APPENDIX A

East Herts District Council

Original consultation response

I am writing to inform you that East Herts Council has resolved that Hertfordshire County Council be informed that East Herts Council:

(A) supports the provision of the A120 Little Hadham Bypass and Flood Alleviation Scheme;
(B) requests Hertfordshire County Council to bring forward design proposals for post-bypass traffic management measures and the environmental enhancement of Little Hadham at the earliest opportunity, to ensure that scheme implementation can occur as soon as possible after the new route becomes operational; and
(C) supports Hertfordshire County Council's intentions to investigate options for the alignment of a bypass of Standon/Puckeridge and carry out consultation with residents in 2016.

The district council's report, is as follows:

1.0 Background

1.1 The concept of introducing a bypass for Little Hadham has long been supported by both Hertfordshire County Council (HCC) and East Herts Council. The proposal has been included in both the existing and previously adopted East Herts Local Plans and has been included in all three of HCC's Local Transport Plans.

1.2 After many years in drawing up proposals and options to provide a bypass for the village, a public consultation was carried out by HCC (supported by the Environment Agency) in October 2014 which put forward an intended scheme for implementation, which would also benefit from the inclusion of flood alleviation measures to help address instances of flooding which are experienced in the area on a fairly frequent basis.

1.3 Following consideration of responses to the public consultation, various modifications were made and the scheme has now reached the stage where a planning application has been submitted. HCC and the Environment Agency have worked in partnership to submit a full planning application for the development of a bypass of the A120 at Little Hadham, including a flood alleviation scheme. HCC is the determining authority for a planning application of this nature.

1.4 It is intended that the scheme would be delivered by 2019.

1.5 The full suite of application documents is available to view via the link provided at the Background Papers section of this report; however, a copy of the Planning Statement is included at **Essential Reference Paper 'B'** as this provides the context behind the scheme and a significant amount of relevant background

information. A copy of the site plan is also included at **Essential Reference Paper 'C'.** The consultation period closes on 7th January 2016.

2.0 Report

2.1 The application currently under consideration involves the construction of an A120 Bypass and Flood Alleviation Scheme at Little Hadham. The key objectives of the scheme's provision are:

To decrease the journey time and improve journey time reliability along the A120 between Bishop's Stortford and the A10 by delivering a local bypass at Little Hadham, to provide an improved transport network to support the East of England Economy;

To reduce the risk of fluvial flooding in Little Hadham by working with the Environment Agency to deliver a flood attenuation area as part of the delivery of the bypass; To reduce severance in the centre of Little Hadham by removal of the majority of through traffic congestion and, as a result, improving the overall well-being of residents in Little Hadham.

2.2 The principle of East Herts Council's support of the implementation of a bypass for Little Hadham has long been established. The background to the development of the scheme is set out in the Council's consideration of the 2014 public consultation in the relevant Non-Key report (NKD 14/16), a link to which is provided in the Background Papers section of this report. For context in considering the Council's response to the planning application, it is useful for the formal response to the previous consultation to be included at this point, when HCC was informed that East Herts Council:

(A) Supports both the principle of the construction of a bypass of Little Hadham and the route currently proposed;

(B) Considers that high priority should be given to mitigation measures to ensure that the visual impacts of both the road and flood alleviation structures are minimised as far as possible and in a manner compatible with their sensitive surroundings;

(C) Considers that it is extremely important that, where there is a need to alter existing public rights of way, these should be provided in such a way to ensure the safety of their users, taking into account those less ambulant or elderly;

(D) Requests Hertfordshire County Council to commence work on design proposals for post-bypass traffic management measures and the environmental enhancement of Little Hadham at the earliest opportunity, to ensure that scheme implementation can occur as soon as possible after the new route becomes operational;

(E) Urges Hertfordshire County Council to honour its commitment to investigate options for the bypass of Standon/Puckeridge once the Little Hadham bypass has been delivered.

2.3 Since the previous 2014 consultation, the project has been more fully worked up into a deliverable scheme and certain refinements made.

2.4 In respect of the planning application currently under consideration, the Council's Environment and Engineering section advises that it has been involved in the early stages of this project for a number of months and most recently at the

Little Hadham multi agency flood meeting. It agrees that the plans as detailed on the scheme drawing that indicate several flood storage areas would provide additional flood risk reduction and also provide opportunities for the creation of more amenity and biodiversity habitats as suggested in East Herts Council's strategic flood risk assessment (SFRA) document.

2.5 The Council's Environmental Health section has no objections to the application, and considers that the scheme will result in improved air quality in the village of Little Hadham.

2.6 The Council's Landscape Team has confirmed that it is happy to advise HCC on any detailed landscape design proposals, or arboricultural issues, as and when they arise, as the scheme progresses.

2.7 An officer of the Planning Policy Team has also been involved in the development of the scheme over the last few years via attendance of the related Project Board.

2.8 The scheme, as previously consulted on in 2014, has received strong local and wider support. The bypass would bring many benefits in terms of relieving congestion; providing greater journey time improvements and reliability; reducing flood risk to a significant number of properties in the village; and lowering noise and vehicle emissions. The implementation of the scheme is also viewed as an aid to boosting the local and wider economy and is supported by the Local Enterprise Partnership (LEP).

2.9 Following the implementation of the scheme, traffic calming and enhancement measures would be put into place in the village of Little Hadham to discourage through route drivers from utilising the former route and to ensure that the settlement would benefit from conditions more suited to the levels of traffic then intended to use it (in much the same way as the villages along the route of the old A10 benefitted when the bypass from Ware to Puckeridge was introduced). It is important for the quality of life of the residents of Little Hadham that the introduction of such measures be viewed as
a priority by HCC and that they should be implemented at the earliest opportunity after the bypass opens.

2.10 From its original inception, it has always been intended that an A120 bypass should not only encompass Little Hadham, but should also provide relief to the settlements of Standon and Puckeridge. In this respect it is encouraging to note that, even though there is not yet any committed funding for such a scheme, consultation on potential route alignment is planned to take place with residents of those villages in 2016.

Further consultation response

No additional comments to make.

Little Hadham Parish Council

Original consultation response

This application was considered by the Council at an extra-ordinary meeting on Wednesday 6th January 2016 attended by 84 local residents.

For many years the Council has supported the provision of a bypass to the parish. This planning application brings the bypass much closer to creation.

The Council is aware that the principle driving force for the bypass comes from those traveling through the parish who will save eight or nine minutes during peak times and about four minutes at other times when they do not have to queue at the A120 traffic lights.

Parish residents will see many benefits from a bypass including:

- The flood prevention measures associated with the bypass will help protect many homes at the Ashe and the Ford. Many of these homes have been flooded more than once in recent years. This is seen by many residents as the most important aspect of the scheme.
- Queueing times at the A120 traffic lights will be shorter for those from the side roads. This will reduce the number of vehicles jumping the lights and putting pedestrians at risk.
- People have been deterred from sending their children to the village school and from buying homes in the parish because of the prospect of spending so much time waiting at the traffic lights.
- Fewer people will try to avoid the traffic lights by following a 'rat run' through Cradle End, Bury Green and Westland Green. These roads are unsuitable for fast traffic and there is a constant danger of accidents.
- The reduced volume of traffic along the A120 will make turning into the village school easier and safer. Pedestrians will be able to cross the A120 without a long wait for a gap in the traffic.
- The reduced volume of traffic through the parish, especially heavy lorries, should improve the air quality around the A120. This would have a particularly beneficial effect on the village school and nearby homes.
- The reduction in vehicles stopping and starting at the A120 traffic lights at all times of the day and night will reduce noise levels for those living nearby.
- Drivers will not be tempted to exceed the speed limit in an attempt to pass the traffic lights before they change to red.

The bypass will not, however be without drawbacks for local residents including:

- The bypass will pass relatively close to homes on the west side of Albury Road and Hadham Hall. Residents will have an increase in noise and visual pollution.
- The removal of the traffic lights holdup will attract more vehicles to use the A120. The traffic volume through Standon will increase. The lack of the 'platooning' effect on traffic flow will making turning onto and off the A120 in Standon more difficult and dangerous. A bypass for both Little Hadham and Standon would be more sensible.
- The planned bypass is for a simple road with one lane in each direction. There are some who doubt that this will be sufficient for future traffic. A dual carriageway between the M11 and A10 is likely to be needed eventually.

- The removal of the traffic lights holdup will increase traffic travelling through the parish travelling south. Traffic on the road south of the traffic lights, towards Much Hadham, is forecast to more than double at peak times.
- Although traffic along Albury Road is forecast to be reduced by a bypass, vehicles travelling to and from the Pelhams will still have to use the road. This includes a significant number of heavy lorries using the recycling unit at Furneaux Pelham.
- The bypass will occupy what is now open countryside and will be clearly visible – particularly from Albury Road.
- The bypass will disrupt a number of well used footpaths.
- A number of established trees will have to be felled.

There have been many views on the bypass expressed by a number of residents both for and against the bypass and the Council would like to address some of the issues raised.

Should there be a bypass at all?

A bypass will inevitably spoil open countryside. It will remove trees, affect footpaths and damage wildlife. Road improvements increase levels of traffic increasing the levels of air and noise pollution for everyone. Building a bypass for Little Hadham will only move the congestion to Standon.

However, the Council believes that most of the residents are in favour of a bypass.

Which route?

During the consultation period, residents were offered a number of possible routes the bypass could take. Most people chose the route that took the road furthest from homes and this route was originally accepted by HCC. However, after further consideration, including consulting residents near the ends of the planned bypass, HCC decided to adopt a shorter route which was closer to the houses on Albury Road. This decision was made without consulting other residents – including the Council. This, understandably, enraged many residents who thought their views had been ignored.

After some reflection, the Council agreed to endorse the revised route as it would be lower down the hill to Standon and so less visible to surrounding areas and it would despoil less of the open countryside. The Council is disappointed that HCC did not plan its consultation more carefully by not offering residents a route that was later withdrawn and by not involving everyone in the parish, including the Council, when changes were made to the route.

Residents of Albury Road are concerned that their road will still be affected by heavy traffic – particularly by heavy vehicles accessing the recycling depot in Furneux Pelham. Restricted views and many parked cars make travel along the road dangerous yet many vehicles drive recklessly fast in order to reach the traffic lights. Poor visibility means it is very dangerous for many residents to leave their driveways. Albury Road residents are very concerned that there should be a slip road off the bypass for vehicles travelling north so that they do not have to pass through the village via the traffic lights.

How will traffic through the parish be affected?

Traffic through the parish on the current A120 is forecast to be reduced by about two thirds at peak times. Most heavy vehicles will use the bypass. Traffic through Cradle End, Bury Green and Westland Green are forecast to be greatly reduced. However, traffic on the road south of the traffic lights and on the road from the A120 toward Albury End are forecast to significantly increase.

How will a bypass affect homes?

Those homes nearest the A120 will profit from a great reduction in noise and pollution – particularly as most of the heavy vehicles will be diverted.

Some homes in Albury Road will be closer to traffic on the bypass than they are to the traffic at the traffic lights. This will inevitably increase noise levels. Some homes at Hadham Hall will also be relatively close to the bypass. The noise will be moderated by some of the road being in a cutting and by a bund and vegetation on the elevated section.

How will the bypass affect flooding?

71 homes and several businesses and community assets such as the Nags Head Pub, the Post Office, Doctors Surgery and the Village Hall have flooded, some several times in recent years, and are currently at risk of further flooding. Many more homes are currently at risk of secondary flooding from drainage ditches and drains that back up due to being unable to empty into a full River Ash. Also secondary flooding from sewer surcharging due to drainage from household roof gutters and other drainage pipes illegally connected into the sewer system.

The flood in 2000 and in 2001 cost over half a million pounds to repair and also caused significant disruption to transport links through the A120 at Little Hadham and surrounding roads. A further flood occurred in 2013 costing a similar amount to repair. Householders are now faced with insurance premiums of over £2000 per year along with a £15000 excess to pay before a new claim can be made. Flood risk homes are very difficult to sell which makes it harder for new people to move to the village and very difficult for village people starting families to move on to bigger homes. Unsaleable homes are more likely to become short term rental lets to enable the owners to move on to properties that suit their family needs. Some homes did receive some funding from a Repair and Renew Grant towards items to make their homes more flood resilient, but these were only available to householders who could afford to pay for the improvements first then claim it back. Any homes on a low income were unable to access the grant as easily.

With three floods in Little Hadham over 13yrs, and the increasing number of severe flood events seen each year throughout the UK, it is clear that it is just a matter of time before further flooding occurs. The cost/benefit analysis for structural flood prevention conducted by the Herts County Council and the Environment Agency has concluded that the only affordable sustainable way to help protect homes is to implement the Flood Alleviation Scheme that they will be responsible for maintaining. This will be part of the development for the proposed A120 by pass. The computer modelling shown in their planning application shows that 69 of the homes and the Pub, Village Hall etc. will be protected from flooding in the future for 1 in a 200 year severe rainfall events which is a higher protection level than that

installed in places such as York . This is achieved by a restrictor being installed where the bypass crosses the River Ash that during heavy rainfall will cause the water to back up into fields that currently flood, and be retained until it can be released slowly and safely back into the River. In extreme events such as a 1 in a 1000 year, the water will overflow along a slipway so that it does not affect Albury, and the overflow will flood homes in Little Hadham as before.

This proposal also says that as the water is held back to the north of the A120, the river level south of the A120 will be lower thus allowing the water run-off from the fields that currently backs up in drainage channels to be able to discharge into the river. There will be an improvement to the Lloyd Taylor Drainage by diverting the water away from the houses it currently affects and draining it around The Smithy directly into the River Ash using newly constructed channels that the Environment Agency will maintain.

There are concerns that the Lloyd Taylor scheme might not be able to cope at times of high rainfall. Residents would like an attenuation pond placed on this water course to the west of the village so that excess flood water will temporarily flood fields rather than flood the road.

Comments

1. The Council asks that HCC look again at the junction of the bypass with the Albury Road so that traffic bound for the north of the village does not have to travel via the traffic lights. Traffic should not be able to travel south along Albury Road from the bypass.
2. The Council asks that HCC revise its plans for the Lloyd Taylor drainage scheme to include the previously designed attenuation pond to prevent excessive water entering the waterway in the village.
3. The Council asks that HCC keep it informed of any changes to the published plan, however trivial, so that the local community can be kept informed.
4. The Council asks that the planning consent include time limits on when noise reduction measures should be installed.
5. The Council asks that the planning consent include time limits on the installation of traffic calming measures in order to reduce and slow the number of vehicles passing through the village after the bypass has opened.

Conclusions

The Council understands that some residents have serious reservations about the bypass as described in this planning application. However, the Council believes that, although far from perfect, most residents are willing to accept the plans as laid out by the County Council.

The Council wishes to add its support to the planning application in the hope that building can start as soon as possible. The Council hope to continue to work closely with the bypass team to ensure community input into the ecology/replanting and phase 2 road planning (traffic measures).

Further consultation response

The Council agreed that the alterations to the eastern end of the bypass would, if anything, improve the visual impact of the new road. The Council supports the measures taken to protect the important wildlife of the area – in particular the local bat population.

The Council understands the reasons for relocating the deer fencing to the top of the bund and consider that it will have minimal effect on local residents.

The Council continues to support the proposed bypass and flood alleviation scheme and hopes that construction work on the project can start as soon as possible.

Albury Parish Council

Original consultation response

The parish council submitted comments in response to the pre---planning consultation exercise at the end of 2014. This submission pointed out that Hertfordshire County Council had failed to follow its own guidelines as set out in its Statement of Community Involvement (SCI), adopted in March 2013. Paragraph 2.4 of the SCI states that, the County Council should ensure that key stakeholders, including district and parish councils, are involved in the process. The proposed A120 bypass follows the Little Hadham and Albury Parish boundary, weaving in and out of the two parishes. Albury Parish Council should have been identified as a key stakeholder, with an interest in the outcome of the preferred route; any measures to mitigate against the environmental impacts of the A120 bypass and the Little Hadham flood alleviation scheme. A very firm request was made in December 2014 that this oversight was rectified. This request has been ignored. No attempted has been made to respond to the concerns raised by the parish or discuss how the impact on the parish can be better mitigated. The identified 'moderate to major adverse' impacts of the proposal are of great concern to the parish council, as are the inaccuracies contained in the submitted documents.

Introduction

Two primary concerns remain: the landscape and environmental impact on Albury Parish in general and the particular concerns about increased flood risk in the parish. In addition, inconsistencies and inaccuracies in Arup's mapping give rise to a lack of confidence in their ability to understand the area for which they are providing specialist advice. The overall planning policy guidance for a local transport scheme and local flood alleviation against which these proposals should be judged is contained in the National Planning Policy Framework (NPPF). The planning system should contribute to the achievement of economic, social and environmental sustainability. This should include the provision of infrastructure and protect and enhance the natural environment, with all planning decisions underpinned by the NPPF's 12 core planning principles. Two of the 12 core planning principles are not upheld in the current proposals. A good standard of amenity is not being sought for all existing and future occupants of land and buildings; and the proposals do not contribute to preserving and enhancing the natural environment, for the parish of Albury.

Landscape and environmental impact

In paragraph 6.3.5 of the Statement of Consultation a significant number of respondents, including the parish council, expressed concerns about the adverse visual impacts of the scheme. The parish council does not feel that that paragraph 7.1.5 of the Statement of Consultation adequately answers these comments. The report says that 'planting has been included within the proposed scheme to screen views where required'. We are of the view that much more screen planting is required. We understand that Environment Agency embankments can only support close mown grass in order to maintain structural integrity and that tree and hedge planting will occur at the base of structures (according to the Landscape Strategy). However, insufficient information is contained in the documentation to convince the parish council that all possible options to reduce the impact of views from the north have been explored. The Statement of Consultation goes on to argue that further landscape planting, to reduce the visual impact, has to be balanced with the amount of land required from landowners. This is inadequate. Local negotiations could be conducted with landowners, facilitated by the parish council, for additional planting to be undertaken on private land, which does not have to be compulsory purchased as part of the scheme.

At page 361 of the Environmental Impact Assessment, it concludes that, even after mitigation, the significance of the residual impact on landscape and visual character will be 'moderate adverse'. The parish council consider that every opportunity should be taken to mitigate the impact of the proposed road and Little Hadham flood alleviation. The current documents submitted with the planning application do not sufficiently mitigate the impacts, or take every opportunity to achieve mitigation. Permission should not be granted until additional mitigation proposal have been submitted or further mitigation is ensured through planning conditions. In addition, the Statement of Consultation does not adequately deal with the issue of road noise. The statement refers in paragraph 6.3.5 to requests for low noise road surfacing but nowhere in the documentation does it state that the request has been considered, accepted or rejected. Additional noise barriers over the River Ash dam were also requested but in paragraph 7.1.5 of the Statement of Consultation it simply states that additional noise barriers have been considered but have been found to have limited additional benefits. The effect of additional noise generated by this road on the tranquil parish of Albury will be significant, particularly in relation to the section of road traversing the River Ash dam. These proposals reduce the amenity of residents in Albury Parish and do nothing to protect or enhance the parish's natural environment, and therefore are in conflict with national planning guidance. The parish council ask Hertfordshire County Council to reconsider the impact of noise in relation to this elevated section of road and require additional mitigation proposals to be submitted to lessen the impact on the landscape and natural environment.

Flood Alleviation

The parish council remains concerned that flood alleviation is focused on Little Hadham; the application is summarised, as a scheme would provide protection to Little Hadham and downstream communities from being flooded by the River Ash and its tributaries. The Planning Statement (para 4.1.2 and 4.1.4) says that the flood alleviation scheme will operate by the constriction of the flow of water through the embankment to protect Little Hadham. In paragraph 6.3.6 of the Statement of

Consultation comments relating to worries about increased flood risk to areas north of the dam are detailed. In paragraph 7.1.6 of the Statement of Consultation it states that the EA has carried out detailed modelling to ensure that the proposals will not have an adverse impact beyond the proposed flood storage areas, and that river levels in storm conditions, upstream of the storage areas e.g. at Clapgate and Albury would remain unchanged.

However, on page 345 of the Environmental Impact Assessment (EIA) the impact of the flood alleviation scheme on Little Hadham is compared with the impact on the parish of Albury. It concludes that there will be a major beneficial impact on Little Hadham and a major adverse impact on the land upstream of the Albury Tributaries and the River Ash crossings. Later at page 370, the EIA concludes that the significance of the residual impact on water and drainage, with an increased risk of flooding upstream of the Albury Tributaries and River Ash crossing will be 'large adverse', directly contradicting the Statement of Consultation response above. Comments were also recorded in the Statement of Consultation, about better maintenance of culverts and drains, and dredging of rivers as further measures that could help to tackle flooding in the wider area. Although the report states that the answer is contained in paragraph 7.1.6, this paragraph does not address the specific points made. The parish consider that there would be considerable benefit in addressing this point and including such other measures as mitigation to reduce the risk of flooding in Clapgate and Albury. It is noted that the level of the Upwick Road will be raised. In order to ensure that the Upwick Road is not flooded as a result of water being held back at the River Ash embankment, the flood storage area comes very close to the junction of Upwick Road and Albury Road and again brushes Albury Road immediately south of Clapgate. The parish council are concerned that sufficient measures have not been detailed in the planning application to provide assurances that Albury Road will not flood as a result of the flood alleviation measures for Little Hadham.

Incorrect and Inconsistencies

Firstly, the direct contradiction above, regarding the impact of the Little Hadham flood alleviation scheme on Albury Parish must be addressed. Will the impact upstream from the flood storage areas remain unchanged i.e. provide no environmental benefit, or will the flood risk be large and adverse? On page 345 of the EIA it compares Little Hadham, which it describes as an area of limited rural development, with Albury Parish, which it describes as open agricultural land and wooded areas. This statement is factually incorrect. North and west of the bypass and Little Hadham flood alleviation measures are the settlements of Upwick Green, Clapgate, Albury, Albury End, Patmore Heath and Gravesend. The proposed scheme shown in the Landscape Strategy shows the River Ash flood storage area as extending only to Upwick Road, whereas in all other documents it extend much further north, almost to Clapgate. These documents should be corrected to properly represent the schemes proposed with correct descriptions of the areas affected.

Conclusion

The comments made above lead the parish council to the conclusion that the impact of the A120 bypass and Little Hadham flood alleviation scheme on the

parish of Albury is extensive without any benefits. Although regard has been had to the NPPF in relation to the proposals and their positive effect on Little Hadham, the same regard has not been had for the negative impact on the rural parish of Albury and the hamlets of Albury End and Upwick Green, which are located a similar distance from the bypass as is the village of Little Hadham. Proposals to mitigate against noise, and the negative impact on the landscape and environment of the parish of Albury should be reassessed. Important and incorrect statements should be noted and amended and inconsistencies rectified. In particular, it is vital that the parish council understands exactly what the impacts of the proposals on flood risk are. Albury Parish Council is a key stakeholder in the planning and implementation of these schemes and should be fully involved in any and all further developments of the proposals, either through our planning consultant or directly with the Clerk and Chairman of the parish council.

Further consultation response

The Parish Council is pleased to hear of the amendments to the bypass, which now incorporates an underpass rather than the proposed Hadham Park Bridge. This solution will obviously be much better for local wildlife and the impact on Hadham Park reduced. The additional planting proposed and the amendment to the lighting scheme to include LED street lights is also a positive step.

However, none of the concerns expressed by Albury Parish Council in their letter dated 07/01/16 appear to have been taken into consideration, or the questions posed in that letter answered.

The amendment of most concern to Albury Parish Council and its residents is the deer fencing which is to be installed at the top of the dam embankments over the Albury Tributary and the River Ash. You state “the deer fencing has been moved from the toe of the embankments to the crest. This increases the ease of inspection of the fences, and reduces the risk of impounded water reducing the longevity of the fence.”

On page 20 of the Environmental Statement Addendum it is recognised that “The introduction of the deer fence on the top of the Albury Tributary flood attenuation embankment will be a perceptible new feature in close proximity views. However, this addition will not change the identified magnitude of impact and therefore the significant effects at recreational views E02 and E04 (very large adverse), E03 (large adverse) and E01 and E05 (moderate adverse), as at many of these the deer fencing will be visible in conjunction with the previously proposed noise barrier.”

Although we agree that the deer fence on the Albury Tributary may be seen in the context of the noise barrier, the River Ash embankment has no noise barrier, despite it being requested by the parish council.

We note that in Section 6 of the Planning Addendum that “the design amendments were found to not materially affect the landscape assessment”, but the Parish of Albury will experience the landscape impact of a deer fence on the River Ash embankment, without the benefit of a noise barrier, or any other form of mitigation, due to the restrictions on planting on the flood defence structure.

However, also in section 6 of the Planning Addendum, it states, “One additional land holding has been incorporated into the assessment as a result of additional planting provision.” This additional planting is to reduce ecological impact. Albury Parish Council requested, in its consultation response dated 07/01/16, that local negotiations be conducted with landowners, facilitated by the parish council, for additional planting to be undertaken on private land, which does not have to be compulsory purchased as part of the scheme. Nowhere does this appear to have been considered.

In fact, despite the planning application for the A120 by-pass having a significantly larger arc of influence on the Parish of Albury (and 10-15% of the area of the application falling within Albury Parish) than on Little Hadham, the consideration given for the effect on the parish is disproportionally small.

We ask again that options for environmental mitigation for the parish be considered. Albury Parish is suffering considerable impact from this by-pass proposal but minimal regard is being given to mitigating these effects.

Environment Agency

Original consultation response

The proposed development will only be acceptable if the following measures are implemented and secured by way of planning conditions on any planning permission granted.

Condition 1
The development hereby permitted shall not be commenced until such time as a scheme for the detailed design of the impounding structures and controls including debris screens where appropriate, on the River Ash and Albury Tributary has been submitted to, and approved in writing by, the local planning authority.

The scheme shall be fully implemented and subsequently maintained, in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.
Reason
To ensure the structural integrity of the proposed flood defences thereby reducing the risk of flooding.

Condition 2

The development hereby permitted shall not be commenced until such time as a scheme to provide adequate floodplain storage compensation at the Cradle End Brook crossing has been submitted to, and approved in writing by, the local planning authority.

The scheme shall be fully implemented and subsequently maintained, in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason

To prevent flooding by avoiding the displacement of flood water elsewhere.

Notes on conditions 1 & 2:

i. A review of the above planning application has been undertaken independently from the Environment Agency Project Team proposing this scheme. The review has been carried out by the Oxfordshire, Swindon and Cotswold Partnerships and Strategic Overview team in Environment Agency's West Thames Area.
ii. These comments are based on our review of the Flood Risk Assessment Ref: 235086-ARP-ZZ-ZZ-RP-CD-00001 Issue P03 (11 November 2015). We have not reviewed or commented upon the hydraulic modelling or modelling report as we understand these have been reviewed and approved separately by the Environment Agency
iii. This proposal involves the retention of more than 25,000 m3 of water above normal ground level and will require registration under the Reservoirs Act 1975. Detailed design and inspection of the reservoir must be undertaken by a suitably qualified panel engineer.
iv. We note from the flood risk assessment the proposed reservoirs will create depths of water of up to 5m close to the proposed highway. In agreement with Hertfordshire Council's emergency planners detailed design should include measures to ensure this depth of water does not pose any unnecessary risk to road users or others.
v. Prior to deciding this application we recommend that due consideration by the local planning authority is given to assessment of surface water drainage (lead local flood authority).

Condition 3

Any facilities for the storage of oils, fuels or chemicals shall be provided with secondary containment that is impermeable to both the *oil, fuel or chemical* and water, for example a bund, details of which shall be submitted to the local planning authority for approval. The minimum volume of the secondary containment should be at least equivalent to the capacity of the tank plus 10%. If there is more than one tank in the secondary containment the capacity of the containment should be at least the capacity of the largest tank plus 10% or 25% of the total tank capacity, whichever is greatest. All fill points, vents, gauges and sight gauge must be located within the secondary containment. The secondary containment shall have no opening used to drain the system. Associated above ground pipework should be protected from accidental damage. Below ground pipework should have no mechanical joints, except at inspection hatches and either leak detection equipment installed or regular leak checks. All fill points and tank vent pipe outlets should be detailed to discharge downwards into the bund.

Reason
To protect groundwater. Any work must be done in line with the Environment Agency's Groundwater Protection 3 Position Statement on Storage of Pollutants, particularly statement D1"Principles of storage and their transmission".

Note on condition 3.
The proposed main site compound (drawing 235086-APR-ML-XX-DR-YP-00103), is located over Secondary Aquifers (Thanet Sands and Lambeth group), as well as very close to the out cropping Principal Chalk Aquifer, in the North East. The area is also within a Source protection Zone 3 (SPZ3, total catchment).

The planning statements mentions that possible satellite compounds may be required. Where these will require the storage of oils, fuels or chemicals, they should located outside of the Source Protection Zone 1 (SPZ1) North East of Little Hadham and the SPZ2 located South East of Hadham Park.

Ideally, the compounds should also be situated on the more impermeable geological deposits present, such as the London Clay, or other unproductive strata, in order to ensure that they do pose an unacceptable risk to ground water.

Condition 4
A scheme for surface water disposal needs to be submitted to and approved by the local planning authority. The scheme shall be implemented as approved. Infiltration systems should only be used where it can be demonstrated that they will not pose a risk to groundwater quality.
Reason
To protect groundwater. This must be done in line with the Environment Agency's Groundwater Protection Position Statements "G13: Sustainable drainage system" and "C4: Transport Developments". This is ensure that SuDs are designed and maintained to current good practice standards, and that the point of discharge is located outside of Source Protection Zone 1 and 2. Where it is not possible to meet these discharge conditions, we will require a risk assessment in order to demonstrate that groundwater pollution will not occur.

Condition 5 No infiltration of surface water drainage into the ground along the length of the bypass is permitted other than with the express written consent of the local planning authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approval details.
Reason
To protect groundwater. Infiltration SuDs/ soakaways through contaminated soils are unacceptable as contaminants can remobilise and cause groundwater pollution. This is particularly important in locations overlying principal aquifers and within Source Protection Zones 1 and 2.

Condition 6
If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until the developer has submitted a remediation strategy to the local planning authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from

the local planning authority. The remediation strategy shall be implemented as approved.

Reason

To protect groundwater. Areas of the proposed development are located within Source Protection Zones 1 and 2, and over The Chalk (Principal Aquifer). Construction and ongoing activities relating to the finished development could impact on the quality of the potable water supplies.

Condition 7

The development hereby permitted shall not be commenced until such time as a scheme to secure the protection of licensed and un-licensed sources has been submitted to, and approved in writing by, the local planning authority. Any such scheme shall be supported by detailed information, include a maintenance programme, and establish current and future ownership of the facilities to be provided. The scheme shall be fully implemented and subsequently maintained, in accordance with the scheme, or any changes as may subsequently be agreed, in writing, by the local planning authority.

Reason

To protect groundwater. Areas of the proposed development are located within Source Protection Zones 1 and 2, and over The Chalk (Principal Aquifer). Construction and ongoing activities relating to the finished development could impact on the quality of the potable water supplies.

Condition 8

Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written consent of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater. The development shall be carried out in accordance with the approved details.

Reason

To protect groundwater. Some piling techniques can cause preferential pathways for contaminants to migrate to groundwater and cause pollution. A piling risk assessment should be submitted with consideration of the EA guidance http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/scho0202bisw-e-e.pdf

Condition 9

The scheme must be completed in accordance with the mitigation measures outlined in the Water Framework Directive assessment document submitted as part of the planning application, titled "*Assessment of Compliance with WFD Objectives for the Little Hadham A120 Bypass and Flood Alleviation Scheme*".

Reason

To compensate for any biodiversity lost as a result of the scheme. The mitigation outlined will ensure that the work is compliant with the Water Framework Directive.

Condition 10 The development hereby permitted shall not be commenced until such time as a biodiversity enhancement scheme has been agreed, submitted to, and approved in writing by the Local Planning Authority. The enhancement scheme shall be fully implemented and subsequently maintained, in accordance with the

timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason

To ensure the protection of wildlife and supporting habitat and secure opportunities for the enhancement of the nature conservation value of the site. This is in line with National Planning Policy Framework (NPPF) policy to provide a net gain in biodiversity.

Examples of suitable enhancement work would be (but are not exclusive to) the following:

- Creation of new woodland habitat within the scheme
- Creation of new grassland habitat within the scheme
- Provision of improved buffer strips alongside channels within the scheme

The National Planning Policy Framework (NPPF) paragraph 109 recognises that the planning system should aim to conserve and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. Paragraph 118 of the NPPF states that if significant harm 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 and that opportunities to incorporate biodiversity in and around developments should be encouraged.

Article 10 of the Habitats Directive stresses the importance of natural networks of linked habitat corridors to allow the movement of species between suitable habitats, and promote the expansion of biodiversity. River corridors are particularly effective in this way. Such networks and corridors may also help wildlife adapt to climate change.

Condition 11

There shall be no light spill from artificial lighting into the watercourse or adjacent river corridor habitat. To achieve this, the specifications, location and direction of artificial lights should be such that the lighting levels crossing the channel and within 8 metres of the top of bank of the watercourse are maintained at background levels.

Reason

To minimise light spill from the new development into the watercourse or adjacent river corridor habitat. Artificial lighting disrupts the natural diurnal rhythms of a range of wildlife using and inhabiting the river and its corridor habitat, and in particular is inhibitive to bats utilising the river corridor.

Note to condition 11

Background levels should be to a Lux level of 0-2.

Condition 12 No development until a detailed method statement for removing or the long-term management / control of Japanese Knotweed (*Fallopia japonica*) on the site shall be submitted to and approved in writing by the local planning authority. The method statement shall include measures that will be used to prevent the spread of Japanese Knotweed (*Fallopia japonica*) during any operations e.g. mowing, strimming or soil movement. It shall also contain measures to ensure that

any soils brought to the site are free of the seeds / root / stem of any invasive plant listed under the Wildlife and Countryside Act 1981, as amended. Development shall proceed in accordance with the approved method statement.

Reason

This condition is necessary to prevent the spread of Japanese Knotweed (*Fallopia japonica*) which is an invasive species. Without it, avoidable damage could be caused to the nature conservation value of the site contrary to national planning policy as set out in the National Planning Policy Framework paragraph 109, which requires the planning system to aim to conserve and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

Informatives

The following informative should be attached to any planning permission granted.

Under the terms of the Water Resources Act 1991, and the Thames Regional Byelaws 1981, prior written consent of the Environment Agency is required for any proposed works or structures undertaken by others, in, under, over or within 8 metres of the top of the bank of the River Ash, Albury Tributary, Lord Taylor Drain, Spindle Hill Drain or Cradle End Brook, designated a 'main river'. Where works are undertaken by the Environment Agency works should be subjected to the same level of internal assessment.

Further consultation response

In our response to the original planning application in January 2016 (our ref: NE/2015/124210/01-L01) we requested a number of conditions be attached to any planning permission granted. With regard to our requested condition on lighting (condition 11) we would like the following added (see text underlined and in red below).

Condition 11

There shall be no light spill from artificial lighting into the watercourse or adjacent river corridor habitat. To achieve this, the specifications, location and direction of artificial lights should be such that the lighting levels crossing the channel and within 8 metres of the top of bank of the watercourse are maintained at background levels. Also there shall be no light spill from artificial lighting in the areas to be enhanced for wildlife.

Reason

To minimise light spill from the new development into the watercourse or adjacent river corridor habitat. Artificial lighting disrupts the natural diurnal rhythms of a range of wildlife using and inhabiting the river and its corridor habitat, and in particular is inhibitive to bats utilising the river corridor.

Note to condition 11

Background levels should be to a Lux level of 0-2. There should be no light spill into future enhancement areas and wildlife corridors across the site (including the underpass).

We also request the following condition is added protect the Great Crested Newts and their habitat.

Condition

No development shall take place until a plan detailing the protection of and mitigation for damage to the population of Great Crested Newts (GCN) and their associated habitat during construction works and once the development is complete is submitted to and agreed in writing with the Local Planning Authority. Works shall then only proceed in accordance with the agreed scheme. The scheme shall include the following elements:
i. A new pond shall be created to compensate for the fragmentation of critical breeding habitat.
ii. The proposed covered tunnels within the underpass are made suitable for GCNs and the following considerations must also be taken into account to improve the likelihood that the tunnels will be used effectively:
a. Directional fencing to ensure newts can find the tunnels within the underpass – this is critical if the tunnels are to be effective.
b. Method to prevent disturbance from predators, pedestrians, vehicles and the elements – i.e. how it will be covered
c. Rough gravel substrate throughout, with rocks or other suitable refuge places for newts to rest through the tunnels.
d. No areas where newts may become trapped or unable to move in and out of the tunnel.
e. A management strategy is put in place to keep the tunnels passable and prevent them getting blocked up with material.

Reason
The proposed road dissects the route between three Great Crested Newt (GCN) breeding ponds. There is no guarantee that GCN will use the underpass to travel between ponds, therefore it is suitable to create a new pond to compensate for this potential fragmentation of critical breeding habitat. It is also important to improve the likelihood of the tunnels being used by GCN. This condition is necessary to protect the GCN and its habitat within and adjacent to the development site. Without it, avoidable damage could be caused to the nature conservation value of the site.
Informative
We recommend that advice is sought from Natural England on the compensatory habitat to be provided for bats which we do not believe is currently sufficient. Further compensatory habitat should be considered and should link in with future environmental enhancement works. These should create joined up corridors and linked areas of habitat across the site.

Hertfordshire County Council – Highways

Original consultation response

The Highways Development Management team at Hertfordshire County Council (HCC) does not wish to restrict the grant of permission subject to the following conditions:

Conditions:

Condition 1: No development shall commence until a phasing programme has been approved in writing by the Local Planning Authority. The provision of all elements in

a phasing programme shall be carried out in accordance with the approved phasing programme, and the time triggers specified in it, unless otherwise agreed in writing by the Local Planning Authority.

Reason: To provide clarification on how the development will be delivered, to assist the determination of reserved matters and to ensure that the necessary infrastructure provision and environmental mitigation is provided in time to address the impact of the development.

Condition 2: Prior to the commencement of each phase of the scheme in the phasing plan, detailed plans of all proposed highway infrastructure or modifications to the existing highway infrastructure shall be submitted to, and approved by, the Local Planning Authority. This must include all works external to the site, detailed road layouts and the extent of proposed road adoption and drainage provision.

Reason: To ensure that all highway works are built to Highway Authority standards and requirements.

Condition 3: Prior to the commencement of the development, a Construction Traffic Management Plan shall be submitted to, and approved by, the Local Planning Authority. The Construction Traffic Management Plan shall contain:

- the phasing of the development of the site, including all highway works, and the programme of works on site - location and details of wheel washing facilities and other measures to ensure control of dirt and dust on the public highway - methods for accessing the site, including construction vehicle numbers, sizes, and routing - associated construction vehicle parking and turning areas, and storage of materials clear of the public highway - temporary warning signage on any parts of the existing public highway where its users might be affected by the works - details of temporary or permanent road closures and traffic management measures - details of consultation with local businesses and neighbours

The construction of the development shall only be carried out according to the approved Plan.

Reason: To minimise impact of the construction process on the local environment and local highway network.

Condition 4: The highway element of the development shall not be brought into operational use until the development has been fully constructed to the satisfaction of the Local Planning Authority.

Reason: To ensure that the completed scheme is not used until it has been formally approved.

Advisory Note It is recommended that post-construction traffic monitoring shall be undertaken within 12 months of opening, and associated studies submitted to the Local Planning Authority in order to determine the extent of mitigation measures on the existing route.

The proposal is for a 3.9km long northern bypass of the A120 around Little Hadham and a flood alleviation scheme. The A120 is a vital east to west route in Hertfordshire's primary road network, linking the A10 and M11, and provides key a access route to Bishops Stortford, Stansted airport and the county of Essex. Currently the highway experiences severe delays in the village of Little Hadham at the four-arm signalised junction with Albury Road. The proposed A120 bypass seeks to alleviate the congestion in the village's centre and subsequently decrease commuter travel times.

The proposal involves constructing the bypass through agricultural land and will consist of the following elements:

- 3.9km long new single carriageway with a national speed limit of 60mph; - Differential acceleration lane on the exit from the west roundabout; - 1km long eastbound climbing lane in the middle of the scheme due to steep gradients; - Two new all movement roundabouts at either end of the scheme – Tilekiln Roundabout (west) and Hadham Park Roundabout (east); and, - Three bridges; - Bridge taking existing Albury Road over the bypass; and, - Two accommodation bridges catering for agricultural vehicles and PRoW.

Site Description

The site for the proposed bypass is located north of the village of Little Hadham. The extents of the proposed bypass are approximately 2.4km east of the centre of Little Hadham on the A120 and approximately 600m to the west. The proposed bypass route will pass through agricultural land and cross Albury Road, Public Rights of Way (PRoW) and private/field accesses.

Analysis Policy Review

The applicant has provided a policy review of the following policy documents in their application for the proposed development:

- Transport White Paper (Creating Growth, Cutting Carbon Making Sustainable Transport Happen) 2011; - National Planning Policy Framework (2012); - The Eddington Transport Study: The Case for Action: Sir Road Eddington's Advice to Government 2006; - Transport and the Economy in the East of England: The Transport Evidence Study September 2008; - Hertfordshire County Council A120 Strategy 2006; - Local Transport Body Shortlist 2013; - Local Enterprise Partnership Strategic Economic Plan March 2014; - The Hertfordshire Infrastructure and Investment Strategy 2009 - Hertfordshire County Council (HCC) Local Transport Plan 3-2011-2031; - Inter-Urban Route Strategy; - East Herts Local Plan; - East Herts Draft Local Plan; and, - Eastern Herts Transport Plan April 2007.

The policy review is considered appropriate for the purposes of the TA.

Transport Assessment

The applicant has provided a Transport Assessment (TA) for consideration by the Highway Authority Development Management team.

Trip Generation and Distribution

The strategic traffic model, Harlow Stansted Gateway Model (HSGTM), was used to predict future year traffic flows. HSGTM is a strategic traffic model generally covering east Hertfordshire and the western side of Essex and provides an estimate of future traffic volumes on road links. It includes estimates of traffic with future planned development proposals including committed developments, local plan allocations, and planned infrastructure improvements. This approach was agreed by the Highway Authority Development Management team during pre-application discussions. The HSGTM traffic model was used to predict the future base plus bypass traffic flows by making the following changes to the network in the HSGTM model:

- Proposed bypass infrastructure was added into the road network; and, - The signal timings at the A120/Albury Road junction have been adjusted to improve the operation of the junction, post opening the bypass, when traffic volumes at the junction would be reduced.

The TA provided a summary of the two-way link flows for both the 2019 and 2024 years and for both the baseline and base with bypass scenarios. The percentage change between the baseline and base with bypass scenarios were provided. The results varied by location. Notable increases occurred on the following sections of road:

- A120 between High Street and Horse Cross; - A120 between Horse Cross and Albury End; - A120 between Albury End and bypass roundabout; - Cambridge Road; - Horse Cross Road; and, - South of Little Hadham signals.

Impact on Highway Network Journey Times

As part of the TA the journey times before and after the implementation of the bypass were considered. On average in both the AM and PM peak hours, users would have time savings between 7.6 and 9.1 minutes. The inter peak periods would see a 3 to 4 minute time saving with the introduction of the bypass.

Junction Assessment

The applicant has provided junction assessments for the following junctions:

- A10/A120/Ermine Street roundabout; - A120/Cambridge Road; - A120/South Road/Barwick Road; - A120/Station Road; - A120/High Street/Mill End; - A120/Horse Cross; - A120/Albury End; - A120/Albury Road (Little Hadham signals); - A120/Cradle End; - A120/A1184/Hadham Road roundabout; - A1184/B1004 roundabout; - A1184/Obrey Way roundabout; - A1184/B1383 roundabout; - Tilekiln Roundabout (western end of proposed bypass); and, - Hadham Park Roundabout (eastern end of proposed bypass).

The aforementioned junctions were assessed for the following scenarios:

- 2014 Base Year; - 2019 (opening year) Future Year Base Flow; - 2019 Future Year Base Flow plus bypass; - 2024 (5 years post opening) Future Year Base Flow; and, - 2024 Future Year Base Flow plus bypass.

Base traffic flows were obtained by obtaining classified turning counts and queue length surveys for the following junctions in March 2014:

- A120/Cambridge Road; - A120/South Road; - A120/Station Road; - A120/Standon High Street; - A120/Horse Cross; and, - A120/Cradle End.

In June 2014 classified turning counts were obtained at the A120/Albury End junction. HCC provided ARUP with turning count data for the following locations:

- A120/A10 (April 2014); - A120/Albury Road (April 2014); - A120/A1184 (June 2008); - A120/B1004 (June 2011); - A120/Obrey Way (March 2015); and, - A1184/B1383 (June 2008).

The applicant applied TEMPRO growth factors to covert 2008 and 2011 traffic survey data to 2014 for consistency with the other survey data.

The proposed peak hours were 08:00 – 09:00 and 17:00 – 18:00 for the AM and PM peaks, respectively. The following thresholds were deemed appropriate for each of the assessed junctions and were used to support the results of the assessments:

- Ratio to Flow Capacity (RFC): a figure at or below 0.85 demonstrates that the junction is operating satisfactorily. 0.85 to 1.0 indicates that the junction is over desired capacity but within theoretical capacity, and greater than 1.0 the junction is considered to be operating over theoretical capacity. - Maximum Queue Length in Passenger Car Units (PCU’s). - Delays (seconds).

The junction assessment results were summarised as part of the TA and full assessment results were provided as an Appendix in the TA.

The 2014 baseline analysis junction modelling results demonstrated existing capacity and operational issues at the A120/Albury Road signalised junction. The junction is operating well over theoretical capacity threshold in both AM and PM peak hours.

The 2019 baseline analysis junction modelling results demonstrated future capacity and operation issues at the following locations:

- A10/A120 Roundabout – A10S arm operates over theoretical capacity in the PM peak hour. - A120/Albury Road Signalised Junction – operates over theoretical capacity in both peak periods. - A120/A1184 Roundabout –Hadham Road arm operates over theoretical capacity in the PM peak hour.

The 2019 base plus bypass analysis junction modelling results demonstrate potential future capacity and operational issues when the bypass is introduced to the road network:

- A10/A120 Roundabout – A10S arm operates over theoretical capacity in the PM peak hour with queues exceeding 100PCU. - A120/Cambridge Road – Cambridge Road arm would operate over theoretical capacity in both peak hours. - A120/Station Road – Station Road arm would operate over its theoretical capacity in the AM peak hour. - A120/A1184 Roundabout – Hadham Road arm and A120W arm operate over their theoretical capacities in the AM and PM peak hours.

The 2024 baseline analysis junction results demonstrate that the same junctions as the 2019 scenario will operate over the theoretical capacities. However, in 2024 the following junctions also demonstrate potential future operation and capacity issues:

- A120/Station Road Junction - Station Road arm operates over its theoretical capacity in the AM peak hour. - A120/Cradle End junction – Cradle End right turn operates slightly over its theoretical capacity in the AM peak.

The 2024 base plus bypass analysis junction modelling results demonstrate potential future capacity and operational issues at the same junctions as was highlighted in 2019 results. However, in 2024 the following junctions also demonstrate potential future operation and capacity issues:

- A10/A120 Roundabout – A10N arm operates over theoretical capacity in the AM peak hour. - A120/Horse Cross Junction – Horse Cross arm will operate over its theoretical capacity in the PM peak hour and A120E arm will operate over its theoretical capacity in the AM peak hour. - A120/ A1184 Roundabout – A120N arm operates over its theoretical capacity in the AM peak hour.

While the aforementioned junctions experience degradation as a consequence of the bypass in 2019 and 2024, the aim of the bypass was to reduce congestion and improve highway conditions through Little Hadham, in particular at the A120/Albury Road signalised junction. The introduction of the bypass noticeably improved the junction’s capacity and operation by removing a high volume of bypassing traffic from the highway through the village.

Highway Safety

The applicant has provided detailed collision data as part of the Transport Assessment for the affected road network for the period of December 2009 to November 2014. The collision data is considered suitable for this purpose and no distinct causation patterns were identified for any of the accident clusters along the network. It is not considered that the proposed bypass will negatively impact on the overall safety of the highway.

Swept Path Analysis

The applicant has provided swept path assessments of the proposed bypass and new junctions. Swept path assessments demonstrate that a FTA Design Articulated Vehicle (1998) with a 16.5 overall length can safely traverse through the network.

Vehicle Access

Due to the nature of the proposed development, this is not applicable.

Pedestrian Access

Due to the nature of the proposed development, this is not applicable. PRoWs diversions will be discussed in the accessibility section.

Road Safety Audit

A Stage 1 Road Safety Audit has not been provided as part of the application package. However, a Stage 1 Road Safety Audit will be required for any new junctions and highways to ensure that the design is safe and appropriate for its intended use.

Refuse and Service Delivery

Due to the nature of the proposed development, this is not applicable.

Parking

Due to the nature of the proposed development, this is not applicable.

Cycle Parking Provisions

Due to the nature of the proposed development, this is not applicable.

Accessibility

Public Transport - The TA identifies that there may be impacts to buses through the area as a consequence of the new bypass. The following bus routes were identified as travelling along the A120 through the village of Little Hadham, through the congested A120/Albury Road signalised junction – 20, 351, 354 and 386. The introduction of the bypass will improve reliability and decrease the bus journey times along this section of the route.

Two bus routes, 354 and 386, were identified as passing through the Little Hadham signalised junction to travel to Standon. Travellers to and from Standon will therefore benefit from the reduction of traffic congestion at the A120/Albury Road signalised junction. Bus routes along Station Road and High Street may be impacted by the A120 traffic as it may become more difficult to turn right from cross streets. High Street junction operates within capacity so bus services on this road are unlikely to be greatly impacted. While Station Road operates over capacity, the TA states that the bus routes are unlikely to be impacted as the route 354 only operations on a Saturday, route 386 has no schedule services during the AM peak or the PM peak and route 331 has only one southbound service during each of the peak hours.

Walking and Cycling - There are several PRoWs in the vicinity of Little Hadham which include connections to the north and south of the A120. The following PRoWs cross the route to be altered:

- Footpath 57; - Footpath 58; - Bridleway 35; - Bridleway 36; and, - Footpath 34.

There are also footway provisions along the A120 through Little Hadham. Footways are provided on Albury Road on the western side that go to the edge of the village from the A120 junction. Footways are also provided on Albury road south to Hadham Ford on the eastern side. No formal crossing points are provided along the A120 with the exception of at the Albury Road signalised junction.

Travel Plan

Due to the nature of the proposed development, this is not applicable.

Construction

A Construction Traffic Management Plan (CTMP) will be required to ensure construction vehicles will not have a detrimental impact on the vicinity of the site and a condition will be required to provide adequate parking for construction vehicles on-site to prevent on-street conflict and impacts to the highway safety. Planning Obligations / Community Infrastructure Levy (CIL) Due to the nature of the proposed development, there will be no S106 Agreements required.

Conclusion

The Highways Development Management team at Hertfordshire County Council at Hertfordshire County Council (HCC) does not wish to restrict the grant of permission, subject to conditions.

Natural England

Original consultation response

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

No objection – no conditions requested
This application is in close proximity to the Patmore Heath Site of Special Scientific Interest (SSSI). Natural England is satisfied that the proposed development being carried out in strict accordance with the details of the application, as submitted, will not damage or destroy the interest features for which the site has been notified. We therefore advise your authority that this SSSI does not represent a constraint in determining this application. Should the details of this application change, Natural England draws your attention to Section 28(I) of the *Wildlife and Countryside Act 1981* (as amended), requiring your authority to re-consult Natural England.

Other advice
We would expect the Local Planning Authority (LPA) to assess and consider the other possible impacts resulting from this proposal on the following when determining this application:

- local sites (biodiversity and geodiversity)

- local landscape character
- local or national biodiversity priority habitats and species.

Natural England does not hold locally specific information relating to the above. These remain material considerations in the determination of this planning application and we recommend that you seek further information from the appropriate bodies (which may include the local records centre, your local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document) in order to ensure the LPA has sufficient information to fully understand the impact of the proposal before it determines the application.

Protected Species
We have not assessed this application and associated documents for impacts on protected species.

Natural England has published Standing Advice on protected species.
You should apply our Standing Advice to this application as it is a material consideration in the determination of applications in the same way as any individual response received from Natural England following consultation.

The Standing Advice should not be treated as giving any indication or providing any assurance in respect of European Protected Species (EPS) that the proposed development is unlikely to affect the EPS present on the site; nor should it be interpreted as meaning that Natural England has reached any views as to whether a licence is needed (which is the developer's responsibility) or may be granted.

Although we have not assessed this application for impacts on protected species, we do note that the Environmental Statement (ES) and its supporting appendices have identified the presence of a number of protected species, including Barbastelle and other bat species, great crested newts, badgers, reptiles and breeding birds. Natural England also notes that the ES contains detailed mitigation proposals, some of which will need to be subject to licence applications in due course.
In addition to the species listed in the ES and its appendices, a member of the public has claimed that nightingales and deer are also present in the vicinity and may need to be taken into consideration.

Biodiversity enhancements
We note that the ES contains a number of proposals for the incorporation into the design of features which are beneficial to wildlife, such as the infilling of gaps in existing hedgerows and the creation of new ponds. The authority should consider securing such measures to enhance the biodiversity of the site from the applicant, if it is minded to grant permission for this application. This is in accordance with Paragraph 118 of the NPPF. Additionally, we would draw your attention to Section 40 of the Natural Environment and Rural Communities Act (2006) which states that '*Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity*'. Section 40(3) of the same Act also states that '*conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat*'.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

Natural England offers two chargeable services - the Discretionary Advice Service (DAS), which provides pre-application and post-consent advice on planning/licensing proposals to developers and consultants, and the Pre-submission Screening Service (PSS) for European Protected Species mitigation licence applications. These services help applicants take appropriate account of environmental considerations at an early stage of project development, reduce uncertainty, the risk of delay and added cost at a later stage, whilst securing good results for the natural environment.

Hertfordshire County Council – Ecology

In respect of the further information submitted in support of the above proposal, I would like to make the following comments:

1. The principal new information on ecological matters concerns the **barbastelle bat trapping and radio tracking study** undertaken to update and improve the understanding of this species use of habitats along the route of the by-pass and inform mitigation and compensation measures. Despite considerable previous targeted survey effort, there remained a contrast between the information collected on this species and the local knowledge of this bat in its roost woodland and in the general area. Consequently the compensation measures proposed were not considered adequate.

2. Specialist barbastelle surveys were commissioned in 2016 to consider:

- Status along the route with emphasis on woodlands and tree lines;
- Radio-track individuals to assess breeding colonies and sample habitat use;
- Establish a more robust baseline to inform mitigation proposals along the route.

3. Surveys included trapping and radio-tracking, automated roost emergence and re-entry surveys during June and August. 35 bats of various species were captured during June – including Leisler's, another rare species.

4. A total of **six barbastelle bats were radio-tracked**. Breeding female barbastelle flew further distances and had longer home ranges than males. One of the key findings was that **all bats bar one used the woodland corridor between Stocking Wood and Bloodhounds Wood**, crossing the existing A120, a key crossing point being the underpass and Little Plantings Wood. From the radio-tracking data for each bat, it appears that relatively limited crossings of the proposed route of the by-pass are made, other than by the underpass and to the west of Little Hadham (Bat 753). Use of the landscape locally also takes place east, north and south of the route. At least five crossing points of the existing A120 road are identified although two are through existing underpasses for farm vehicles and at there are at least another three crossings of main roads locally. Of course this is only a sample of these individual bats and of the population as a whole (estimated to be 10-15%), but I support the view that **the woodland corridor to the east of**

the route is a critical asset locally. However it would also appear that the sample of bats at least can tolerate existing road crossings in a number of places in the area – indeed, one roost is immediately on the edge of Bishops Stortford (Bat 280).

5. Eight roost sites were identified from the tracked bats, none of which were within the 'enclosed' loop of the proposed road although this does not preclude other possible roost sites being present within this area.

6. Fig 2 does not show roost locations but trapping sites; roost locations are identified collectively on Fig 3 and for each of the bats tracked and shown on subsequent Figures. All but one roost were located on **dying oak trees, associated mostly with loose bark**, the maximum county of emerging bats being 18. This **highlights the importance of these features** within the landscape.

7. The main findings in respect of habitat use is that the woodland complex from **Bloodhounds to Stocking** appears to be the '**roost woodland**' given that this area seems to be the main breeding site. Juvenile and male bats also showed similar patterns of habitat use. Adult females used mature tree lines, small copses and woodlands within the wider agricultural landscape.

8. The overall results have been evaluated:

8.1 Barbastelle bats were caught in all the main woodlands associated with the woodland roost complex and at the existing A120 underpass. Other bats associated with woodland included Natterer's, Leisler's, Daubenton's, brown long-eared and pipistrelle.

8.2 Activity patterns are similar to previous studies on barbastelle but home ranges, core areas and distances travelled were smaller, probably due to the more limited number of bats sampled than previous studies. Habitat use is centred on woodland foraging within this otherwise largely agricultural landscape, with commuting routes including linear tree lines and woodland belts as well as open arable land, especially when dark.

8.3 Roosts used were typical for this species and characterised by loose bark, which is often used for a few days before moving to another site. This is a vulnerable habitat feature subject to local losses due to storm damage. Many trees supporting this feature are likely to be used during the breeding season and so are a very valuable resource.

8.4 It is considered that the **barbastelle population affected by the A120 bypass is of national importance** given the rarity of this species and clear use of the Bloodhound Wood complex as a breeding site. I am aware there is an SAC in Cambridgeshire for barbastelle – this was originally notified as an SSSI for its woodland habitat –but was extended to include the barbastelle roost areas, one of the few maternity roost sites known. However there are also relatively recent records scattered across NW Essex with a number from Hatfield Forest. I am not aware of any proposal to designate the roost site of Bloodhounds and Stocking Woods complex an SSSI.

9. No compensation or mitigation suggestions are included within the survey report; these are outlined within other recent documents, as below:

10.1 The **Environmental Statement** has been amended. The principle change to the proposal is the introduction of the **Hadham Park underpass** which replaces the previously proposed bridge. This will provide for a **safe passage option** across the new road directly west of Bloodhounds / High Wood. This should provide new mitigation / compensation for barbastelle flying westwards from the roost complex and represents an improved response to the better understanding of the bat's use of the area. The Hadham Park underpass is partially based on the bat surveys, as noted on the Plan and Profile drawing and cleared for farm vehicles, which will require it to be c.5m tall and c.7m wide. It will be nearly 21m long with entrances planted with trees and hedgerow.

10.2 **Additional ecological planting** is also proposed north and south of the existing A120 underpass to maintain a good flight line into the underpass and to reduce the impact of any additional lighting from the roundabout junction that will be required.

10.3 The position of deer fencing has also been reconsidered to ease river inspection etc. although this is of no ecological concern.

11.1 Additional bat data and an updated extended Phase 1 habitat survey were used to inform a revised assessment upon ecological receptors along the length of the scheme.

New potential impacts and effects were identified, which will be mitigated and enhanced by the following measures as part of the revised Proposed Scheme:

- **Roadside planting** of 9.1 km of species-rich hedgerow with trees, located at the boundaries of the Proposed Scheme.
- **Non roadside planting** of 3.7 km new hedgerow or enhancement of 7.4 km of hedgerow, or a combination of the two. This will be located at least 25m from the Proposed Scheme.
- **Artificial lighting** to be installed at Tilekiln and Hadham Park roundabouts has been designed to include the following **bat mitigation** measures:
  - Careful positioning of lighting columns to take account of proximity of vegetation likely to be used by bats;
  - Low mounting height of lights;
  - Use of highly directional light sources; and
  - Use of shields where necessary to avoid backward light spill.
- The provision of **Hadham Park Underpass** to partly mitigate the increased collision risk as a result of the Proposed Scheme. This will be supplemented by the additional habitat provision outlined above to mitigate impacts at the population level.

11.2 I consider further clarification would be needed for some of the above:

- Regarding the proposed hedgerow planting, it is not entirely clear as to what will be provided;
- No heights are given for what is considered to be low mounting lights;
- The extent of lighting along the existing A120 is not shown on a plan within the ecological statement.

11.3 I would expect detailed proposals on these issues to be provided either prior to determination or as a Condition of approval. The proposals also need to demonstrate the avoidance of light pollution in the vicinity of the Hadham Park roundabout.

12. **Nature Conservation** is addressed in detail in Section 4.4 of the updated Environmental Statement. This primarily reflects the above bat work and updated extended Phase 1 some new habitat information. The ES addresses the expected range of habitats and species, including designated nature conservation sites, habitats and species of principal importance, hedgerows, bats, badger, hazel dormouse, otter, water vole, great crested newt, reptiles, breeding birds, Roman snail and watercourses. Planning policy is outlined, along with other guidance within the BAP, habitat network mapping and birds of conservation concern. The approach should comply with the CIEEM Guidelines for Ecological Impact Assessment.

13. Thorough desk studies and field surveys have been undertaken – supplemented by the above **more detailed bat work and updated 2016 habitat surveys**, in order to determine ecological values according to best practice. **The**

Phase 1 Habitat Survey in July 2016 did not find any significant differences in the habitats described in 2014. This is not unexpected unless some land had been left unmanaged or otherwise severely modified, for which there is no reason. **I consider two detailed surveys of this nature over two years are more than adequate to describe the area in question**.

14. The route and the local area are then described in terms of sites, habitats and species.

14.1 **Habitats**
The quality of the semi-improved grassland adjacent to the reservoir south of Newwood Spring is high, although given its location surrounded by intensive arable, artificial nature of the pond and its species composition, it may well have been sown. It is in any event not affected by the road. The Phase 1 survey recorded land within a 500m buffer of the road. The majority of the land affected by the road proposals is of limited ecological significance given it is dominated by intensive arable (95%), although some species interest in the general area is surprisingly high. The river Ash is degraded at this point of its course given the low and intermittent flows it now suffers from.

14.2 **Species** are described accordingly. The key one is **barbastelle bat**, the roosts of which are considered as being of national importance. **This is the most significant ecological issue affected by the road scheme and appropriate mitigation is essential to maintain this species**. Otherwise, a total of **nine bat species were recorded in 2016, a moderate-high diversity** which is surprising for the local land area. This is considered to be of district value. Perhaps the 'ancient' quality of some of the local features present in the general area – hedgerows, scattered woodlands and woodland chains, is a factor in helping to support these, given the agricultural land is otherwise ecologically unprepossessing. Consequently **maintaining habitat connectivity** would be a key objective. Trees located within land required for the scheme have been assessed for bats and no significant tree roosts were identified.

14.3 **Badger** details are unavailable but I have no reason to suspect they will have not have been adequately addressed**. Other mammal species** in the area have variable conservation significance from brown hare, hedgehog to fallow deer, although these are not likely to be affected by the road other than in potential road casualties, the avoidance of which will be partly addressed by fencing where considered necessary.

14.4 **Amphibians and reptiles** were recorded although will not be directly affected by the road although great crested newt habitat between three breeding ponds west of Bloodhounds Wood will be removed. Previously breeding pond 9 was considered to be affected – apparently it is now considered that no breeding ponds occur within the proposed scheme.
The presence of 32 **common bird species** recorded as part of the breeding bird community is considered to be typical of that for farmland and includes skylark, whitethroat, yellowhammer, song thrush, linnet and bullfinch. A breeding pair of barn owls is present in the area which is of county significance.

14.5 **Roman snail** was recorded as a small population and considered as of Parish value. It is increasingly considered as being of local abundance on chalk soils I Hertfordshire.

14.6 **White-letter hairstreak butterfly** was recorded from an elm hedge and considered of Parish value. It is also locally abundant in this habitat across east and north Hertfordshire.

14.7 A small stand of **Japanese knotweed** was recorded north of the scheme.

On the basis of the above, **I consider the ecological surveys to be sufficient to provide an appropriate baseline to assess impact and mitigation / compensation requirements.**

15.1 The **impacts of construction** works are described. The principle change is that the **Hadham Hall roundabout works are considered to have a permanent adverse effect significant at the county level on the Wildlife Site of Little Plantings Wood**. I am unclear as to why this is so; the proposals shown on Drawing 'General Arrangement for A120 Sheet 7' show all the works taking place within the current highway boundary. Whilst there is a label 'new access location' largely obscured and pointing into the woodland, this whole woodland area lies outside of the Application Site boundary which includes compound areas so I cannot see how this wood will be affected. Whilst the roundabout works could impact upon adjacent tree roots of the woodland, I consider this would be only along the very edge and potentially little more than affected already, so I do not see why this is considered to be an adverse effect at the county level.

15.2. The **watercourses** affected appear to be small features of limited value; the **impact is considered to be not significant** and I have no reason to disagree with this.

15.3 The proposals will **remove 3.71 km of hedgerows** of which 1.1km are 'important'. This is considered to be a **permanent adverse effect significant at district level.**

15.4 The **removal of treeline / hedgerow habitat** used by barbastelle bats; some may be affected more than others if they currently use these specific features for commuting / foraging given they forage separately from each other. Two of the radio tracked bats used these features; in total **it estimated that four bats from the Bloodhounds Wood complex will be affected by the road impacts**, which if breeding females, represents **10% of the estimated population**. **The fragmentation of the hedgerow from the SW corner of Bloodhounds Wood is considered to be a permanent adverse effect significant at the national level**, without mitigation. The impacts of **uncontrolled lighting during construction** of Hadham Hall roundabout are also now considered to be of **national significance**. The national significance of the impact on barbastelle is consistent with the view expressed in my previous comments.

15.5 **Other bat species** using hedgerow features will be **similarly affected**; this impact is now upgraded to be **significant at the District level**.

15.6 Works will also affect **great crested newts** by removing habitat (hedgerows) between three breeding ponds. This may potentially cause **local extinctions** and is considered to be **significant at the district level**. An EPS licence will be required. A mitigation strategy will be required by a Condition of approval. An EPS licence will also be needed.

15.7 It is considered that ground works associated with the two roundabouts will affect barn owl foraging habitat. I am not clear as to why this is the case given that no rough grassland habitat was identified within these areas on the Phase 1 Habitat survey, although they are close to small areas of amenity grassland which is unlikely to be of much significance if closely grazed or mown. No details are available in the confidential barn owl report, but this is considered **significant at the county level**.

16. 1 **Operational impacts** are then described. Little impact is considered for designated nature conservation sites. Watercourse impacts seem to repeat the Construction impacts.

16.2 In respect of species, **barbastelle** bats are clearly the most important. **Mitigation to limit light pollution** in respect of bats at both roundabouts is outlined in 12 above. Whilst this is unlikely to remove all the negative impacts of lighting, further measures are described:

- 'the specific lighting products to be used will be **low colour temperature LED lights (amber)** that have a **low UV component** which will minimise the attraction of nocturnal flying insects. This will minimise disturbance to bats relative to the more widely used cool temperature LED or high pressure sodium lighting'.

16.3 Despite this, the negative impact of lighting – however mitigated – is still considered to potentially deter crossing or use of Little Plantings Wood by barbastelle, which also currently cross the existing A120 without using the underpass. **The eastern approach to the roundabout will be illuminated for 133m** in accordance with road safety standards. This will affect the whole of the **northern edge of Little Plantings Wood**, a site known to be used by three of the radiotracked bats. I consider this to be a highly significant impact on the most sensitive area of the whole scheme.

Consequently, **additional planting is proposed** to improve habitat connectivity and help to screen the proposed lighting impacts. This is proposed north of the A120 immediately west of the underpass and south of the existing A120 between Little and Great Plantings Woods. In principle this should help to consolidate and replicate the characteristics of the existing crossing point given that these areas will not be subject to any illumination. It will encourage continued bat use of the underpass area as well as encourage continued crossing of the existing road above the underpass.

16.4 However, **the proposed new planting**, whilst welcomed as a proposal to secure additional habitat, **needs to be reconsidered**. Currently the area is shown on the Phase 1 survey as improved grassland with scattered trees but the majority of this area is in fact **former ancient woodland**, the remains of which are now present as the remaining scattered standard trees, possibly some of the original

younger standards which were retained following felling of the remainder of the woodland. This now effectively provides a **wood pasture habitat** which would already be of considerable value for foraging bat species, similar to parkland in character. **It is not appropriate to plant all of this area up with trees if this already provides a good habitat**. It would be better to enhance this with hedgerow planting were appropriate and secure an agreement with the landowner to continue management if currently grazed – presumably there must already be an agreement to plant it up.

16.5 Securing this feature – with **some strategic tree planting** to screen the roundabout, hedgerow and grassland enhancements – would be just as beneficial if not more so, and should be reconsidered in this respect. I believe such a **management agreement** would be as valuable as the current proposal which should be revised to secure the maintenance and enhancement of the existing habitat present here alongside screen planting.

16.6 The proposed new **Hadham Park Underpass** is designed to mitigate the increased collision risk resulting from the proposed scheme given that bats using it will not be exposed to traffic. However the risk of mortality from road traffic collisions due to the new road cannot be entirely eliminated; indeed, it is acknowledged that bats already cross existing roads in a number of places within this area without using underpasses, as revealed by the radiotracking data. The new road will undoubtedly increase this general risk for a variety of reasons (more and faster traffic), but it may also reduce the risk on the bypassed road. However, on balance **I acknowledge the range of mitigation measures as outlined in the ES will seek to reduce any increased impacts, consistent with the level of significance of impact identified**.

16.7 **Other bat species** – **mitigation measures** for barbastelle will **benefit all other bat species**. The new underpass will partly mitigate the increased traffic collision risk associated with the proposed scheme. The additional planting – where appropriate – will also increase foraging resources which may also increase recruitment into the local bat populations and so compensate for any losses due to road mortality.

16.8 **Barn owl**. **Semi-mature native trees of at least 3m** in height will be planted on raised bunds between Cradle End Brook and Hadham Park Roundabout to act as a '**hop-over**' for barn owls which encourages them to fly higher at this location and so avoid vehicle collisions. There is also a commitment to **provision of a nesting structure at least 3km away** (4.4.9.2). Whilst I consider that this will not guarantee birds will not continue to cross elsewhere or even forage along the new roadside verge, **I acknowledge this approach seeks to reduce mortality of barn owls.**

16.9 **Compliance with the Water Framework Directive** is also described for the River Ash, Albury tributaries, Lloyd Taylor Drain, Cradle End Brook, Bury Green Brook. These appear to adequately consider ecological issues I have no reason to consider these do not satisfy WFD requirements although I have no expertise in assessing these matters.

17. **Residual effects** are described for construction and operation as follows:

Construction: designated sites – not significant; watercourses – compliant with WFD objectives; hedgerows – beneficial at district level; great crested newts – not significant; barn owl – not significant; barbastelle – not significant; other bats – not significant.

Operation: watercourses – compliant with WFD objectives; barn owl –not significant; barbastelle – not significant; other bats species – not significant.

Assuming mitigation, compensation and enhancement measures are put in place, I have no reason to dispute the residual effects.

18.1 **Cumulative effects**. The adjacent **Bishops Stortford North** development is described as providing ecological mitigation for several features including barbastelle and great crested newt, removing any adverse impacts and consequently generating **no significant ecological effects**. Consequently, if these are successfully implemented it is not anticipated there will be any cumulative effect.

18.2 Whilst I acknowledge mitigation is proposed, I do not consider that however successful this may be, the introduction of 2,000 homes essentially next to currently largely undisturbed Wildlife Site woodlands and old grassland cannot possibly do anything other than degrade this area by introducing considerable disturbance and physical pressure on this area. Whilst this is largely inevitable, **I do not consider the impacts of the proposed road scheme will generate additional impacts which together would otherwise be unacceptable, given that the planning position for the BSN development is long standing as a development site, involving largely arable land.**

19.1 **Ecological enhancements**. It is stated the proposed scheme will generate the following enhancements:

- A large net gain in native hedgerow, including 9.1km of roadside planting;
- Further hedgerow planting within 10km of the scheme;
- 2.5 ha of new woodland between Little Plantings and Great Plantings Wood;
- Extensive roadside margins of wildflowers:
- Sympathetic management for wildlife;
- Four maternity / large colony bat boxes on retained trees.

These represent mitigation for species as well as enhancements and are largely supported, notwithstanding the new woodland comments above (16.4).

19.2 I also consider the long term success and contribution of the roadside verge grasslands as species-rich grassland is likely to be limited given the lack of appropriate management and influence of adjacent arable sprays, which will invariably lead to a coarsening of the sward and ultimately scrub encroachment. However, the verge communities will in part be dependent upon the exposed soil and slopes and I acknowledge the contribution rough grassland will make even for small mammals and other wildlife in providing cover and foraging areas.

20. **Additional mitigation measures** are outlined that are required to comply with nature conservation legislation or animal welfare. These include:

- Resurveying trees with bat roost potential prior to felling within the proposed route;
- Culverts and underpasses under the road will be made large enough for badgers to enable safe passage;
- A final badger survey pre-works commencement will be undertaken and an appropriate mitigation strategy provided as necessary;
- Deer fencing to exclude fallow deer from the road corridor. Bridges and underpasses would provide crossing points;
- Nesting birds – vegetation removal outside of the breeding season or at least not without an appropriate check;
- Reptiles – precautionary reptile displacement approach for vegetation clearance; supervised potential hibernacula dismantling; fencing to exclude reptiles as appropriate; provision of hibernation sites at the base of hedgerows.
- Relocation of Roman snails as necessary, under licence from NE.

21.1 **Given the negative impacts of the scheme on bats and great crested newts**, it is stated that **a European Protected Species (EPS) licence will be required** for these species. **Suitable mitigation and compensation has been proposed** for bats and great crested newts will be outlined in more detail as a Condition. This seeks to avoid any significant adverse effect upon EPS and **I consider the proposals will achieve this in a reasonable and proportionate manner**. **This will also enable the three Habitat regulations tests to be satisfied** as outlined within the planning statement. On this basis I also have **no reason to consider that appropriate EPS licences would not be issued for the works**.

21.2 EPS licences would also require a **monitoring programme** to be implemented and this is referred to within my previous comments. However it would be helpful for a **monitoring programme for barbastelle to be agreed as a condition of Approval if it is not provided prior to determination**. In my view this should include monitoring the woodland roost complex, and both underpass crossing points (Bury Green Brook underpass and Hadham Park underpass).

22. These comments reflect the principle changes to the original planning application submission. In this respect I will not repeat my previous comments, most of which still stand in relation to the scheme. My principle concerns related to the proposed seed mixes and subsequent management practicalities, as also outlined above.

23. **On the basis of the above, I do not consider there are any outstanding ecological issues that would in principle prevent this proposal from being determined, subject to satisfactory amendments as outlined.**

Herts & Middlesex Wildlife Trust

Original consultation response

Objection: The majority of the ecological report and mitigation/compensation strategy is acceptable. However there are a number of elements that require more information, more consideration, more mitigation/compensation measures or further clarification. In principle HMWT does not object to the concept of the scheme but is extremely concerned about the lack of appropriate survey, quantification of impact and mitigation measures put forward regarding barbastelle bats. These are set out below:

Bats (barbastelle):
The primary ecological consideration for this scheme is how the internationally important maternity population of barbastelle bats will be impacted by the proposals. This is the only confirmed maternity colony in Hertfordshire. It receives the highest level of protection under European law and is listed as an Annex II species of the European Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) – an animal of community interest whose conservation requires the designation of Special Areas of Conservation. Under the Conservation of Habitats and Species Regulations 2010, LPAs have a duty to consider the Directive in the application of all their functions.

This population is likely to be affected in several ways:

- Severance of flight lines
- Lighting at the main crossing point
- Increased traffic disturbance brought closer to sensitive roosting areas

The ecological report recognises these issues but does not put forward sufficient mitigation and compensation to be certain that the population will not be negatively affected. The conservation status of this species makes it vital that these impacts are clearly understood and accounted for in accordance with the legal duty of the local authority. It is recommended that the following changes are applied.

Flight lines:
Dark flight lines, particularly at dusk, are critical for the foraging behaviour of barbastelles. Early foraging along dark flight lines is estimated to provide up to 2 hours extra foraging time per night[1], which can be critical in their survival chances. Whilst barbastelle are known to cross open landscapes in the late evening and dawn, they are faithful to dark flight lines in the early evening in order to extend their feeding activity and range. Disturbance of these flight lines through light pollution or traffic disturbance could significantly impact on the conservation status of the barbastelle population. There is also a real risk of collision with traffic if mitigation designed to facilitate crossing the road has not been properly designed. Whilst suitably designed underpasses are known to be effective, if these structures are not correctly positioned or too small it is likely that they will not be used. This will force the population to cross the road at a more dangerous location or abandon the flight line.

The first step in gauging impacts of the scheme on barbastelle is to identify where these flight lines are and then protect them with suitable mitigation. At present no flight lines have been found by this study, nor has sufficient effort been made to find

[1] http://www.bio.bris.ac.uk/research/bats/britishbats/batpages/barbastelle.htm

them. Given the importance of this colony, consistent with the criteria for designation as a Special Area of Conservation, it is considered appropriate that the ecological consultant conduct a radio tracking study to find and protect these flight lines with appropriate mitigation. BS 42020 states:

6.2.1 *All ecological information should be prepared and presented so that it is fit to inform the decision-making process (see* ***8.1****). As such, all ecological information should be:*
a) appropriate for the purpose intended and obtained using appropriate scientific methods of ecological investigation and study (see ***6.10****);*
b) sufficient, i.e. in terms of:

1) *scope of study;*
2) *habitats likely to be affected;*
3) *species likely to be affected;*
4) *ecological processes upon which habitats and species and system function are dependent;*
5) *coverage of a sufficiently wide area of study commensurate with the requirements of the species or feature of interest, including connected systems (e.g. downstream)*

In accordance with these principles, insufficient survey effort has been put forward to establish exactly how the development will impact on the barbastelle population.

Appropriate mitigation is likely to consist of reinforcement of hedgerow connections (large tree planting in hedgerows or green lane creation), creation of undisturbed water sources (not close to the road and on the north side of the road), and suitably sized road crossing points. The currently proposed road crossing points represent a serious issue with the scheme at present. It is suggested in the report that a culvert of 1.5m in height and an unspecified width is sufficient to function as a bat underpass. The literature referenced in the ecological report has been misrepresented to justify this height. Boonman states [2] '*This cross sectional area* (the cross sectional area of the bat underpass, my emphasis) *differs per species, it is 7 m2 for Daubenton's bats, 18 m2 for pond bats and 47 m2 for common pipistrelles (based on a probability of 95% that a culvert is used)….. If bats prefer to maintain a certain distance to both horizontal and vertical obstacles (Schaub & Schnitzler 2007), an underpass with a width/height ratio of one would be preferable to a wide and low underpass with the same cross sectional area.*

Clearly a culvert of 1.5m by 1.5m would not provide the necessary cross sectional area to function as a bat underpass for any of these species. Given that the priority species in terms of use of the underpasses is barbastelle, examples of where barbastelle use underpasses should be mimicked. The current underpass across the A120 is one example but no dimensions are provided. Another study (Kerth, Melber 2009[3]), also referenced in the ecological report, documents the use of a culvert of 4.5m x 5m as being used by barbastelles. In the absence of other evidence this should be considered the minimum dimensions of a barbastelle underpass.

[2] Martijn Boonman, 2011. Factors determining the use of culverts underneath highways and railway tracks by bats in lowland areas. Lutra Volume 54, Number 1, Pages 3-16

[3] Kerth, G. and Melber, M. 2009. Species-specific barrier effects of a motorway on the habitat use of two threatened forest-living bat species. Biological Conservation Volume 142, Issue 2, Pages 270–279

Lighting:
The only confirmed flight line and road crossing point (as identified by the Herts and Middx Bat Group surveys in 2011 – not this study) is the A120 underpass. The road proposals involve lighting the roundabout at the eastern end of the scheme within 100m of this feature. It is not specified how far away from the roundabout the lighting will extend, what light levels will be, what type of light will be produced etc. If this flight line is severed due to the impacts of lighting the colony will be significantly compromised. The ecological report acknowledges this possibility of disturbance but provides no detail on the level of light disturbance and no detail on mitigation measures. It suggests possible mitigation options but no definitive measures. This is not good enough, particularly for a population of this importance. BS 42020 states

*'**6.6.2** An ecological report should avoid language that suggests that recommended actions "may" or "might" or "could" be carried out by the applicant/developer (e.g. when describing proposed mitigation, compensation or enhancement measures). Instead, the report should be written such that it is clear and unambiguous as to whether a recommended course of action is necessary and is to be followed or implemented by the applicant.'* The LPA must be sure that the scheme delivers certainty that this population will not be negatively affected in accordance with their legal duty under the Habitats Directive and Conservation of Habitats and Species Regulations 2010.

The ecological report must identify the significance of the A120 flight line through appropriate survey and the level of threat to that flight line through full explanation of the lighting proposed. Once this has been provided appropriate mitigation measures can be designed. A bat survey submitted in support of a planning application should show:

- what is there and its value and significance;
- how it will be impacted by the development;
- how these impacts can be mitigated;
- how the development will result in no net loss (and where possible a net gain) to their population.

At present this survey does not fulfil these requirements.

Increased traffic disturbance:
Roads, particularly major roads, have been shown to have a significant disturbing effect on bat activity [4]. This proposal will bring the road with all its associated noise and light impacts closer to the known roosting locations of the barbastelle colony in Bloodhounds Wood. This impact has not been adequately addressed in the report. Guidance on appropriate survey, assessing impacts and appropriate mitigation for

[4] Berthinussen A, Altringham J. 2012a. The effect of a major road on bat activity and diversity. Journal of Applied Ecology 49, 82-89.

road schemes is provided the DEFRA research report WC1060[5]. The ecological report submitted in support of this proposal should utilise this research to demonstrate that the scheme will not result in unacceptable levels of disturbance that would negatively impact this Annex II species.

Monitoring:
In order to establish an acceptable baseline to enable assessment of the existing population and subsequent effective monitoring of the population and the mitigation designed to protect it, a suitable monitoring scheme must be fully described. It is our contention that an appropriate baseline survey has not yet been conducted. This baseline survey needs to be fully described, approved and completed to enable appropriate assessment of the impacts of the scheme and to facilitate the production of a complementary monitoring programme. The monitoring programme should be consistent with best practise guidelines (Berthinussen A, Altringham J. 2015) and demonstrate how it will be able to address any failure of the mitigation.

Enhancement:
NPPF states:
109. The planning system should contribute to and enhance the natural and local environment by:

- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*

113. Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.

117. To minimise impacts on biodiversity and geodiversity, planning policies should:

- *plan for biodiversity at a landscape-scale across local authority boundaries;*
- *identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;*

118. When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- *if significant harm 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;*

[5] Berthinussen A, Altringham J. 2015. Development of a cost effective method for monitoring the effectiveness of mitigation for bats crossing linear transport infrastructure. DEFRA research report WC1060.

125. By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

In this instance there is an as yet unspecified impact on a European Habitats Directive Annex II species of conservation concern (barbastelle). NPPF and the Conservation of Habitats and Species Regulations clearly expect that all impacts upon this population are understood and appropriately mitigated before permission can be granted. However NPPF goes further than just mitigation. It expresses the requirement to '*enhance the local environment', 'provide net gains in biodiversity where possible',* that '*appropriate weight'* is given to the protection of '*international*' sites, that LPAs identify international *'sites of importance for biodiversity, wildlife corridors and the stepping stones that connect them', 'promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets'.* Ultimately it seeks to '*conserve and enhance biodiversity'*.

In order to truly enhance this internationally important population (and benefit other species incidentally), it is recommended that a habitat enhancement fund be created for the use of local landowners to attempt to increase the barbastelle population in the area. This fund could be administered by an appropriate body to incentivise local landowners to provide habitat known to benefit barbastelle populations[6]. It should aim to encourage habitat creation schemes, good management and account for income foregone by undertaking such improvements. Habitat enhancement should focus on proven methods such as, hedgerow tree planting, creation of dark corridors (avenue, green lane or double hedge planting), pond creation, woodland planting, wetland border enhancements, wildflower meadow, artificial roost sites to facilitate monitoring (Greenaway 2008).

Definition on ecological enhancements currently offered:
The outline environmental mitigation offered to date is welcomed and will contribute to the local ecological environment in a positive way. However species lists, numbers of trees etc. have not been specified. Definitive detail must be provided either before or after planning (via an appropriate condition) to ensure that ecological gains are maximised. This must apply to all planting schemes, habitat creation, establishment and management regimes.

Summary:

- More survey information required to properly quantify impacts on barbastelle population
- Mitigation required based on the survey appropriate to the level of impact, e.g. lighting, habitat creation, flight line crossing points etc.
- Monitoring regime required
- Habitat enhancement fund required to create net gains in barbastelle population
- Definition needed on all other habitat creation aspects of the scheme

Further consultation response

[6] Greenaway, F. 2008. Barbastelle bats in the Sussex West Weald 1997 – 2008, Sussex Wildlife Trust

The previous comments of HMWT on this application made the following points in objection to the original proposals.

- More survey information required to properly quantify impacts on barbastelle population
- Mitigation required based on the survey appropriate to the level of impact, e.g. lighting, habitat creation, flight line crossing points etc.
- Monitoring regime required
- Habitat enhancement fund required to create net gains in barbastelle population
- Definition needed on all other habitat creation aspects of the scheme

In response to this representation and those of other ecological objectors, the applicant has submitted further survey and outline mitigation/compensation. The additional bat survey is of the highest quality and significantly increases the understanding of how bats (with particular reference to barbastelle) use the landscape. From the information generated it is possible to draw reasonable assumptions about how the population of barbastelle will be impacted by the proposals. The report attempts to address these impacts by suggesting suitable avoidance, mitigation, compensation and enhancement measures to offset them. It identifies the main impacts to be collision risk, habitat destruction, lighting and disturbance. The previous objection points are addressed below in turn in relation to the new ecological information. If not comments are made on ecological mitigation it should be assumed that HMWT is comfortable with the measures put forward.

- More information has been supplied which enable reasonable assumptions to be made regarding how barbastelle and other bat species use the landscape. HMWT is satisfied that sufficient survey effort has now been undertaken.
- Mitigation for collision risk has been partially addressed by the inclusion of an underpass at position 11. The risk of collision cannot be entirely eliminated or predicted so a judgement of what is reasonable to address concerns based on the data provided should be employed. HMWT are satisfied that this mitigation in conjunction with other measures is sufficient to minimise potential collisions to acceptable levels.
- Mitigation for the impact of lighting has been suggested and will include cowled low level lighting with low UV output and a warm light colour. In principle this is acceptable but no information is provided as to how high these lights will be or a more detailed specification. It is important that all mitigation measures are definitively proposed (in accordance with BS 42020) so that the LPA know what will be delivered. It is recommended that a pre commencement condition is applied stating that development cannot proceed until details of the lighting scheme are supplied. The distance that the lighting must extend from the Hadham Hall roundabout has been stated as 133m, which brings it very close to the main A120 underpass crossing point. HMWT would like further reassurance that this will not result in any light disturbance of the flight line to the underpass.
- Despite mitigation measures to reduce the lighting impacts, it is acknowledged in the report that there will be residual negative effects. These are predicted to

cause disturbance to foraging and roosting areas in Little Plantings Wood and documented road crossing points. It is therefore stated in the report that a European Protected Species Mitigation License will be required. In accordance with R (on the application of Simon Woolley) v Cheshire East Borough Council, the applicant is required to supply answers to the three tests of an EPSML to the LPA. This information has been supplied. The LPA must have regard to these tests in reaching its decision on the application so that it can discharge its duties under the Conservation of Habitats and Species Regulations 2010 (as amended).

- 3.7 km of hedge are shown to be destroyed, with 1.1 km of this being protected under the Hedgerow Regulations 1997. It is proposed to compensate for this by planting 9.1 km of roadside hedge and 3.7 km of non-roadside hedge or 7.4 km of hedgerow enhancements. It is ambiguous at present as to which will be delivered and should be clarified. In accordance with BS 42020 it should be made clear exactly what will be delivered.
- It is acknowledged that the production of various documents is proposed to be subject to condition: e.g. CEMP, landscape planting specifications, barbastelle bat mitigation strategy, Great Crested Newt mitigation strategy. This is acceptable but greater clarity of principles to underpin these documents should be established at this stage. For example:
    - It should be stated that all documents will be consistent with BS 42020 and definitively explain what will be delivered – not what could be done. All measures must be marked on plans.
    - Hedgerow planting should incorporate a minimum of 10 species appropriate to the soil type and location. The landscape specifications at present contain some inappropriate species such as Elder. All material should be of native provenance.
    - It should be clarified whether 3.7 km of non-roadside planting or 7.4 km of hedgerow enhancement, or both, will be delivered. It is recommended that both are provided. It should also be made clear how hedgerow improvements and ongoing management will be funded and delivered.
    - Grassland creation and management should be based on appropriate NVC community types – at present the mixes described in the landscape plan are not wholly appropriate. Emorsgate seeds offer better approximates to NVC communities and are of entirely native provenance.
    - Woodland creation will be based on appropriate NVC community types e.g. W8. Woodland planting should not be in straight lines.
    - Pond and wetland planting will be complex, respect local plant distribution and include a range of specific egg laying species for newts.
    - All management regimes will be fully described and costed to deliver beneficial management in perpetuity. Details of funding mechanisms should be supplied.

- A scheme to monitor the barbastelle population must be fully described, including potential remedial actions to address any negative trends in the barbastelle mitigation strategy.
- The planting of new woodland to part compensate for the loss of up to 4 core foraging zones of barbastelle is welcomed, but the location of the 2.5 ha of new woodland in the parkland to the south of the A120 is not considered to be a suitable location for this. Insufficient survey information has been provided to show that this will have a beneficial impact on the environment in general and on barbastelle in particular. There is no species list or NVC assessment of the existing habitat supplied sufficient to accurately assess its ecological value. There is no assessment of the invertebrate population that it may support. Ordinarily the invertebrate fauna would not be a major consideration but after communication with the landowner it is known that it approximates the definition of Parkland, has been unfertilised for decades and is grazed with a herd of organic cattle. Organic cattle are extremely rare locally and provide a highly valuable feeding opportunity for a range of bat species due to not being subject to anthelmintics (wormers). These persist in their dung and have an enduring negative effect on dung fauna. Conversely the dung and general presence of organic cattle will have a significant beneficial effect on invertebrate diversity and numbers.

  The field's proximity to other woodland, semi-mature Oak parkland character and organic status means that it is highly likely to make a significant contribution to the local invertebrate population, adding diversity of species and habitat. This will have consequent beneficial effects on the feeding resources available to barbastelle and other bat species. Its character and location means that it will function more like a large, complimentary woodland glade with multi-dimensional feeding opportunities due to its complex structure. It should not be dismissed as semi improved species poor grassland – as it is in the ecological report addendum. It has much more value than that. Irrespective of this, the presence of the semi-mature Oaks means that the assessment does not accurately reflect its ecological identity. Whilst not strictly conforming to the S41 definition of Parkland, it shares many features and is certainly moving towards this habitat.

  Therefore it is not considered to be appropriate to effectively replace one locally uncommon habitat of ecological value with another. This does not represent a substantial ecological gain, rather an exchange of one important ecological resource with another.

  This field could make a greater contribution to the barbastelle population e.g. a broad hedge bordering the green lane with a network of ponds to create a darker flight line, shelter and food source, or a floral enhancement of the pasture. However this should be with the agreement of the landowner because if this is not compatible with the current management of the field it will not result in the desired ecological uplift.

  If it is agreed that planting this field with trees is not acceptable on ecological grounds then alternative solutions should be proposed. There are several

other options available e.g. equivalent sized W8 woodland creation on arable land, flight line reinforcement through hedge management agreements. To do this in the time available it is recommended that a habitat enhancement fund is provided to seek opportunities with local landowners to accomplish a set of agreed habitat creation and management outcomes.

- The fund should be provided to facilitate additional barbastelle habitat creation and management – above and beyond just the replacement of the 2.5 ha of compensatory woodland planting. Quantifying the impacts of this development is extremely difficult, although the bat report has done a good job in attempting to do this. With a population of this importance it is reasonable to provide a contingency for additional habitat enhancement as a safety net for the long term survival and expansion of the colony. This is consistent with the NPPF requirement to conserve and enhance biodiversity and reflective of the national importance of this population. The bat survey has identified a potential severance of flight lines for up to 10% of the barbastelle population. It would seem reasonable that a mechanism for compensatory habitat creation for sufficient habitat to replace this resource should be provided. The compensatory hedgerow planting cannot be considered to be part of this calculation because it is to compensate for the habitat that is being removed, not the severance of flight lines. Similarly the road side habitat creation is unlikely to be utilised based on our knowledge of this species. Therefore at present there is a net loss of accessible foraging habitat for barbastelle as a result of this proposal. This must be addressed through additional habitat creation in appropriate and viable locations.

Summary

- HMWT is satisfied that sufficient survey information to make a judgement has now been provided.
- Collision risk has been adequately addressed but not flight line severance.
- Lighting plans acceptable in principle but more details required together with assurance there will be no increase in light levels to route to existing A120 underpass.
- Answers to the tests of a EPSML supplied. LPA should consider these in reaching their decision.
- Hedgerow planting or enhancement plans need clarifying in accordance with BS 42020.
- CEMP, Landscape, barbastelle bat mitigation strategy and GCN strategy can be conditioned. They need to state definitively what they will deliver i.e. BS 42020 compliant.
- Recommendations made for inclusions/amendments to these plans. Planting should be appropriate and authentic based on NVC.
- All management described and in perpetuity funding mechanism specified.
- Barbastelle monitoring scheme fully described together with potential remedial actions.

Additional habitat creation/management fund required.

Hertfordshire and Middlesex Bat Group

Original consultation response

Objection
The Hertfordshire and Middlesex Bat Group (HMBG) object to the current proposals for the A120 bypass due to the: lack of appropriate bat survey particularly with regard to important population of barbastelle bats known to be present within the area, poor analysis of the impact of the bypass on bats and the inadequate mitigation proposals put forward to ensure that the bat populations remain at a favourable conservation status and are not lost from the local area. The HMBG considers that the current proposals pose an unacceptable risk to the bat populations.

Inadequate Bat Survey
The bat report (Bat Survey Appendix D.6 13th May 2015) provides insufficient detail for a sound baseline to be able to adequately assess the impact of the proposed bypass on the bat populations. The HMBG assumes that the surveyors are fully licensed experienced surveyors for such an important road scheme but no information is provided in the report. Weather conditions can affect bat activity. Although the dates of the transects are given, there is no information on temperature, wind speed or rain during the surveys as is usual practice.

The position of the SM2 bat detectors are mapped and the transects walked are mapped but there is no interpretative mapping of the different bat species behaviour such as the flight lines and foraging areas. The HMBG considers that the surveys should have been designed to cover a wider area to better understand the bat population movements. Since a maternity site for barbastelles has been identified by the HMBG within close proximity to the bypass, it is particularly important that the flight lines for barbastelles (a bat species of international importance listed on Annex 11 of the European Habitats Directive and therefore receiving the highest level of protection) is fully understood prior to the construction of the bypass.

The HMBG considers that further field bat surveys are required to establish the barbastelle flight lines. This will be required as a baseline for future monitoring and to ensure that the mitigation measures are sufficient to maintain the species population at a favourable status within the area. Post construction monitoring will be required to provide feedback on the impact on the scheme with further proposals implemented should the monitoring show the population to be affected.

The HMBG dataset contains confidential sensitive species location data. ARUP have not mapped their own species data but have mapped the Bat Group's data. The HMBG provided ARUP with records from their database to enable them to be aware of previous bat species locations in the area and help them with the analysis of their own results. The data provided included the radiotracking survey undertaken by the Bat Group. The data is supplied with terms and conditions applied to their use. HMBG were surprised that their confidential records had been plotted as point data on a map without prior consent. ARUP have therefore not complied with the Bat Group conditions for the supply of data and have breached the data owners (HMBG) copyright.

Assessment of Impact
The construction of the A120 bypass would result in the: loss of the existing hedgerows along the route of the new road, sever existing bat flight lines, cause disturbance to areas currently used by bats and potentially could kill bats by collision with traffic. Of particular concern is that the increased traffic and light spillage from the new road would be brought closer to sensitive bat roosting areas including the important maternity colony of barbastelles identified by the HMBG.

Although barbastelles will fly over open habitats, they favour flying: through woodland, along tree-lined river/stream valleys and along overgrown field hedgerows. The Environment Statement (ES) states that the ground works within the land will require the removal of 3.4km of hedgerow, which they acknowledge will have an adverse impact on species dispersal. However the ES also states that the removal of the hedgerows will not significantly affect the barbastelles which could be disputed. The HMBG considers that the loss of 3.4 km of hedgerows is likely to have an impact on the bat populations flying within the area including barbastelles. Barbastelles fly between Bloodhounds Wood and to the west areas such as Braughing and Standon. The proposed bypass crosses the Ash Valley the Albury tributary and the Cradle Brook; watercourses likely to be followed by barbastelles.

Barbastelles avoid light and are currently flying and foraging within dark areas. Any change in the light levels could cause significant disturbance that could result in bats having to fly greater distances to foraging habitats and put the population of bats at risk. Any lighting of the new road that changes the behaviour of bats by causing them to deviate from their normal flight route to an alternative darker area could constitute illegal disturbance under the Conservation and Habitats Regulations 2010. The impact may be great enough to cause the bat population to leave the area. The ARUP Environment Statement (November 2015) also concludes that the permanent night time illumination of the proposed Tilekiln and Hadham Park Roundabouts is likely to divert light sensitive barbastelles from their existing dispersal routes, potentially reducing their home range and extent of accessible foraging leading to a reduction of breeding success of the barbastelle bats. The ES report page 203 concludes that the impact will result in a permanent adverse effect on barbastelle conservation status which will be significant at county level.

It is of particular concern to the HMBG that the east Hadham Park roundabout (area proposed for installation of permanent lighting columns) is within 100 metres of the underpass used by bats dispersing from their maternity site to the woodlands to the south of the A120.

The HMBG also notes that the ES page 198 states that the HMBG confirmed roosting activity within the wood but fails to state that the roosting site is a maternity site and therefore of high significance.

Bats emit ultrasonic calls to detect their prey by listening to the returning echoes and may also listen for the sounds generated by their insect prey. Traffic noise may mask these sounds.

There is also a risk of collision with motor vehicles. Work by Berthinussen and Altringham (2012) has shown that if forced to cross roads, most bats cross at heights that puts them in the paths of vehicles.

The proposed bypass is very close to Bloodhounds Wood, the disturbance created by the increased noise and light associated with the road is also very likely to impact on the bats roosting and flying within the vicinity of the wood.

Mitigation

Mitigation success is unpredictable and therefore the enhancement measures must be above the level required for compensation to increase the chances of success and retain the bat populations within the local area. The LPA must be sure that the scheme delivers certainty that the bat populations will not be adversely affected in accordance with their legal duty under the Habitats Directive and Conservation of Habitats and Species Regulations 2010. Wherever possible developments should aim to enhance the population of bats within the area. The 2012 National Planning Policy Framework (NPPF) states that the planning system should “minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity”. The compensation must be sufficient to provide alternative suitable flight and foraging habitats. To allow for uncertainties in bat mitigation habitat enhancements should also include a programme of long term habitat management improvements designed specifically for bats.

Considerable research on bats and roads has been undertaken by John Altringham and colleagues such as Berthinussen, A and Altringham, J 2012, the affect of a major road on bat activity and diversity. J Appl Ecol 49:82-89; Berthinussen, A and Altringham, J 2015 Development of a cost effective method for monitoring the effectiveness of mitigation for bats crossing linear traffic infrastructure, DEFRA research report WC1060 and Altringham, J and Kerth, G, Chapter 3 of Bats and Roads. This work needs to be taken account of when considering the mitigation put forward for the A120.

Three ‘hop overs’ are proposed in the scheme that includes planting trees of at least 3 metres in height on bunds. The research to date by John Altringham and colleagues has shown that the effectiveness of hop overs is not known. Hop overs are more likely to be used if there is continuous tree cover with branches overhanging the road. The HMBG considers that it is unlikely that Highways would be in favour of leaving branches to overhang the road. The planting of semi-mature oak trees to replace those lost is welcomed but even with these taller trees to achieve sufficient tree height and cover along the new bypass will still be a long term process by which time the disturbed bats may be lost from the area.

The construction of underpasses suitable for bats is more likely to be successful than the hop over points suggested. The work by the HMBG has already demonstrated that barbastelles will use the existing underpass below the A120 and therefore it seems logical that similar sized underpasses should be provided along the route of the road.

The ARUP Bat Report suggests installing culverts along the A120 where the route crosses hedgerows. This suggestion is welcomed however the dimensions given

for the culverts (1.5 metre height) are too small. Although bats will fly through culverts, to encourage them to fly through, the culverts need to be tall enough to allow bats to fly through without changing flight height or direction. If the underpass is too small or not positioned or designed to be suitable for bats to fly through, the bats are more likely to fly over the road risking collision. Although the bat report indicates that more than one culvert suitable for bats should be installed the landscape strategy (November 2015) plan only shows one culvert to allow both bat and badger use under the proposed road between Cradle End Brook and Hadham Park Bridge. The HMBG suggests that taller underpasses should be used with an increase in number of underpasses placed along existing/probable flight lines. The ES proposes the planting of approximately 9.7km of native species hedgerow which is welcomed but to increase chances of successful use, hedgerows should be planted in advance of the construction of the underpass that provide linking habitat from existing flight routes. The underpasses must be designed to be favourable for bats flying through with no lighting. Preferably measures should be put in place to prevent bats from flying across the road where the underpasses are located.

The ARUP Bat Report states that the two roundabouts will be subject to lighting but gives no detail on the lighting to be used although this is given in the landscape strategy report. The Landscape strategy (November 2015) states that permanent LED lighting columns (10 metres in height) will be erected at the two roundabouts. LED lights certainly have advantages over the high sodium lighting previously used along A roads. LED lights do not emit UV radiation and are more controllable with a directional narrow beam that reduces light spillage although some backward light spillage will still occur. White LED lights however have strong emissions in the blue region of the colour spectrum. The “Bats and Lighting in the UK” report by the Bat Conservation Trust and the Institute of Lighting Engineers states that a wavelength of 590-660nm (narrow band amber coloured LED light) should be used to allow humans to see whilst minimising disturbance to the bats. It is particularly important that the lighting columns proposed for the east roundabout does not interfere with the barbastelle bats flying through the existing underpass near the roundabout. Measures to reduce disturbance to bats will therefore need to consider the: use of amber coloured LEDs, the fitting of luminaire accessories such as cowls to direct the light to where it is needed, limiting the times that lights are on and selected dimming of lights in sections used/likely to be used by bats. The NPPF 2012 also requires that decisions should limit the impact of artificial light pollution on nature conservation.

In summary the HMBG objects to the proposed A120 scheme in its current format due to insufficient information (survey, impacts and mitigation) to enable an evaluation to be made on the likely effects on the important bat populations within the area. The LPA must be sure that the scheme delivers certainty that the bat populations will not be adversely affected in accordance with their legal duty under the Habitats Directive and Conservation of Habitats and Species Regulations 2010.

CPRE Hertfordshire

Original consultation response

We note the amendments to the draft scheme in response to comments from a number of organisations and individuals, some of which address issues that we raised.

CPRE Hertfordshire nevertheless considers that there are likely to be direct adverse impacts arising from the use of the bypass on users of the A120 and local roads that intersect with the A120, between the proposed bypass and the A10, west of Little Hadham, and in particular at Standon and Puckeridge. In our view these impacts must be addressed and planned for in advance of completion of the proposed Little Hadham Bypass.

These impacts are recognised in the Transport 'Assessment', which at section 9.2 accepts that additional traffic will be attracted to A120 between A10 and Bishop's Stortford and that mitigation of the transport impact at one junction (Station Road, Standon) is likely to be necessary. We agree, but we are even more concerned about impacts at the A120/High Street junction, for which there are no alternative junctions for traffic to and from the southern part of Standon and the local route to Much Hadham. These impacts will result in particular from the changes to the character of traffic flows westbound on the A120 once the effect of the break in flow at the Little Hadham traffic lights is removed.

Furthermore, we consider that there are likely to be adverse socio-economic impacts on Standon and Puckeridge, not recognised by the Environmental Impact Assessment, as a result of the impact on traffic movements at all the existing junctions in Standon.

These concerns have previously been drawn to the attention of the County Council as Highways Authority by local organisations, because of the potential consequences for local road users and pedestrians arising from the unbroken flow of traffic between Bishop's Stortford and the A10, and we are disappointed that this is not reflected in the planning application.

In particular, paragraph 9.2.2.1 of the Transport 'Assessment', states that '...*should it be determined through monitoring post implementation of the Little Hadham bypass, that significant capacity issues have arisen, HCC will consider opportunities for providing interim mitigation at appropriate locations in the Standon area.*' This is a totally inadequate response to a predicted problem that would need to be resolved as soon as it occurs, and for which mitigation measures should then be implemented immediately, not at some indeterminate future date.

We therefore request that the Planning Authority includes conditions and any necessary Highways Agreement provisions when granting planning permission, to ensure that appropriate mitigation measures are implemented as soon as possible at the Station Road and High Street, Standon junctions.

Hertfordshire Gardens Trust

Original consultation response

Our comments on 23 July 2014 raised the issue of the significance of the heritage asset of Hadham Hall and historic landscape. (HHER 15993). HGT consider that

the importance of the views from Hadham Hall towards Bloodhounds and High Woods is a key component in the historic significance of the landscape. The proposed Hadham Park Bridge to the east of the bypass would cause significant damage to this view and thus the significance of the site as detailed in our letter of 23/7/14. We are aware of damage to the setting of Hadham Hall and landscape caused by this bypass, with noise, light pollution and visual intrusion from bunds and other bridges. However, the Hadham Park Bridge would cause such significant damage that HGT (as part of The Gardens Trust, statutory consultees) hereby register their objection. An underpass in this location would not cause the loss of significance that this bridge does.

Historic England

Original consultation response

Summary
Historic England's interest in this application primarily relates to potential impacts on designated heritage assets at, Mill Mound scheduled monument, grade I listed building Parish Church of St Cecilia, grade II* listed buildings Hadham Hall and Gatehouse Range at Hadham Hall 60m west of the Hall and Little Hadham's Conservation Area. The proposed development lies within the vicinity of these heritage assets and is likely to impact on their significance through change within their setting. The Environmental Statement (ES) concludes that there will be an overall benefit to the impact on the setting of most of these assets, however we consider that on balance there is likely to be some overall harm to their significance. We conclude that whilst there is likely to be some harm to the significance of these assets, due to the interruption of their setting, it is up to the Council to weight this harm against the public benefits of the proposal in line with paragraph 134 of the NPPF as part of the decision-making process. Any harm requires clear and convincing justification in line with paragraph 132 of the NPPF. Mitigation should also be appropriate to the level of harm experienced.

Historic England Advice
We have commented on this site previously as part of a public consultation in 2007, as part of a scoping consultation in 2014, and as part of pre-application advice in 2014 (our comments are dated 19th April 2007, 28th July 2014 and 2nd December 2014). Our comments have highlighted potential impacts on heritage assets and, in addition to our comments below, we would refer you to these previous responses as part of this consultation.

It is acknowledged that the ES uses the Design Manual for Roads and Bridges (DMRB) assessment into impacts on the historic environment. We advised against the use of this method of assessment in our letters dated 28th July 2014 and 2 December 2014. It was highlighted that we believe that the assessment criteria and the associated matrices of the DMRB provide little useful contribution to the assessment of impacts and tend to confuse concepts of significance, sensitively and magnitude of impact. They also do not take into account the fact that all designated heritage assets, regardless of grade, are of national importance. It is considered that the use of this method of assessment has led to the discrepancies in terms of the level of impact on the historic environment as highlighted below. The concerns are compounded when considering the possible down playing of the level

of harm, which will result in subsequent inadequate level of mitigation proposed. We recommend that the approach to assessing significance and setting follows the advice set out in our Good Practice Advice Notes 2 and 3 (http://www.historicengland.org.uk/advice/planning/planning-system/).

The designated heritage assets primarily affected by this application are situated at Mill Mound scheduled monument, grade I listed building Parish Church of St Cecilia, grade IT listed buildings Hadham Hall and Gatehouse Range at Hadham Hall 60m west of the Hall, a number of Grade II listed buildings and Little Hadham's Conservation Area. The above heritage assets have a strong rural setting and can be appreciated within the strong rural setting as there is little development to the north of the A120. There is also a public footpath (Hertfordshire Way) that runs from south to north, past Mill Mound and through the application site which reinforces this appreciation. The setting and surroundings of these heritage assets greatly contribute to their significance and relationship with one another. Significance is based on a range of heritage values that make up the overall architectural, artistic, historic and/or archaeological interest. As the NPPF makes clear, significance derives not only from a heritage asset's physical presence but also from its setting. The NPPF defines setting as the surroundings in which a heritage asset is experienced, and makes clear that impact on significance can occur through change within the setting of a heritage asset. Impact on the significance of these heritage assets is likely to arise from the intrusion of the bypass within the rural landscape and the increased urbanisation of their setting which will result. The landscape and setting will be experienced differently with the associated visual, audio and odours associated with new roads and will ultimately lead to an adverse impact on the setting of a number of heritage assets.

The ES submitted with the application outlines that the reduction in traffic in the village would have a moderate beneficial effect on the setting of many heritage assets. It is agreed that the reduction in traffic in the village would have a moderate beneficial effect on the setting of many heritage assets including Little Hadham Conservation Area and listed buildings whose primary aspect affronts the A120. The ES concludes that there will be a benefit to the setting of Little Hadham Conservation Area due to the reduction in traffic to its principle aspect and within the village generally. The ES acknowledges a level of harm to the setting as a result of the intrusion of the bypass in the landscape to the north east but considers that this harm would be outweighed by the benefits. I can advise that we agree with this assessment on balance.

In terms of the impact on scheduled monument Mill Mound, the ES concludes a moderate adverse effect due to the impact on the rural setting. The ES considers this can be mitigated through existing and additional planting. The ES concludes that impact is significant but does not lead to substantial harm as outlined within the NPPF. Given the distance of the development to the Mill Mound it is considered that there will be more than a moderate adverse effect due to the impact on the rural setting. It is acknowledged that a public footpath bridge is required to suspend over the cutting of the bypass. It is also acknowledged that additional planting is proposed to reduce the impact on the Mill Mound, which is welcomed, and it is queried whether the bridge can be moved further away from the Mill Mound and/or opportunity is taken to improve visitor interpretation of the site to further reduce mitigate impacts.

Turning to the impact on grade I Parish Church of St Cecilia, the ES concludes that there will be a slight beneficial impact on significance, due to a reduction of traffic from its principle setting. The ES recognises an adverse impact in terms of views to the north of the church but concludes a slight beneficial impact overall. However, it is considered that whilst there will be a slight benefit from the reduction of traffic in the village from its principle aspect, this benefit does not outweigh the harm which would derive from an impact to the wider setting as a result of the bypass intruding the landscape to the north west. We consider the ES should be revised in this respect.

In terms of the impact on grade II*listed buildings Hadham Hall and a Gatehouse Range 60m west of Hall the ES concludes that there will be a slight beneficial impact on significance, due to a reduction of traffic from its principle setting. The ES recognises an adverse impact in terms of views to the north of the cluster but consider the impact of the can be ameliorated with additional planting. As a result the ES concludes a slight beneficial impact overall. However, as above, whilst it is considered that whilst there will be a slight benefit from the reduction of traffic in the village from its principal aspect, this benefit does not outweigh the harm which would derive from an impact to the wider setting as a result of the bypass intruding the landscape to the north. We consider the ES should be revised in this respect.

The ES concludes that there will be a benefit to the setting of Little Hadham's Conservation Area due to the reduction in traffic to its principle aspect and within the village generally. The ES acknowledges a level of harm to the setting as a result of the intrusion of the bypass in the landscape to the north east but considers that this harm would be outweighed by the benefits. I can advise that we agree with this assessment on balance.

It is acknowledged that the ES outlines that a number of areas with archaeological potential were found within the geophysical survey. The ES concluded that the proposed scheme had low potential for substantial harm to archaeological remains. The likely remains are considered to be of medium value and could contribute to regional research objectives. In addition the ES outlines that there would be a slight adverse impact on a number of Grade II listed buildings including cluster to the south of the bypass at Hadham Park. We would advise that discussions take place with the County and District archaeologists and conservation officers with regard to acceptability and appropriate mitigation.

Based on the above considerations, there is likely to be a degree of harm to the significance of a number of heritage assets and it is considered that this harm has not been properly assessed within the ES in many instances. Whilst this harm would be less than substantial in our opinion, it would still need to be weighed against the public benefits of the proposal in line with paragraph 134 of the NPPF as part of the decision making process. Any harm requires clear and convincing justification in line with paragraph 132 of the NPPF. Mitigation should also be appropriate to the level of harm experienced.

Recommendation
Before any decision is made on this application, there is a requirement to weigh up any harm to heritage assets against the public benefits of the proposal. Any harm

requires clear and convincing justification in line with paragraph 132 of the NPPF. Mitigation should also be appropriate to the level of harm experienced.

Hertfordshire County Council – Historic Environment

Original consultation response

The scheme is located within an area known to possess a high potential for Roman and medieval remains, and also a more general potential for prehistoric settlement. The existing line of the A120 follows the line of Roman Stane Street, and has been a focus for settlement from at least the Roman period. Nationally important evidence of Roman pottery and tile production lies close to the road, at Bromley Hall, and a substantial linear earthwork in Caley Wood is probably a late Iron Age linear dyke that was once dominant in the landscape.

The development therefore has major historic environment implications, and this office recommended that an the Environmental Statement submitted with the application should be informed by the results of a geophysical survey of the route, and an archaeological evaluation, in order that any archaeological remains that could be a significant constraint on the project would be identified at an early stage. The results would also inform the programme of archaeological mitigation that will be required prior to, and potentially, during, road construction.

A geophysical survey of the route was carried out in 2014 which identified a limited number of probable archaeological features, including an enclosure of uncertain date, and also anomalies of uncertain origin (Appendix B, Environmental Statement). A programme of trial trenching, to test the results of the geophysical survey, was subsequently agreed, in September 2015. This has not yet been carried out, due to a combination of factors, and the results of this overall assessment are therefore not available to inform the ES.

While this is undesirable, and contrary to the advice previously provided by this Office, I note that it is stated in the ES (Volume i: Non-technical summary) that a programme of trial trenching 'has been recommended, to be undertaken prior to construction' and therefore, on balance, I recommend that the following provisions be made, should you be minded to grant consent for the development:

1. A programme of detailed archaeological field evaluation of the road corridor and associated sites (site compounds, temporary access, etc.) via trial trenches, based on the results of the geophysical survey. This should be undertaken at the earliest opportunity and prior to any construction.

2. And such appropriate mitigation measures indicated as necessary by the results of the evaluation.

These may include:

a) the preservation of any archaeological remains *in situ*, if warranted, via amendment(s) to the design of the development, or construction methods

b) the appropriate archaeological excavation of any remains before any development commences on the site, with provisions for subsequent analysis and publication of the results

c) the archaeological monitoring and recording of the ground works of the development, including associated works for site compounds, landscaping, access, etc. (and also including a contingency for the preservation or further investigation of any remains then encountered)

d) the analysis of the results of the archaeological work with provisions for the subsequent production of a report and an archive, and the publication of the results, as appropriate

e) such other provisions as may be necessary to protect the archaeological interests of the site.

3. The placement of a groundworks condition on consent, to ensure that a detailed methodology is agreed and approved by the Planning Authority, in order to mitigate the impact of the development upon any archaeological remains present, that may be worthy of preservation in situ.

I believe that these recommendations are both reasonable and necessary to provide properly for the likely archaeological implications of this development proposal. I further believe that these recommendations closely follow para. 141, etc. of the National Planning Policy Framework, relevant guidance contained in the National Planning Practice Guidance, and in the recently issued Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England, 2015).

In this case appropriately worded conditions on any planning consent would be sufficient to provide for the level of archaeological investigation that this proposal warrants. I suggest the following wording:

A *No demolition/development shall take place/commence until an Archaeological Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of archaeological significance and research questions; and:*
1. The programme and methodology of site investigation and recording
2. The programme for post investigation assessment
3. Provision to be made for analysis of the site investigation and recording
4. Provision to be made for publication and dissemination of the analysis and records of the site investigation
5. Provision to be made for archive deposition of the analysis and records of the site investigation
6. Nomination of a competent person or persons/organisation to undertake the works set out within the Archaeological Written Scheme of Investigation.

B *The demolition/development shall take place/commence in accordance with the programme of archaeological works set out in the Written Scheme of Investigation approved under condition* ***(A)***

C *The development shall not be occupied/used until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under condition* ***(A)*** *and the provision made for analysis and publication where appropriate.*

If planning consent is granted, I will be able to provide detailed advice on the requirements for the investigations and provide information on professionally accredited archaeological contractors who may be able to carry out the investigations. Please allow 5-10 working days for consideration of any submitted archaeological Written Scheme of Investigation.

I hope that you will be able to accommodate the above recommendation.

Further consultation response

Having reviewed the additional documents and plans I can confirm that our advice concerning the historic environment implications of the development remains largely unchanged (advice dated 13/1/16).

As previously notified, a geophysical survey of the route was carried out in 2014 which identified a limited number of probable archaeological features, including an enclosure of uncertain date, and also anomalies of uncertain origin, within the road corridor (Appendix B, Environmental Statement). A programme of trial trenching, to test the results of the geophysical survey, was subsequently agreed, in September 2015, but had not been carried out when we commented on this application in January 2016.

I am now able to confirm that this trial trench evaluation of the road corridor took place in September 2016, and, although the trenching comprised only a very low percentage sample of the route, it did identify three foci of later prehistoric and Roman settlement activity, including two enclosures. Two further sites identified probably represent later prehistoric clay extraction pits.

A draft report on this archaeological evaluation is currently being revised by the archaeological contractor, Cotswold Archaeology but once approved by this office, can be submitted to the Planning Authority (as per the Environmental Statement. Volume i: Non-technical summary)

The results of the limited programme of trial trench evaluation carried out confirm that an appropriate programme of detailed archaeological field evaluation of the road corridor and associated sites should be undertaken well prior to road construction, in order that any archaeological remains that might be a significant constraint on the project can be identified at an early stage. The results can also inform the programme of archaeological mitigation that will be required prior to, and potentially, during, road construction.

I therefore recommend that the following provisions be made, should you be minded to grant consent for the development:

1. A programme of <u>further, detailed, archaeological field evaluation</u> via trial trenches of the road corridor and associated sites (such as site compounds, temporary access, bridges, embankments, the new under-pass, etc.), based on the results of the geophysical survey and the programme of trial trench evaluation carried out in September 2016, prior to any preparatory works, or road construction, taking place.

2. <u>And such appropriate mitigation measures indicated as necessary by the results of the evaluation</u>.

These may include:

a) the preservation of any archaeological remains *in situ*, if warranted, via amendment(s) to the design of the development, or construction methods
b) the appropriate archaeological excavation of any remains before any development commences on the site, with provisions for subsequent analysis and publication of the results
c) the archaeological monitoring and recording of the ground works of the development, including associated works for site compounds, landscaping, access, etc. (and also including a contingency for the preservation or further investigation of any remains then encountered)
d) the analysis of the results of the archaeological work with provisions for the subsequent production of a report and an archive, and the publication of the results, as appropriate
e) such other provisions as may be necessary to protect the archaeological interests of the site.

3. The placement of a groundworks condition on consent, to ensure that a detailed methodology is agreed and approved by the Planning Authority, in order to mitigate the impact of the development upon any archaeological remains present that may be worthy of preservation in situ.

I believe that these recommendations are both reasonable and necessary to provide properly for the likely archaeological implications of this development proposal. I further believe that these recommendations closely follow para. 141, etc. of the National Planning Policy Framework, relevant guidance contained in the National Planning Practice Guidance, and in the Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England, 2015).

In this case appropriately worded conditions on any planning consent would be sufficient to provide for the level of archaeological investigation that this proposal warrants. I suggest the following wording:

A *No demolition/development shall take place/commence until an Archaeological Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of archaeological significance and research questions; and:*

1. The programme and methodology of site investigation

2 The programme and methodology of site investigation and recording as suggested by the archaeological evaluation
3. The programme for post investigation assessment
4. Provision to be made for analysis of the site investigation and recording
5. Provision to be made for publication and dissemination of the analysis and records of the site investigation
6. Provision to be made for archive deposition of the analysis and records of the site investigation
7. Nomination of a competent person or persons/organisation to undertake the works set out within the Archaeological Written Scheme of Investigation.

B** The demolition/development shall take place/commence in accordance with the programme of archaeological works set out in the Written Scheme of Investigation approved under condition **(A)

***C** The development shall not be occupied/used until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under condition **(A)** and the provision made for analysis and publication where appropriate.*

With regard to the groundworks condition, I would welcome the opportunity to comment on its wording.

If planning consent is granted, I will be able to provide detailed advice on the requirements for the investigations and provide information on professionally accredited archaeological contractors who may be able to carry out the investigations. Please allow 5-10 working days for consideration of any submitted archaeological Written Scheme of Investigation.

Hertfordshire County Council – Flood Risk Management

Original consultation response

The drainage strategy prepared by Arup, dated 11th of November 2015, project number 235086-ARP-ZZ-ZZ-RP-CD-00001 submitted to the LPA presents an acceptable drainage strategy. The proposed development site can be adequately drained and mitigate any potential existing surface water flood risk if carried out in accordance with the overall drainage strategy.

The drainage strategy details an assessment of the potential increase in flood risk and how to manage the increase in run-off rates, volumes and overland flows. The applicant has demonstrated an appropriate sustainable drainage scheme can be implemented in accordance with industry best practice, prioritising on surface drainage methods such as swales, ponds and filter drains; which provide adequate storage, water quality treatment and where possible biodiversity benefits.

The drainage strategy has been shown on a layout plan along with the corresponding detailed surface water calculations of each SuDS scheme and the drainage strategy provides evidence of a clear management and treatment train for the SuDS system.

LLFA position

We would recommend to the LPA that outline planning permission could be granted to the proposed development if the following planning condition is implemented as set out below.

Condition 1

The development permitted by this planning permission shall be carried out in accordance with the approved drainage strategy carried out by Arup, dated 11th of November 2015, project number 235086-ARP-ZZ-ZZ-RP-CD-00001 and the following mitigation measures detailed within the drainage strategy:

1. Limiting the surface water run-off generated by the 1 in 100 year + climate change critical storm so that it will not exceed following rates:
    a. Catchment 1: 11.6 l/s
    b. Catchment 2a: 2.43 l/s
    c. Catchment 2b: 0.69 l/s
    d. Catchment 3: 7.62 l/s
    e. Catchment 4a: 4.35 l/s
    f. Catchment 4b: 11.43 l/s
    g. Catchment 5: 4.16 l/s
    h. Catchment 6: 6.39 l/s
    i. Catchment 7: 9.6 l/s
2. Discharge into the following watercourses:
    a. Catchments 1, 2a and 2b: Albury tributaries
    b. Catchments 3, 4a and 4b: River Ash
    c. Catchments 5 and 6: Cradle End Brook
    d. Catchment 7: Bury Green Brook
3. Undertake the drainage to include swales, ponds and filter drains as indicated in Appendix E of the drainage strategy.
4. Providing a total attenuation volume of 4402 to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year + climate change event. The minimum attenuation volume to be provided in each catchment as follows:

a. Catchment 1: 881 m^3

b. Catchment 2a: 183 m^3

c. Catchment 2b: 50 m^3

d. Catchment 3: 580 m^3

e. Catchment 4a: 326 m^3

f. Catchment 4b: 869 m^3

g. Catchment 5: 314 m^3

h. Catchment 6: 484 m^3

i. Catchment 7: 797 m^3

The mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason

To prevent flooding by ensuring the satisfactory storage and disposal of surface water from the site.

Informative to the LPA

The LPA will need to satisfy itself that the proposed underground surface water attenuation features can be maintained for its lifetime and we recommend the LPA obtains a maintenance and adoption plan from the applicant.

Hertfordshire County Council – Landscape

Original consultation responses

Landscape Policy & Guidelines

National Planning Policy Framework
The NPPF promotes the conservation and enhancement of the natural environment and good design, ensuring that developments respond to local character and are visually attractive as a result of good landscape design.

Conclusion
Overall the proposed development results in **permanent significant adverse landscape and visual effects**. This is largely due to the contrived and urban nature of the scheme imposed within a rural landscape.

In determining the significance of landscape and visual effects, some judgements of sensitivity and magnitude have been underestimated. Furthermore the siting and design of several potentially highly visible components of the scheme has not been resolved, these components are likely to increase the magnitude of change and the overall significance of effects that in turn could influence the requirement for mitigation measures.

Opportunities for landscape mitigation have been identified however the extent to which many will actually be realised is yet to be decided. The landscape strategy has sought to introduce new planting wherever possible however the opportunity for on-site mitigation is severely compromised by the tight site boundary, and large areas of flood banks that cannot be planted. With this in mind the opportunity for off-site mitigation potentially has an important role to play in providing compensation, however this has been dismissed.

In conclusion, the proposed development results in **permanent significant adverse landscape and visual effects** and is therefore not supported in principle. However in the event that, on balance of all planning considerations, the proposal is approved, then it is considered that the proposed landscape mitigation strategy is the most effective it can be within the constraints of the tight site boundary, and large areas of flood banks that cannot be planted.

Landscape and Visual

Planning Statement
At the inception of the design process, in setting out the case for the proposed scheme and the consideration of options, transport issues, flood alleviation and improving the environment of Little Hadham appear to be the key considerations. Disappointingly the effect of the proposal on the wider natural environment does not appear to be a consideration until much later in the process at the detailed design of Option 5. This has resulted in a scheme that appears contrived within the landscape.

It is vital that the natural environment is considered at the inception of the design process and the development of options, to ensure that adverse landscape and visual effects can be avoided as far as possible, resulting in a scheme that is ‘best fit ‘for its environmental context.

The document refers to the site context as *“semi-rural”* in nature however this is not correct, as semi-rural is reference to an area that is more suburban in character. The area is rural and is therefore likely to be more sensitive than a semi-rural area to this type of urban development; this should be reflected in the landscape/visual baseline against which the effects of the proposed development are measured. For example 9.6.2.3 Visual Receptors characterise views from residences across their gardens into the agricultural landscape beyond as semi-rural, potentially lowering their sensitivity to the proposed urban development, resulting in an overall lower significance of effects.

ES Volume II: Environmental Impact Assessment (EIA)

EIA Scoping (5.2)

At the scoping stage HCC requested that off-site landscape mitigation should be considered however this was dismissed as "*not practicable"* This is disappointing, especially considering that the provision of on-site landscape mitigation is severely compromised due to the constraints of a tight site boundary, and large areas of flood attenuation embankment that cannot be planted.

Landscape (9)

Landscape and Visual Effects (9.4.1)
The assumption that any landscape and visual effects assessed as being moderate or above are considered significant reflects best practice and is therefore fully supported.

Transport (9.6.2.5)
Albury Road is judged to be of low sensitivity, however it is suggested that due to its rural character and recreational users, it should be low – moderate.

Assessment of Effects (9.7)

Construction (9.7.1)
The landscape and visual effects during the construction phase have been assessed. Despite identifying several **significant adverse** landscape and visual effects, it is concluded that *"no specific construction mitigation to reduce landscape and visual effects has been identified."*

Landscape Effects (9.7.2.1)
With regards Wareside/Braughing Uplands the overall significance of effect is judged as neutral, however this should be neutral/slight (in line with the methodology set out in Appendix C).

With regards Upper Ash Valley the measure of the magnitude of change is not consistent with the methodology, it is suggested that the overall significance of effect should be moderate/large (not moderate).

Visual Effects (9.7.2.2)
There is concern that the photomontages do not illustrate components such as signs, lighting/CCTV columns, or deer fencing. Due to their vertical nature these are potentially highly visible aspects of the proposed development, especially across elevated and exposed sections of the scheme.

The document states that *"it will, however, be important to consider the potential location of these components when considering the potential impacts of the scheme."* It is questioned how this can be achieved where the siting and design of components has not been confirmed, see also comments under Operation 9.8.2 and Landscape Strategy.

Mitigation of Effects (9.8)

Operation (9.8.2)
With regards Deer Fencing, there is concern for the statement that it will be *"predominantly screened from views from outside of the proposed scheme."* The

Landscape Strategy clearly states that the fence specification and location is yet to be decided. It is advised that until the siting and design of the deer fence is confirmed, its effect on views cannot be determined.

Conclusion
There is no overall conclusion offered in the ES. Importantly it is not clear how the findings of the landscape and visual assessment have helped to shape the proposed scheme design, with the exception of the amendments to the western tie in. For example, a brief analysis shows that the most significant adverse visual effects are experienced by receptors to the east, south and west of the new road, it would therefore follow that a more robust mitigation strategy is implemented to reduce the impact upon these areas.

The Landscape Strategy does acknowledge that the landscape mitigation measures have been developed in response to the landscape and visual effects identified in the ES (see comments under Landscape Strategy), again this lacks any further detail.

The ES Volume I: Non-technical Summary provides an overview of the EIA findings and concludes that the proposed development results in **permanent significant adverse landscape and visual effects**. This conclusion is fully supported.

Landscape Strategy (LS)

It is evident from the LS that many key aspects of the scheme design have not been decided or fully resolved. The siting and design of aspects such as are likely to have a landscape and visual effects.

Opportunities and Constraints (2.3)

The LS sets out a suite of landscape opportunities and there is strong concern that many of the opportunities will not actually be realised, see comments below.

Opportunities
Careful route alignment and sensitive ground modelling – It is understood that there have been amendments to the western tie in, however the majority of the route has not been aligned in respect of landscape character; indeed it is a contrived arc that cuts across the Albury and Ash valley landscapes, and fragments the field pattern.

With regards ground modelling, the flood attenuation banks, embankments, cuttings and noise bunds, it is queried how these have been designed "*sensitively*," especially where they cut across the Albury and Ash valley landscapes.

Hedgerow, tree and shrub planting – The proposed planting strategy has sought to establish new planting wherever possible, however overall it remains severely compromised by a tight site boundary, and large areas of flood attenuation embankment that cannot be planted.

A strong rationale underpins the planting strategy, based on local landscape character, for example the number, spacing and frequency of hedgerow trees varies as you move between the lowland valley and the upland landscapes.

Sustainable urban drainage – There is concern for the statement that *"well modelled attenuation ponds can complement the river valley characteristics."* It is queried how this can be achieved, indeed the landscape strategy shows standard engineered attenuation ponds with banked edges in places and grass cover, that do not reflect the wider landscape character.

Bridge design finishes - The bridge design has been explored and it is agreed that, out of the options put forward, a three span bridge is the preferred option.

With regards bridge finishes an opportunity for finishes *"to respect the local landscape character and incorporate local materials"* has been identified, however the strategy goes to confirm that finishes are yet to decided and refers to concrete finishes or cladding where necessary.

Arboriculture Development Report

The report states that 30 no trees, 6 no groups and 13 no partial groups will be removed. Where the removal of any tree is unavoidable its loss should be compensated for with new tree planting. In general it is recommended that for each tree removed, two new replacement trees should be planted within the site, it is anticipated that the proposed development will deliver far in excess of this amount.

Ramblers Footpath Secretary – Bishop's Stortford

Original consultation response

The proposed bypass will bisect or affect the following Public Rights of Way, Footpath Little Hadham 57, Footpath Little Hadham58, Bridleway Little Hadham 35, Bridleway Little Hadham 36 and Footpath Little Hadham 34.

I am satisfied with the proposals for Bridleways 35 and 36.

I have other comments/suggestions and concerns on the remaining PROW, as follows:-

Footpath 57.
This will be diverted to link with Footpath 55. An improvement would be to extend Footpath 57 westward on the north side of the A120 to link up with Footpath Albury 21. Currently anyone wishing to walk from Footpath 55 to Footpath 21 is required to walk on the verge. Although theoretically this is a wide verge in practise it is overgrown in places requiring one to walk in the road.

Footpath 57 and Footpath 58.
These are proposed to be diverted to cross the new bypass, either by a pedestrian refuge, or via the flood defence / spillway under the A120. I understand that under normal conditions people will be able to use the underpass where they will be separated by a retaining wall. (The dual use underpass is a good idea.) Only in

extreme conditions will they be unable to use the underpass, where it will perform its primary role in preventing flooding of the A120. Given the extreme conditions experienced in Yorkshire and Cumbria it is becoming evident that current definitions of a 1 in a 100 occurrence may no longer be accurate and need to be revised. To avoid problems in the future I would suggest that whatever factors have been assumed they should have an added factor, maybe significantly higher than the current built in contingency that may have been allowed.

Footpath 34.
Footpath 34 is part of the Hertfordshire Way, and is a popular and well-used long distance trail. Currently Footpath 34 joins Bridleway Bishops Stortford 18 via an underpass, without crossing the A120. The proposal is to divert Footpath 34 so that it crosses the A120 via an uncontrolled pedestrian crossing. Due to its current use as part of the Hertfordshire Way, and for the safety of users, I believe Footpath 34 should be diverted via an underpass and not over the A120 as proposed.

Affinity Water

Original consultation response

Planning applications are referred to us where our input on issues relating to water quality or quantity may be required.

You should be aware that the site is located within the groundwater Source Protection Zone (SPZ) of Causeway Pumping Station. This is a public water supply and comprises of a number of chalk boreholes operated by Affinity Water Ltd.

The construction works and operation of the proposed development site should be done in accordance with the relevant British Standards and Best Management Practices, thereby significantly reducing the groundwater pollution risk. It should be noted that the construction works may exacerbate any existing pollution. If any pollution is found at the sites then the appropriate monitoring and remediation methods will need to be undertaken.

For further information we refer you to CIRIA Publication C532 "Control of water pollution from construction - guidance for consultants and contractors".