and the well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent”.

As such, the Scheme’s impact upon the Alfreton Road Rough Grassland LWS is not therefore a reason for refusing development consent. However, NPSNN Paragraph 5.23 states the following:

“The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests”.

With regard to this policy requirement, Highways England consider that the Scheme has taken appropriate advantage of opportunities to conserve enhance biodiversity interests. These measures are detailed, together with mitigation measures, within Section 8.9 of ES Chapter 8: Biodiversity [REP9-009], with a summary of residual biodiversity effects (adverse and beneficial) being provided in ES Appendix 8.20a [REP9-015]. Also refer to the response provided by Highways England in [REP3-026] (Actions Arising out of Issue Specific Hearing 2 on 11 December 2019 for Deadline 3). Enhancement opportunities taken include the following:

- **Management of invasive plant species:** this has the potential to generate positive biodiversity effects where invasive plant species are locally eradicated, particularly at the proposed Little Eaton junction construction compound. This also includes management of invasive plant species within the Scheme boundary at the Alfreton Road Rough Grassland LWS which will assist in maintaining the status of retained habitats within the LWS.
- **Loss of species-poor semi-improved grassland areas** within the Scheme boundary, including at the Alfreton Road Rough Grassland LWS, will be replaced (i.e. traded-up) by species-rich grassland of higher biodiversity value.
- **Maximising ecological and Water Framework Directive opportunities during the Bramble Brook and Dam Brook realignment:** Bramble Brook (at Kingsway junction) is currently of poor quality and the realigned channel will be enhanced, together with wetland flood storages area that will enhance riparian and macrophyte habitat. The new Dam Brook alignment (at Little Eaton junction) will create a more sinuous channel with a net gain of 197m of open channel habitat, which will be of benefit to riparian mammals, foraging and commuting bats, aquatic invertebrates, fish and birds.
- **New water features and biodiversity enhancement opportunities associated with the drainage design:** No ponds will be lost as a result of the Scheme; however, the Scheme will create six new water features including four runoff attenuation ponds and two ecology ponds (at Little Eaton junction). Such water features will rapidly develop into ecological habitats.

- **Retention of felled trees** within the landscape design will enrich woodland and provide new ecological habitats.
- **Habitat creation of benefit for amphibians:** new habitats for amphibians will be created through the incorporation of ponds within the highways design including two new ecology ponds at Little Eaton junction, hibernacula/log piles and the creation of grassland habitats.
- **Habitat creation of benefit to terrestrial invertebrates:** this includes planting of disease resistant elms at Markeaton Park and Mackworth Park to assist continued survival of white-letter haired streak (although this species has not been recorded in surveys).
- **Making effective use of the former carriageway made redundant by the Scheme:** such areas will be appropriately landscaped creating new ecological habitats.
- **Habitat creation of benefit for bats:** such habitats will be planting as per the Bat Conservation Trust (BCT) Encouraging Bats Guide (BCT, 2015), incorporating bat roost features within the noise barrier at Markeaton junction.
- **Habitat creation of benefit to riparian mammals:** new habitats for riparian mammals will be created as associated at Bramble Brook and during the Dam Brook realignment (as noted above).
- **Habitat creation of benefit to aquatic invertebrates and fish:** new habitats for aquatic invertebrates and fish will be created due to the highways drainage design and associated with works to Bramble Brook and Dam Brook (as noted above).
- **Effective badger fencing:** badger fencing will be beneficial to the local badger population conservation status as well as the users of the road by avoiding collisions with badgers trying to cross the road.

With the mitigation and enhancement measures as included in the Scheme design, as detailed in ES Chapter 8: Biodiversity [REP9-009], the Scheme has the potential to deliver significant beneficial effects on biodiversity for some biodiversity features, particularly standing water (ponds), running water, foraging and commuting bats, otter, terrestrial invertebrates, aquatic invertebrates and fish. It is thus considered that the Scheme design has appropriately taken advantage of opportunities to conserve and enhance biodiversity in accordance with the NPSNN.