

Haweswater Aqueduct Resilience Programme, Marl Hill Section

**Ecology Comments on Planning Application 3/2021/0661
(Ribble Valley Borough Council)**

**John Jones
Senior Ecologist
Design & Construction Service
Lancashire County Council**

On Behalf of Forest of Bowland AONB

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Proposed works for and use of replacement section of aqueduct, including earthworks and ancillary infrastructure including: new valve house buildings within fenced compounds with permanent vehicular access provision. With the installation of tunnel shafts; open cut connection areas at either end of the replacement section within temporary construction compounds, to include site accesses, storage areas, plant and machinery, and drainage infrastructure. In addition, a temporary haul route with bridge over the River Ribble (as one of two options for vehicular access to the temporary construction compound); a series of local highway works together with a temporary satellite park and ride facility and a vehicle marshalling area.

I have reviewed the above planning application and associated documents on behalf of the Forest of Bowland Area of Outstanding Natural Beauty Joint Advisory Committee, with reference to ecological matters. Although some elements of the scheme are just outside of the AONB boundary, I have reviewed the application as a whole. Lancashire County Council's landscape advisor will provide separate comments on landscape and visual matters on behalf of the AONB.

The proposed works are the subject of a number of planning applications to be determined by different planning authorities. The comments below relate only to planning application 3/2021/0661 to be determined by Ribble Valley Borough Council. Other planning applications relating to the proposed works will have their own specific impacts and requirements.

The determination of the application to Lancashire County Council for the disposal of arisings at Waddington Fell Quarry will have significant implications for the disposal of arisings from the Braddup compound. If alternative disposal locations are necessary, then the ecological impacts of the scheme will need to be re-assessed.

There are aspects of the ecological assessment that I am not qualified to comment on. In particular, these include matters relating to pollution/sediment control and impacts on hydrology and ground water, as well as certain aspects of aquatic ecology such as fish and aquatic invertebrates. Ribble Valley Borough Council should follow the advice of the Environment Agency and other appropriate specialists on these matters.

The National Planning Policy Framework states that the conservation and enhancement of wildlife is an important consideration in AONBs. The planning authority's duty to have regard to the purpose of conserving and enhancing the natural beauty of the AONB is stated within the Countryside and Rights of Way Act 2000. The natural beauty criterion includes natural heritage features, such as species and habitat.

In its current form, the Environmental Statement has not demonstrated that the proposed development is compatible with the purpose of conserving and enhancing the species and habitats of the AONB. The ecological impact assessment is not complete. For example, there are significant gaps in the survey data necessary to inform the impact assessment and determination of the application. Key examples are given in the text below. In summary, the planning application should not be approved in its current form for the following reasons:

- Incomplete protected species surveys, which are required to inform the Environmental Impact Assessment and enable the planning authority to meet its statutory obligations.
- Some species populations (including bats) and impacts on those populations have been evaluated in the absence of surveys. These evaluations and impact assessments are therefore unreliable.
- Uncertainty over the conclusions of the shadow Habitats Regulations Assessment, which assumes approval of the application to dispose of tunnel arisings at Waddington Fell Quarry.
- Inadequate assessment of the likely ecological impacts of the proposed highway works and Ribble crossing/haul road and the necessary avoidance, mitigation and compensation measures.
- The absence of an arboricultural assessment for the proposed highway works.
- Insufficient information to demonstrate that impacts on Biological Heritage Sites are unavoidable and that mitigation & compensation measures for unavoidable impacts are feasible and deliverable.
- Insufficient information to demonstrate that impacts on veteran trees are unavoidable and that a suitable compensation strategy exists.
- The assessment of impacts on groundwater dependent terrestrial ecosystems does not appear to be complete.
- Insufficient information to demonstrate that the mitigation hierarchy has been applied to all elements of the scheme in accordance with the requirements of the NPPF.
- Compensation proposals and biodiversity net gain calculations that don't take into account the full impacts of the proposed highway works.
- The impacts of the scheme identified in the environmental statement are based on an incomplete ecological assessment and are not

sufficient to inform comprehensive avoidance, mitigation and compensation measures to meet the requirements of legislation and planning policy.

- There is uncertainty over the extent of habitat loss, and therefore also uncertainty over the likely impacts on protected and priority species and their habitat.

Once a complete ecological impact assessment has been provided, then additional issues may become apparent.

The following matters will need to be addressed before the application is determined:

i) Protected and priority species

Surveys for protected species likely to be affected by the proposed development do not appear to be complete. As per ODPM Circular 06/2005 (DEFRA Circular 01/2005), which is referenced as footnote 61 in NPPF 2021: *“It is **essential** that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted”* and that *“the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted”*.

Without the necessary surveys, the planning authority will not be able to discharge its statutory obligations under the Habitats Regulations as summarised below.

Roosting Bats

The assessment of trees/features with the potential to support roosting bats is incomplete and a survey to establish the presence or absence of roosting bats does not appear to have been undertaken. There is therefore insufficient information to inform the EIA and licensing requirements or to inform determination of the application. The planning Authority should ensure that the planning application is not approved in the absence of the necessary surveys and should ensure that the requirements of the Habitats Regulations (summarised below) are fully addressed prior to any planning approval in accordance with the statutory obligations of the planning authority.

Numerous trees with the potential to support roosting bats have been identified within each element of the proposed scheme, which would need to be removed as part of the proposed works (or removal is assumed). Additional trees with potential to support roosting bats are adjacent to the scheme or would be retained within the scheme. Any roosting bats within retained trees could therefore be disturbed as a result of lighting, noise, vibration etc.

The limitations stated within ES Vol 4, Appendix 9A.6 indicate that there may be further potential roost features. All potential roost features that could be

affected by the works will need to be identified prior to determination of the application and surveys to establish the presence or absence of roosting bats within all potential roost features will need to be completed.

Within the scheme there are trees marked as at risk of removal. There also appear to be works proposed within the root protection area of trees shown as retained, which therefore may need to be removed. Consequently, there is uncertainty over the extent of impacts on potential bat roosting features. Certainty is required in order to inform the need for bat surveys and to enable the planning authority to consider the licensing tests prior to determination of the planning application. It should be clearly demonstrated that loss of features with the potential to support roosting bats has been minimised.

It appears that no surveys to confirm the presence or absence of roosting bats within trees/structures that would be removed or disturbed have been submitted with the application. If bats or their roosts are affected by the proposed works, then the requirements of the Habitats Regulations will need to be addressed before the application is determined (see below). Further surveys are therefore required before the application is determined, otherwise, the planning authority will not be able to meet its statutory obligations required by the Habitats Regulations.

As well as roost destruction, disturbance impacts arising from lighting, blasting, noise, vibration etc could give rise to licensable impacts. Surveys to establish the presence or absence of roosting bats will be necessary to inform an assessment of these potential impacts, to determine the need for Natural England licences and to enable the planning authority to consider the licensing tests in line with its statutory obligations.

Conflicting information appears to have been submitted regarding the presence of features with the potential to support roosting bats, that may be affected by the proposed Ribble crossing and haul road. ES Vol 6 (Proposed Ribble Crossing) Chapter 9A (Terrestrial Ecology) and the associated Appendix, make the following apparently conflicting statements:

- Vol 6 Chapter 9A, Table 9A.7 – *"There are no trees with high, moderate or low bat roost suitability present within the construction route for the temporary haul road"*.
- Vol 6 Chapter 9A, Table 9A.4 *"Several trees with bat roosting potential are present within the Proposed Ribble Crossing"*
- Vol 6 Chapter 9A, Section 9.7.4 Para 76 – *"Suitable bat roost habitat features have been identified in numerous trees within and adjacent to the proposed Ribble crossing, some of which would require removal during the enabling and construction works phases"*.
- Vol 6 Appendix 9A.3: Bats, Section 3.1 Para 8 – *"Mature Trees are peppered across the site with various levels of suitability for roosting bats"*.

The above matter will need to be clarified/resolved prior to determination of the application to enable the planning authority to meet its statutory obligations. Notwithstanding the above, ES Vol 6, Proposed Ribble Crossing,

Chapter 9A: Terrestrial Ecology does acknowledge the presence of numerous trees with the potential to support roosting bats, in the area surrounding the proposed crossing and haul road. Section 9.6, Paragraph 58 (Effects carried forward for assessment) acknowledges that bats roosting in trees would be at risk from vegetation removal and ground works if present. The need for a Natural England licence will therefore need to be established through presence/absence surveys for bats and necessary licensing tests addressed as required before determination of the application (see statutory obligations below). All supporting survey data will need to be submitted, including a plan showing the location of all trees, buildings, structures and other features with the potential to support roosting bats and those that support roosting bats as well as sufficient information to address the licensing tests.

For each element of the scheme, including compounds, Ribble crossing & Haul Road and Highway works, a valuation of bat roosts and an assessment of impacts on bat roosts has been given in the absence of any surveys to determine the presence or absence of roosting bats (For example, ES Vol 6, Chapter 9A, Table 9A.5 and 9A.6; and ES Vol 5 Part 2, Section 1.5 Para 36). These impact assessments and valuations are therefore unreliable and I am unclear as to how these conclusions can be reached. Surveys to establish the presence or absence of roosting bats would be needed in order to provide necessary evidence in support of these assessments, to clarify the need for Natural England licences and to enable the planning authority to meet its statutory obligations. This would need to be provided before the application is determined.

Flight paths of bats could also be affected by the removal of hedgerows and trees to accommodate proposed compounds, highway works and Ribble crossing/haul road. Foraging and commuting routes could be severed and bats could also be exposed to an increased risk of roadkill if tall vegetation that currently elevates their flight paths over the height of traffic are removed.

These potential impacts and the need for associated mitigation measures are not all assessed or addressed within the EIA. Although feeding habitats are not specifically protected, major developments may cause significant disturbance to bats in relation to the Habitats Regulations.

Otters

Prior to determination of the application, further information is required to clarify whether or not there would be any impacts on otters that would require a licence from Natural England. If so, then the planning authority will need to have regard to the Habitats Regulations Tests in determining the application (see below).

Environmental Statement, Vol. 5 Part 2, Section 1.5 states that the off-site highways works may account for significant effects on otter populations in Bonstone Brook and un-named watercourse 2096 (associated with highway work areas R22 and R23). It is not clear whether or not this includes licensable impacts.

It appears that road widening location RW02 would affect tree groups within 50m of the River Ribble, close to observed otter evidence. It is not clear from the information submitted whether or not the affected tree groups have been surveyed for the presence of any features that may be used by otters as a place of shelter.

At RW03 and RW04, there would be works immediately adjacent to the River Ribble where evidence of otters has been observed and where trees providing potential holt sites amongst their roots have been identified. Trees are shown to be at risk of removal in this area. Prior to determination of the application, firm proposals for tree removal need to be provided and it needs to be established whether or not any of the affected trees have the potential to provide shelter for otters (e.g. amongst their roots). If so, then presence/absence surveys for otters occupying suitable affected features will be necessary. If otters would be affected, then the Habitats Regulations licensing tests will need to be addressed (see below).

Evidence of otters and potential places of shelter (holts/couches) have been identified in the vicinity of the River Ribble Crossing. Table 9.6 of ES Vol 6 – Proposed Ribble Crossing, Chapter 9B (Aquatic Ecology) states that the Ribble crossing may result in the removal of potential holt and couches. If these are used by otters, then a licence from Natural England would be required before the scheme could commence. A licence would not be issued if there is a satisfactory alternative that would not require a licence. The planning authority will not be able to approve the application if they have reason to believe that a necessary licence would not be issued (see licencing tests below). It will need to be demonstrated that no licence is required or that all licensing tests are met, otherwise, an alternative crossing point will need to be proposed, which avoids licensable impacts on otters.

As well as the risk of killing, injury and disturbance of otters, or destruction of their place of shelter (holts/couches), pollution and sedimentation could also have significant effects on otter, for example, by affecting the availability of prey species.

Statutory Obligations under the Habitats Regulations

Where species protected under the Habitats Regulations (such as bats, or otters) are present, then the ES should include measures to avoid any breach of the legislation (such as killing, injury or disturbance of the animals or damage to a breeding site or resting place). If any such breach would be unavoidable, then a Natural England Licence would be required before development work could commence.

In these circumstances, Local Authorities must comply with the duties of a competent authority as described in the Conservation of Habitats and Species Regulations 2017 (as amended). The planning authority will not be able to approve the application if there is reason to believe that a Natural England licence would not be issued. The planning authority will therefore need to have regard to the licensing tests stated in the Habitats Regulations. In summary, these are that:

1. The development is required for the purpose of
 - preserving public health or public safety,
 - for other imperative reasons of over-riding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.
 - for preventing serious damage to property.
2. There is no satisfactory alternative.
3. The proposal will not be detrimental to the maintenance of the population of the species at a favourable conservation status.

The ES should demonstrate how the above 3 tests will be addressed. This should include mitigation proposals to address the third test.

In relation to bats and otter, based on the information submitted to date:

- I am not able to identify all licensing requirements,
- I am not able to determine whether or not there are satisfactory alternatives that would not require a licence, and
- I am not able to establish whether or not the proposals will be detrimental to the maintenance of species populations at a favourable conservation status.

Further surveys are required (as described above) prior to determination of this application in order to ensure that the planning authority can address the above statutory obligations.

Water Voles

The Environmental Statement and water vole survey appendices appear to refer only to water vole surveys undertaken by Bowland ecology in 2019-20. These surveys did not identify the presence of water voles. However, the 2019 surveys were undertaken during suboptimal water course conditions following an exceptionally wet autumn and the surveys comprised one visit only, which does not meet recognised guidelines (see stated limitations within the Bowland Ecology report).

However, additional water vole survey results by RSK, undertaken in 2020 and 2021, have been included with the otter survey appendices. These results include evidence of water voles (including burrows and feeding signs) in locations that could be affected by the proposed development, including the boundaries of the Braddup compound and adjacent to the access track. These results and likely associated impacts do not appear to have been addressed within the relevant ES chapters. A licence from Natural England is likely to be required before works affecting water voles and their burrows could commence.

It is acknowledged within the RSK water vole report that not all surveys were undertaken during the appropriate survey season.

Before the application is determined:

- All necessary water vole surveys need to be completed in accordance with recognised guidelines (including suitable habitats within and adjacent to Bonstone and Braddup compounds).
- The Environmental Statement needs to be updated to take into account the RSK water vole survey results and any further surveys.
- Necessary measures to avoid, minimise and compensate for impacts on water voles and their habitat need to be given in the ES, including details of any licencing requirements.

White clawed crayfish

ES Vol 6, Proposed Ribble Crossing Aquatic Ecology Baseline, Tech Appendix 9B.1, Section 3.2.1.2 states that The River Ribble at the proposed crossing point contains suitable habitats to support white clawed crayfish. The presence of suitable habitat at Greg Sike, Waddington Brook, Coplow Brook and Watercourse 2097 is also acknowledged (or assumed). Section 2.4 states that due to the timing of surveys it was not possible to undertake presence/absence surveys for white clawed crayfish to inform the ecological impact assessment. As per the requirements of the NPPF (and associated circular 06/2005) stated above, these surveys/assessments will need to be completed before the application is determined.

Badger

Badger evidence has been recorded in the wider area surrounding the proposed Ribble crossing/haul road and in the vicinity of the Braddup compound access road. However, the risk of roadkill and the impacts of habitat severance over several years while the haul road and access roads are in place do not appear to have been assessed. The ES should be updated to address these potential impacts before the application is determined.

Barn Owl

Lancashire County Council has records of barn owl within the landscape surrounding the proposed highway works (for example, in the vicinity of RW08 & RW09). Barn owl could be exposed to an increased risk of roadkill if tall hedgerows and trees that currently elevate their flight paths over the height of traffic are removed. This potential impact and the need for associated mitigation measures have not been assessed or addressed within the EIA. Impacts on barn owl hunting habitat do not appear to have been assessed or addressed within the impact assessment.

It is acknowledged within the EIA that Barn Owl are likely to nest near the Braddup compound. Further information is required to determine the location of Barn Owl nest sites likely to be affected by disturbance from the proposed works.

Common Toad

Common toad is a species of principal importance (NERC Act, 2006). It does not appear that surveys have been undertaken to inform an assessment of impacts on this species. As well as risks of killing, injury, disturbance, habitat loss and destruction of places of shelter, toads may be particularly affected by

road-kill risk and habitat severance as a result of haul roads and access roads that will be in place for several years. It would therefore be appropriate to assess the impacts on toad populations and their habitat in accordance with recognised guidelines, such as Common Toads and Roads – Guidance for planners and highway engineers in England (Amphibian and Reptile Conservation, May 2011).

ii) Statutory Designated Sites

Ribble Valley Borough Council should follow the advice of Natural England in respect of Statutory Designated Sites.

Prior to determination of the planning application, Ribble Valley Borough Council will need to undertake a Habitats Regulations Assessment in respect of internationally designated sites that may be affected by the proposed development. The Planning Authority should seek the advice of Natural England and their own ecological advisor in relation to this assessment and may request all necessary information from the applicant in order to inform the assessment.

A 'shadow' Habitat Regulations Assessment has been submitted with the application. If the Planning Authority (after consulting their ecology advisor and Natural England) considers this assessment to be adequate and agrees with its conclusions, then it may adopt the assessment. However, I recommend that the following matters should be addressed:

- In relation to species disturbance, the shadow habitats regulations assessment only seems to address disturbance impacts at the compounds. Any disturbance impacts on SPA qualifying species, likely to arise from the proposed highway works and the Ribble crossing/haul road, should also be addressed.
- The assessment that has been submitted is based on the assumption that tunnel arisings will be disposed of at Waddington Fell Quarry. It is my understanding that the application to Lancashire County Council for disposal of tunnel arisings in this location has not yet been approved by Lancashire County Council. If that application is not approved, then alternative disposal options may have significant implications in relation to the Habitats Regulations Assessment. There is therefore uncertainty over the conclusions of the Habitat Regulations assessment (unless or until the associated Waddington Fell planning application is approved) which should be resolved prior to approval of the application.

iii) Non-Statutory Designated Sites

Impacts on the qualifying features of Biological Heritage Sites (as well as priority habitats and species and irreplaceable habitats associated with these sites) should be avoided. Further information is required in order to demonstrate that all predicted impacts on Biological Heritage Sites are unavoidable. If it can be demonstrated that impacts are unavoidable, then mitigation and compensation measures will need to be provided to demonstrate that impacts have been minimised and that compensation proposals will fully off-set all unavoidable impacts. Further information is

needed in order to demonstrate that these requirements have been met.

Potential impacts on Biological Heritage Sites include the following:

- Gibbs Wood and Bonstone Wood BHS 64NE11 would be at risk from dust and hydrological changes.
- Bonstone Brook Pastures BHS 74NW06 would be at risk from dust and hydrological changes.
- Tree groups within BHS 74SE12 (Bean Hill Woodland and Grassland) are shown to be at risk of removal as a result of road widening location RW02.
- RW22 would impinge on BHS 74NW02, Waddington Fell and Browsholme Moor.
- RW23 would impinge on BHS 74NW04, Bradford Fell, Easington Fell and Harrop Fell. It is acknowledged within the application that there could be a significant effect on this designation as a result of habitat degradation caused by impacts on groundwater conditions. This could potentially affect irreplaceable peatland habitats.
- RW27 would affect BHS 74NW01 (Roadside Verge)
- The proposed highway works would result in the loss of about a quarter of Waddington Fell Road, Roadside Verges BHS.
- The River Ribble Biological Heritage Site would be affected by the proposed crossing. It has not been fully demonstrated that the proposed crossing is unavoidable or that the crossing location of least ecological impact has been selected.

ES Vol 2, Chapter 9a, Section 9.9 (Para 141) states that the groundwater dependent terrestrial ecosystem assessment is pending and potential temporary or permanent changes to groundwater conditions giving rise to effects on three Biological Heritage Sites (River Ribble, Waddington Fell and Browsholme Moor and Bellman Farm Marsh) cannot be ruled out. An updated ES, informed by the results of the ground water dependent terrestrial ecosystem assessment (covering all relevant parts of the proposed scheme) will need to be provided before the application is determined.

iv) Ecological assessment of proposed highway works and Ribble Crossing/Haul Road

Highway Works

The "*High Level*" ecological assessment of the proposed highway works is not sufficient to inform determination of the application. The assessment of the ecological impacts of the proposed highway works is inadequate for numerous reasons as follows:

- The protected species surveys are not complete. These are needed to inform determination of the application, to inform the need for mitigation measures and to inform the Habitats Regulations tests and the need for Natural England licences (see above).
- There does not appear to be an adequate assessment of impacts on priority habitats and species (NERC Act 2006) or irreplaceable habitat, such as peatland habitats or veteran trees.

- The assessment of effects on groundwater dependant terrestrial ecosystems is not complete (See Section 1.2.1 of ES Vol 5 Part 2: Offsite Highway Works – Ecology Assessment TR4).
- A full assessment of the ecological value of existing highway verges, that would be affected by the works, has not been provided.
- An arboricultural assessment for the proposed highway works does not appear to have been provided. It is therefore unclear if any aged or veteran trees (irreplaceable habitat) would be affected by these works. The NPPF states that development resulting in the loss or deterioration of irreplaceable habitats should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.
- Hedgerow survey data does not seem to have been provided for hedges affected by the proposed highway works.
- Disturbance impacts of highway works on bird populations, including SPA species does not appear to have been addressed (see above).
- The proposed highway works would result in the loss of about a quarter of Waddington Fell Road, Roadside Verges BHS and potential groundwater impacts on Bradford Fell, Easington Fell & Harrop Fell BHS. Trees, hedgerows, verge habitats and peatland habitats (irreplaceable) would also be affected. The possibility of avoiding or reducing these ecological impacts has not been addressed.
- The extensive habitat losses that would arise from the proposed highway works do not appear to have been included in the Biodiversity Net Gain calculations (see below).
- ES Vol 5 Part 2 – Offsite Highway Works TR4, Para 43 states that delivery of realigned hedgerow planting is uncertain. This should be resolved before determination of the application as there may be implications for the planning boundary and the necessary extent of off-site compensation.
- ES Vol 5 Part 2 – Offsite Highway Works TR4, Para 48 indicates that compensation for residual impacts on locally designated sites would be implemented through consultation with the relevant LPA. Firm compensation proposals should be included within the planning application.

In terms of ecology, the highways works cannot be treated as a minor or insignificant addition to the works. The highway works are likely to result in a significant proportion of the habitat loss associated with this planning application and are likely to affect protected and priority species (see also comments on protected species and Habitats Regulations obligations above). It is not clear from the information submitted with the application that there is no alternative to the proposed highway works that would result in a lower ecological impact.

The application should not be approved until a comprehensive ecological impact assessment of the proposed highway works has been undertaken (in accordance with recognised guidelines), measures are taken to avoid or minimise these impacts and compensation is provided for unavoidable impacts (including delivery of biodiversity net gain as required by the NPPF).

Ribble Crossing & Haul Road

The ecological assessment of the proposed Ribble Crossing and Haul Road is not adequate for numerous reasons as follows:

- No breeding bird survey has been undertaken for the proposed Ribble crossing and associated haul road. The assumptions on breeding bird impacts and mitigation measures have therefore not been informed by any data.
- The habitat survey for the Ribble crossing and haul road has been undertaken in winter, meaning that various species may not have been apparent and accurate assessment of habitat quality would have been compromised. This is not sufficient to demonstrate that the route of least ecological impact has been selected or to inform mitigation and compensation requirements (in accordance with the mitigation hierarchy requirements of the NPPF).
- ES Vol 6, Technical Appendix 9A.2 Proposed Ribble Crossing indicates that the habitat survey has not covered the whole of the site (Section 1.3 Para 6).
- Badgers have been recorded in the wider area surrounding the proposed Ribble crossing and haul road. However, the risk of roadkill and the impacts of habitat severance over several years while the haul road is in place do not appear to have been assessed.
- ES Vol 6, Chapter 9A, Table 9A.5 has given a valuation for various species populations, which does not appear to have been informed by surveys.
- ES Vol 6 has scoped out isolation effects on designated sites as a result of the Ribble crossing/haul road. The increased isolation of BHS 74SW04 (Waddington Brickworks Old Working) for the lifetime of the haul road do not appear to have been assessed.
- The significance of impacts on bat roosts and associated flyways arising from the Ribble crossing/haul road, appears to have been assessed in the absence of necessary survey data (see also, comments on protected species above).

v) Mitigation Hierarchy

One of the requirements of the NPPF is that *"if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused"*. The NPPF also states that *"development resulting in the loss or deterioration of irreplaceable habitats should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists"*.

There is still uncertainty over the extent of habitat loss as a result of the proposed development. Various areas of habitat are shown to be at risk of removal. There is also uncertainty over the feasibility of avoiding the loss of some habitats that are shown as retained. This relates to proposed works within the root protection area of trees shown as retained. In order to properly address the requirements of the NPPF in relation to the mitigation hierarchy, there needs to be certainty over the predicted impacts of the proposed

development. This uncertainty also has implications for protected species and compliance with related legislation (see above).

It is not clear from the Environmental Statement that all likely impacts are unavoidable, that the mitigation hierarchy has been applied to all elements of the scheme location and design and the options of least ecological impact have been selected. It seems likely that further measures could be implemented to avoid or reduce ecological impacts. This applies to all elements of the scheme, including compounds, river crossing, haul roads and highway works, especially where there is impingement onto designated sites, irreplaceable habitat (including veteran trees), habitats of principal importance and habitats likely to support protected and priority species. Ribble Valley Borough Council should not approve the application unless they are satisfied that there are no alternatives to the proposed design that would avoid or reduce impacts.

Avoidance of impacts on irreplaceable habitats is critical. As per the NPPF, irreplaceable habitats are "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen*". Those likely to be affected by the proposed works would include, for example, veteran trees and lowland fen/calcareous flushes and peatland habitats affected by the proposed highway works.

In the case of ancient and veteran trees, owing to the lack of an arboricultural assessment for parts of the scheme, the extent of losses is still uncertain. There is further uncertainty owing to additional trees marked as at risk of removal. Further survey data is therefore required before the application can be approved as well as firm information on the extent of habitat loss.

A rationale for the proposed compensation strategy for impacts on irreplaceable habitats and high distinctiveness habitats, clearly demonstrating the adequacy of the compensation, also appears to be lacking. Further information is therefore required in order to identify all irreplaceable habitats that may be affected by the proposed works, clearly demonstrate that any losses of irreplaceable habitats is unavoidable, that there are wholly exceptional reasons for these losses and that a suitable compensation strategy exists.

It is acknowledged within ES Vol 2 Chapter 9A, that veteran trees at Braddup and Bonstone compounds would be affected by the proposed works. It is stated that these losses of irreplaceable habitat are unavoidable because of their proximity to the core working area of the compound and proximity to proposed open cut sections. This is not adequate to address the mitigation hierarchy as required by the NPPF. Ribble valley Borough Council should not approve the application unless they are satisfied that the compounds and open cut sections cannot be relocated or re-designed in order to avoid this impact. If this requirement can be addressed, then firm proposals to

compensate for demonstrably unavoidable impacts should also be proposed before determination of the application. A compensation package for unavoidable impacts on veteran trees has not yet been provided. Ribble Valley Borough Council should not approve the application unless they are satisfied that a suitable compensation strategy exists.

vi) Compensation for ecological impacts and Biodiversity Net Gain

In addition to application of the mitigation hierarchy (see above), the NPPF states that planning decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity.

The combined habitat losses that would arise from the proposed highway widening and passing places are extensive. Although it is stated within the application that these impacts would be offset through a commitment to Biodiversity Net Gain, these impacts don't appear to be included within the biodiversity net gain calculations. Reinstatement in-situ would still result in biodiversity loss, owing to the time taken to achieve target condition and associated time lag impacts on species populations, uncertainties and difficulties in achieving the required habitat etc (hence the need for multipliers within the DEFRA Biodiversity Net Gain Metric).

River impacts have not yet been included in the compensation and net gain calculations. This should be resolved before the application is determined as it may have implications for the necessary extent of replacement habitat.

Irreplaceable habitats and high distinctiveness habitats have been excluded from compensation and net gain calculations (as the DEFRA Metric does not deal with such habitats). A rationale for the proposed compensation strategy for impacts on these habitats, clearly demonstrating the adequacy of the compensation, appears to be lacking. Similarly, the proposed 3:1 ratio for tree replacement does not appear to be adequate and has not been justified. It can't be assumed that all replacement trees would reach maturity. The risk factors to achievement of replacement habitat (as per those used in the DEFRA Metric) need to be taken into account.

There are various locations where habitat retention is proposed, but it is acknowledged within the planning application that this is uncertain. In these cases, it should be confirmed that the worst-case scenario for habitat loss has been included within the BNG calculations.

Compensation will be required to offset all habitat losses. This will affect the area of land necessary to compensate for habitat losses and to deliver biodiversity net gain. Revisions (as required) to the identified off-site compensation area will therefore need to be submitted.

Paragraph 3.2.4 of the WSP Biodiversity Net Gain Assessment states that consideration is being given to an additional habitat creation site at Coppid Hill Pasture BHS. Before determination of the application, it needs to be

established if this site will be included within the compensation package. It will need to be demonstrated that any necessary compensation can be provided on this site without detriment to existing ecological interest and that the site (in combination with others) will be sufficient to compensate for losses and deliver net biodiversity gain.

Habitat creation should not be at the expense of existing habitats or features of ecological importance. Any faunal interest on the habitat creation site should also be assessed to ensure that habitat creation proposals are not detrimental to any existing species population (For example, the site is within an important bird area and important wintering or ground nesting bird populations, if present, could be adversely affected by woodland creation).

Paragraph 4.1.2 of the WSP Biodiversity Net Gain Report acknowledges that an updated BNG assessment, including river units and compensation for other habitats, needs to be undertaken. This should be undertaken before determination of the application.

It appears that only headline results of Biodiversity Net Gain calculations have been provided. Once the above matters have been addressed and Biodiversity Net Gain requirements have been re-calculated, all metric calculations should be submitted with the application to ensure transparency and to enable scrutiny of the calculations by the planning authority and their advisors.

Once the above matters have been addressed, a revised site boundary for habitat creation to offset unavoidable impacts and to deliver biodiversity gains may be required and should be submitted for approval by the planning authority.

Once the above matters have been adequately addressed, if Ribble Valley Borough Council is minded to approve the application, then the following matters should be the subject of planning conditions/Section 106 agreements:

- i) Construction Environmental Management Plan and Precautionary Working Methods

No works shall commence on site until a Construction Environmental Management Plan (CEMP) has been submitted and approved by the planning authority. The approved CEMP shall be implemented in full. The CEMP shall include (*inter alia*):

- Proposals for pre-commencement repeat surveys for protected and priority species and priority habitats to be undertaken prior to the commencement of any works, and throughout the construction programme, which shall inform the need for precautionary working methods, licences and exemptions;
- Details of all licences, consents and exemptions that will be in place prior to commencement of works;

- Details of responsible persons and organisations, including lines of communication;
- Proposals for supervision of works, licensable mitigation measures and precautionary working methods by an appropriately qualified, experienced and licensed Ecological Clerk of Works;
- Necessary training and/or briefing of site operatives on ecological matters and required working methods and procedures to ensure compliance with legislation and planning obligations;
- Measures that will be taken to ensure compliance with relevant parts of BS42020 - Biodiversity Code of practice for planning and development;
- An ecological constraints plan to be issued to the contractor, including (*inter alia*):
 - Identification of biodiversity protection zones and exclusion zones around sensitive sites, habitats and species;
 - Likely locations of protected and priority species;
 - Tree root protection areas;
 - Locations of demarcated working areas;
- Precautionary working method statements for the avoidance of ecological impacts during all stages of the works, including:
 - Prevention of any breach of wildlife protection legislation;
 - Procedures to be followed if the presence of protected species is detected or suspected at any stage before or during the works;
 - Measures to prevent impacts on protected and priority species and their habitats;
 - Measures to protect priority and protected species from the impacts of habitat severance throughout the project;
 - Maintenance of bat flight paths throughout all phases of the works;
 - Measures to ensure compliance with the Eels Regulations;
 - Roadkill prevention measures to be implemented along all construction traffic routes;
 - Measures to prevent animals from becoming trapped;
 - Timing and other measures to prevent any impact on nesting birds, including passerine and ground nesting species;
 - Timing and other measures to avoid impacts on sensitive spawning or migrating fish populations.
 - Measures to prevent disturbance of breeding and wintering birds during all phases of the proposed works;
 - Measures to prevent disturbance of sensitive species and habitats as a result of lighting, noise, vibration, vehicle movements, storage of materials or other causes;
 - Protection of retained habitats;
 - River and riverbank protection measures;
 - Exclusion zones around designated sites, irreplaceable habitats and habitats of principal importance.
 - Protection of watercourses during the works;
 - Measures to avoid impacts on hydrology and water quality;
 - Protection measures for ground water dependent terrestrial ecosystems;
 - Measures to minimise soil compaction;

- Measures to prevent soil stripping in the vicinity of sensitive habitats.
- Tree protection measures in accordance with BS5837 (2012);
- Measures to maintain habitat connectivity throughout the works;
- Demarcation of the working area and installation of barriers and warning signs to protect retained habitats;
- Protection of Statutory designated sites, functionally linked land and associated species populations during the works;
- Protection of non-statutory designated sites and associated habitats and species populations during the works;
- Measures to be implemented during decommissioning of temporary structures and features;
- Measures to eradicate and prevent the spread of invasive non-native species;
- Biosecurity measures to be implemented;
- Measures to prevent detrimental ingress/egress of water to/from sensitive habitats.
- Dust, pollution and sediment control measures.
- A work programme, demonstrating that works will be timed to minimise ecological impacts;
- Monitoring, reporting and review of proposed measures throughout all phases of the works.

ii) Habitat Creation, restoration and Management Plan

No work shall commence until a detailed habitat creation and management plan has been submitted and approved by the planning authority. The approved habitat creation and management plan shall be implemented in full. The management plan shall include (*inter alia*):

- Baseline ecological survey data for all habitat creation and enhancement locations.
- Clearly stated aims and objectives with reference to the site evaluation and ecological impacts of the scheme identified within the approved environmental statement.
- Details of all habitat creation that will be a requirement of Natural England licences and will be subject to amendment and approval by Natural England as part of the licensing process.
- Details of reinstatement works agreed with landowners.
- Habitat creation and management for populations of protected and priority species affected by the works.
- Restoration and enhancement of designated sites.
- River and water course restoration proposals, including substrate and banks, following Environment Agency guidelines and advice.
- Habitat creation and management proposals for breeding and wintering bird species characteristic of the AONB and the recognised Important Bird Area, which must include habitat for relevant Schedule 1 breeding bird species as well as species of principal importance and Red and Amber Species of conservation concern.
- Habitat creation and management for the benefit of invertebrates.

- Habitat creation for the enhancement of habitat connectivity and buffering of designated sites.
- Details of all target habitats to be created, re-established or enhanced on and off site, including in-situ habitat reinstatement, other on-site habitat creation and offsite habitat creation to compensate for ecological impacts of the scheme and to deliver biodiversity net gain.
- Habitat creation proposals, informed by ecological survey data in order to demonstrate that habitat creation will not be at the expense of any existing priority habitat or populations of protected and priority species.
- Planting plans and habitat management compartment plans.
- Full seeding and planting mixes, comprising native species appropriate for the locality, soils, hydrology and site conditions.
- Full details of any habitat translocation methods, including selection of habitats to be translocated, demarcated areas of habitat to be translocated and receptor sites, receptor site preparation, translocation methods, timing, establishment maintenance and management proposals.
- Full details of nest boxes, roosting boxes, hedgehog shelters, hibernacula, habitat piles, other wildlife shelters, their proposed locations, installation proposals and their maintenance.
- The use of felled timber for habitat creation and enhancement.
- Ground preparation, seeding, planting and habitat establishment methods for all habitats.
- Replacement or repeat planting and seeding in the event of failed habitat establishment.
- Establishment maintenance methods for the first 5 years following seeding and planting of each compartment.
- Measures to be employed for the control and eradication of invasive non-native species.
- Management options and constraints on management options.
- A rationale for all prescribed management.
- Long-term habitat management proposals covering 30 years following initial seeding/planting of each compartment.
- Detailed management prescriptions for all retained, enhanced and re-established habitats both on and off site.
- A comprehensive work programme for implementation of all habitat creation and management prescriptions, including dates, timing and responsible organisation.
- A habitat compartment map, showing all habitats and land parcels covered by the management, with compartment numbers referenced within the work programme and management prescriptions, making it clear what management will be implemented in each compartment/habitat and when.
- Monitoring proposals to demonstrate successful habitat creation and achievement of stated objectives and to inform the need for adjustments to the approved management regime.
- Periodic review of the management plan including consultation with the planning authority.

- Periodic reports to the planning authority to demonstrate compliance with the approved management plan and achievement of the stated aims and objectives.
 - Measures that will be taken to ensure compliance with relevant parts of BS42020 - Biodiversity Code of practice for planning and development.
 - Stated contributions to outcomes, objectives and environmental opportunities stated within the AONB management plan.
 - Stated funding mechanisms to secure long-term management.
- iii) Removal of all temporary bridges, culverts, haul roads, structures and features.
- No works shall commence until detailed decommissioning proposals have been submitted and approved by the planning authority. The approved decommissioning proposals shall be implemented in full and shall include (*inter alia*):
- A detailed timetable for decommissioning of all temporary bridges, culverts, haul roads, access roads, structures and other features.
 - Detailed precautionary working methods for the protection of designated sites, habitats and species populations, to be implemented during decommissioning.
 - Detailed ecological restoration and enhancement proposals to be implemented following decommissioning of temporary features.

Key Legislation, Planning Policy and Guidance

- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017;
 - The Conservation of Habitats and Species Regulations 2017 (as amended);
 - The Wildlife and Countryside Act 1981 (as amended);
 - The Natural Environment and Rural Communities Act 2006;
 - The Countryside and Rights of Way Act 2000;
 - The Protection of Badgers Act 1992;
 - Eels Regulations, 2009.
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- The National Planning Policy Framework;
 - Ribble Valley Borough Council Local Plan policies.
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- Government circular: Biodiversity and geological conservation – statutory obligations and their impact within the planning system - DEFRA Circular 01/2005 ODPM Circular 06/2005.