Ecological Statement

Commissioned by: ***Friends of Manning's Pit***

Land off Windsor Road, Barnstaple, EX32 4AG;

North Devon District Council

Planning Application No.: 62524

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Abbreviations used in this report

ASS	Additional Species Surveys, Cotswold Wildlife Surveys
BAP	Biodiversity Action Plan
BSBI	Botanical Society of Britain and Ireland
BTO	British Trust for Ornithology
CotWS	Cotswold Wildlife Surveys
CWS	County Wildlife Site
DA	Devonshire Association
DCC	Devon County Council
DBRC	Devon Biodiversity Records Centre
DBG	Devon Bat Group
DBP	Devon Biodiversity Partnership
DEFRA	Department of the Environment and Rural Affairs
DWT	Devon Wildlife Trust
EcIA	Ecological Impact Assessment
EPS	European Protected Species
ES	Environmental Statement, Framptons
FMP	Friends of Manning's Pit
FRA	Flood Risk Assessment, WSP / Parsons Brinckerhoff
NBN	National Biodiversity Network
NDDC	North Devon District Council
NDLP	North Devon Local Plan
ND&TLP	North Devon and Torridge Local Plan
NPPF	National Planning Policy Framework
NVC	National Vegetation Classification
PEcA	Preliminary Ecological Appraisal, Cotswold Wildlife Surveys
PFMA	Pet Food Manufacturers Association
SPG	Supplementary Planning Guidance
SSSI	Site of Special Scientific Interest
TPO	Tree Preservation Order
TSA	Tree Survey Assessment, Cotswold Wildlife Surveys
WCA	Wildlife and Countryside Act 1981

Summary

The ES fails to make a proper or accurate account of existing ecological interests due to its reliance on inaccurate information contained within the PEcA & ASS. Therefore its ecological impact assessment process is unreliable and insufficient for determination.

The desk review of existing data is partial.

The principal survey was a walkover on 22nd January 2016, which is an inappropriate date on which to make a full assessment. This was compounded by an apparently inexperienced surveyor who failed to identify features of interest or habitats correctly and was unable to produce an accurate plan. This is not a competent Phase 1 or sufficient basis on which to build an ES.

NE recommends a Phase 2 level survey for all Priority Habitats and protected and Priority Species affected. The applicant undertook Phase 2 for only bats, Hazel Dormouse and reptiles, of which there are critical failures in Hazel Dormouse and Bat surveys. The ES fails to identify and account for Priority Habitats and other features and species of interest.

The ES is data deficient and no worthwhile ecological baselines are provided, in respect of interests associated with the SSSI, the CWS, wildlife corridor function, woodland, grassland, hedges, river, wetland, Otter, breeding birds, small mammals, amphibians, invertebrates, veteran trees and land instability. The evaluation process is therefore flawed and there is no meaningful impact assessment in any instance.

The Council requested a cumulative impact assessment. The ES makes no serious attempt to address this issue. It fails to review the nature of other developments or place them in any ecological or spatial context. There is no quantification of losses or disturbances or how these may relate to potentially affected interest groups such as bats

Predation by cats and disturbance by dogs are not treated seriously in the ES. This report indicates likely local increases of around 52 more cats (10 on application site) and 92 more dogs (17 on application site). These pose potential serious threats to CWS and SSSI interests, through disturbances to bird life and Otter plus predation of small mammals and birds. The SSSI's Hazel Dormouse population is at risk from increased predator pressure.

Interest features at risk within Bradiford Valley SSSI are breeding and foraging birds, Hazel Dormouse, Otter, Horseshoe bats, invertebrates and riparian habitat. There are no baseline surveys in respect of these interest features other than for Hazel Dormouse. There is a failure in the ES to deal with potential impacts on these in any rational way. Disturbances to bird life and Otter would increase as would predator pressure on Hazel Dormouse. There would be a net loss to riparian interests. Horseshoe bat movements in the valley are liable to become restricted.

Disruption to Greater Horseshoe Bat activity could also adversely affect the Caen Valley Bats SSSI.

There is no Phase 2 survey of Shearford Lane and Bradiford Scarp CWS or of its woodland and wetland habitats. Impacts on wildlife interests are largely ignored. Direct damage would occur from construction work associated with footways and probably remediation work associated with land instability. During the operational phase the intensity of disturbances from people and their domestic pets would substantially increase. Habitat deterioration can be anticipated with severe impacts on breeding birds, small mammals, Otter and flora. Net losses to woodland and wetland habitats would accrue.

Wildlife corridor issues are poorly served within the ES. There is a failure to disclose the existing designations, North Devon Key Features Site and North Devon Network Site which cover the whole of the application site. Development here would reduce the value of this corridor for most species but the most significant issue here is for the movement and sustenance of European Protected Species. Movement of Otter and dispersal of Hazel Dormouse would become more

restricted. There is a critical issue in respect of Horseshoe bats. Populations particularly Lesser Horseshoe Bat may become compromised. Development would occur over and adjacent to known flyways. One of these is important and possibly essential to local Lesser Horseshoe Bats. The ability of Horseshoe Bats to range freely through the valley would be impaired.

The importance to bats of open interconnected landscape here is recognised in NDDC's decision notice for the adjoining land, Westaway Park, which included provision of a bat corridor. It would seem inconsistent to allow development adjoining this important corridor.

Hedges are poorly served in the ES. They were surveyed to below Phase 1 level standard. There is no attempt at a Phase 2 survey or to identify "Important" hedges (Hedgerow Regulations 1997). The most valuable ecological features, which include veteran trees, are missed. The issue of survival of the interest features within an area of public open space are ignored. Severe negative impact can be predicted on interest features, which include veteran trees, invertebrates, breeding birds and Lesser Horseshoe Bat flyways. There would be a net loss in biodiversity.

The January grassland survey is unreliable and there is no Phase 2 assessment. Most of the application site supports grassland of conservation merit. It can be described as recovering MG5 grassland and is currently, in large part, on the cusp between semi-improved and unimproved conditions. It is of value to flora, invertebrates and foraging bats, including Greater Horseshoe Bat. The grassland is currently close to CWS standard. If the process of recovery continues at the current rate then it could reach SSSI standard within a generation. Development would destroy a significant area in perpetuity, including much of the best areas on the slopes and in the valley. Remaining grassland left in public open space would deteriorate. A significant net loss in biodiversity is predictable.

Over the whole site a net loss in floral interest is anticipated.

The ecological impact assessment process and therefore the ES fail in respect of bats. The quality of the submitted information is not good. There are serious failures in the surveys undertaken, sufficient for the ES to be considered data deficient and therefore unsuitable for determination.

The desk study and roosts surveys are poor. The activity survey was minimalist being restricted to just 5 nights of transect work and 1 night of automatic detection. The transect work missed out the application site's south-eastern hedge known to be important for Lesser Horseshoe Bat. The surveys produced on average 21 bat passes / night with on average 1 bat every 74m. This is less than half of that found on the adjacent field of 53 bat passes / night and a bat pass every 11m (Dean 2013). There was a failure to properly survey for Horseshoe bats using automatic detection despite many indications of the valley's importance for them.

The Bradiford valley is good for bats with at least 10 species present. Development would reduce foraging opportunities and the impact of additional lighting is not properly addressed.

All survey work locally, except for the applicant's work, has established the significance of the local landscape for Horseshoe bats. Whenever surveyed effectively every linear feature has been used by both Greater and Lesser Horseshoe Bats. The valley and its habitats are important for the sustenance of both species. The two most significant features identified are Shearford Lane, particularly for Greater Horseshoe Bat and the application site's south-eastern boundary hedge with Westaway Park, for Lesser Horseshoe Bat. The latter is at severe risk due to the proximity of development. This flyway may serve a roost and therefore be critical for the species survival. No effective mitigation is offered.

The value of the local landscape for Horseshoe bats would be severely compromised by the proposed development.

The value of Bradiford Water for Otter would decline due to an increase in disturbances.

The Hazel Dormouse survey described fails to reach the standard of competent, as its score is less than 20. Its conclusion that Hazel Dormouse is absent is unreliable. As Hazel Dormouse is present within the SSSI the application site is within normal dispersal range. They are likely present in suitable habitats throughout the valley in small numbers. An increase in predation by cats would occur. This could have a severe impact on the species ability to survive locally including within the SSSI.

Other small mammal species would be equally at risk. A net decrease in biodiversity is predictable.

The applicant fails to survey breeding birds despite it being an interest feature of the adjoining SSSI and therefore considered of national significance. Levels of interest within the application site, Shearford Lane and Bradiford Scarp CWS and Bradiford Valley SSSI would all decline due to suburbanisation, disturbances and increased predation. The full extent of the negative impact cannot be determined in the absence of base-line data. A net decline in biodiversity would occur.

The ES fails to assess invertebrate potential correctly. The habitat potential is very good. Features associated with the internal hedges, including veteran trees are of great potential. Habitat losses of grassland, woodland and wetland would reduce diversity. Survival of invertebrate interests associated with internal hedges is considered problematic. A net loss in invertebrate interests can be expected.

The following national and local planning guidance policies are considered relevant for determination.

National Planning Policy Framework Sections: 109; 110; 113; 114; 117; 118; 120; 121; 125

North Devon Local Plan Saved Plan Policies 2006:-

- ENV 1 Development in the Countryside
- ENV 8 Biodiversity
- ENV 10 Locally Important Wildlife or Geological Sites

- ENV 11 Protected Species
- ENV 12 Sites of Special Scientific Interest

North Devon and Torridge Local Plan, Emerging Plan Policies, March 2015:-

- ST14 Enhancing Environmental Assets

The principal contraventions of the appropriate guidance are

- There would be a significant net loss in biodiversity.
- Development would be on land of conservation merit.
- Disruption would occur to a designated wildlife corridor. There would be a loss in functionality. This would be most pronounced for the associated European Protected Species, Hazel Dormouse, Otter, Greater Horseshoe Bat and Lesser Horseshoe Bat.
- Interest features of Bradiford Valley SSSI are threatened through disturbances. Breeding birds, Otter, Hazel Dormouse and Horseshoe bats are all liable to be adversely affected.
- The sustenance of the Greater Horseshoe Bat colony at Caen Valley Bats SSSI may be adversely affected.
- A County Wildlife Site, Shearford Lane and Bradiford Scarp CWS would be damaged through construction works and its value as a wildlife habitat would be very much diminished by disturbances during the operational phase.
- Potential negative impacts on European Protected Species are unacceptable. Local populations of Hazel Dormouse, Otter, Greater Horseshoe Bat and Lesser Horseshoe Bat are all likely to be diminished by the proposals. The threat to Lesser Horseshoe Bat movements is very severe and could potentially affect the species ability to sustain its local population.
- Damage and/or destruction would occur to a series of Priority Habitats and Species, most noticeably Lowland Mixed Deciduous Woodland, Lowland Meadow, Hedges, Lowland Fen, Veteran trees, bats, breeding birds, small mammals and invertebrates.
- Lighting issues in relation to retaining bat interests are not addressed.
- Land instability issues and their impact on wildlife are ignored.
- There is no compensation and little mitigation offered. Most of the proposed mitigation is either ineffective or misguided and destructive.

1. Introduction

1.1 My name is John Day. I am an independent ecological consultant and have been professionally employed as an ecologist since 1976. Appendix 1 contains a resume of some of my more relevant experience.

1.2 This report was commissioned by Friends of Manning's Pit (FMP), a group of local residents, in response to North Devon District Council (NDDC) planning application no: 62524 Land at Windsor Road, Pilton, Barnstaple, EX31 4AG submitted by Summix (Barnstaple) Developments LLP. From their local knowledge, FMP had concerns that the applicant's submitted documents failed to adequately address all relevant biodiversity issues. This report supports that view.

1.3 This report addresses the issues in submitted documents pertaining to ecological matters. These are the Preliminary Ecological Appraisal (PEcA), the Additional Species Surveys (ASS), Tree Survey Assessment (TSA), all prepared by Cotswold Wildlife Surveys, the Site Investigation Report, prepared by Intégral Géotechnique (Wales) Limited, the Flood Risk Assessment, prepared by WSP/ Parsons Brinckerhoff and the Environmental Statement (ES) prepared by Framptons.

1.4 This report starts by reviewing the limitations within the submitted documents before attempting to address the gap left in relation to cumulative impact and domestic pets. It then proceeds to review, assess and evaluate impacts in relation to biodiversity interests. It deals first with designated areas and then covers wildlife corridors and issues relating to green infrastructure. Specific features of biodiversity interest are then covered; firstly, habitats associated with the application site, secondly, flora and thirdly, the various faunal interests. Lastly, the interests of the application site are considered in relation to planning guidance and policies.

2. Limitations within Submitted Documents

2.1 Introduction

2.1.1 The ES fails to make a proper or accurate account of existing ecological interests. This is in large part due to its reliance on unreliable information contained within the PEcA & ASS. Due to this the ecological impact assessment is unreliable and therefore insufficient for determination of this planning application.

2.1.2 The PEcA provides the information used to inform the ES on all ecological matters other than those covered in the ASS (Bats, Hazel Dormouse and Reptiles). The bulk of the information is collated and interpreted from two studies, a desk exercise identifying known interests and a walkover survey. There are significant failures within both. In addition, there are issues with the additional species surveys. They are serious concerns with the Hazel Dormouse survey and critical failures within the Bat survey.

2.1.3 The ES is not always easy to follow due to an apparent lack of proof reading. There are many errors including spelling, punctuation, numbering and unreferenced asterisks.

2.2 Desk Exercise

2.2.1 The desk exercise as described within the submitted documents lacks proficiency:-

- Selective use of data from surveys on adjoining land, especially Westaway Park (appl.no: 56685) – Hazel Dormouse referenced (ASS section 5) but critical bat surveys are ignored.
- Greater Horseshoe Bat – Caen Valley SSSI, NE concerns missed or overlooked
- SSSI citation (Appendix 3) - bird information ignored.
- No attempt to review disturbance based on available literature

There is also a failure to disclose original data, as a result anomalies occur within the following:-

- Hazel Dormouse records
- Invertebrates – loss of records
- Otter records – loss of records
- Application site designations ignored (North Devon Key Features Site and North Devon Network Site)

These problems are covered more fully under the relevant sections

2.3 Habitat Survey

2.3.1 The ES states: - *5.3.15 On 22nd January 2016, a qualified and experienced ecologist from Derek Gow Consultancy Ltd undertook an ecological survey of the application site.*

2.3.2 A description of limitations is a part of the ecological impact assessment process. Severe limitations are placed on any ecological survey undertaken on 22nd January, not only are there restricted daylight hours but many ecological interests are not observable in winter.

2.3.3 The PEcA section 3.2 names the surveyor as *Daniella Siddall* of *Derek Gow Consultancy Ltd.* It is relevant that this individual was also responsible for another Phase 1 survey on the same day on a nearby but wholly separate site and planning application, Westaway Plain Planning Application no: 61067. These surveys are reported in section *3.2 Habitat survey* in of both reports, which are reproduced in Appendix 2.

2.3.4 The standard of the Phase 1 report indicates an inexperienced surveyor. This is supported by the profile for Daniella Siddall as advertised on the website for Derek Gow Consultancy Ltd.:-

Daniella Siddal: *Daniella joined the Derek Gow Consultancy at the beginning of 2009. Daniella has been trained in Animal Husbandry and Care by Duchy College and is a full time animal keeper. When not at work Daniella enjoys riding her horse.*

http://www.watervoles.com/husbandry%20staff.htm

This is not the profile expected of an experienced and qualified ecologist; no ecological qualifications are apparent.

2.3.5 The PEcA claims that a Phase 1 survey *was conducted using standard JNCC (2003) techniques and methodologies.* The survey as reported in the PEcA does not reach the standard expected of a Phase 1 survey. It holds many inaccuracies, omits significant interests and fails to properly record. It is of a low standard, appears hurried and the work of an inexperienced observer. These include:-

1. It is recommended practice to plot special features on a plan with target notes attached. Special features are noted in the text such as a large Oak tree and trees suitable for bat roosts but these are not located on any plan.
2. There are no target notes.
3. The plan shows a species rich hedge along the fence line bounding the grassland on its northern side. There is no hedge here. West of the footpath it is mainly just a fence. East of the footpath it is mainly a blackthorn thicket associated with the woodland. This is up-growth of scrub dating from the installation of fencing, which was undertaken about 15 years ago.
4. Most of the woodland within the application site adjoining Bradiford Water and east of the footbridge is missed. Some is annotated as a species rich hedge.
5. Towards the northwest corner of the application site is Manning's Pit. It supports wetland habitats. These are ignored or overlooked.
6. Veteran trees associated with the application site's internal hedges are ignored.
7. The grassland assessment is incorrect and was made at an inappropriate time of year.
8. Missed features and poor mapping indicate that parts of the site were missed, perhaps due to time constraints.
9. Birds misidentified

2.4 Habitats of Principal Importance (Priority Habitats)

2.4.1 As defined under section 41 of the Natural Environment and Rural Communities Act 2006 these are a material consideration to the planning process. This is supported by the NPPF. For instance, section 117 seeks to minimise impacts on biodiversity. It states that planning policy should *promote the preservation, restoration and re-creation of priority habitats*

2.4.2 Natural England (2017) has indicated that an assessment of Habitats of Principal Importance is a fundamental requirement of the EIA process

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.4.3 The ES fails to take proper account of Habitats of Principal Importance. The subject is entirely ignored. The only reference at all is a brief mention within its section on *Legislative and Policy Framework.* There is no attempt to apply the policy requirement to this site. The ES even fails to identify which of the site's habitats are Habitats of Principal Importance.

2.4.4 The following Habitats of Principal Importance occur within the red-line boundary of the application site.

- River
- Hedgerow
- Lowland Mixed Deciduous Woodland
- Lowland Meadow
- Lowland Fen

2.5 Evaluation and Impact Assessment

2.5.1 Following on from less than rigorous desk and field exercises there are substantive problems with assessment and evaluation in the ES, PEcA and ASS. There are limitations relating to the following ecological interest features, associated with the application site:-

- Woodland
- Hedges
- Trees
- Grassland
- Running Water
- Wetland
- Birds - breeding and foraging
- Bats
- Horseshoe Bats
- Otter
- Hazel Dormouse
- Other small mammals
- Flora
- SSSI interests
- CWS interests
- Wildlife Corridors and Green Infrastructure

These are covered in detail under the relevant section later in this report.

2.6 Cumulative Impact

2.6.1 The Council has requested detail on cumulative impact. The applicant deals with the subject in the ES. The ES makes no serious attempt to address this issue. It fails to review the

nature of other developments or place them in any ecological or spatial context. There is no quantification of losses or how these may relate to potentially affected interest groups such as bats or badger. The size and nature of likely impacts, particularly disturbance by people and their domestic animals is not dealt with in any meaningful manner.

2.7 Domestic Animals – Assessment and Ecological Impact

2.7.1 Domestic Cat

2.7.1.1 The submitted documents fail to provide any meaningful ecological evaluation or impact assessment for the application site, the CWS or the SSSI in relation to cat predation. They merely offer that there would be more cats in the vicinity but they would not constitute a problem to SSSI interests because dog walkers would frighten them from using the footbridges. This is not an ecological appraisal. It fails to address the issues.

2.7.1.2 Daytime dog-walking is an irrelevance. A reduction in habitat quality post-development due to disturbance from increased predator pressure is predictable within both the SSSI and CWS. Most domestic cats retain their hunting instincts. The majority of urban domestic cats have small home ranges and may not pose, in the main, a direct threat to SSSI interests. Within any population, there is a small but significant group that retain wild-type hunting behaviours. This group of cats are mainly efficient nocturnal hunters with large home ranges, which could include the whole extent of the SSSI. These cats will have a much higher kill rate than average and it should be presumed that they are capable of making a kill on most nights, between April and October.

2.7.1.3 National figures on cat ownership vary. The Pet Food Manufacturers Association (PFMA) figure for cat ownership in the southwest region in 2016 is 21% of households. Whilst an independent analysis published in the Veterinary Record (Murray et al, 2010) gives the ownership figure for cats as 26% of households and notes that ownership is higher in rural and suburban areas.

2.7.1.4 The application site's 41 new houses should contribute an additional 10 cats to the local landscape. The applicant has been asked to consider cumulative impact in association with planning applications at Westaway nos: 56396, 56685, and 61067. These are scheduled to provide 182 new homes. The local cat population can be expected to increase by around 52 animals. All new homes would be close enough to the SSSI to be within the nocturnal hunting range of domestic cats.

2.7.1.5 The Mammal Society (Woods et al 2010) give minimum national predation rates by domestic cat on wildlife for the main breeding period between April and August. Each cat killed on average (back-transformed mean) a minimum of 8.1 mammals, 4.1 birds and 2.6 reptiles or amphibians during this period. Applying these means to development here gives Windsor Road losses of 78 mammals, 40 birds and 25 reptiles / amphibians, whilst cumulative losses from all local developments due to predation of 424 mammals, 215 birds and 136 reptiles / amphibians.

2.7.1.6 These are significant losses within a small area on the urban fringe which includes a SSSI and a CWS. Shearford Lane and Bradiford Scarp CWS is at high risk as 82% is within 100 m of new development and all within 200 m. Predator pressure can be expected to increase significantly within the CWS. Small mammal and breeding bird populations are likely to be considerably reduced within the CWS. There would be deterioration in the functionality of the CWS.

2.7.1.7 The SSSI is slightly more remote (200 – 400 m) for most cats. So on the presumption that only the most avid, wild-type hunters would exploit this area and these may constitute around 1 in 10 of the new cat population then about 5 additional (to current levels) would hunt within the SSSI on a regular basis. If these cats were taking a prey item every other day between April and October then the SSSI would lose more than 500 small mammals, birds and reptiles every year. Such predation rates could lead to the loss of any species with small vulnerable populations, a typical example would be Harvest Mouse. Potential impact on the SSSI's Hazel Dormouse population is considered high. This is dealt with in detail within section

6.5 *Hazel Dormouse*. Predatory cats are efficient hunters of newly fledged young birds and nestlings. Cats may have the potential to suppress breeding success rates here. More cats would also create competition with native predators. Some, such as Weasel, would be vulnerable to predation. Overall the carrying capacity of the SSSI for native predators, such as Owls, Foxes, Sparrowhawk, would be reduced through prey availability.

2.7.1.8 The introduction of 50 or so more domestic cats to the slopes above the Bradiford valley would undoubtedly have an impact on the SSSI. Predator pressure would increase. There is an increased survival risk for native species with small populations. Hazel Dormouse survival could be put at risk. The resilience and healthy functionality of the SSSI could be at risk from a surge in predator pressure.

2.7.2 Dogs

2.7.2.1 National figures on dog ownership vary. The PFMA figure for dog ownership in the southwest region in 2016 is 28% of households with an average of 1.4 dogs per owner. Whilst an independent analysis in the Veterinary Record (Murray et al, 2010) gives the ownership figure for dogs as 31% of households and notes that ownership is higher in rural areas. Therefore, the application site's 41 new houses should contribute about 17 additional dogs to the current situation. The applicant has been asked to consider cumulative impact in association with planning permissions at Westaway nos.: 56396, 56685, 61067, which should provide 182 new homes. These should contribute about 75 additional dogs. The combined total of new dogs in the local neighbourhood would be about 92.

2.7.2.2 All of the new homes are within 200m and have good access to either the CWS or SSSI. Dog walking along Shearford Lane and land to the west would increase markedly. Most of the additional dogs would probably visit these areas on a daily basis. The applicant has failed to provide a baseline on current usage by dog walkers within the areas of ecological interest. It would seem reasonable to suggest that 20% of the new dogs would be taken into the SSSI

every day. A steady and relatively continuous passage by dogs, of which a proportion would be unleashed, throughout daylight hours may produce such an ongoing level of disturbance that foraging activity by birds would be severely reduced. This is dealt with in more detail under section 6.3 *Birds*. The capacity of the SSSI to support birds could be substantially lessened.

2.7.2.3 More activity by dogs along the river would reduce its value to Otter.

3. Designated Sites

3.1 Shearford Lane and Bradiford Scarp CWS Interests

3.1.1 There is a failure to account within the ES and supporting documents. The main impacts on CWS interests are:

Construction phase:-

- Disturbance and loss of habitat to footway construction (see section 5.1 *Woodland*)
- Loss of habitat associated with remediation and land instability (see section 5.5.2 *Manning's Pit Land Instability*)

Operational phase:-

- Disturbance (see also sections 5.1 *Woodland* and 6.4 *Otter*)
- Operational phase disturbances include people movements, dog movements, cat predation, play activities, wilful damage, increased noise and increased light spill.

3.1.2 The disruptive and damaging activities would result in a reduction in the value of the CWS to small terrestrial mammals, foraging bats, breeding birds, herptofauna and potentially invertebrates. In addition, ground flora interests would be reduced through loss and disturbance. The quality and value of the CWS would be reduced overall.

3.2 Bradiford Valley SSSI Interests

3.2.1 There is a failure to account within the ES and supporting documents. Interest features are either ignored or inaccurately represented. The impact assessment is anecdotal, inaccurate and lacks an evidence base. No ecological baseline has been established from which to measure impact.

3.2.2 The SSSI citation (Appendix 3) and information supplied by NE (2017) and DBRC identify the following as features of interest:-

- Ancient woodland
- Stream
- Meadow
- Pond
- Breeding birds
- Hazel Dormouse
- Otter
- Greater Horseshoe Bat
- Invertebrates

3.2.3 Whilst the integrity of habitats within the SSSI is not directly threatened by the proposed development, there remains the significant possibility that the overall value for wildlife could be diminished. The principal pathway for negative impacts is through disturbance in its widest, ecological sense. The interest features threatened in this way are Birds, both breeding and foraging, Otter, Horseshoe bats, small mammals, including Hazel Dormouse and herptofauna.

3.2.4 The detail of likely impacts on SSSI interests is covered under the relevant faunal section:

- *2.7 Impact from domestic animals*
- *6.2.6 Horseshoe bats*
- *6.3 Birds*
- *6.4 Otter*
- *6.5 Hazel Dormouse*
- *6.6 Small Mammals*

3.2.5 There is a serious problem for impact assessment. The applicant has failed to supply meaningful base-line data in respect of all of the above interest groups. However, given the potential level of predictable disturbances, mainly due to domestic animals, some indication of likely outcomes is possible. In summary:-

- There would be a high and increased risk both to ground nesting birds and to ground foraging birds, throughout the year. Overall the carrying capacity of the SSSI for birds is predicted to fall.
- There would be an increased level of disturbance to riparian habitats. The value of the SSSI for resting Otter would be substantially reduced.
- Smaller mammals with low population sizes, including Hazel Dormouse, would be at severe risk from increased predation by domestic cat. Local extinctions are possible.
- The integrity and functionality of the environs of the SSSI for Horseshoe bat movements would suffer a severe negative impact and the carrying capacity of the SSSI would fall.

3.2.6 These are severe disturbances to SSSI interests. The level of potential damage from the proposed development, especially when taken in combination with other recent permitted developments is unacceptable. Under these circumstances planning guidance is clear; development should be directed elsewhere.

3.3 Caen Valley Bats SSSI Interests

3.3.1 NE (2013 & 2017) indicates that Bradiford valley is a significant foraging area for Greater Horseshoe Bat's related to the internationally important colony at Caen Valley (Appendix 4).

3.3.2 Loss of foraging opportunities and disruption of known flyways are predictable outcomes should planning permission be granted. The applicant makes no reference to this issue.

4 Wildlife Corridors Green Infrastructure and Ecological Networks

4.1 Planning background

4.1.1 Wildlife corridors, stepping stones and ecological networks are recognised as having significance within all levels of relevant planning guidance.

4.1.2 The NPPF is unequivocal in its recognition of the vital role that wildlife corridors and ecological networks have for the maintenance of the nation's biodiversity. Attention is drawn to their role within the planning process in sections 109, 113, 114 and 117. The weight to be assigned to this function can, in part, be gauged from reference to *ecological networks, stepping stones, networks of biodiversity* and *green infrastructure* on no less than seven occasions within the Framework.

4.1.3 The importance of wildlife corridors and functionality on a greenfield site, within the Taw / Torridge estuary area was recognized in the Inspector's decision notice for the Knapp marina appeal in 2015, APP/W1145/A/14/2224155.

4.1.4 Emerging Local Plan Policy ST14 states its aspiration for an *enhanced network of designated sites and green infrastructure.*

4.1.5 North Devon DC saved policy ENV 8 provides guidance on ecological networks: *development will not be permitted where it harms a substantive biodiversity habitat, species, network or landscape feature.* Sections 5.25 and 5.26 of NDLP (Appendix 5) provide context for saved policy ENV 8. They report that Barnstaple's biodiversity networks have been identified in the document *Local Nature Conservation Sites and Biodiversity Networks in North Devon* produced by DWT and that *this document is adopted as Supplementary Planning Guidance.* There is a specific plan for Barnstaple: *Parish Plans Biodiversity Project, Barnstaple, Report by the Devon Biodiversity Records Centre and Devon County Council dated March 2005.*

4.1.6 Since 2005, the Bradiford valley has been recognised as providing a vital function within Barnstaple's green infrastructure network. The whole of the applicant's land holding is included as key components in this corridor. The westernmost section of the application field is identified as a North Devon Key Features Site and the remaining parts of the holding are listed as a North Devon Network Site.

4.1.7 As these designations are a material consideration it seems wholly unreasonable for applicant to ignore them. The applicant fails to include the original data it received from DBRC. However, it is standard practice by DBRC's to include information on North Devon Key Features Sites and North Devon Network Sites for any search in the Barnstaple area.

4.2 Corridor functions and impacts

4.2.1 NE has identified Bradiford Valley as an important corridor for Otter, Hazel Dormouse and Birds. It has also identified the valley as important for foraging activity by Greater Horseshoe Bats, in relation to the internationally important Caen Valley SSSI. In addition, it is now known to be important for Lesser Horseshoe Bat (Dean 2013). Other wildlife using the corridor includes Badger, at least 8 more species of bat, uncommon invertebrates, reptiles and amphibians. The development proposals would have a detrimental or neutral impact on all these species using the corridor. Specific impacts are dealt with under the relevant species accounts.

4.2.2 The applicant claims that corridor functionality would be increased by their proposals. This appears unreasonable. Loss of old permanent pasture to housing would directly reduce the extent and value of the Bradiford Valley corridor especially for Horseshoe bats. The applicant claims pond construction would enhance the corridor but it would destroy grassland of conservation interest. Ponds would constitute a net loss in biodiversity on this site and in this location.

4.2.3 There is a similar issue with the proposed new hedge bounding the developed zone on its northern side. Its construction would destroy an area of grassland of floristic interest. There is

no evidence in the literature to support the applicant's assertion that Horseshoe Bats would switch flight routes to the proposed new hedge. On the contrary, research indicates that switching to newly planting hedges does not occur and certainly not within the short term.

4.2.4 For those areas left undeveloped, there is no doubt that conversion of old permanent pasture with rank hedges and veteran trees to public open space would reduce the wildlife value of the application site in the long term. Although the rate of loss would be slower than in those areas lost to development it would nevertheless be insidious and inevitable. The corridor's capacity for wildlife would be reduced.

4.2.5 Any further urbanization within the Bradiford Valley Network is bound to create greater disturbance. Increases can be anticipated in respect of light, noise, footfall, dog disturbance, cat predation, eutrophication and wilful damage. This would have a detrimental effect on the movement of a wide variety of wildlife, including protected and priority species. The corridor functionality would be diminished.

4.2.6 In both local and national terms the most significant wildlife corridor issue here is the retention and protection of the value and porosity of the local landscape for Horseshoe Bats. Retention of known flyways, dark corridors, permanent pasture and rank hedges are high priorities. Development would prejudice all these features. There is no mitigation. Both species of Horseshoe Bat are EPS and therefore afforded the highest level of protection. Development here may constitute a disturbance as defined in the Conservation of Habitats and Species Regulations 2010.

4.2.7 The Council in its decision notice for Westaway Park (appl. no.: 56685) recognises the importance of retaining the openness of its northern section, particularly as a bat corridor:-

In the interests of biodiversity. To allow the continued ecological functionality of this habitat and avoid adverse impacts on bats.

4.2.8 It would be inconsistent of the Council to threaten the Lesser Horseshoe Bat flyway by permitting housing to abut this zone. In order to retain the porosity of the Bradiford valley for Lesser Horseshoe Bat it is vital to retain the flyway between the application site and Westaway Park. This cannot be guaranteed given the current development proposals which would insert urban development close to this flyway and within 20m of the hedge intersection. Light spill anywhere near this vital nodal point could have very serious consequences for the survival of Lesser Horseshoe Bat associated with the Bradiford valley.

4.2.9 The application site has been identified as a significant component of Barnstaple's green infrastructure and as a valued wildlife corridor for a wide range of wildlife, including several EPS. The development proposals would have a negative impact on the functionality of this corridor. Local and national planning guidance indicates that development should be directed elsewhere.

5. Habitats

5.1 Woodland

5.1.1 A strip of mixed deciduous woodland runs along the northern boundary of the application site. Lowland Mixed Deciduous Woodland is a Priority Habitat (NERC 2006). This woodland, known as Bradiford Scarp is part of Shearford Land and Bradiford Scarp CWS. In addition, this area is covered by a Tree Preservation Order. This wood is adjacent to the southern boundary of Bradiford Valley SSSI.

5.1.2 NE (2017) makes clear that, for the purposes of an ecological impact assessment, all Priority Habitats (NERC 2006) should be subject to a Phase 2 level survey. This wood is also a County Wildlife Site. A high level of survey is appropriate.

5.1.3 The level of ecological survey achieved by the applicant is less than Phase 1 level, which is insufficient for evaluation and impact assessment and therefore for determination. The Phase 1 survey even fails to identify much of this area as woodland. For the area between the public

footbridge and the eastern red-line boundary much of it is either left blank or shown as a species rich hedge. There is no hedge here. There are no surveys or assessment of ground flora, tree composition and structure, epiphytes. There is no appraisal of value for fauna. The submitted tree survey provides some additional information. However, it is largely confined to the peripheral trees and therefore fails to capture data for several of the most valuable trees, such as a fine mature Hornbeam, Carpinus betulinus (Figure 1).

Figure 1 Hornbeam in woodland on bank of Bradiford Water

5.1.4 The woodland is diverse in respect of trees and shrubs, structure and ground flora. The latter includes several ancient woodland indicators such as Yellow Archangel, Lamiastrum galeobdolon, Slender St. John's-wort, Hypericum pulchrum, Opposite-leaved Golden-saxifrage

Chrysosplenium oppositifolium and Hard Fern, Blechnum spicant. It is a valuable wildlife habitat, which is by virtue of its size and topography fragile.

5.1.5 There are 3 major potential impacts on the CWS woodland. The ES and PEcA suggest that the woodland would remain intact and unaltered and would therefore not suffer any detrimental effects from the proposed development. There is some sort of confusion here.

5.1.6 Firstly, the extreme western part is low lying and much is within an area of former quarrying. There are land stability issues here. Remedial action would undoubtedly have a negative impact on woodland interests here.

5.1.7 Secondly, the Illustrative Master Plan shows an intention to provide a footway through this wood from close to the public footbridge east as far as Shearford Lane. The Design and Access statement states *6.21 The proposal includes the provision of a new woodland walk along the northern boundary of the site which will reinstate the former permissive footpath and provide a direct linkage between existing public footpaths 13 and 14.* The former permissive footpath was low key and relatively inaccessible with little impact on the woodland. Due to access difficulties it was hardly used.

5.1.8 To make this route accessible and safe for all users (disability rights have relevance), a constructed walkway would be necessary. Any construction activity here would have a severe negative impact. Much of the wood is steep and narrow, the banks slippery and liable to erosion. Considerable construction work would be needed to make a path through here accessible to all members of the public. A constructed footpath would destroy existing ground flora and habitats. There would be a necessity to puncture a hedge. This hedge meets the requirements for “Important” as defined by the Hedge Regulations 1997. Without a detailed survey there can be no meaningful ecological impact assessment. Provision of a footpath would also entail an ongoing management commitment (footpaths on steep slopes require regular maintenance).

5.1.9 Thirdly, post-construction disturbance would be regular and ongoing; people, dogs and predation by cats would all intensify. The wood would certainly become less attractive to birds and potential otter lying up sites (hovers) would be lost.

5.1.10 The woodland is a CWS and the adjoining watercourse a SSSI. Ecological interests should take precedence. A public, accessible footway here would have a negative impact on this fragile habitat. The development proposals through various disturbances would have a severe negative impact on woodland and County Wildlife Site interests. This would be contrary to all levels of planning guidance and policy.

5.2 Hedges

5.2.1.1 The ES is data deficient in respect of hedges. Hedges are a Priority Habitat (NERC 2006) and receive protection under the Hedgerow Regulations, 1997. As indicated by NE the ecological impact assessment requirement here is for a Phase 2 level assessment. The ES relies entirely upon the account contained within the PEcA, which was completed only to Phase 1 level.

5.2.1.2 Hedges are poorly served within the submitted documents. The standard of the Phase 1 assessment is rudimentary and towards the bottom end of acceptability. The hedge survey was undertaken on 22/01/2017. This is an unsuitable date for either a reliable appraisal or a Phase 2 level approach. Furthermore, the survey appears hurried and exhibits a lack of surveyor experience. For instance:-

- The most valuable ecological assets associated with the hedges, here, are the veteran trees. These are entirely missed or ignored.
- The report indicates that some hedges have trees of potential high ecological merit, e.g. breeding bird or bat roost possibilities. There is a failure to identify these. This should be an integral part of the Phase 1 process. They should be plotted on a plan and target notes provided. There are no target notes.

- Within the red-line boundary, the Phase 1 survey plan indicates that there is a species rich hedge along the whole length of the northern fence line running parallel to Bradiford Water. This is an error, for much of the western part there is only a wire fence. For the eastern section, the fence abuts directly onto woodland. This has established since the fence was erected 10-15 years ago. Much of it is composed of a dense blackthorn thicket. The PEcA exhibits an inability to distinguish woodland and scrub from a hedge.
- The Phase 1 plan and the provided description suggest that the internal hedges within the application field are species poor. This is unreliable. The surveyor seems to confuse agricultural use and condition, which is defunct and derelict with ecological richness. These hedges by virtue of their unmanaged agricultural condition have developed into a feature of high ecological merit. They are a hotspot of biodiversity. There is a high degree of structural diversity associated with both the tree and shrub component and the physical structure of the banks. These provide an exceptional range of micro-habitats, particularly for invertebrates. There is a very fine veteran tree component, which includes a large, hollow Ash, Fraxinus excelsior (Figure 2) and a group of superb Field Maples, Acer campestre (Figure 3). Field Maples of these dimensions are scarce in Devon. Field Maple was missed in the January survey. The potential value of these internal hedges and their attendant micro-habitats such as dead wood, bare banks and peripheral scrub is very high. They are significant enough to demand a specialist survey, without one, key components amongst epiphyte and invertebrate communities could be missed. A full and proper ecological impact assessment is impossible without additional data.

Figure 2 Veteran hollow Ash tree on internal hedge

5.2.2 Hedges - Impact Assessment

5.2.2.1 The essential ecological query concerning these internal hedges is whether or not interest features could survive a change of use from a low input permanent pasture to an area of public open space. Objectives, management regime and level of disturbance would alter. People pressure including health and safety considerations would intensify. No mitigation is offered. It seems unlikely that the peripheral scrub, the veteran trees, the dead wood component, the physical structure of the banks or their rank nature with their attendant value to birds / bats would survive in the long-term. This would have a potentially very severe negative impact on biodiversity within the application site. NPPF section 118 directs development away

from harm to veteran trees. A net loss in biodiversity is predictable should development be permitted.

Figure 3 Veteran Field maple on internal hedge

5.2.2.2 The application site's peripheral hedges are of variable condition and there could be scope for ecological enhancement through supplementary planting of native tree and shrubs. However, the proposed mitigation is premature. A full and proper evaluation to establish ecological baselines and to identify existing interests is essential.

5.2.2.3 The south-eastern boundary hedge adjoining Westaway Park has been identified as a significant flyway for Lesser Horseshoe Bat (Dean 2013). Although the north-eastern boundary hedge and the internal hedges remain unsurveyed for Horseshoe bats, it seems rational to consider them as Lesser Horseshoe Bat flyways. Horseshoe bats must be going somewhere

after flying along the south-eastern hedge and they do not seem to turn east (Dean 2013). Given their significance for the maintenance of a European Protected Species, any mitigation work on these hedges should be informed by appropriate survey.

5.2.2.4 Due to the sighting of the proposed development the south-north Lesser Horseshoe Bat flyway is at risk. The footprint of the developed land, with its attendant light spill, is far too close to flight-lines for Lesser Horseshoe Bat interests to be secured.

5.2.2.5 The proposed new hedge bordering the developed area on its northern side cannot be considered as mitigation. It is not ecological gain. It would be planted upon and destroy an area of rarer habitat and of greater value. The grassland here has ecological merit. It would also take 15 to 20 years before a novel hedge became a significant ecological asset. It is improbable that it would be adopted as a flyway by Horseshoe bats.

5.2.2.6 Overall a net loss in biodiversity is predicted but impact could be very severe, with veteran trees and an EPS, Lesser Horseshoe Bat flyways at high risk.

5.3 Grassland

5.3.1 Grassland Evaluation

5.3.1 1The submitted ES fails to provide a proper and accurate evaluation of grassland resources. This stems from a total reliance on a brief walkover survey on 22nd. January 2016. This is an inappropriate date on which to make a full determination of grassland interest. This is even more pronounced in southwest England where the growth of the more vigorous grasses continues throughout much of the winter, which tends to mask floristic diversity. The difficulties are compounded here by an apparently inexperienced surveyor and a time-restricted survey (see section 2.3).

5.3.1.2 The applicant's minimal appraisal is insufficient to evaluate interest. The assessment of the application field as i*mproved grassland* is incorrect. No evidence is presented to support their assertion.

5.3.1.3 As indicated by NE (2017) this site has been in receipt of public money from an agri-environmental scheme for over a decade. It has been subjected to low input management aimed at delivering enhanced biodiversity. This fact alone should have alerted to the possibility of grassland interests here. It is an indicator that a Phase 2 survey of the grassland would have been expedient.

5.3.1.4 NE (2017) indicates the need for a Phase 2 level survey in respect of Priority Habitats (NERC 2006), such as Lowland Meadow. The current condition of the grassland within the application site falls within the definition of Lowland Meadow. Therefore a Phase 2 grassland survey is a requirement to fully comply with the ecological impact assessment process.

5.3.1.5 It is therefore useful that the application site has been independently viewed by experienced grassland ecologists. It was surveyed by the local botanical group (DA, BSBI) in June 2016 and by the author in November 2016.

5.3.1.6 The grassland interests are considerably greater than indicated by the applicant. The site supports neutral grassland which puts it within the mesotrophic grassland group of the National Vegetation Classification (Rodwell 1992). A total of 44 species have been identified (Appendix 6.1) including several indicators of unimproved grassland. Some of these indicators are widespread and locally abundant within the sward. A significant proportion of the grassland is on the cusp between semi-improved and unimproved conditions. It can be described as recovering MG5 grassland (NVC). As such it has conservation and ecological merits. It exhibits the micro-patterning of floristic diversity which is associated with natural grasslands. These micro-variations follow environmental gradients such as soil depth, nutrient status, aspect, and moisture level. In this case these variations equate well with the trial pit data in the submitted Site Investigation Report. The primary gradients here run from south to north. The southern

plateau supports relatively deeper more fertile soils dominated by grasses. To the north, the plateau grades into the scarp, an area of very shallow and relatively infertile soils. This is marked by the appearance of species associated with unimproved conditions such as Burnet Saxifrage, Pimpinella saxifraga and Knapweed, Centaurea nigra. Below the scarp, occupying the lower slopes and adjoining the northern fence line is a broad swathe of grassland holding a more diverse flora, which includes abundant Pignut, Conopodium majus (Figures 4 and 5) and a diversity of grasses.

Figure 4 Grassland close up

Towards base of slope near public footpath showing diverse flora with 3 indicator species Pignut, Crested Dog's-tail and Sweet Vernal Grass, 2nd June 2016

5.3.1.7 The DBRC (2009) provides a manual for the identification of sites of County Wildlife Site value. This provides an objective measure of grassland merit within Devon. In the absence of a full Phase 2 survey (as here) the manual provides 3 criteria to establish grassland merit:-

3.2.2 Where NVC/IHS data are not available, mesotrophic/calcareous/calcifugous grassland sites, normally of 0.5 ha or greater, with either:

(a) a high diversity of species (this is measured as the number of different grasses, sedges and herbs over a 1m² area. Specifically for acidic grasslands – 10 species, for neutral grasslands – 15 species & for calcareous grasslands – 20 species) or

(b) an assemblage of species indicative of the above NVC community types or

(c) the presence of at least 5 of the 'indicator species' listed in Appendix 3). Indicator species should occur widely throughout the body of the site. See also notes xi, xii and xiii.

Figure 5 Pignut Grassland

Towards base of slope showing widespread occurrence of Pignut within sward, 2nd June 2016

5.3.1.8 The available data allows evaluation against points b) and c). The scarp and lower slopes cover an area in excess of 0.5 ha, support an assemblage indicative of MG5 grassland (Rodwell 1992) and hold at least 5 indicator species, which *occur widely throughout the body of the site*. The indicator species here are Pignut, Conopodium majus, Burnet Saxifrage, Pimpinella saxifraga, Knapweed, Centaurea nigra, Sweet Vernal Grass, Anthoxanthum

odoratum and Crested Dog's-tail, Cynosurus cristatus. Under these criteria the site reaches the qualifying standard for a County Wildlife Site.

5.3.1.9 However, this field is still in the recovery stage from improved and semi-improved conditions to an unimproved type. This is indicated by the current floristic diversity at both macro- and micro-scales. A number of species expected to occur in unimproved grasslands on these soils are apparently absent. They have yet to re-colonise. Sward, species diversity at the $1m^2$ scale has not yet consistently reached 15 species. The grassland resources here are therefore towards the borderline of a County Wildlife Site and therefore merit a high District evaluation.

5.3.1.10 The ES fails to provide a proper or reliable survey and its assessment is consequently flawed. The ES's evaluation of grassland resources should be ignored. The national purse has invested in a low input system here for more than a decade in order to increase biodiversity within the Bradiford Valley. That investment has been repaid by an increase in floristic diversity. The grassland interests should continue to increase if the current management regime is continued. The prospects here are very good for a field of considerable grassland merit in due course. As it stands the grassland diversity on the application site compares favourably with some of the grassland resources already within the SSSI. Should the recovery be allowed to continue then there seems no impediment to its inclusion within the SSSI in due course.

5.3.2 Grassland Impact Assessment

5.3.2.1 The plateau grassland would be lost beneath development. Therefore, a significant part of the site's natural grassland variation would be lost. This would reduce the educational and scientific value of the site.

5.3.2.2 Most of the scarp grassland, an area of floristic merit, would be lost by intake within the developed zone or by the planting of a proposed new boundary hedge.

5.3.2.3 A large proportion of the lower slopes would be lost in perpetuity to proposed attenuation ponds. Construction activity would also disrupt the character and flora of a much wider area. These areas currently support a diverse grassland flora of conservation merit. The applicant claims biodiversity gain here so it is useful to weigh the balance. Old permanent pasture of floristic interest is difficult to recreate and takes in excess of a quarter of a century. Small ponds are easily recreated and develop their maximum wildlife usually within 5 years. Ponds would constitute a net loss in biodiversity on this site and in this location.

5.3.2.4 Those areas of grassland not lost to development are earmarked as public open space. Such a management regime is incompatible with the retention of mesotrophic grassland interests in the long term for two main reasons. Firstly, grazing stock and in this area, cattle, are the primary driver for the Lowland Meadow habitat. They are an essential component of the habitat. Secondly, eutrophication is unavoidable and ubiquitous in public open spaces associated with urban environments. In this instance, it would be compounded by being down-slope of a nutrient rich environment (the residential development). The insidious effects of eutrophication would negate the work and public expense invested in this site for more than a decade.

5.3.2.5 It is not possible to retain good examples of MG5 grassland in the long term, where the area involved is small, within public open space, adjoining residential development and without stock grazing.

5.3.2.6 Development would lead to a loss of a Lowland Meadow resource and deterioration in quality of the remaining grassland. Biodiversity would decline, flora would be lost and the carrying capacity of the local landscape for fauna, such as badger, bats and birds would fall. Under current proposals, there would be an overall net loss in biodiversity.

5.4 River

5.4.1 Bradiford Water, a small river, forms the northern boundary of the application site.

5.4.2 Rivers are a Priority Habitat (NERC, 2006). Most of the reach adjoining the application site is within Bradiford Valley SSSI. NE (2017) has indicated that Priority Habitats should be surveyed to Phase 2 level.

5.4.3 The submitted documents are data deficient. Neither the PEcA nor the ES provide a baseline description of the watercourse. Of its potential interest features only Otter and Water Vole are mentioned. Water Vole is considered extinct in North Devon whilst the treatment given to Otter is unsatisfactory (see section 6.4).

5.4.4 The breeding bird assemblage is ignored. This is known to include the classic suite of species associated with small fast flowing streams, Dipper, Grey Wagtail and Kingfisher (NE SSSI citation Appendix 3). Based on the river character it probably supports Bullhead, which is a European Protected Species. A presence or absence survey should have been a minimum requirement. There is also the potential here to support Water Shrew (a WCA Protected and Devon BAP species). There is no attempt within the submitted documents to assess the invertebrate potential of the watercourse. It should support an assemblage typical of clean and clear fast flowing streams with varied bed substrates, including stones. The mayflies, stoneflies, caddis-flies and black-flies are likely to be well represented. There is a strong possibility of scarce species amongst these groups.

5.4.5 Without a good knowledge of the stream fauna it is not possible to predict and therefore to avoid negative impacts. The predictable disturbances resulting from the operational phase of the development would undoubtedly reduce the value of this reach of the watercourse for Otter, Dipper and Kingfisher. That in itself constitutes a negative impact on known SSSI interests. There are also potential risks most likely from informal recreational pressure on Bullhead, Water Shrew and invertebrate diversity.

5.4.6 The extent of the negative impact cannot be quantified in the absence of a full baseline evaluation and assessment. The proposal would diminish riparian SSSI interests and is therefore unacceptable.

5.5 Lowland Fen / Manning's Pit

5.5.1.1 Lowland Fen is a Priority Habitat (NERC, 2006). It is either missed or ignored within the submitted documents.

5.5.1.2 Towards the northwest corner of the application site is an area of former quarrying activity. This is known locally as Manning's Pit. It is included within the Shearford Lane and Bradiford Scarp CWS. The base of the pit holds a marshy area supporting fen vegetation and willow scrub. It is a valuable habitat in a local context and adds diversity to the CWS. It holds potential for amphibians, water shrew, uncommon invertebrates and as lying up habitat for otter.

5.5.1.3 The ES and all other submitted documentation ignore both the quarry and its attendant habitats:-

- The topographical survey attached to the Flood Risk Assessment fails to record this area. Its contour plan ends at the fence above the quarry. The floodplain, within the application site, is ignored.
- There is no mention within the Site Investigation Report, despite the implications for land instability and possibly contamination.
- The archaeological investigation makes no reference to a former quarry here.
- The arboriculture survey lumps the whole area from here to close to Shearford Lane as one unit described as *G2 Mixed woodland (native species).*
- The PEcA also lumps the entire former quarry as woodland. The ES reiterates this. The description specific to this area is *woodland containing mature oak, Hazel and willow. Ground cover was also present in the form of Bramble and Ivy Hedera helix.* This indicates a dry ground flora which suggests that the area has not been subject to any ecological survey or walkover.

5.5.2 Manning's Pit Land Instability

5.5.2.1 The Illustrative Masterplan appears unrealistic in terms of the proposal for the north-western section of the developed zone. It shows several built structures close to the quarry face including housing, infrastructure and foul water plant. This would presumably require some form of remedial work to stabilise the land surface. The applicant has ignored or missed the issue of land instability. Land instability has relevance to the planning process. NPPF gives the following guidance:

109. The planning system should contribute to and enhance the natural and local environment by preventing new .. development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of … land instability;

120. To prevent unacceptable risks from … land instability, planning policies and decisions should ensure that new development is appropriate for its location. …. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

121. Planning policies and decisions should also ensure that:

- *the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation;*

5.5.2.2 The main issue here from an ecological perspective is the likely requirement for remediation and its potential impact on the natural environment. Any work necessary such as re-profiling or infilling would undoubtedly have negative implications for the CWS and its wildlife habitats.

6. Species

6.1 Flora

6.1.1 The submitted documents make no attempt to assess flora. This is unusual for a study area which includes both SSSI and CWS designations but is no doubt due to a total reliance on a January walkover of the site. This is a failure in the ecological impact assessment process. The ES is data deficient.

6.1.2 From surveys by the local botany group (DA / BSBI) and by the author a total of 132 species have been noted within the study area (Appendix 6). Neither survey is considered to be comprehensive; therefore this represents a minimum appraisal. This is a diverse species complement for a small area. It is, in the main, due to the variety of habitats present; grassland, woodland, hedge and riverside. Whilst there are no rare species recorded, several are uncommon locally such as Burnet Saxifrage, Pimpinella saxifraga, Hornbeam, Carpinus betulinus and Spindle, Euonymus europaeus. In addition, there is a strong representation of species indicative of ancient woodland and unimproved grassland (Appendix 6 and Sections 5.1 *Woodland* & 5.3 *Grassland*). The flora includes 1 Devon BAP species, Primrose, Primula vulgaris, which occurs in woodland and hedges, and 1 invasive species, Impatiens glandulifera, Himalayan balsam, which is found in the ungrazed section of riverside habitat.

6.1.3 Development would have a negative impact on flora. Many of the scheduled developments would destroy habitat and the operational phase would increase disturbances. The quality of the flora associated with the Priority Habitats (NERC 2006), woodland, grassland, hedge and fen would decline.

6.1.4 In a misguided attempt at mitigation, the applicant indicates an intention to introduce a series of locally alien species through wildflower mixes within public open space and in

plantings in the attenuation ponds. These proposals are ill advised and potentially damaging to local ecosystems.

6.2 Bats

6.2.1.1 The ecological impact assessment process and therefore the ES fail in respect of bats. The quality of the submitted information on bats is highly variable. Importantly, there are significant and serious failures in the surveys undertaken. These are sufficient for the submitted information to be considered data deficient and therefore unsuitable for determination.

6.2.2 Bats Desk Survey

6.2.2.1 The ecological reports for the application site fail to follow best practice by omitting the original and relevant data obtained from desk studies. These are normally given as appendices. Provision of summary data, as presented within the submitted documents, is insufficient to allow an informed reader to make a full and independent assessment.

6.2.2.2 There are a variety of available sources which indicate that Horseshoe bats occur locally and are a valued interest feature of the local landscape and of Bradiford Valley in particular:-

- Natural England (2017) identifies the Bradiford Valley as *known to be important for commuting and foraging Greater Horseshoe Bats.* The valley is identified as important in relation to the internationally important roost within the Caen Valley SSSI about 8 km distant. They also made a similar observation for the Trayne Park planning application, NDDC planning application no.: 59982 (NE 2013) in which they confirmed that Bradiford Valley was known to be important for Greater Horseshoe Bat foraging and commuting (Ead 2015).
- The DBRC and Devon Bat Group responses to nearby planning applications identify a roost location for both Lesser and Greater Horseshoe Bats in the period 1993 - 1995 within 1km of the study area (current status unknown).

- In the recent past there have been a series of planning applications for new housing on greenfield sites on the periphery of Pilton including Trayne Park (59982), Raleigh Park (57503) and Westaway Park (56685), which all produced new survey records for Lesser Horseshoe Bat.

6.2.2.3 The Westaway Park survey has considerable relevance as it is adjacent to and shares a common boundary with the application site. The consultant at Westaway Park, in response to known local Horseshoe bat interests employed the best methodology to assess usage. The findings are highly relevant for this application and fill a vital gap in the submitted documents. The survey work provides additional evidence in support of the NE's view that the Bradiford valley and the SSSI are important for Greater Horseshoe Bat. Wherever, suitable detection methods for Horseshoe bats have been deployed every hedge locally has been shown to be used by them. In addition, it establishes the importance of the local landscape for Lesser Horseshoe Bat, with a flyway discovered along the common boundary with the application site. The Westaway Park survey provides novel information in respect of Lesser Horseshoe Bat. The valley has been demonstrated as important for this species.

6.2.2.4 Desk studies are meant to inform where and what further survey work may be required and to develop the best methodologies to assess those interests. Standard bat activity surveys tend to be poor at identifying Horseshoe bat activity (BCT 2016). If Horseshoe bat interests are identified it is recommended best practice to use fixed point, wide spectrum, continuous detection over an extended period. Detectors are normally left in situ for 5 to 10 days. The significance of this is very well illustrated by the bat activity survey undertaken on Westaway Park (Dean 2013), some of which is reproduced in Table 1.

Table 1 Westaway Park, comparison of detection methods in locating Horseshoe bats

Species	Number of passes	Number of passes	Total Passes
	Transect surveys	Automated detector	
Lesser Horseshoe	1 (0.7%)	146 (99.3%)	147
Greater Horseshoe	17 (23.3%)	56 (76.7%)	73

6.2.2.5 Transect surveys are clearly very poor at picking up local Lesser Horseshoe Bats, accounting for less than 1% of records.

6.2.2.6 Despite the substantial evidence for likely Horseshoe bat interest on the application site, there was a failure by the applicant to deploy best survey methods for detecting them.

6.2.3 Bat Roost Survey

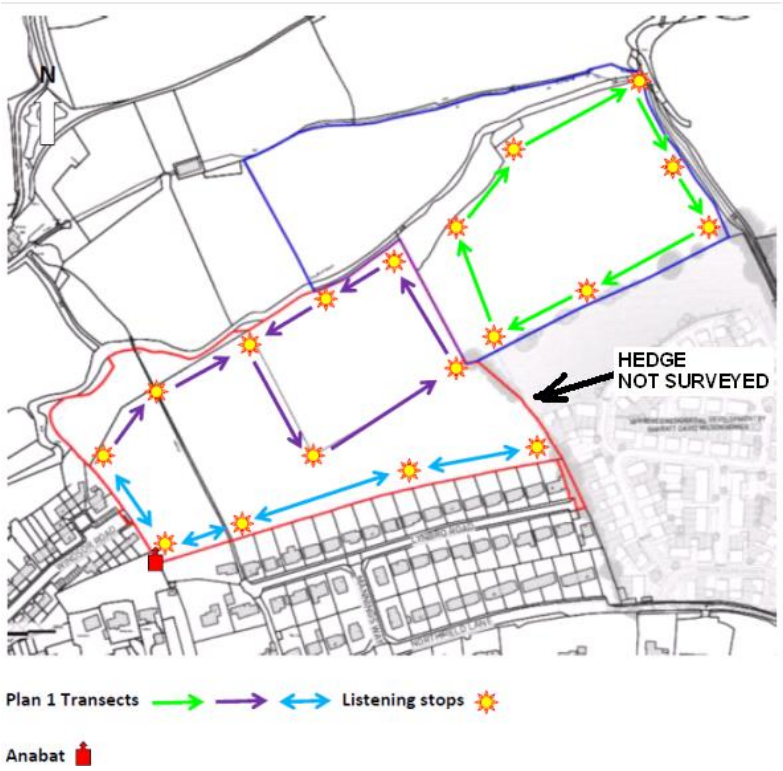
6.2.3.1 This was undertaken as part of the Phase 1 Habitat Survey. It is inadequate and fails to follow recommended protocols. The results presented are generalised and non-specific. There is neither a plan nor any notes. In this it fails to follow recommended procedures (BCT 2016). Each tree or feature with bat roost potential should be identified, evaluated, mapped, target notes appended and photos taken.

6.2.4 Bat Activity Surveys

6.2.4.1 There are a series of failures here. It may be relevant that on 3 of the survey dates (10th June, 24th June and 14th July) survey was split between sites, with 2 members of the survey team conducting an activity survey on a different site, Westaway Plain (CotWS2 2016).

Figure 6 Applicant's bat transect survey;

The common hedge with Westaway Park is unsurveyed



6.2.4.2 The common hedge between the application site and Westaway Park was not subject to any survey. This hedge produced a total of 91 Lesser Horseshoe Bat passes in April / May and 8 passes by Greater Horseshoe Bat in May and a further 1 in September in 2013 (Dean 2013). It was by far the most important feature for Lesser Horseshoe Bat movements locally. The applicant shows an awareness of the Westaway Park report in relation to Hazel Dormouse (ASS section *5 Conclusions)*. Therefore, the hedge's exclusion from survey, as shown in the ASS (section 4.1 Plan 1) is inexplicable (Figure 6).

6.2.4.3 There was a failure to deploy static detection in any meaningful manner. The applicant reports 2 Lesser Horseshoe Bat passes where the common hedge with Westaway Park meets the gardens of Lynbro Road, which once again should have been a cue to deploy automatic detectors. The applicant did deploy but only in a single location for one night. It's positioning, at a field corner with houses/gardens on 2 sides is on habitat grounds one of the least appropriate locations on the application site.

6.2.4.4 Table 2 gives a comparison between the Westaway Park and application site bat surveys. The Westaway Park survey conducted in 2013 included two boundaries in common with the application site's study area (Dean, 2013). It appears to have been a well conducted survey designed to maximise its efficiency in the detection of Horseshoe Bats. The Westaway Park survey covered an area of 4.34 ha and a linear length of 600m of which 280m (47%) was sub-optimal (adjacent to residential development). The Windsor Road survey covered an area of approximately 7.24 ha and a linear length of 1530 m of which 400m (26%) was sub-optimal. There were 12 nights of transect surveys and 55 nights of automatic detection at Westaway Park. This compares with 5 nights of transect surveys and 1 night of automatic detection on the application site. Without even 6 months of effort and only a single night of automatic detection the applicant's level of bat survey only reaches the most basic standard.

6.2.4.5 There is also doubt as to the efficacy of the surveys on the application site by comparison with Westaway Park (Dean 2013). This is even more pronounced when the percentage of sub-optimal habitat is factored in. The applicant's transect surveys produced on average 21 bat passes / night with on average 1 bat every 74m. This compares to 53 bat passes / night and a bat pass every 11m on Westaway Park. The surveyors on the application site are significantly less efficient at detecting bats.

6.2.4.6 There are also qualitative differences. Shearford Lane adjoining Westaway Park produced 18 transect records for Greater Horseshoe Bat in 12 visits compared with zero records in 5 visits along the contiguous section to the north, surveyed by the applicant.

6.2.4.7 Given the wide discrepancy between the two surveys the efficacy of the applicant's work is doubtful. It should be considered as the most basic level of appraisal. The application site clearly has more significance for bats than submitted documents suggest. The bat activity survey is insufficient to make a full and proper evaluation of the site's value and importance to bats and Horseshoe bats in particular. The ES is data deficient in respect of bats.

Table 2 Comparison of efficiency between Westaway Park and Windsor Road

	Westaway Park	**Windsor Road**
Transect Survey		
Number of nights surveyed	12	5
Length of transect (m)	600	1530
Sub-optimal lengths (m)	280 (47%)	400 (26%)
Total no of bat passes	631	103
Average passes / night	53	21
Average length (m) / bat pass	11.3	74.3
Automatic Detector Survey		
Number of nights surveyed	55	1
Total no of bat passes	3246	38
Average passes / night	59	38

6.2.5 Bat diversity and abundance

6.2.5.1 A total of 10 species of bat have been recorded, since 2013, within the relatively small area of open countryside south of Bradiford Water and west of Shearford Lane (ASS 2016, Dean 2013). These are Brown Long-eared, Common Pipistrelle, Soprano Pipistrelle, Noctule, Serotine, Daubenton's, Natterer's, Whiskered/Brandt's, Greater Horseshoe and Lesser Horseshoe. The diversity here is good and is a reflection of the quality and diversity of the local landscape. Foraging opportunities are good. Diversity is considerably higher than expected from an equivalent area of "average" landscape. It is a resource worthy of conservation.

6.2.5.2 All surveyed linear features on and within the vicinity of the application site are used by bats, with the most intense activity along Bradiford Water and Shearford Lane. The whole of the local landscape appears to be utilised by bats.

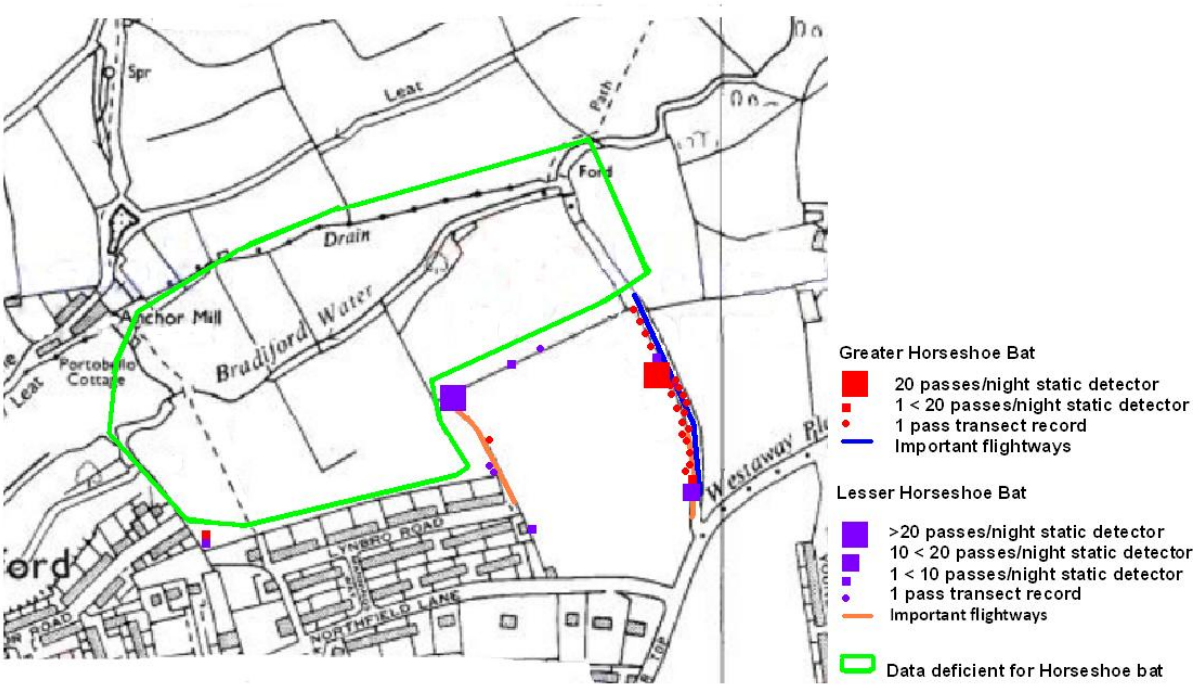
6.2.5.3 Bat abundance as assessed by different surveys varies. The Westaway Park survey produced fairly abundant bat activity. Whilst the application site's survey produced only moderate numbers of bats. The discrepancy is interpreted as a less rigorous survey on the application site. Bat abundance should be assumed good.

6.2.5.4 The cumulative loss of 10 ha of grassland habitat locally to developments would also reduce the foraging opportunities for the Noctule bat, which are known to hunt above the valley's grasslands. Noctule is a Priority Species (NERC 2006).

6.2.6 Horseshoe bat in Bradiford Valley

6.2.6.1 The ASS exhibits a total failure to elucidate the usage of the application site by Horseshoe bats. Known Horseshoe bat activity in the vicinity of the application site (Dean 2013) is summarised in Figure 7. The applicant's inability to survey Horseshoe bats is very apparent. All movements apparently end at the applicant's surveyed zone, which is obviously not a real world scenario.

Figure 7 Horseshoe bat activity



6.2.6.2 Fortunately, the EcIA report for Westaway Park, (Dean 2013) allows for some evidence based assessment in relation to both Lesser Horseshoe Bat and Greater Horseshoe Bat. This land is adjacent to the application site and shares boundaries. The main points to emerge from this study are:

- Shearford Lane is important as a corridor for both species of Horseshoe bats and especially for Greater Horseshoe Bat
- Wherever surveyed all Bradiford valley's internal hedges were used by Horseshoe bats, apparently as part of general foraging behaviour.
- Timing of Horseshoe bat records indicates local roosts of both Greater Horseshoe Bat and Lesser Horseshoe Bat.
- The short section of common hedge between the application site and Westaway Park was, by far, the most important hedge for Lesser Horseshoe Bat movements. Significant movements of bats were recorded here with up to 30 passes in a single night. These numbers are much higher than expected from general foraging behaviour. This is

unexpected as the flyway if continued south adjoins a residential area (normally avoided by Lesser Horseshoe Bat) and leads to no prime foraging habitat. This is highly suggestive of movements to and from a local roost, as yet unidentified but likely to be in an older property, in fairly close proximity.

6.2.6.3 Despite its poor design the applicant's bat survey does provide some confirmation of the survey results from Westaway Park. There were two visual sightings of Lesser Horseshoe Bat moving south along the flyway confirming the continued use of this feature. The fixed point detector produced records of both Greater Horseshoe Bat and Lesser Horseshoe Bat close to housing shortly before dawn. Records here indicate that the upper part of the application site, the area proposed for housing, is used routinely by Horseshoe bats. Also, given time of day (05.30 – 05.45 am) and the location, these records are indicative a local roost.

6.2.6.4 Greater Horseshoe Bat frequently forages over pasture. The pattern of records is suggestive that they are taking advantage of foraging opportunities in local pastures, including on the application site. Fields under low input regimes, such as the application site, provide the greatest foraging possibilities. This relates to favoured prey availability. The loss of any old permanent pasture in this valley contributes to a reduction in the quality of Greater Horseshoe Bat foraging habitat. The applicant fails to address cumulative impact in relation to Greater Horseshoe Bat foraging habitat. The total loss of permanent pastures from the application site plus planning applications nos.: 56396, 56685, 61067 is between 9 and 10 ha. There is apparently no conversion factor available between invertebrate production in south-western permanent pastures and the annual energy budget of a Greater Horseshoe Bat. So it is unknown how many hectares would, in theory, be capable of supporting a bat for a year but the loss of 10 ha within the confines of Bradiford valley is locally significant. It is likely to reduce the valley's ability to provide for several bats per annum. This may be considered a disturbance.

6.2.6.5 Lesser Horseshoe Bat forages mainly in woodland, wooded streamsides and along overgrown hedges. The application site and the Bradiford valley upstream hold a high

concentration of suitable foraging habitat. Lesser Horseshoe Bat is likely moving into and across the application site to access foraging habitat. The pattern of movement is suggestive that the use the common hedge with Westaway Park is linked to a roost. The hedge is likely a favoured secure route between a roost, possibly a maternity roost, and the productive feeding grounds within the valley. It is used on a regular basis. This flyway is an important component of local Lesser Horseshoe Bat habitat and may be vital for the maintenance of a viable population. From this hedge, they probably move along the line of the rank internal hedges as these represent optimum dispersal routes for this species.

6.2.6.6 The Council in its decision notice for Westaway Park (NDDC 01/04/2016) recognises the importance of retaining the openness of its northern section, particularly as a bat corridor:-

In the interests of biodiversity. To allow the continued ecological functionality of this habitat and avoid adverse impacts on bats.

It would be inconsistent of the Council to threaten this critical flyway by allowing housing to abut this zone.

6.2.6.7 In order to retain the porosity of the Bradiford valley for Lesser Horseshoe Bat it is vital to retain the flyway between the application site and Westaway Park and of the likely flyway along line of the overgrown internal hedge. This cannot be guaranteed given the current development proposals which would insert urban development within 20m of an important hedge intersection. Light spill anywhere near this vital nodal point could have very serious consequences for the survival of Lesser Horseshoe Bat associated with the Bradiford valley.

6.2.6.8 Horseshoe bats are extremely light sensitive. Any developments close to flyways and foraging grounds are liable to disrupt Horseshoe bat activity due to light spill, from public and domestic lighting or through night-time car movements.

6.2.6.9 It seems highly probable that there is an undiscovered Lesser Horseshoe Bat roost close to the application site. This would be adversely affected if this application is granted in its

current form. Therefore harm to the population of an EPS cannot be eliminated on the basis of the presented evidence. The application is data deficient. It would seem wisest to take a cautious approach. If the local population of either Lesser Horseshoe Bat or Greater Horseshoe Bat is adversely affected by a planning consent then the Council could be liable under The Conservation of Habitats and Species Regulations 2010.

6.3 Birds

6.3.1 The treatment of bird interests, within the PEcA and ES, lacks depth in respect of survey, evaluation and assessment. It is unsuitable for ecological impact assessment purposes and therefore inadequate for determination. There is a failure to establish an ecological baseline either for the application site or the adjoining SSSI or the CWS. NE (2017) identified the requirement for establishing a baseline in respect of protected and priority species. In addition, breeding birds are identified as an interest feature of Bradiford Valley SSSI, which is contiguous with the application site. The Council indicated the need for a cumulative impact assessment on SSSI interests. Therefore, the minimum requirement for birds is a breeding bird survey and visitor survey of the valley to include the application site and the extent of the adjoining SSSI.

6.3.2 The bird interests here have been assessed on the basis of a walkover survey on a single date in January, 22/01/2016. The entirety of results was a disused nest in an Oak tree, species unidentified, and a total of 10 species noted, one of which, Common Gull, Larus canus is almost certainly a misidentification. The species is uncommon locally being mainly confined to wetlands and coastal areas. The sighting was probably a Herring Gull, Larus argentatus, which are locally resident and continuously overfly Pilton. The surveyor also reported Common Gull from the same day at Westaway Plain, 61067 (CotWS1, 2016). This is indicative of an inexperienced observer probably lacking sufficient expertise to undertake bird surveys.

6.3.3 No reliance can be placed on the efficacy of a bird survey undertaken on a January day by an inexperienced observer in which the primary purpose was a Phase 1 habitat survey and on an occasion when the effort was split between two unconnected sites.

6.3.4 The breeding bird potential of the application site is good in terms of amount and diversity of available habitats. This will be reflected in the site's species diversity and population sizes. Due to bird territory size, mobility and foraging opportunities the application site should be viewed as an integral landscape component for the maintenance of healthy and viable bird populations within the SSSI. Reduction in the value of the application site to breeding and foraging birds would reduce the carrying capacity of the SSSI for birds overall. In the absence of a either a full breeding bird survey or a visitor survey the nature and degree of impact on the application site, the CWS and the SSSI cannot be quantified.

6.3.5 The whole of the applicant's impact assessment on birds seems contained within:

These grasslands, and Tutshill Wood, do not support any important or notable ground nesting birds, and the bird communities are generally associated with the woodland and the watercourse which are less likely to be disturbed detrimentally.

6.3.6 This is not evidence based and is insufficient to determine impacts. It is unrealistic in its view of likely disturbances. An increased local population would lead to more direct disturbance by the passage of humans, dogs and cats. Although this would be most intense in the vicinity of footpaths, it is naive to suggest it would be limited to here. There would be increased disturbance throughout the SSSI particularly from wandering domestic pets. Breeding birds throughout the SSSI could be affected. The suggestion that disturbance would be confined to ground nesting species exhibits a lack of understanding of bird ecology. All bird species could be affected by disturbance.

6.3.7 The statement seems drafted to draw attention away from likely impacts. It appears to suggest that no important or notable ground nesting birds occur here. This is disingenuous, four

of the species listed on the SSSI citation (Appendix 3) are ground nesters; Dipper, Kingfisher, Water Rail and Grey Wagtail. Watercourse birds are not immune from disturbance. People and dogs are drawn to water. Disturbance to watercourse birds from unleashed dogs would undoubtedly occur. Nocturnal cat activity would increase.

6.3.8 The SSSI citation is not exhaustive other ground nesting species may occur here. Without a breeding bird survey this cannot be evaluated. Possibilities include species of conservation concern such as Skylark and Woodcock, as well as relatively widespread species such as Moorhen, Mallard and Pheasant. Woodcock are woodland nesters and are highly vulnerable to disturbance by dogs.

6.3.9 The applicant merely refers to disturbance of ground nesting species. They seem unaware that the major part disturbance to the bird life would be to those species which forage regularly on the ground. They do not need to nest on the ground to be affected. Any disturbance which reduces ground foraging could affect both breeding success and the carrying capacity of the SSSI for birds outside of the breeding season. Therefore it is a year round issue and is not confined to the breeding season alone.

6.3.10 The list of ground foragers is long and includes all thrush species, robins and chats, sparrows, dunnock, all pipits, wagtails, larks, finches, corvids and wading birds such as snipe, woodcock and lapwing. Many of these are species of conservation concern.

6.3.11 There is a proposal to create a footway through most of the length of the Bradiford Scarp CWS. Increased disturbance here would be inevitable and would reduce the value of the wood to both foraging and breeding birds, It would also increase disturbance the SSSI's riparian species, Dipper, Grey Wagtail and Kingfisher.

6.3.12 Recent studies (Henderson et al, 2007) have shown that breeding bird abundance and diversity declines with suburban growth. So declines are predictable here. This would have a negative impact on SSSI bird interests.

6.3.13 Predation by domestic cats would increase post-development. The ES makes no attempt to quantify the impact. Section 2.7.1 deals with cat ownership and predator impact on wildlife. Estimated bird kills, in the period April to August, within the application site are 40 birds. The applicant has been asked to consider cumulative impact in association with planning permissions at Westaway nos.: 56396, 56685, 61067, which should provide 182 new homes. Cumulative losses, in the period April to August, from all local developments due to predation is predicted at around 215 birds. The significance of these numbers cannot be fully evaluated without a breeding bird survey but the numbers are large enough to potentially threaten breeding success rates and carrying capacity on land in and around the application site including the CWS and SSSI.

6.3.14 Disturbance by dogs would increase post-development (see also section 2.7.2). Local developments would likely increase local dog population by about 92 (17 on application site). A significant minority, perhaps 20 %, of these would visit the SSSI on a daily basis. Disturbance levels within the SSSI are bound to increase but the applicant has failed to provide any baseline by which to measure change.

6.3.15 The submitted ES and supporting ecological documents are data deficient. They are insufficient to assess impact, especially on SSSI and CWS interests. It is the duty of the applicant to provide sufficient data on which to base an evidenced based impact assessment.

6.3.16 It is predicted that the capacity of the of the SSSI and CWS for birds, both breeding and foraging, would fall as a result of development here and in combination with other recently permitted developments nearby. Breeding birds are an interest feature of the SSSI, which is by definition considered of national significance. The projected levels of potential disturbances are sufficient to conclude a substantial negative impact on those interests.

6.4 Otter

6.4.1 Otter is a European Protected Species. It is an offence to disturb them or their habitats as defined in the Conservation of Habitats and Species Regulations 2010

6.4.2 The treatment of this species within the ES and the PEcA is rudimentary. There is no specific Otter survey, no evaluation of habitat, no impact assessment. The submitted documents are data deficient and unsuitable for determination.

6.4.3 The ES and PEcA claim to have sought data from NBN, DBRC and NDDC Planning Portal but only make reference to a single record *1.6 km southwest from 2008.*

6.4.4 My own search of the same sources but without a specific request to DBRC produced many records for the Barnstaple area, of these, at least 10, refer to Bradiford Water. In addition, I have received anecdotal reports (pers. com. FMP) from residents in Windsor Road of recent sightings along that reach of the river. Additionally and most importantly, NE confirm the use of Bradiford Water, *Otter use the river* (NE 2017). Given the abundance of evidence for the use of the Bradiford Water by this EPS, it is a requirement of the EIA process for a full evaluation of the habitat and the provision of an impact assessment.

6.4.5 The submitted documents, state that an assessment of Otter habitat was made during the Phase 1 survey in January 2016. It is apparent, based on the errors on the Phase 1 habitat descriptions and plan (see section 2.3), that the reach of Bradiford Water adjacent to the application site was not fully surveyed. This may partially explain why the assessment fails to identify the full potential of the application site for Otter.

6.4.6 Despite the evidence of the use of Bradiford Water, the ES impact assessment and evaluation is dismissive. Its response is contained within ES *5.4.17. There were no field signs of Otter.* The PEcA goes a little further *it is entirely likely that the river will be used as a foraging resource*. It also admits to a limitation to its field appraisal: *there were places in which Bramble grew right to the water's edge and it was not possible to survey beneath these features.* The

surveyor does not seem to realise that this is a description of potential Otter hovers (lying up sites). Bramble brakes hanging over watercourses are a favoured location for hovers (Corbett, 1991). It is my assessment that there is plenty of suitable cover for hover habitat between the western end of the application site and Shearford Lane.

6.4.7 A Phase 2 Otter survey is a requirement of the ecological impact assessment process. Survey should have included all habitats within the application site and the total extent of the SSSI upstream plus all accessible sprainting points downstream as far as the Taw confluence. Without such a survey the level of usage and importance of the river and in particular the SSSI and CWS to Otter is indeterminate.

6.4.8 Although this reach of Bradiford Water is well frequented by the public, including dog-walkers, the wooded river banks are fenced from the adjoining pasture and are in many places inaccessible to the extent that Otter could utilise the banks here for lying up especially during the night-time. Also, there is some potential for a holt (breeding site) associated with tree roots on the wooded banks, especially near the western weir. However, the daytime proximity of people and dogs significantly reduces the likelihood of any occupied holt in the reach adjoining the application site.

6.4.9 Post-development disturbance to the wooded riverbanks would increase and therefore the value of the Bradiford Scarp CWS as Otter habitat would be substantially reduced. In addition, the Illustrative Master Plan indicates an intention to provide a new footway within the wooded scarp between the existing public footpath bridge within the application site and Shearford Lane. Such an intervention would very seriously erode the value of the woodland to Otter during construction and operational phases. There would be direct habitat destruction and a subsequent high-level of disturbance.

6.4.10 The significance of Bradiford Water for Otter has not been established. However they are known to use the river. Development would have a negative impact on Otter habitat. The value of Bradiford Scarp CWS and Bradiford Valley SSSI for Otter would be diminished.

6.5 Hazel Dormouse

6.5 1 Hazel Dormouse Assessment and Evaluation

6.5.1.1 The applicant's desk exercise reports a single record for Hazel Dormouse, which is described variously as either 400m (PEcA Summary) or 300m (PEcA 4.1.2) distant. The proximity to the application site gives this record significance but the precise relevance is unknown. My search indicates a species of more widespread occurrence in the local landscape. There is a 2002 record from Sherratts Oak, which is 950 m distant (Ead 2015) and another from Sloe Coomb in 1994, 3200 m distant (Ead, 2015 & NBN, 2017). However, of greatest relevance is their occurrence in Tutshill Wood (380m from application site), within Bradiford Valley SSSI, *Dormice breed in the woodland* (NE 2017). The SSSI is adjacent to the application site and there is landscape connectivity, in the form of hedges and wooded linear features, highly suitable for Hazel Dormouse dispersal. This is a porous landscape for Hazel Dormouse with no effective barriers to dispersal. There are even touching canopies over Bradiford Water.

6.5.1.2 On habitat grounds, the application site should be regarded as within the home and dispersal ranges of Hazel Dormouse associated with the SSSI. This is in line with the most recent advice on Hazel Dormouse within Devon (DHG/DCC 2014), which indicates that Hazel Dormouse should be assumed in all suitable habitats unless it can be discounted by competent survey.

6.5.1.3 Contrary to the conclusions in the ASS and the ES, their survey, as described in the submitted documents, does not establish absence. Firstly, Hazel Dormouse is notoriously difficult to survey effectively. It is unreliable to conclude absence from a lack of records from a single nest-tube survey. Secondly, the survey as described in ASS is inadequate for the purposes of determination and insufficient for an ecological impact assessment. It does not achieve best practice. Despite claims to the contrary it fails to reach the required standard score

of 20 to be considered competent. The standard score is formed from the sum of monthly indices of probability multiplied by a nest-tube density factor.

6.5.1.4 Guidelines (Bright et al, 2006) indicate that a plan of nest box locations is required. None is submitted. However the ASS notes that nest-tubes were placed around the application site and adjoining fields, which suggests the area surveyed may have been the same as that for reptiles. Guidelines dictate that nest-tubes should be placed throughout the extent of suitable habitat and at a minimum density of 1 box every 20m in linear habitats. The applicant indicates that 75 boxes were used. This is equivalent to a maximum surveyed length of 1500m. Suitable habitat within the land controlled by the applicant and surveyed for reptiles is greater than1500m. So, at best, the nest-tube density factor on this occasion is 1.

6.5.1.5 The guidelines state that in order to score on the monthly probability index table (reproduced in ASS p.11) nest-tubes must be in situ for the whole month. Nest-tubes were installed here on the 19th May and removed on 29th September. Therefore only June (2), July (2), August (5) and possibly September (7), with only two nights missed, count towards the standard score. The sum achieved with this survey is therefore 2 + 2 + 5 + 7 x 1 = 16. It fails to reach the 20 needed for a competent survey.

6.5.1.6 Under these circumstances, it is unsafe to conclude that Hazel Dormouse is absent. Given the location and nature of the application site and its environs the safest assumption is that Hazel Dormouse occurs but probably at low density.

6.5.2 Hazel Dormouse Impact Assessment SSSI Population

6.5.2.1 HM Gov advice on Hazel Dormouse, https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects and development , identifies cats as a risk:

Impacts after the development include: increasing the risk from predators like domestic cats

6.5.2.2 An average population of Hazel Dormouse, within the SSSI, would give densities of 2 adult / ha in spring in Oak / Hazel Wood and 1.3 / ha in spring in hedges (Bright et al 2006). The

SSSI has 7.9 ha of woodland and 15.3 ha of hedged fields, www.magic.gov . That equates to a spring population of 35 adults.

6.5.2.3 The existing local cat population will already be having a negative impact on Hazel Dormouse population within Bradiford valley and may be one on the reasons that Hazel Dormouse surveys on the application site and at Westaway Park (appl. no:56685) (Dean 2013) failed to locate any animals. This is indicative of a low population density, at least, within the hedged landscape. So a spring population of 25 – 30 adults is more realistic. On average these would produce 50 – 60 young; giving a maximum total annual population of around 90 animals.

6.5.2.4 So what predation rate would be needed to eliminate the SSSI's Hazel Dormouse population of approximately 90 animals? Assuming 5 additional cats would hunt across the SSSI on a regular basis (see section 2.7.1) then in the post-hibernation period (April to October) they could kill all Hazel Dormouse in one season with a predation rate of 1 Hazel Dormouse / fortnight / cat. Whilst these figures are only illustrative they do highlight the extreme vulnerability of a small SSSI Hazel Dormouse population to a determined predator. Even if Hazel Dormouse are more resilient to hunting, it is safe to assume that the cumulative impact of more housing close to the SSSI would result in increased predator pressure on a small and vulnerable population and with a consequent reduction in its vitality and ability to survive in the long-term.

6.5.2.5 In conclusion, there is a high potential risk of loss of Hazel Dormouse from the SSSI due to the cumulative effects of local development. This may constitute a disturbance to the population of a European Protected Species as defined in The Conservation of Habitats and Species Regulations 2010,

6.6 Other Small Mammals

6.6.1 All species of Shrews and Hedgehog are afforded protection under the Wildlife and Countryside Act. In addition, Hedgehog is a Priority Species. Water Shrew and Harvest Mouse are Devon BAP species. As such they are all relevant for determination. There is no reference

at all within the submitted documents to these Protected and Priority Species. On habitat grounds there is the potential for all these species to occur within the application site and more widely, throughout the Bradiford valley and SSSI.

6.6.2 The proposed development has the potential to impact on small mammal populations. The greatest threat during the operational phase would be from increased predation by domestic cats, particularly within the SSSI (see section 2.7).

6.6.3 The applicant fails to provide either a baseline evaluation or an impact assessment. The submitted ES is insufficient to assess impact or the cumulative effects of local developments on protected mammal species.

6.7 Amphibians

6.7.1 The wetland base of the former quarry towards the northwest corner of the application site has the potential to support breeding amphibians. The ES and PEcA fail to identify this feature. There is no evaluation or impact assessment.

6.8 Invertebrates

6.8.1 The evaluation and assessment of invertebrate interests within the PEcA and consequently the ES are poor. The ecological assessor appears to lack the necessary skills to identify important or potentially important invertebrate habitat. Perhaps of even more concern is the fact that the ecological submissions fail to make reference to known local invertebrate interests and in particular those within Bradiford Valley SSSI adjoining the application site. Contrary to best practice, the applicant has failed to include the original data provided to them in their 2km radius search with DBRC. However, similar searches with DBRC in respect of planning application numbers 59982 & 56685 (Ead, 2015; Dean 2013) and submitted to NDDC within the relevant ecological reports do provide additional data. The following records from those reports are relevant to this application:

- Great Green Bush Cricket Tettigonia viridissima Fields by Tutshill Woods SSSI Barnstaple 2000 SS558350
- Great Green Bush Cricket Tettigonia viridissima Reserve at Marwood, North Devon 2000 SS566367
- Small Pearl-bordered Fritillary Boloria selene Tutshill Wood 1990 SS560355
- Small Pearl-bordered Fritillary Boloria selene Pudnor Wood 1990 SS570365
- Pearl-bordered Fritillary Boloria euphrosyne Pudnor Wood 1990 SS570365
- Pearl-bordered Fritillary Boloria euphrosyne Tutshill Wood 1990 SS560355

6.8.2 The Great Green Bush Cricket inhabits the valley of Bradiford Water and has been found within 400 m of the application site. It is a Devon BAP species and therefore a material consideration. It inhabits scrub, hedges and woodland margins. The scrubby areas within Bradiford Scarp CWS and around the old hedges in the centre of the application site are eminently suitable for this species (Marshall 1988). There is a high probability that it occurs on the application site.

6.8.3 Both the above species of Fritillary butterfly are Priority Species (NERC 2006). In addition, Pearl-bordered Fritillary is protected under the WCA and is also a Devon BAP species. They are a material consideration. Both are woodland species and their caterpillars feed on violets. Any woodland within the Bradiford Valley which holds violets should be considered potential habitat. As the Bradiford Scarp CWS woodland within the application site supports the violet, Viola riviniana, there is potential for both species. Construction work within this wood for a footway could destroy food plants and therefore diminish the wood's value and attractiveness.

6.8.4 A survey of invertebrate interest features should be a component of the ecological impact assessment process. The ES and PEcA entirely fail to identify good invertebrate habitats within the application site. The PEcA's assessment of invertebrate interests is insufficient and was conducted during a January walkover. It is contained within *since the majority of the site was semi-improved grassland, it was concluded that there was low potential for invertebrate*

assemblages. This is incorrect both in its grassland and invertebrate assessments. It is not the appraisal expected of a serious ecological report. The submitted documents are data deficient.

6.8.5 The following habitats, within the application site have high potential for invertebrates and should have been identified as such within the submitted ecological documents:-

- The finest habitat with the highest potential is the old hedges towards the centre of the application site. They have bare banks and are structurally diverse with extending areas of scrub and support a range of veteran trees, most noticeably a very fine over-mature Ash, several large Field Maples and Hazel. Given the nature and location of these micro-habitats it is highly probable that notable and/or rare species occur in association.
- Running water – Bradiford Water here is a SSSI. It is a fast flowing stream with varied bed substrates including rocks and stones. It has high potential. It supports insectivorous birds and bats, Daubenton's bat, Dipper and Grey Wagtail, which indicates abundant riparian invertebrates.
- Deciduous woodland – native woodland provides good habitat.
- Manning's Pit holds fen and wet woodland habitats these have high potential
- Those areas of grassland, within the application site, on the steep scarp and below and to the north are moderately species rich and have significant invertebrate potential, especially for moths.

6.8.6 The majority of the application site has good invertebrate potential. The high value areas would be subject to significant change due loss of grazing, change of use to public open space, construction of attenuation ponds, remedial action associated with land instability, construction of a woodland footway, increased disturbances and eutrophication. These all have the potential to impact negatively on invertebrate interests. The most threatened parts are those associated with the old hedge lines which would undoubtedly deteriorate significantly as invertebrate habitat under a public open space management regime. A net loss in invertebrate biodiversity is predictable if development is permitted.

7. Review of Planning Guidance and the Proposed Development

7.1 Introduction

7.1.1 The following guidance has relevance to the biodiversity issues associated with the application site.

Table 3 Relevant Planning Guidance

National Planning Policy Framework
Sections: 109; 110; 113; 114; 117; 118; 120; 121; 125
North Devon Local Plan, Saved Plan Policies 2006
ENV 1 Development in the Countryside
ENV 8 Biodiversity
ENV 10 Locally Important Wildlife or Geological Sites
ENV 11 Protected Species
ENV 12 Sites of Special Scientific Interest
North Devon and Torridge Local Plan, Emerging Plan Policies, March 2015
ST14 Enhancing Environmental Assets

7.1.2 HM Government is committed to halt the decline in national biodiversity. For planning matters this is expressed through the guidance contained within the National Planning Policy Framework (NPPF). The aspirations of the NPPF are reflected in both saved and emerging local plan policies (NDLP and ND&TLP).

7.2 Net Gain in Biodiversity

7.2.1 The central tenant of the commitment is expressed in section 109. The planning system should *minimise impacts on biodiversity* and seek to *provide net gains in biodiversity*.

7.2.2 These commitments are echoed in local plan policies. NDTLP Emerging local plan policy ST14 states: - *The quality of northern Devon's natural environment will be protected and enhanced by ensuring that development contributes to: (a) providing a net gain in northern Devon's biodiversity.* North Devon Local Plan Saved Policy ENV 1 indicates that development in the countryside will only be permitted where it protects or enhances ecological value.

7.2.3 No biodiversity gain would accrue from the proposed development. There is no meaningful or appropriate mitigation offered to compensate for the significant losses which would occur. On the contrary most of the features of greatest ecological interest are overlooked or ignored. As it stands a significant net loss in biodiversity is anticipated should the application be permitted in its current form.

7.3 Land with the least environmental value

7.3.1 Having established the principle of net gain in biodiversity the Framework, in section 110, then directs development towards *land with the least environmental value.* The application site falls at this hurdle. It is very clearly above the standard of *least environmental value.* It adjoins a SSSI, is in part a County Wildlife Site, and has 2 designations relating to its wildlife corridor functions and supports many Protected and Priority Species and Habitats (NERC 2006). It is already considered within the planning system as having merit. Development here would be inappropriate.

7.4 Level of Protection

7.4.1 In section 113 the Framework establishes a hierarchy for levels of protection commensurate with level of ecological interest ranging from international to local. The application site supports or contributes towards wildlife interests across the complete range. From internationally significant, Horseshoe bats and Caen Valley SSSI, through nationally significant Bradiford Valley SSSI, Hazel Dormouse, Otter, Breeding Birds, to county level Shearford Lane and Bradiford Valley Scarp CWS, veteran trees, wildlife corridor and onto

district importance, grassland, hedges, river, bat assemblage plus many features parish level interest.

7.5 Ecological Networks, Wildlife Corridors and Green Infrastructure

7.5.1 Section 114 of the Framework directs local authorities to plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. This aspiration is consolidated in section 117 *promote the preservation, restoration and re-creation of ecological networks.*

7.5.2 Saved NDLP Policy ENV8 (BIODIVERSITY) indicates that *development will not be permitted where it harms a substantive biodiversity network*

7.5.3 Emerging NDTLP Policy ST14 seeks a) *an enhanced network of designated sites and green infrastructure*; and by (h) *conserving and enhancing the robustness of northern Devon's ecosystems*

7.5.4 Barnstaple was ahead of the curve with regard to the promotion of networks. A 2005 report by the DWT established and mapped the network of green spaces considered important for wildlife around the urban zone. This was adopted as SPG to its saved policy ENV 8 by NDDC.

7.5.5 The application site is within an important wildlife corridor noted in particular for the number of associated EPS, Otter, Hazel Dormouse, Horseshoe bat (2 species) and potentially Bullhead. Damage to corridor functionality is unavoidable. Severe disruption is anticipated in the case of Otter and Horseshoe bats. Development here would run counter to both national and local aspirations and targets.

7.6 Sites of Special Scientific Interest

7.6.1 NPPF section 118 states *proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted*.

7.6.2 Saved NDDC local plan policy ENV 10 states *development will not be permitted where it would harm the wildlife interest features of a SSSI.*

7.6.3 Bradiford Valley SSSI is contiguous with the application site. Interest features of Bradiford Valley SSSI include breeding birds, Hazel Dormouse, Otter, and Horseshoe Bat (NE 2017). All of these interests are threatened through increased disturbances both from this proposed development and cumulatively with other nearby recent permissions. Disturbances from people, dogs and predation by cats would increase significantly within the SSSI and could be critical in the case of Hazel Dormouse and some breeding birds. Disruption of flyways and increased light levels within the valley are liable to significantly reduce the value of the SSSI for Horseshoe bats.

7.6.4 Caen Valley SSSI, some 8 km distant, is of international significance in respect of Greater Horseshoe Bat. NE (2017) considers that the Bradiford valley is important as a foraging area for bats from the SSSI. Development on the application site in combination with nearby permissions would reduce foraging opportunities in this valley and therefore have a negative impact on SSSI interests.

7.6.5 The level of damage to SSSI interests accruing from the proposed development are unacceptable and do not accord with planning guidance.

7.7 County Wildlife Sites

7.7.1 NPPF directs that sites should receive protection commensurate with their level of interest. Sites of County importance have relevance within the hierarchy. Section 118 states *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.

7.7.2 Saved NDDC local plan policy ENV 10 states *development will not be permitted where it would harm a county wildlife site.*

7.7.3 Bradiford Scarp and Shearford Lane CWS lies partially within the application site. Its interests are directly threatened by the proposals. Construction damage is anticipated from a proposed footway and from remedial action associated with former quarrying. In addition, a very significant increase in disturbance is predicted throughout the CWS from a variety of sources, footfall, dogs, predatory cats, increased light spill, willful damage and eutrophication.

7.7.4 Damage would undoubtedly occur to CWS interests; there is no mitigation or compensation offered. Therefore the proposal is not compliant with planning guidance.

7.8 Habitats

7.8.1 NPPF section 117 offers protection to Priority Habitats (NERC 2006) *planning policies should promote the preservation, restoration and re-creation of priority habitats*

7.8.2 This is represented locally in NDLP Saved Policy ENV8; *development will not be permitted where it harms a substantive biodiversity habitat.*

7.8.3 The application site supports several Priority Habitats (NERC 2006): Lowland Mixed Deciduous Woodland, Lowland Meadow, Lowland Fen, River and Hedge. All of these would be diminished or would deteriorate as a result of the development proposals. The only positive mitigation offered is supplementary planting in existing hedges. Other measures offered as mitigation, attenuation ponds and a new hedge, would destroy a habitat of greater value, Lowland Meadow.

7.8.4 The development runs counter to commitments on biodiversity. It would cause a net loss in Priority Habitats (NERC 2006) and deterioration in the condition of existing features.

7.9 European Protected Species

7.9.1 NDLP Saved Policy ENV 11 states *development will not be permitted where it would damage, destroy or lead to the deterioration of a breeding site, foraging area or resting place of a European Protected Species.*

7.9.2 ND&TLP Emerging Policy ST14 states:- *The quality of northern Devon's natural environment will be protected and enhanced by ensuring that development contributes to: (b) conserving European protected species and the habitats on which they depend;* which is given further definition in *6.4 European protected species will be conserved by protecting and enhancing the key habitats on which they depend, including for feeding, burrowing, roosting and hibernating. Flyways for bats will be protected by considering impacts from lighting.*

7.9.3 Several EPS are associated with the development site. Foremost in terms of threat are Horseshoe bats. Significant numbers of Lesser Horseshoe Bat use the application on a regular basis. Development is proposed adjacent to their principal flyway. A Lesser Horseshoe Bat colony is placed in severe jeopardy by the proposal, which is likely to prevent the bats moving through the site in future due to disturbance from light spill.

7.9.4 Greater Horseshoe Bat forages over the area. Their ability to maintain a population here at existing levels is compromised by a reduction in foraging habitat to a built environment and a loss of commuting possibilities due to light spill.

7.9.5 Otter resting opportunities would be lost in Bradiford Scarp CWS and to Bradiford Valley SSSI.

7.9.6 Hazel Dormouse occurs within Bradiford Valley SSSI. The population is placed in jeopardy by the increased predator pressure from domestic cats both from this development and cumulatively with recent nearby permitted developments.

7.9.7 With both critical and substantial deleterious impacts predicted on the several, associated EPS and no mitigation offered the application clearly fails to satisfy current planning guidance.

7.10 Protected and Priority Species

7.10.1 NPPF section 117 aims to minimize impacts on biodiversity by promoting the protection and recovery of priority species populations, linked to national and local targets.

7.10.2 NDLP Saved Polices ENV 8 and ENV 11 also provide guidance in respect of species.

ENV 8 *development will not be permitted where it harms a substantive biodiversity species*

ENV11 *development will not be permitted where it would directly harm a statutorily protected animal or plant species*

7.10.3 National and local guidance indicates that Priority Species (NERC 2006), Protected Species and Devon BAP species should have relevance within the planning process.

7.10.4 The application site and the adjoining habitats of the SSSI support a good range of such species:- many breeding birds, 8 species of bat, 2 species of Fritillary butterfly, Great Green Bush Cricket, Slow-worm, Grass Snake, Primrose. Others such as amphibians, Hedgehog, Water Shrew, Badger and Harvest Mouse are likely possibilities. Predictable impacts indicate that there would be a net loss among protected and priority species.

7.11 Veteran Trees

7.11.1 NPPF section 118 directs local planning authorities to refuse planning permission *for development resulting in the loss or deterioration of irreplaceable habitats, including the loss of aged or veteran trees found outside ancient woodland,*

7.11.2 Veteran trees of high ecological interest occur towards the centre of the application site. They are threatened post-development by incorporation into public open space, which would without mitigation and none is offered, inevitably lead to deterioration in condition and probable loss.

7.12 Light

7.12.1 NPPF section 125 seeks to reduce impact on nature conservation by limiting light pollution.

7.12.2 Light spill from the application site puts Horseshoe bat interests at severe risk. Mitigation is not offered in respect of the vital Horseshoe bat flyways.

7.13 Land Instability

7.13.1 NPPF sections 120 and 121 direct local authorities to prevent unacceptable risks from land instability and to ensure that new development is appropriate for its location and takes account of impacts on the natural environment arising from remediation.

7.13.2 There is a land stability issue here with former quarrying, on ground known locally as Manning's Pit. This feature is ignored or overlooked in all submitted documents. Any remedial action would involve damage to the CWS and its interests. It would damage the Priority Habitats (NERC 2006), Lowland Mixed Deciduous Woodland and Lowland Fen as well as adversely affecting wildlife corridor functionality.

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APPENDICES

Appendix 1 - Author biography

Background and Relevant Experience

My name is Mr. John Day. I currently reside in Ashburton, Devon. Some of my more relevant experience is listed below:-

o I have been employed as a professional ecologist since 1976. My specialty is site survey and assessment in terrestrial and freshwater environments.

o I currently work as independent landscape ecologist / botanical consultant. Recent projects include - populating the Worcestershire County Council's County Landscape Plan (SPG) with ecological data and providing ecological evidence to the Knapp, Appledore Planning Inquiry (APP/W1145/A/14/2224155) in 2015 on behalf of local residents.

o I hold a BSc (Hons) Degree in Botany & Zoology from London University.

o Independent of my professional interests, I am a fulltime naturalist.

o In the 1980s & 1990s, I was a part-time ecology tutor for Birmingham University.

o Over the course of 40 years I have served on many committees dealing with wildlife conservation in the West Midlands. I currently serve on the committee for Worcestershire Biological Recorders, the recording arm of the Worcestershire Biological Record Centre.

o I have a broad experience of dealing with ecological issues in relation to planning. This ranges from acting as a consultant on strategic policy formulation at regional, county and district levels to public inquiry work. I worked within the development control section at Hereford and Worcester County Council 1978-1980. I have served as a parish councilor.

o I was employed 1976-86 by the Worcestershire Wildlife Trust with primary responsibility for site survey and assessment. This began with the second British full county wide Phase 1 survey. Subsequently, Phase 2 level ecological surveys and assessments on the majority of the county's sites of ecological interest. This formed the basis for the county's County Wildlife Site selection in 1990.

o In 1982, I led a river corridor survey of 1200km of the county's streams and rivers. In the mid 1980s I was an adviser on ecological matters to the Water Authority on all works, within the River Teme catchment in the Welsh Borders, the Lower River Avon & Lower River Severn valleys in the West Midlands.

o I have been involved in Otter conservation since my first Otter survey in 1979. I am very familiar with the species and its habits, having surveyed hundreds on Scottish sites where they were present.

o Between 1979 and 1992, I surveyed and assessed all the standing water bodies over 0.5ha in Worcestershire plus c.800 ponds for Worcestershire County Council.

o I have considerable expertise in grassland survey and evaluation. I have surveyed many tens of thousands of grasslands. I have personally surveyed c.80% of the SSSI Lowland Hay Meadow (MG5) resource left in England. I have surveyed several thousand orchards.

o I have worked throughout Britain as a professional ecologist. I have, for instance, surveyed both the most northerly pool (Shetland) and most southerly pool (Isles of Scilly) in UK.

o I was employed 1994 - 1999 by Scottish Natural Heritage as Freshwater Biologist specialising in Botanical survey and assessment nationwide.

o I have been the Worcestershire County Botanical Recorder for Botanical Society of Britain and Ireland since 1983. I am the national botanical referee for the aquatic genus *Utricularia*, Bladderworts and an acknowledged expert on Bellflowers, *Campanula*. I am the acknowledged expert on Worcestershire's flora. My botanical database for Worcestershire holds approximately 1,000,000 records.

- I collaborated on Worcestershire's Ancient Woodland Inventory and am the author of the Ancient Woodland Species – Indicator List for that county.
- I am an active ornithologist. I held a Bird Ringing licence 1977 – 1990.
- I was the founding Chairperson of the Worcestershire Bat Group. I undertook work as a licensed bat holder between 1982 and 1992.
- I was a founder member of the Worcestershire Badger Group and was an expert witness in the first successful prosecution for badger digging offences in the county.
- I was awarded a Gold Medal by Worcestershire Wildlife Trust in 2004 for services to wildlife conservation in the county.
- I am familiar with Devon and its wildlife. I lived in South Devon for a few years in the 1990s and have resided here since July 2013. I have undertaken a range of ecological and landscape studies in South Devon, including studies on the Dart valley from source to sea. Since 2013 I have conducted botanical surveys in Devon on behalf of the DA, RSPB and BSBI, including on the River Torridge, Lundy and other sites in North Devon. I have added about 20 species to the Devon flora. I am a member of the Devon Bryology Group and Devon Fungi Group.

Appendix 2 Cotswold Wildlife Surveys 22nd January 2016

Comparison of sections 3.2 of Preliminary Ecological Appraisal for planning application numbers 62524 and 61067. They are similar apart from survey limitations which are only noted in relation to the Westaway Plain application.

Preliminary Ecological Appraisal of Land off Windsor Road, Barnstaple, EX31 1QG (appl. no.: 62524)

3.2 Habitat survey

A Preliminary Ecological Appraisal was carried out across the whole of the survey site by Ecologist Daniella Siddall of the DGC. It was conducted using standard JNCC (2003) techniques and methodologies.

The Phase 1 visit took place on 22nd January 2016, in mild conditions, with no wind, sunny spells and a 4/8th cloud cover.

Preliminary Ecological Appraisal of Land at Westaway Plain, Barnstaple, EX31 1QL (appl. no.: 61067)

3.2 Habitat survey

A Preliminary Ecological Appraisal was carried out across the whole of the survey site by Ecologist Daniella Siddall of the DGC. It was conducted using standard JNCC (2003) techniques and methodologies.

The Phase 1 visit took place on 22nd of January 2016, in cool conditions, with no wind, cloud and sunny spells.

The survey was undertaken outside the optimum survey season, so some flora and fauna may not have been evident. However, given the nature of the site and the limited habitats present, this was not considered to impact significantly on the survey.

Appendix 3 SSSI Citation Bradiford Valley

COUNTY: Devon SITE NAME: Bradiford Valley
DISTRICT: North Devon

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended)
Local Planning Authority: Devon County Council, North Devon District Council
National Grid Reference: SS 557350 Area: 23.2 (ha) 57.3 (ac)
Ordnance Survey Sheet 1:50,000: 180 1:10,000: SS 53 NE, SE
Date Notified (Under 1949 Act): 1974 Date of Last Revision: 1976
Date Notified (Under 1981 Act): 1986 Date of Last Revision:
Other Information:
Boundary amended by extension and deletion.

Description and Reasons for Notification:
Bradiford Valley is important for its ancient sessile Oak woodland and associated breeding birds. Additional habitats are provided by an old mill leat, pond, stream, and several meadows. The whole supports a diverse wildlife in close proximity to the town of Barnstaple.
The stream, Bradiford Water, runs in a south-westerly direction, at about 15 m above sea level, entering the Taw estuary nearly 2 km beyond the site. Tutshill Wood rises to about 95 m, and faces south-east over the generally level flood plain situated between the leat and stream. Devonian siltstones and mudstones underlie the site, giving rise to the typical brown earth soils.
The wood consists largely of a stand of Sessile Oak *Quercus petraea* with Ash *Fraxinus excelsior* as a codominant. Hazel *Corylus avellana*, Holly *Ilex aquifolium* and occasional Hawthorn *Crataegus monogyna* occur in the understorey, with some Honeysuckle *Lonicera periclymenum*. The ground flora includes Primrose *Primula vulgaris*, Wood Avens *Geum urbanum*, Wood Anemone *Anemone nemorosa* and Dog's Mercury *Mercurialis perennis*. Some areas of the wood have been invaded by Sycamore *Acer pseudoplatanus* and Beech *Fagus sylvatica*. Here Bramble *Rubus fruticosus* and Ivy *Hedera helix* are abundant, with frequent Great Woodrush *Luzula sylvatica* and Wood Sage *Teucrium scorodonia*. Alder *Alnus glutinosa* occurs as individual trees along the watercourses, and as a stand with Sallow *Salix cinerea* where a tributary stream enters the

site to the north.

The hillside and flood-plain fields are pasture grasslands with characteristic species such as Bents *Agrostis spp*, Perennial Rye-grass *Lolium perenne* and Crested Dog's-tail *Cynosurus cristatus*, Clovers *Trifolium spp* and Buttercups *Ranunculus spp* and Rushes *Juncus spp* in wetter areas. Some herbs occur generally, such as Cat's-ear *Hypochoeris radicata* and Common Knapweed *Centaurea nigra*, while others such as Common Fleabane *Pulicaria dysenterica* and Creeping Thistle *Cirsium arvense* are more local. These grasslands are a source of invertebrates on which many of the site's breeding birds feed.

The site supports over 50 breeding bird species. Many of these occur in the wood, eg Buzzard *Buteo buteo*, Sparrowhawk *Accipiter nisus*, all three British species of Woodpecker, Tawny Owl *Strix aluco*, Little Owl *Athene noctua*, Spotted Flycatcher *Muscicapa striata* and Nuthatch *Sitta europaea*. Several Warblers such as Whitethroat *Sylvia communis* and Garden Warbler *S. borin* also breed here. Dipper *Cinclus cinclus*, Grey Wagtail *Motacilla cinerea*, Kingfisher *Alcedo atthis* and Water Rail *Rallus aquaticus* nest near the watercourses.

Appendix 4 SSSI Citation Caen Valley Bats

Site name: Caen Valley Bats **County:** Devon

District: North Devon

Status: Site of Special Scientific Interest (SSSI) notified under section 28 of the Wildlife and Countryside Act 1981 (as amended)

Local Planning Authority: Devon County Council, North Devon District Council

National Grid reference: SS 484377 **Area:** 0.11 (ha)

Ordnance Survey sheet: 1:50,000: 180 **1:10,000:** SS43NW

Date notified (under 1981 Act): 23 September 2002

Reasons for notification:

The site is notified as a nationally important summer maternity roost and winter hibernacula for the greater horseshoe bat *Rhinolophus ferrumequinum*.

General description:

The site is located on the valley slopes of the River Caen, approximately 0.5 kilometres north of the town of Braunton.

The former stable block buildings at Caen Valley Bats SSSI are of importance as a summer maternity roost, where the female bats gather in large numbers to give birth and rear their young. The site is also used as a winter hibernacula by the bats.

The buildings provide an undisturbed, secure roosting site with a range of internal temperatures, which allows usage by the bats throughout the year. The buildings also provide a safe and sheltered space in which the bats can exercise before emerging to feed and where young bats can practice flying. The roost provides suitably sized emergence points, immediately outside of which are banks of trees and shrubs, which provide sheltered and secure flight paths for the bats.

Counts over the past 10 years indicate that the greater horseshoe bat population that uses Caen Valley Bats throughout the year is the second largest known population in England and confirm the site's importance as a maternity roost and hibernacula.

Other information:

The site lies within the Exmoor and Quantocks Natural Area.

All species of bat are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Annex IV of the European Community Habitats and Species Directive.

Appendix 5 North Devon Local Plan, 2006, 5.25 – 5.26

Sections relating to wildlife corridors:-

5.25 *To complement the BAPs, HAPs, SAPs and the Habitat Regulations, biodiversity networks have been identified in and around Barnstaple, Braunton, Fremington, Ilfracombe and South Molton. Due to the complexity of these networks, it is not possible to indicate them on the Proposals Map or Inset Maps although they are shown in detail in the document 'Local Nature Conservation Sites and Biodiversity Networks in North Devon' produced by Devon Wildlife Trust (DWT). This document is adopted as Supplementary Planning Guidance. Biodiversity Networks have been established by the DWT using both scientific and community based criteria including naturalness, diversity, geographical position, physical access and education value. The networks are formed by a variety of linear and continuous landscape features that provide links or stepping stones from one habitat to another. By facilitating the migration, dispersal and genetic exchange, one of the principal functions of the network is to reduce the fragmentation that has occurred in habitats through development and cultivation. The Council is committed to ensuring that the functioning and integrity of the biodiversity networks is not prejudiced by new development. Wherever practicable, the role and function of the network will be strengthened by enhancing existing features and creating new connections and linkages. Environmental information is held by the Devon Biodiversity Records Centre (DBRC). The Council is committed to the ongoing identification of new sites of nature conservation value. NDDC To ensure that the extent, diversity and local distinctiveness of the nature conservation resource of North Devon is either maintained or improved, development will not generally be permitted where it ….. prejudices the functioning and integrity of a biodiversity network.*

5.26 *To ensure that the extent, diversity and local distinctiveness of the nature conservation resource of North Devon is either maintained or improved, development will not generally be permitted where it harms a locally distinctive and important biodiversity habitat as defined in the HAPs, a national, regional or county BAP, the Habitats Regulations or prejudices the functioning and integrity of a biodiversity network.*

Appendix 6 Flora 2016

Nomenclature follows Stace, 2010; Recorders J.J.Day and M.Breeds

Appendix 6.1 Grassland Flora

Achillea millefolium	Yarrow
Agrostis capillaris	Common Bent
Agrostis stolonifera	Creeping Bent
Alopecurus pratensis	Meadow Foxtail
Anthoxanthum odoratum	Sweet Vernal Grass
Bellis perennis	Daisy
Cardamine hirsuta	Hairy Bitter-cress
Centaurea nigra agg.	Common Knapweed
Cerastium fontanum	Common Mouse-ear
Cirsium arvense	Creeping Thistle
Cirsium palustre	Marsh Thistle
Cirsium vulgare	Spear Thistle
Conopodium majus	Pignut
Cynosurus cristatus	Crested Dog's-tail
Dactylis glomerata	Cock's-foot
Festuca rubra sens.str.	Red Fescue
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire-fog
Hypochaeris radicata	Cat's-ear
Juncus bufonius	Toad Rush
Lolium perenne	Perennial Rye-grass
Matricaria discoidea	Pineapple Weed
Phleum pratense sens.str.	Timothy
Pimpinella saxifraga	Burnet-saxifrage
Plantago lanceolata	Ribwort Plantain
Plantago major ssp. major	Greater plantain
Poa annua	Annual Meadow-grass
Poa pratensis sens. lat.	Common Meadow Grass
Poa trivialis	Rough Meadow Grass
Polygonum aviculare sens.str.	Knotgrass
Prunella vulgaris	Selfheal

Ranunculus acris	Meadow Buttercup
Ranunculus repens	Creeping Buttercup
Rumex acetosa ssp. acetosa	Common Sorrel
Rumex crispus	Curled Dock
Rumex obtusifolius	Broad-leaved Dock
Rumex sanguineus	Wood Dock
Stellaria graminea	Lesser Stitchwort
Taraxacum sp.	Dandelion
Trifolium pratense	Red Clover
Trifolium repens	White Clover
Urtica dioica	Common Nettle
Veronica chamaedrys	Germander Speedwell
Veronica serpyllifolia ssp. serpyllifolia	Thyme-leaved Speedwell

Appendix 6.2 Additional Species (Hedge, Wood, River)

Acer campestre	Field Maple
Acer pseudoplatanus	Sycamore
Aegopodium podagraria	Ground-elder
Ajuga reptans	Bugle
Alliaria petiolata	Hedge Garlic
Alnus glutinosa	Alder
Angelica sylvestris	Wild Angelica
Anisantha sterilis	Barren Brome
Anthriscus sylvestris	Cow Parsley
Apium nodiflorum	Fool's Water-cress
Arrhenatherum elatius	False Oat-grass
Arum maculatum	Cuckoo Pint
Asplenium scolopendrium	Hart's-tongue
Athyrium filix-femina	Lady Fern
Blechnum spicant	Hard Fern
Brachypodium sylvaticum	False-brome
Bromus hordeaceus	Soft Brome
Cardamine flexuosa	Wavy Bitter-cress
Carex pendula	Pendulus Sedge
Carex remota	Remote Sedge
Carex sylvatica	Wood-sedge

Carpinus betulus	Hornbeam
Chaerophyllum temulum	Rough Chervil
Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage
Circaea lutetiana	Enchanter's-nightshade
Conium maculatum	Hemlock
Cornus sanguinea	Dogwood
Corylus avellana	Hazel
Cotoneaster simonsii	Himalayan Cotoneaster
Crataegus monogyna	Hawthorn
Digitalis purpurea	Foxglove
Dryopteris borreri	Scaly Male Fern
Dryopteris dilatata	Broad Buckler-fern
Dryopteris filix-mas	Common Male Fern
Elytrigia repens	Common Couch
Euonymus europaeus	Spindle
Fagus sylvatica	Beech
Fraxinus excelsior	Ash
Galium aparine	Cleavers
Galium palustre	Common Marsh-bedstraw
Geranium robertianum	Herb-robert
Geum urbanum	Herb Bennet
Glechoma hederacea	Ground-ivy
Glyceria fluitans	Floating Sweet-grass
Hedera hibernica	Atlantic Ivy
Hypericum pulchrum	Slender St. John's-wort
Ilex aquifolium	Holly
Impatiens glandulifera	Indian Balsam
Juncus articulatus	Jointed Rush
Juncus effusus	Soft Rush
Lamiastrum galeobdolon ssp. montanum	Yellow Archangel
Lapsana communis	Nipplewort
Lonicera periclymenum	Honeysuckle
Lotus pedunculatus	Large Bird's-foot-trefoil
Lysimachia nemorum	Yellow Pimpernel
Mercurialis perennis	Dog's Mercury
Moehringia trinervia	Three-veined Sandwort
Nasturtium officinale agg.	Water-cress

Oenanthe crocata	Hemlock Water-dropwort
Persicaria hydropiper	Water-pepper
Polypodium vulgare sens. str.	Polypody
Polystichum setiferum	Soft Shield-fern
Potentilla sterilis	Barren Strawberry
Primula vulgaris	Primrose
Prunus avium	Wild Cherry
Prunus domestica	Wild Plum
Prunus spinosa s.l.	Blackthorn
Quercus robur	Pedunculate Oak
Rosa arvensis	Field Rose
Rosa canina agg.	Dog Rose
Rubus fruticosus agg.	Bramble
Rubus ulmifolius	Elm-leaved Bramble
Salix cinerea ssp. oleifolia	Grey Willow
Sambucus nigra	Elder
Sanicula europaea	Sanicle
Schedonorus giganteus	Giant Fescue
Scrophularia auriculata	Water Figwort
Scrophularia nodosa	Common Figwort
Senecio aquaticus	Marsh Ragwort
Silene dioica	Red Campion
Sison amomum	Stone Parsley
Stellaria holostea	Greater Stitchwort
Tamus communis	Black Bryony
Taxus baccata	Yew
Teucrium scorodonia	Wood Sage
Torilis japonica	Upright Hedge-parsley
Veronica montana	Wood Speedwell
Viola riviniana	Common Dog-violet