Proof of Evidence

On behalf of
Stop the West Midlands Interchange

5.ECOLOGY & ENVIRONMENT REPORT

In respect of the proposed West Midlands Interchange

Environment and Ecology - Introduction

This evidence has been prepared by a local community group opposed to the West Midlands Interchange at Gailey, Four Ashes and Calf Heath in South Staffordshire. The community group was set up to represent the views of local residents. The group comprises of professional experts and local residents. It also has local political support from Gavin Williamson (South Staffordshire MP) and Jeremy Lefroy (Stafford MP).

'Stop The West Midlands Interchange' currently has over 2500 members from the neighbouring communities that will be directly or indirectly affected by the proposed development, these include the communities of Gailey, Four Ashes, Calf Heath, Hatherton, Penkridge, Brewood & Coven.

We do not propose to repeat the objections made by the professional bodies, local authorities and political leaders we are merely seeking to offer a local perspective and provide our own views on this proposal, which is supported by evidence and professional experts.

This report focuses on the Impact on the Environment & Ecology this development will have at this location. This report should be read in conjunction with the other reports prepared by the group on planning, rail, roads, health, issues, tourism, agriculture and location.

Report 5. Ecology & Environment Report **Summary**- Stop the West Midlands Interchange

Ecology & Environment

- Four Ashes Ltd state: tonne for tonne tranporting goods by rail produces 70% ledd carbon dioxide, up to 15 times lower nitrogen oxide emissions and nearly 90% lower PM10 emissions than by road.

- Habitat Fragmentation will create a serious problem where the proposed development will be sited.

- The proposed development is an important wildlife corridor which provides woodland.farmland access from Cannock Chase and rural parts of the West Midlands into Shropshire.

- The development would block this corridor and prevent movement of all but the most mobile wildlife species resulting in smaller, fragemented and isolated populations. Furthermore , the increased burden of traffic would exacerbate the problem further.

- The development flies directly in the face of the draft environment Principles & Governance Bill 2018 (https://www.gov.uk/government/publications/draft-environment-principles-and-governance-bill-2018

- A stretch of canals, brooks and streams runs through the development area and is an important habitat for a variety of species that are nationally in decline. The development of the area is likely to disrupt this important waterside habitat, leading to the loss of plant and wildlife species.

- Bankside pollution would jeopardise the continued existence of an array of species in the areas waterways.

- The proposed development would result in the loss of 38.2% of the hedgerows on the site, despite them being (eventually) replaced – the hedgerows are an important habitat in the area and any loss (even if temporary) will result in a significant loss of suitable natural vegetation for a great number of species present in and around the area.

- Woodland would be removed to facilitate development of the Site - This would result in the loss of structure and function of 15.57 ha of habitat of mixed and broad-leaved plantation and broad-leaved semi-natural woodland of Local value.

- Again, this would mean significant habitat loss for local species.

Environmental Report

1. Contents

This report aims to explore the environmental impact by examining these areas:

- Air Quality;
- Ecology and Nature;
- Landscape and Visual Impacts.

The purpose of this report is to identify aspects of the environment which are considered to be important or relevant to both humans and the environment. In this report, we aim to include the relevance of this proposal and the impact it could have on future generations of humans and living things.
The Appendices included comments on Consultees Reports.

2 Air Quality

Four Ashes Limited were required to do an Air Quality assessment by law, because impacts of the project are likely to have significant air quality effects in relation to the Environmental Impacts Assessment requirements which could affect the UK's ability to comply with the Air Quality Directive. National Policy states that:
"109: The planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability";
"110. In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework";
"120: To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account"; and
Four Ashes Limited State:
Tonne for tonne, transporting goods by rail produces 70% less carbon dioxide, up to 15 times lower nitrogen oxide emissions and nearly 90% lower PM10 emissions than by road. This could also help ease congestion in the region by removing the need for thousands of HGV journeys from the M6

Currently, South Staffordshire Council describe air quality in most of Staffordshire as ‘good’. However, there are four Air Quality Management Areas (AQMA) in Staffordshire which are close to the Air Quality Limits. These are:

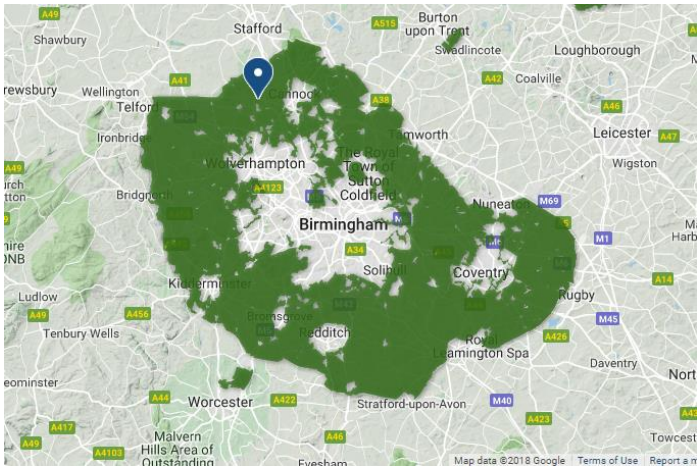
- AQMA 1 – Adjacent to the M6 and Teddesley Road, Nr Penkridge (3.4 miles)
- AQMA 2 - Bursnips Road, Essington (6.4miles)
- AQMA 4 – Along the Wolverhampton Road, Wedges Mills. (4 miles)
- AQMA 5 – The A5 at Hatherton (3.3 miles)

https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=250

Three of these Air Quality Management sites are within 5 miles of the proposed development.

To situate a site, which estimates a minimum of 5,000 vehicle movements per day, is not going to alleviate health problems in this area.

Greenbelt is land designated to help with pollution. Green belt land covers only 13 per cent of the land area of England, or an estimated 1,639,560 hectares; this means that 87% of land in England is not protected so should be used BEFORE Greenbelt is even considered.
The green belt today is nearly 32,000 hectares smaller than it was in 2003 according to the Department for Communities and Local Government statistics based on figures provided by individual councils.



To destroy it will only increase health problems in this area.

3. Ecology and Nature

- Habitat Fragmentation will create a serious problem where the proposed development will be sited. The proposed development is in an important wildlife corridor which includes Cannock chase, Horsemoor Wood, Fullmoor Wood, Watling Street Plantation, Reservoir Plantation, Calf Heath Wood, Somerford Wood, Brewood and Coven and Big Wood, Chillington. This corridor effectively provides woodland/farmland access from Cannock Chase and rural parts of the West Midlands into Shropshire. The development would effectively block this corridor and prevent movement of all but the most mobile wildlife species resulting in smaller, fragmented and isolated populations which is injurious to the genetic health of these populations. Furthermore, the increased burden of traffic in the area would exacerbate the problem further.

4. Additional comments in response to the ecological report:

In response to the Applicant's ecological report carried out for the proposed development area, the following areas were identified and discussed in more detail further on in the report.

4.1 Bats

- It has been acknowledged that there is a particularly diverse assemblage of bat species present in and around the site and that the development will result in the loss of at least six known roosts.
- The mitigation of this loss of roosts intends to provide bat boxes and acknowledges that this may result in a disruption to the balance of species present. Indeed, research detailed elsewhere in the appendices states that the more common species are favoured by such an approach.
- Furthermore, it has confirmed that the development will result in the loss of a significant amount of foraging and commuting habitat.

4.2 Amphibians

- The report states that there are four amphibian species present on the site, two of which are of conservational importance.
- It also details that a number suitable amphibian habitats across the site will be permanently lost to the development, whilst remaining habitats will be subjected to significant fragmentation.

4.3 Birds

- The report also states that the bird fauna in and around the site is particularly species rich, with at least twelve of sixty-two recorded species being of national importance.

4.4 Badgers

- The presence of badgers on the site is confirmed, although details of any setts is confidential.

4.5 Otters

- Otters are known to use the waterways in and around the site and may be subject to disturbance by the parts of the proposed development nearest to the canal and ditches.

4.6 Polecats

- The report details that the territory of at least one native polecat overlaps with the site, and that this is of conservational importance. It also acknowledges the susceptibility of the species to roadkill as a result of local traffic (particularly if this increases).

4.7 Hedgehogs

- Hedgehogs, which are currently experiencing a serious national decline, have been recorded in and around the site and have been identified as an "Important ecological feature".

4.8 Habitat

- The proposed development would result in the loss of 38.2% of the hedgerows on the site, despite them being (eventually) replaced – the hedgerows are an important habitat in the area and any loss (even if temporary) will result in a significant loss of suitable natural vegetation for a great number of species present in and around the area.
- Woodland would be removed to facilitate development of the Site - This would result in the loss of structure and function of 15.57 ha of habitat of mixed and broad-leaved plantation and broad-leaved semi-natural woodland of Local value.
- Again, this would mean significant habitat loss for local species.

5. Detailed Species Report (also see information at Appendix C)

5.1 Amphibians

- Great Crested Newts (*Triturus cristatus*) breed in several ponds and lakes in and around the development area – even if these bodies of water are not actually removed, development of the area will result in separation of breeding ponds, therefore fragmentation and isolation of populations. A feature of newt breeding is the movement of individuals from pond to pond to breed in a variety of ponds with different individuals. Such movement and subsequent breeding increases the genetic biodiversity of newt populations. When populations become isolated like this, there is no gene flow between separate populations, resulting in genetic problems, reduced breeding success and decline in numbers.

- Other species of amphibians are present in and around the area, including Common Toads (*Bufo bufo*), Common Frogs (*Rana temporaria*) and Smooth Newts (*Lissotriton vulgaris*) (also, possibly, Palmate Newts(*Lissotriton helveticus*)). These different species of amphibians all require bodies of water in which to breed, but often have slightly different preferences in terms of water depth, water pH, amount and type of vegetation in the water and habitat surrounding the water. This means that a wide variety of water bodies are needed in order for these different species to continue to survive in the area. Common toads have shown an alarming national decline in recent years, partially due to their very exacting requirements for breeding sites – they will often travel several kilometres to find the preferred site, passing other (seemingly suitable) water bodies on the way. The proposed development is highly likely to present a barrier for toads migrating in order to breed, resulting in reduced breeding success and decline of local populations. Furthermore, Common Frogs and Smooth newts have declined as a result of loss of habitat and loss of breeding sites. Development of the area will certainly result in loss of habitat, loss of breeding sites, habitat fragmentation and isolation of small populations.

5.2 Bats (also see information at Appendix B and C)

- Species of bats confirmed to be in the area are Common Pipistrelles (*Pipistrellus pipistrellus*), Soprano Pipistrelles (*Pipistrellus pygmaeus*), Nathusius's Pipistrelles (*Pipistrellus nathusii*), Brown Long-eared bats (*Plecotus auritus*), Daubenton's bats (*Myotis daubentonii*) and Noctules (*Nyctalus lasiopterus*) (although there may well be others not yet recorded). In terms of roosting, feeding, breeding and hibernation, these different species have varied requirements so need a wide mosaic of woodland containing mature trees, farm buildings, open farmland, grassland, hedgerows and open water. The nature of bats' roosting and feeding means that they will often fly some distance from where they roost to their essential feeding areas. The proposed development is highly likely to create an obstruction to important bat highways, resulting in reduction or complete loss of populations. Indeed, research has shown that urbanisation, human developments and replacement of natural roosts with bat boxes result in decline in numbers overall, with the loss of the variety of species which are replaced by a single, more tolerant species (such as the Common Pipistrelle).

Three bat species, recorded in and around the proposed development.

5.3 Birds

- Tawny Owls (*Strix aluco*), Barn Owls (*Tyto alba*) and Little Owls (*Athene noctua*) are all present in and around the area of development. If the development went ahead, it would lead to the loss of nesting, roosting and hunting sites for the owls. Furthermore, due to the nature of their hunting, all three species are susceptible to roadkill if traffic burden were increased.
- The mosaic of farmland and woodland is home to a number of species of farmland birds, which are nationally in decline. This includes, notably, lapwings (*Vanellus vanellus*), bullfinches (*Pyrrhula pyrrhula*), chaffinches (*Fringill coelebs*), goldfinches (*Carduelis carduelis*) and yellowhammers (*Emberiza citrinella*). The loss of this habitat would result in the loss of these farmland bird species from the immediate area of development, due to their need for open farmland and woodland in order to feed, roost and breed.

- Healthy numbers of grey heron (*Ardea cinerea*) roost, hunt and breed in and around the proposed development site. A regionally important heronry (breeding and nesting site) is located in very close proximity to the site, on a small island on Gailey Lower Reservoir. This is one of the five major heronries, in terms of numbers, in the West Midlands area (West Midlands Bird Club 2005).
  Herons depend upon fish for their staple diet, although they will also eat amphibians, reptiles, small mammals, worms, insects and small birds from scrub, marshland and farmland surrounding bodies of water. Due to their need for such prey, they are particularly susceptible to cold weather due to lack of prey and their numbers tend to fall after a harsh winter due to increased mortality (Marchant *et al* 1990).
  The proposed development will lead to the loss of a significant amount of nearby farmland, scrub and marshland, which is used by herons for feeding. Furthermore, due to their lack of tolerance towards disturbance by humans, increased activity around the site is likely to adversely affect the numbers of herons in and around the area.

- Several species of raptors have been recorded frequently in and around the area of the proposed development. These include buzzards (*Buteo buteo*), sparrow hawks (*Accipiter nisus*) and kestrels (*Falco tinnunculus*) (kestrels are currently experiencing a decline in numbers nationally). Peregrines (*Falco peregrinus*) and red kites (*Milvus milvus*) have also been recorded, although less frequently. Were the development to go ahead it would result in loss of nesting and roosting sites and hunting sites. Raptors are also susceptible to roadkill (especially as a result of contact with high-sided vehicles). In addition to these factors, the nature of such bird species' lung system makes them extremely vulnerable to being adversely affected by air pollution (which, obviously, would be significantly increased as a result of an increase in road traffic in the area.

5.4 Mammals

- Brown Hares (*Lepus europaeus*) are present in the area. They are locally scarce and nationally in decline. They need open farmland to thrive, feed and breed. Very susceptible to traffic and the proposed development would restrict their movements, resulting in habitat fragmentation and separation and isolation of populations.
- Badger (*Meles meles*) sets are present in several areas surrounding the proposed site. Due to their nature of travelling along favoured corridors to forage for food, they would be particularly affected by loss of suitable habitat and fragmentation of established foraging routes if the development went ahead. Furthermore, badgers are extremely susceptible to roadkill, therefore increased traffic in the area would certainly affect their numbers.
- Hedgehogs (*Erinaceus europaeus*) are present in the proposed development area and are in severe decline nationally. They are very susceptible to fragmentation of suitable habitat and are also susceptible to roadkill, therefore numbers would decline were the development to go ahead.
- After years of decline nationally, numbers of otters (*Lutra lutra*) have increased in recent years. Otters regularly travel long distances and use the area of the proposed development as a corridor to move between their various haunts. Development of the site will present a substantial barrier to their essential movement, habitat loss will reduce their range of hunting areas and increased traffic will increase their susceptibility to risk of roadkill.

Otters have been recorded around the proposed development area – they are very susceptible to traffic, as was the fate of this individual (photographed next to the canal that runs through the site).

- Polecats (*Mustela putorius*) have made a recovery in recent years, Staffordshire is an area where they have shown success (albeit limited success at this stage). They are definitely present in the development area – confirmed by positive identification of roadkill. If the development were to go ahead, this would restrict their recovery by fragmenting the areas of suitable habitat that they have re-occupied. Due to their foraging and roaming nature they would be particularly susceptible to roadkill with increased local traffic.
- Water Voles are nationally in decline, their numbers have been vastly reduced in recent years throughout Staffordshire although they are found where canal banks hold suitable habitat. Development of canal towpaths effectively removes such suitable habitat.
- Water Shrews (*Neomys fodiens*), also, are nationally in decline, there are very few in Staffordshire although they are found where canal banks hold suitable habitat. Again, development of canal towpaths effectively removes such suitable habitat.

5.5 Reptiles & Fish

- Common lizards (*Zootoca vivipara*) are nationally in decline and scarce (or absent altogether) in much of Staffordshire. They are present but scarce in and around the area for the proposed development (I was told that individuals have already been removed from the Bericote site before that particular development). Suitable habitat in this area will be removed altogether if the development goes ahead, resulting in the complete loss of the species locally.

Common lizard photographed near to the proposed development area.

- Common Eels (*Anguilla anguilla*) are classed as critically endangered – these are present in canals, reservoirs, farm ponds and streams on and around the development area. In order to breed, they need to use local waterways to migrate to the sea. Developments in the area are likely to compromise this access for migration. Habitat loss, disturbance and pollution will certainly result in their further decline.

Common eel – a species in steep decline, present in and around the development areas.

6. Importance of the Waterways

- A stretch of canal runs through the development area and is an important habitat for a variety of species that are nationally in decline such as eels and water voles (*Arvicola amphibius*). Daubenton's bats, otters and kingfishers (*Alcedo atthis*) also rely on this habitat for feeding. Ongoing research has shown that, in order to provide a suitable habitat for such species, canal banks need to provide the correct amount of cover from vegetation growing along the water's edge. The development of the area is likely to disrupt and damage this important waterside habitat, leading to the loss of important plant and wildlife species.
- Local brooks and streams are home to a variety of native aquatic species including stone loach (*Barbatula barbatula*), bullheads (*Cottus gobio*), three-spined sticklebacks (*Gasterosteus aculeatus*), eels, white-clawed crayfish (*Austropotamobius pallipes*) and a variety of species of dragonfly and damselfly. These species require good water quality, and many of them also require suitable and extensive bankside habitat. Were the development to go ahead, increased disturbance, habitat fragmentation, bankside habitat loss and pollution would jeopardise the continued existence of this array of species in the area's waterways.

7. Landscape and Visual Impacts

The following are within 5 miles from the proposed site. They provide Leisure and Tourism facilities for people who visit the area. This, in turn, generates income and profit.

- Cannock Chase Area Of Outstanding Natural Beauty
- Somerford Hall Wedding Venue, Somerford, Brewood

The impact of the warehousing will be visible from all of these sites. Included are photographs of the area as it is currently. The visual impact of so much infrastructure is easy to imagine and could be catastrophic to the current booming Leisure and Tourism industry, which recently has generated over £1.6 billion to the local economy.

7.1 (Photographs from Gailey, Brewood, Calf Heath and Cannock Chase taken between June 2016 and November 2018)

(View of current Bericote site and proposed WMI site from Oakland Holiday Park taken between June 2016 and November 2018)

(Views of the proposed site from Shoal Hill Common, Cannock Chase Area of Outstanding Natural Beauty, taken between June 2016 and November 2018)

As well as this, the local landscape and ecology was subject to the illegal felling of 8.09ha of trees by the landowner of the Bericote site at Four Ashes in 2012. They had permission for 4.5ha but felled 12.5ha. The company that felled the trees reported the landowner to the Forestry Commission and a restocking licence was served for restocking by 2015 (see pictures and appendices.)

8. Forestry Commission Notice

Forestry Commission NOTICE NO: RN20/13-14
FILE REF: AIF/01S/2/12-13
FORESTRY ACT 1967
NOTICE REQUIRING THE RESTOCKING OR STOCKING OF LAND WITH TREES
Nameand address of the person on whom the notice is served: ;;.....::..;_...:.....::..~------,

Four Ashes
Wolverhampton
WV107BT

Address of Issuing Office
Forestry Commission England
National Office
620 Bristol Business Park
Coldharbour Lane
National Office
BS16 lEJ

1. It has been established that you felled trees at Land at FourAshes, Brewood, without a felling licence in contravention of the provisions of the Forestry Act 1967. The Forestry Commissioners, in pursuance of their powers under Section 17A of that Act, hereby give notice requiring you to carry out the restocking specified in the schedule below.

2. Your attention is drawn to the notes overleaf.
Signed: Date: 14 March 2014
for the Forestry Commissioners
SCHEDULE
1. Before 30th June 2015 the felled area outlined and hatched on the map attached to this Notice must be planted with mixed native broadleaved tree species of which at least 15% will be native oak. The planting will achieve no less than 1,100 trees per hectare spread across the site. This equates to 890 trees at this site.
2. Any natural regeneration may be counted towards meeting the stocking required under point (1).
3. For a period of 10 years from planting, the trees must be properly protected against damage adequately weeded and maintained in accordance with good forestry practice.
4. Any failures or losses must be replaced as necessary to provide satisfactory stocking (see 1). Any fences or individual tree guards must be properly maintained, all in accordance with the rules and practice of go09 forestry.
Form PW25(5/87)
Forestry Commission Notice No.: RN20/13-14
File Ref: AIF/015/2/12-13
NOTES
i. If the person to whom this notice is given objects to the notice or to the conditions contained in it, he may, by notice served on the appropriate Minister in the manner and within the period (three months) prescribed in Regulation8A of the Forestry (Felling of Trees) Regulations,1979 (SI 1979 No791) - as amended by the Forestry (Felling of Trees) (Amendment) Regulations 1987 (SI 1987 No 632) - request the appropriate Minister to refer the matter to a Committee appointed in accordance with Section27 of the Forestry Act 1967.
ii. If, after the expiration of the time specified in this notice, any of the steps required by the notice have not been taken, the Forestry Commissioners may, in accordance with the powers granted to them by Section24 of the Forestry Act 1967, give notice to the owner of the land requiring such steps as may be specified in the notice to be taken' to remedy the default.
FormPW25(5/

However, because no one monitored or enforced it, it was not carried out. See before and after pictures below.

9. Response From Quod

9.1 In August 2016 a group member expressed concern to QUOD about the utter devastation of Calf Heath Wood and the response below was received:

"I can understand your concerns on the removal of the trees. They were removed back in 2012 and the works were organised and monitored by Ecological Consultants, Ecology Solutions.

Ecological protection measures were put in place, and protected species were all taken into account using appropriate methodology, in particular bats.

The Forestry Commission were involved and a Felling License was issued to allow the works to proceed.

Calf Heath Wood didn't form part of the site boundary for the current planning application but a biodiversity enhancement area will be built out on the site. All early work on site is being monitored by ecologists."

9.2 Under the Paris Accord we are signed up to a global agreement to reduce CO2 emissions.

The Government (therefore it can't be dismissed) commissioned The Royal Society to research ways of achieving what we signed up to. Their report was published late last year.
The main UK sections are page 9, 91-,103-
https://www.raeng.org.uk/publications/reports/greenhouse-gas-removal

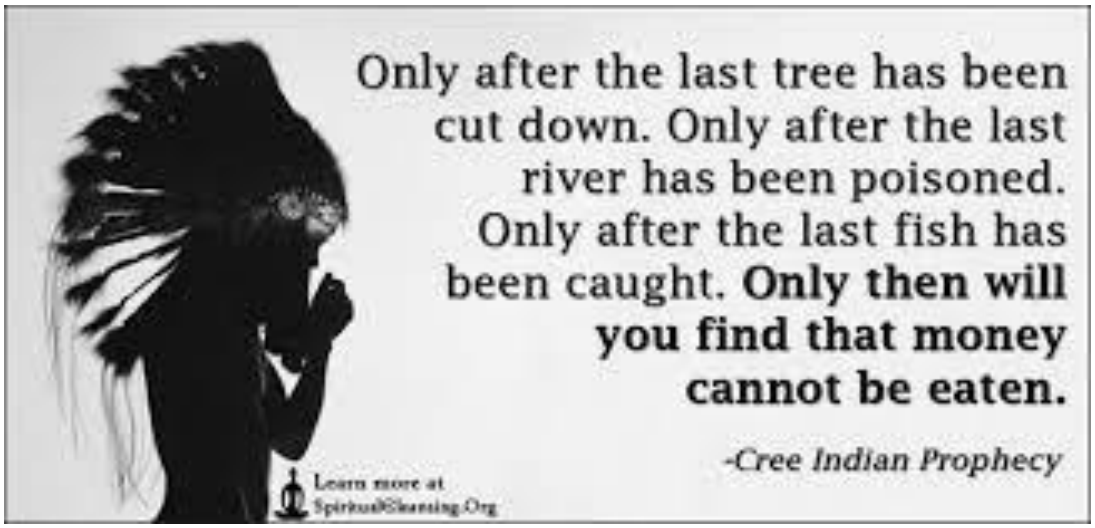
"The primary recommendation is planting forests covering 1.2 million hectares – should be an immediate priority if the UK is to achieve zero net emissions of carbon dioxide by 2050."
So one could assume that chopping them down is very bad.

9.3 We are also supposed to be at one end of the "National Forest" project.

https://www.nationalforest.org
“25 years ago, large swathes of the Midland’s landscape had been left scarred by centuries of coal mining and other heavy industry. But a passionate group of people had a vision: a forest. The first forest to be created at scale in England for over 1000 years, it transformed and literally turned the landscape from black to green.”
The National Forest is right in heart of the country, embracing 200 square miles of the Midlands. It spans across parts of Derbyshire, Leicestershire and Staffordshire and aims to link the two ancient Forests of Charnwood and Needwood. With a history of coal mining and heavy industry, the landscape is now that of rolling farmland, ancient forests and new planted woodlands. Its main towns and villages include Burton upon Trent (famous for its brewing), Coalville and Swadlincote (formerly associated with the clay and coal mining industries) and the historic town of Ashby-de-la-Zouch.

Farming improvements, growing more food, importing less are the only other **practical** possibilities besides reducing vehicle emissions in line with what is already been declared. *(More reductions - import less & reduce population).*

The impact man has had on the environment in the last 200 years has been undeniable, devastating in parts and irreversible. Previously sacrosanct Greenbelt land has become ripe for development because it is inexpensive and easy. We must strive to protect what we have left not for ourselves but for future generations of people and wildlife.


Only after the last tree has been cut down. Only after the last river has been poisoned. Only after the last fish has been caught. Only then will you find that money cannot be eaten.
-Cree Indian Prophecy
Learn more at

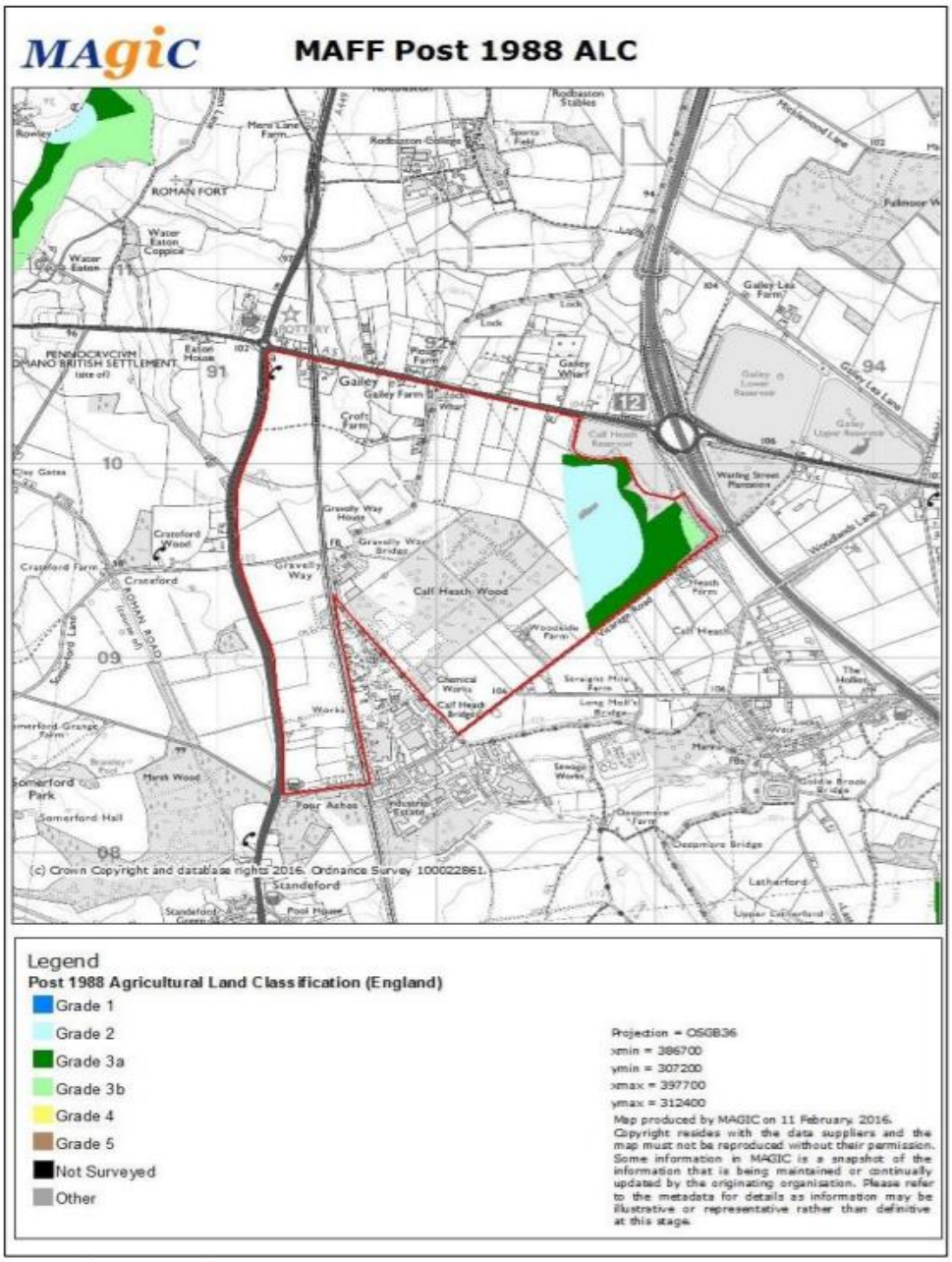
10. Appendices

Appendix A.

http://www.westmidlandsinterchange.co.uk/wp-content/uploads/2018/09/Doc-6.1-Scoping-Opinion.pdf

http://www.oaklandholidaypark.co.uk/

Land Classification:



https://www.telegraph.co.uk/news/earth/greenpolitics/planning/9708387/Interactive-map-Englands-green-belt.html#location=52.8792745%2C-2.057186799999954

Appendix B.

Technical Appendix 10.5 - Natural England Letter of no Impediment
Regulation 5(2)(a)
Natural England - November 2017

5. Bat boxes

We note the provision of 120 bat boxes which may be disproportionately high compared to the number of bats confirmed roosting within the site. Over use of bat boxes may change the bat species present (English Nature Report Number 658 Woodland management advice for Bechstein's bat and barbastelle bat).

This may not be directly applicable to the application site, due to the species assemblage representing the more common species, than those referenced in the paper. However, the provision/quantity of bat boxes should be reconsidered, with resources concentrating on planting schemes and habitat establishment which will provide longer term mitigation/compensation.

Appendix C.
ES - Vol 1 - Chapter 10: Ecology and Nature Conservation
Regulation 5(2)(a)
Ramboll - July 2018

A total of 35 static waterbodies were identified on the Site and within a 500 m buffer of the Site boundary. Of the off-site ponds within 500 m of the Site, ten ponds were not considered for further survey as there was a physical barrier to amphibian movement between them and the Site or were heavily impacted by stocked fish and wildfowl. Three ponds were dry and one pond was located on private land where no access was permitted. The remaining ponds (either on the Site or within 500 m of Site) were considered to have the potential to support GCN and all were categorised under a habitat suitability index (HSI) assessment and tested for GCN DNA using the e-DNA technique or were surveyed using traditional survey methods. Ten ponds within the study area returned positive e-DNA results for GCN and were surveyed via traditional methods, six times each. A further four ponds were surveyed four times in 2017 using traditional methods only.

Four amphibian species were identified over the course of the amphibian and reptile survey visits, namely common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*) and great crested newt (*Triturus cristatus*).

Of these species, the great crested newt and common toad are s41 species and are therefore species of principal importance for the conservation of biodiversity in England.

The amphibians including GCN and common toad in the landscape are considered to be an ‘Important Ecological Feature’ at a Local scale and this feature is included in this assessment.
The presence of common frog and smooth newt are considered to be an ‘Other Ecological Feature’ of Site importance. As such, common frog and smooth newt are not considered
further within this assessment (although mitigation measures for the Important Ecological Feature amphibians would also benefit these species).
The construction phase of the Proposed Development will result in the permanent loss of suitable habitat for amphibians across the Site. This will include the loss of waterbodies and terrestrial habitats. Six waterbodies of the 17 present on Site would be lost as a result of the Proposed Development.

Breeding Birds - The Site
Sixty-two species of birds were recorded in the survey of the Site, of which there were 12 UKBAP/s41 species of principal importance, 10 Red List species (all of which except mistle thrush are listed in s41) and 12 Amber List species. There are eight Staffordshire BAP species of which five form part of the Action Plan for Farmland Seed Eating Birds. The only species on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) recorded was hobby, which is considered to be breeding off-site.

Ten species of bat were confirmed to be present in the survey area. As an assemblage of bats this species presence is considered significant as there are 12 species recorded in Staffordshire (SER, 2016) and the Site appears to support to a greater or lesser extent the majority of these species. Species recorded on-site include:
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Nathusius Pipistrelle (*Pipistrellus nathusii*);
- Noctule (*Nyctalus noctula*);
- Daubenton’s (*Myotis daubentonii*);
- Whiskered (*Myotis mystacinus*);
- Brandt’s (*Myotis brandtii*);
- Serotine (*Eptesicus serotinus*);
- Brown long-eared (*Plecotus auritus*); and
- Natterer’s (*Myotis nattereri*).

Only lesser horseshoe (*Rhinolophus hipposideros*) and Leisler's bat (*Nyctalus leisleri*) which have been recorded in Staffordshire were not captured on the Site. Some calls were recorded
The bat assemblage on site is considered to be an 'Important Ecological Feature' at a District i.e. South Staffordshire scale and is included in this assessment.

The Proposed Development will lead to the loss of six roosts on-site in the demolition and construction phase:
 Gailey Magazine – A summer day roost for common and soprano pipistrelle (Maximum of five individuals seen to emerge/re-enter);
 Woodside Barn – A summer day roost for common and soprano pipistrelle, natterer's bat(Maximum of three individuals seen to emerge/re-enter) and brown long-eared. The barn is also used as a night roost/feeding perch for Myotis species likely natterer's;
 Mile End Cottage – A summer day roost for common pipistrelle (Maximum of 2 individuals seen to emerge/re-enter);
 Croft House – A summer day roost for common pipistrelle (Maximum of 1 individual seen to emerge/re-enter);
 Heath Farm – Main Farmhouse – A summer day roost for brown long-eared (Maximum of 1 individual likely to have emerged/re-entered); and
 T97 – Oak - A summer day roost for soprano pipistrelle (confirmed via DNA testing of droppings).

(C) In the wider Site not associated with the roosts identified and discussed above, the Proposed Development will, in the absence of mitigation in the construction phase result in the loss of foraging and commuting habitat. This loss includes approximately 8.8 km of hedgerows; 129 individual trees (of 300 – 43%), 56 groups of trees (of 141 – 39.7%) not associated with woodland; arable fields, standing water (ponds) and grassland (Improved, poor semi improved and semi-improved). Many bat species in the UK are reluctant to cross open ground (exceptions include noctule and Leisler's bats) and so usually commute between their foraging areas and roosts following linear features including those being lost including hedgerows, lanes, fence-lines, watercourses and woodland edges51.

The presence of badgers in the landscape is considered to be an 'Important Ecological Feature' at a Local scale and the assessment of effects on badgers is presented in the confidential Technical Appendix 10.2.

Section 4.9 of Technical Appendix 10.1 – Ecology Baseline Report presents the findings of otter (*Lutra lutra*) surveys of the Site that were carried out in late March 2016, October 2016, May 2017 and July 2017 to inform this

assessment. These surveys comprised surveys of ditches and ponds within the Site and a survey of the section of the Staffordshire and Worcestershire Canal that intersects the Site in 2017. The broad-leaved woodland habitats on-site that adjoin the canal to the south are suitable for otter resting up, although the hard engineered sides of the canal potentially reduce the amount of access for otters into the adjacent areas.
No otter holts were identified during the Phase 1 Habitat Survey of the Site or in any further targeted species surveys undertaken. Inspections of the Gravelly Way road bridge and the Gravelly way footbridge were undertaken monthly from May to October 2016 (following bat activity transects) and identified staining possibly caused by aged otter spraint in May, with no fresh signs for the following months. An otter footprint was observed in the very north of the Site during the badger survey; it was by the ditch south of the A5, approximately 100 m east of the Staffordshire and Worcestershire canal in March 2017. There are known records of otter within and around the Site from the last ten years31 and consultation comments from the Canal and River Trust confirm that the Staffordshire and Worcestershire Canal provides important habitat for otter32 as noted in Table 10.2 – Consultee Comments. Therefore, it is considered the canal forms part of an otter territory, and otters are likely to use the stretch of canal that passes through the Site, using the terrestrial parts of the Site on occasion. Otters can travel over large areas, using 20 km or more of river / watercourse habitat33, changes to a single otter's home range may influence the species' distribution at a district scale. The otters in the landscape are considered to be an 'Important Ecological Feature' at a District scale and this species is included in this assessment.

Polecat: A polecat (or possible polecat-ferret) was encountered approximately 200 m northeast of the Site in June 2016; it was seen crossing the A5 near the M6 junction. It is likely that at least one polecat (or polecat-ferret) territory overlaps with the Site, specifically the north-east section. The West Midlands is a stronghold for polecat and the species is now more widespread in Britain than at any time in the last 100 years, but ecological records in the study area indicate that it is susceptible to road collisions (all nine records held by SERC were road casualties). The polecat(s) on Site are assumed to be native rather than hybrid (in order to present a worst case for this assessment) and are considered to be an 'Important Ecological Feature' at the Local scale, and are therefore included in this assessment.

Four hedgehog sightings were made across the Site in total during the 2016 and 2017 surveys.
Two hedgehog sightings were made within the central-northern section of the site on 16 and 17 May 2016. This section is fragmented from the rest of the Site as it is bounded by the canal to the east and the south and the railway to

the west. The two remaining hedgehog sightings were made via infra-red cameras deployed in the small woodland in the very south-east of the Site (by Straight Mile) in August 2017. SERC records relate to an area approximately 1 km north of the Site only. The population of hedgehogs on-site is considered to be small, and within the species' core range. Therefore, hedgehogs(s) on Site are considered to be an 'Important Ecological Feature' at the Local scale and are included in this assessment.

The Proposed Development would involve the loss of 38.2% of the hedgerows on the Site (8.857 km of the 23.196 km total of this s41 habitat). 'Important' hedgerows are retained where possible. A total length of approximately 1136 m of ecologically 'Important' hedgerows will be translocated which are not possible to retain. A commitment has been made for the delivery of a net gain of native species rich hedgerows (in terms of linear metres) as embedded mitigation. The loss of hedgerows when considered in light of the total length of hedgerows within Staffordshire would be a very small proportion of the total hedgerows within the County and is not significant at a County scale. The long-term distribution and retention of the hedgerow habitat in South Staffordshire is unlikely to be affected by the Proposed Development and so this is not considered to be a significant adverse effect at the District scale. There is a high proportion of habitat lost in the local context but this is offset by translocation of ecologically 'Important' hedgerows and the commitment to deliver a net gain in hedgerows on-site. A temporary effect is anticipated while vegetation matures and establishes, however, this is not considered to be significant at the Local scale.

Woodland would be removed to facilitate development of the Site. This would result in the loss of structure and function of 15.57 ha of habitat of mixed and broad-leaved plantation and broad-leaved semi-natural woodland of Local value (61.13% of this habitat within the Site boundary).