

15 Summary

15.1 Introduction

15.1.1 Ashton Park Trowbridge Ltd and Persimmon Homes Ltd (the "Applicant") are seeking to obtain outline planning permission for mixed use urban extension and relief road (the "Proposed Development") at land to the south-east of Trowbridge, Wiltshire (the "Application Site"). The Application Site lies within the administrative area of Wiltshire Council (WC).

15.1.2 The Proposed Development is for up to 2,500 dwellings of mixed house types and tenure, including a range of affordable housing and potential care home provision. The application also includes employment land, two local centres, two primary schools, a site for a secondary school, integration of secondary transport modes, sports pitches with changing rooms, green infrastructure as well as highways upgrades and access and other infrastructure to include drainage works.

15.1.3 The ES presents the findings of the Environmental Impact Assessment (EIA) which was undertaken in conjunction with the design process for the Proposed Development and various supporting studies, which have informed the design.

15.2 The EIA Project Team

15.2.1 This ES has been co-ordinated and managed by Pegasus Group. The consultants who have contributed to the preparation of this ES are as follows:

- Socio Economics – Pegasus Group
- Ecology and Nature Conservation – Aspect Ecology
- Landscape and Visual – Pegasus Group
- Transport and Access – PFA Consulting
- Air Quality – Air Quality Consultants
- Noise and Vibration – L F Acoustics Limited
- Hydrology, Drainage and Flood Risk – PFA Consulting
- Ground Conditions - RSK
- Cultural Heritage and Archaeology – Cotswold Archaeology
- Soils and Agriculture – Kernon Countryside Consultants

15.3 Need for Environmental Impact Assessment

15.3.1 EIA is a process for identifying the likely significant environmental effects (beneficial and adverse) of proposed developments before development consent is granted.

15.3.2 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 require that any proposed development falling within the description of a 'Schedule 2 development' within the meaning of the Regulations, is required to be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its nature, size or location (Regulation 2(b)).

15.3.3 The Application Site area is greater than the threshold of development area of 'exceeding 0.5ha' under Schedule 2 Section 10 (b) with respect to Infrastructure

Projects that would require the submission of an ES.

15.3.4 The EIA process identifies likely 'significant' environmental effects of proposed developments, by comparing the existing situation, that which pertain before development is carried out (baseline) with the situation once the proposals are in place.

15.3.5 The EIA and this ES have been undertaken and prepared with due regard to the criteria of Schedule 4 of the Regulations. The ES includes an assessment of the predicted effects of the proposed development, focussing, as required by the EIA Regulations, on those effects that have the potential to be significant. The content of the ES, as well as the overall approach to the EIA, has also been designed to reflect other requirements of the EIA Regulations as well as widely recognised good practice in EIA.

15.4 Application Site Description

15.4.1 The Application Site comprises open farmland on the south-eastern periphery of Trowbridge, some 2.2 km from the town centre.

15.4.2 The small linear village of West Ashton lies to the south – east of the Application Site, on the eastern side of the A350 which is a strategic road corridor, linking the M4 to the north with the Poole conurbation on the south coast. The small village of Yarnbrook is located to the south west of the Application Site, where the A350, A363 and B3097 intersect. Further to the west of the main railway is the village of North Bradley which is accessed from the A363.

15.4.3 The Application Site area comprises approximately 177 hectares, well connected by existing footpath/cycleways to the town centre, via the People’s Park to the north, through Biss Meadow Country Park Extension, which provides a green gateway into Trowbridge. The Application Site is also well related to residential development to the north, more recent expansion of the town at Castle Mead to the north east and the White Horse Business Park to the west.

15.4.4 The Application Site is divided either side of the West Ashton Road, which is a single carriageway that connects West Ashton, at its junction with the A350, to County Way (A36) and the town centre.

15.4.5 To the east of West Ashton Road, the Application Site is contained to the north-west by the Leap Gate, which is constructed, and links West Ashton Road to the A36 to the north, through the eastern expansion area of Trowbridge known as Paxcroft Mead and the Castle Mead development, where elements are still currently under construction.

15.4.6 To the North East of the Application Site lies the Green Lane Nature Park in association with the Castle Mead development.

15.4.7 To the east of the Application Site is Biss Wood, a broadly rectangular area of woodland comprising some 21 hectares.

15.4.8 The River Biss runs through the part of the Application Site West of West Ashton Road, from the south-western corner, arching through the Application Site (forming its southern boundary in part) and running through to the northern boundary. A tributary of the river forms part of the northern boundary to the Application Site. The remainder of the northern boundary is formed by the Drynham Lane, which is a byway open to all traffic (NBRA43), and some private properties served off the lane.

15.4.9 The western boundary of the Application Site is formed by a railway line. The southern boundary is partly delineated by the River Biss and by open agricultural land.

15.5 Proposed Development

15.5.1 The Proposed Development accords with the development template within the Wiltshire Core Strategy and comprises the following:

- Up to 2,500 dwellings (Class C3) of mixed house types and tenure, including a range of affordable housing and potential care home provision (Class C2);
- 13.6 ha of employment land to support a mix of B1, B2 & B8 use classes;
- Two Local Centres to accommodate retail, social and community facilities which may include a mix of A1 – A5, D1 and C2/C3 use classes;
- Two primary schools;

- A site for a secondary school;
- An integrated network of footways and cycleways;
- The provision of public open space/green infrastructure and areas of strategic landscaping, including an extension to the Green Lane Nature Park and a corridor along the River Biss, woodland and hedgerow planting and allotments;
- A 100m ecological buffer to the western edge of Biss Wood;
- Provision of a range of play space;
- Sports Pitches and courts and associated changing rooms;
- A site for an ecological visitors facility;
- Surface water/flood management mitigation works including the creation of attenuation ponds;
- Necessary related engineering works for drainage, sewers and other infrastructure;
- The provision of the Yarnbrook/West Ashton Relief Road and associated highway infrastructure. A single carriageway scheme of 7.3 m with associated landscaping and drainage (matters not reserved);
- Downgrading of part A350 with associated landscaping and highway works; and
- Vehicular access from proposed Yarnbrook/West Ashton Relief Road, 3 x accesses from West Ashton Road and 2 x accesses from Leap Gate (matters not reserved).

15.6 Consideration of Alternatives

15.6.1 Schedule 4, part 1, paragraph 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that "*an outline of the main alternatives studied by the applicant and an indication of the main reasons for this choice, taking into account the environmental effects*" are included within the ES.

15.6.2 The alternatives to the Proposed Development which the Applicants have considered include 'No Development' and 'Alternative Designs'.

15.6.3 The 'No Development' alternative refers to the option of leaving the site in its current state. If the Proposed Development were not to proceed, it is likely that the Application Site would continue to be used as agricultural land.

15.6.4 In terms of Alternative Designs the Proposed Development evolved through consideration of constraints and opportunities as discussed in detail within Chapter 4 of this ES Addendum. Once the constraints and opportunities had been identified a draft masterplan was prepared as part of the 2015 application and as part of the design evolution process a series of public consultation events were held and a broad range of comments expressed highlighting a variety of issues and concerns. There were no fundamental changes necessary to the draft masterplan arising from the community consultation.

15.6.5 During the application determination and consultation period there were suggestions from statutory bodies concerning modifications and alternatives to the design. The alternative design suggestions have been considered and accommodated where possible and now included within the overall 2017 masterplan. The changes and alternatives to the design include the relocation of the employment area from land adjacent to the railway line on the site's western boundary to land formerly identified for residential development east of West Ashton Road. The displaced residential development has been accommodated within the former employment area adjacent to the railway. Other changes to the 2017 masterplan include the relocation of the primary school away from West Ashton Road, the reconfiguration of the secondary school to avoid land within Flood Zone 3; the provision of landscape and ecological buffers; the reconfiguration of formal sports areas; and revised attenuation ponds to reflect the drainage strategy for the new housing areas. The vertical alignment of the Relief Road along the south-western section, between roundabouts R1 and R2, has been raised by an average of 4 metres to provide underpasses for bat flight paths.

15.7 Cumulative Issues

15.7.1 Schedule 4, part 1, paragraph 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that a description of the likely significant effects of the development on the environment should cover cumulative effects.

15.7.2 The main aim of a cumulative assessment is to assess the additional impact of the development proposed on the baseline of projects that are either already operational or have planning permission.

15.7.3 The following sites have been identified with Wiltshire Council to be included within the cumulative assessment. The sites lie within a 2km radius of the Proposed Development and are as follows:

SITE	DESCRIPTION	PLANNING STATUS
Court Street (5/LPA/21)	112 dwellings on an urban site along banks of River Biss	APPROVED

ENVIRONMENTAL STATEMENT

SUMMARY

Land Rear of Wesley Road Club (5/LPA/25)	Application to replace extant planning permission (W/10/02925/S73) in order to extend time limit for implementation (Erection of 6 x 3 bedroom semi - detached dwellings).	APPROVED
	Erection of 6 no. 3 bed semi-detached dwellings (extension of time limit to permission 07/02912/FUL)	APPROVED
	Development of 6 no. 3 bed dwellings	APPROVED
Land at Southview Farm (5/41/6491)	Outline application for residential development, recycling mini bank, open space, equipped children's play area, provision of landscaped flood protection area and associated infrastructure	APPROVED
Former Wincanton Site, Bythesea Rd (5/41/6890)	Outline application for the mixed use redevelopment of the site for retail, B1(Office) residential development with associated servicing and landscaping	APPROVED
	Reserved matters submission relating to the mixed use redevelopment of the site for retail (A1-A5), residential, offices, car parking and associated Infrastructure.	APPROVED
Land N-E of Green Lane Farm (5/41/7890)	174 residential units, garages, parking and ancillary works together with extension to the country park	REFUSED
	Submission of reserved matters pursuant to outline permission 07/03864/OUTES for 174 residential units, garages, parking and ancillary works together with extension to the country park	APPEAL ALLOWED
Land Adjacent Scrap Yard, Green Lane Castlemead (5/41/7710)	Outline planning application for mixed use residential development consisting of 650 dwellings	APPROVED
Terry's Social Club, Hill Street (5/41/7580)	Change of use to form 16 residential apartments with associated internal alterations, on built up urban site	APPROVED
Cedar Grove (5/LPA/43)	Allocation for 15 dwellings, on built up urban site	
Hilperton Rd (5/LPA/45)	Allocation for 15 dwellings on grassland and standard trees	
South East Trowbridge	Allocation for approximately 100 dwellings	

(WCS/NW6)	
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15.8 Socio-Economics

15.8.1 The socio-economic effects of the Proposed Development during both the construction and operational phases have been considered. The analysis focuses on provision for housing, employment and community services primarily within Trowbridge, but also the surrounding area.

15.8.2 There are a wide range of socio-economic issues that exist and which will be affected by the Proposed Development.

15.8.3 There is no specific guidance available which establishes a methodology for undertaking an EIA of the socio-economic effects of a proposed development. Accordingly, the approach adopted for the assessment is based on professional experience and best practice, and in consideration of the policy requirement/tests set out within the National Planning Policy Framework (NPPF), and the extant and emerging development plan.

15.8.4 It considers the future baseline position rather than the current baseline position. This ensures that the potential effects are considered relative to the position that is likely to arise should the Proposed Development not occur.

15.8.5 Wiltshire is expected to experience population growth. It is expected to see the population age in accordance with national trends.

15.8.6 The area which contains the Application Site currently experiences deprivation in regards to access to housing and services, but little deprivation in other domains.

15.8.7 Trowbridge is planned to accommodate significant levels of housing development during the plan period. The Proposed Development is expected to provide a significant component of this supply. Even with the Proposed Development there will be insufficient levels of housing within Trowbridge to meet the Core Strategy requirement.

15.8.8 Trowbridge experiences high levels of home ownership (including with a mortgage), but housing is less affordable and more expensive than the national average.

15.8.9 There is currently sufficient primary and secondary education capacity in the area surrounding the Proposed Development.

15.8.10 There are also a greater number of GPs per patient than experienced on average across the nation, and Trowbridge is well provided for in terms of other healthcare facilities.

15.8.11 Trowbridge has experienced recent leisure and recreation developments in the town centre. It also accommodates a range of retail and other services.

15.8.12 Wiltshire experiences net out-commuting which will be influenced by the pay differential between people who live in Wiltshire and those that work in Wiltshire. A very high proportion of workers in Wiltshire are employed in the public administration and defence sector.

15.8.13 The key socio-economic effects of the Proposed Development can be summarised as follows:

- Provision of circa 767 to 909 additional jobs during the construction phase in the construction sector;
- Provision of 516 to 5,498 FTE jobs during the operational phase (depending upon the precise uses of the employment land);

- An increase of between £41.8M and £66M of expenditure per annum, much of which will be spent in the local economy;
- Accommodation for a population of circa 5,335 people, of which 3,375 are estimated to be new to the area;
- Provision of housing (including affordable housing) of a range of types, sizes and tenures to meet local housing needs in accordance with the Wiltshire Core Strategy;
- A positive effect on the age of the population;
- Addressing the deprivation in regards to barriers to housing and services which exists locally;
- Provision of primary schools which will more than address the needs generated by the Proposed Development and provide greater choice and flexibility across Trowbridge;
- The opportunity to provide a secondary school, which will provide a significant surplus capacity across the local area;
- The opportunity for on-site healthcare provision, which would provide greater choice for local residents;
- A positive effect on the provision of open space, with the standards being exceeded or met.

15.8.14 No mitigation has been identified in socio-economic terms given that the Proposed Development provides for beneficial and/or neutral effects. However, if mitigation is required it is considered likely that this can be addressed through appropriate financial contributions.

15.8.15 Overall the Proposed Development is considered to provide beneficial or neutral effects and will contribute to the housing and employment needs of the area supported by appropriate infrastructure.

15.9 Ecology And Nature Conservation

15.9.1 An ecological survey of the Site has been undertaken, including a desk study, an extended Phase 1 survey and Phase 2 faunal studies, including specific detailed survey work in respect of Bechstein's bat.

15.9.2 The Proposed Development and mitigation measures have been designed to achieve compliance with relevant legislation and planning policy, whilst scoping of the approach taken to this assessment, particularly in respect of mitigation requirements for ecological designations, bats, Dormouse, Skylark and Great Crested Newt, has been undertaken with Wiltshire Council, Natural England and Wiltshire Wildlife Trust.

15.9.3 The nearest European level designation to the Application Site is Salisbury Plain SAC (located approximately 5.2km south east), whilst a population of Bechstein's bats within the local area is known to be linked to Bath and Bradford on Avon Bats SAC (located approximately 7.8 km north west). In addition, the statutory ecological designations Picket and Clanger Woods SSSI and Green Lane Wood LNR are present within the near vicinity of the Application Site (located 0.3km south and 0.2km north east respectively) whilst the Application Site is surrounded by a number of non-statutory ecological designations and Ancient Woodlands, of which the closest is Biss Wood LWS and WWTR located adjacent to the eastern boundary of the Application Site.

15.9.4 The Site itself is dominated by arable land and agricultural grassland, considered to be of negligible-low ecological value. Habitats within the Application Site considered to be of low to moderate ecological value include areas of pasture and field margins, marshy grassland, ruderal vegetation, hedgerows, trees, scrub, watercourses, ditches

and a pond, whilst the River Biss corridor is considered to be of moderate to high ecological value.

15.9.5 Surveys of protected species have recorded use of the Application Site and surrounds by a range of bat species, including the Annex II listed species Bechstein's bat, as well as low numbers of Dormice, Otter, Water Vole and a range of other mammals and bird species including the Species of Principal Importance in England Skylark. Furthermore, a population of Great Crested Newt was recorded within ponds located within 250m of the western Application Site boundary.

15.9.6 Local populations of Bechstein's bats are considered to represent part of the qualifying species population of the Bath and Bradford on Avon Bats SAC, and to be vulnerable to likely significant adverse effects from the proposed development, in the absence of mitigation.

15.9.7 A range of potential effects have also been identified on habitats and fauna within the Application Site, whilst the Proposed Development may also result in adverse effects on ecological designations within the local area as a result of increased recreational pressure and reduced air quality.

15.9.8 Mitigation measures in respect of ecological designations are proposed in order to minimise potential adverse effects from increased recreational pressure and reduced air quality, including provision of extensive and multi-functional green infrastructure linking the Proposed Development to other areas of greenspace in the wider surrounds, as well as an extension to Green Lane Nature Park and a site for a Visitor Facility. Further mitigation in the form of a full-time warden, access management and measures to support sustainable transport are also proposed.

15.9.9 Mitigation and enhancement measures in respect of habitats and fauna at the Site are also proposed, including new wildflower grassland, scrub, trees and ponds as part of an extensive area of green infrastructure throughout the Proposed Development. These habitats will provide significant benefits to a wide variety of faunal species. Measures are also proposed to avoid effects resulting from construction activities, anthropogenic effects and lighting.

15.9.10 In addition to large-scale habitat creation and enhancement, specific mitigation measures in respect of bats, Dormice, Skylark and Great Crested Newt are also proposed. These take the form of underpasses and vegetated hop-overs to facilitate movement across the YWARR, sensitive lighting design including dark corridors, provision of Skylark plots and contributions to off-site habitat management, as well as a number of safeguard measures and licensing, where appropriate, to avoid adverse effects during construction.

15.9.11 Following mitigation, it is considered that the Proposed Development would result in enhancements to the existing ecological interest of the Application Site, with benefits in respect of ecological designations, habitats, bats, Dormice and other mammals, birds, amphibians and invertebrates, these effects being assessed as of overall minor to moderate beneficial significance at the local to Regional level.

15.9.12 Given effective implementation of mitigation proposals, residual effects on the population of Bechstein's bats linked to the Bath and Bradford on Avon Bats SAC are considered to be non-significant, to minor beneficial.

15.10 Landscape and Visual

15.10.1 The Application Site is not within or covered by any statutory or non statutory landscape designation.

15.10.2 Retention of the majority of the existing landscape features such as trees and hedgerows on the Application Site and as an integral part of the Proposed Development together with the enclosed nature of the Application Site would limit the effects of the Proposed Development on the character of the wider landscape and the Application Site itself. It is considered that the effect of the Proposed Development on landscape character would not be significant and that over time the Proposed Development would increasingly be perceived as an integral part of the Trowbridge urban area.

15.10.3 The majority of the existing landscape elements and features on the Application Site would be retained and integrated into the Proposed Development. Though there would inevitably be a certain loss of trees and hedgerows, primarily to provide access, these losses would be mitigated by new planting within the open spaces that form a Green Infrastructure framework.

15.10.4 The Application Site benefits from a high degree of physical and visual enclosure provided by substantial boundary hedgerows and tree belts. Retention of these elements and features as part of the Proposed Development together with the screening and filtering effect of land form, and vegetation in the intervening landscape between the Application Site and a particular receptor greatly restrict views into the Application Site, and consequently of the Proposed Development, from the surrounding study area.

15.10.5 Except for views from the existing public rights of way that pass through the Application Site, it is considered that there would be no significant visual effects with the Proposed Development including mitigation in place. The significance of these views would reduce over time through the growth of planting.

15.10.6 Landscape mitigation measures, including the retention of existing hedgerows and tree belts along the Application Site boundary will integrate the Proposed Development into the surrounding landscape and to provide visual screening when viewed from the surrounding landscape.

15.10.7 In summary, the Proposed Development is considered to be appropriate to the setting and landscape character of the site and offers suitable landscape mitigation measures in terms of visual amenity.

15.11 Transport And Access

15.11.1 A comprehensive Transport Assessment (TA) and TA Addendum has been prepared which examines in detail the transport effects of the Proposed Development on the existing transport system and provides the basis for this assessment.

15.11.2 During the construction phase of the Proposed Development, the effects of construction traffic will be adverse, but the construction period is relatively short-term and therefore only temporary in its effects. Management control mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety requirements and good construction site practices.

15.11.3 The Proposed Development during its operational phase would give rise to an increase in travel demand by all main modes of travel. To accommodate this additional demand a range of measures have been identified which includes measures to encourage walking, cycling and public transport, and the delivery of the A350 Yarnbrook and West Ashton Relief Road to mitigate the traffic impacts of the Proposed Development.

15.11.4 It is concluded that with the implementation of the mitigation measures outlined whether designed, management control or physical in nature, the additional demand will be safely and satisfactorily accommodated on the local transport network. The overall

residual effect of the Proposed Development in transport terms is likely to be minor adverse, or beneficial where mitigation measures have a wider benefit.

15.12 Air Quality

15.12.1 The potential for significant air quality effects caused by the Proposed Development have been assessed. The assessment has examined the potential for significant effects during both the construction and operational phases of the Proposed Development. The assessment focuses upon potential effects on both human health and sensitive ecological habitats.

15.12.2 Baseline conditions in the area show acceptable air quality with respect to the air quality objectives set out to protect human health. The Proposed Development will generate additional road traffic on local roads, and will involve a realignment of a section of the A350 road, which could lead to significant air quality effects at existing residential properties. In addition, construction activities may lead to the generation of dust and fine particles which have the potential to affect existing nearby properties.

15.12.3 The assessment of construction dust effects has concluded that, with appropriate mitigation in place, the air quality effects will be Negligible.

15.12.4 The assessment of operational air quality effects has concluded that the effects of road traffic emissions generated by the Proposed Development will also be Negligible.

15.12.5 Although the overall air quality effects of road traffic emissions are Negligible, the Proposed Development will lead to some increases in air pollutant concentrations at a number of existing residential properties. However, by contrast, properties located close to the A350 in the village of West Ashton and Yarnbrook are predicted to experience an improvement in air quality with the Proposed Development in operation, as a result of the realignment of the road.

15.12.6 The assessment has also identified that air quality at the Application Site is of acceptable quality for residential development.

15.12.7 Baseline conditions in the study area show poor air quality with respect to the air quality critical levels and critical loads set out to protect sensitive ecological habitats. Baseline concentrations of nitrogen oxides and baseline deposition fluxes of nutrient nitrogen and acid nitrogen exceed the relevant critical levels and critical loads at a number of nearby ecological designations, including the Picket and Clanger Wood SSSI.

15.12.8 The assessment of air quality effects on these sensitive ecological sites has focussed upon the addition of road traffic emissions brought about the Proposed Development.

15.12.9 The assessment has concluded that there is potentially significant adverse air quality effects at Picket and Clanger Wood, Green Lane Wood, and Biss Wood, and potentially significant beneficial air quality effects at Flowers Wood and Woodside Wood, resulting from the operation of the Proposed Development.

15.12.10 In order to mitigate the potentially significant adverse effects, a suite of mitigation measures are proposed, including ecological enhancements, and measures to encourage sustainable transport and reduce the development-related traffic generation.

15.12.11 With mitigation in place, it is judged that the overall air quality effects of the Proposed Development are Negligible.

15.13 Noise And Vibration

15.13.1 A noise assessment has been carried out for the Proposed Development. The assessment has taken account of potential effects during the construction and operation of the Proposed Development and the proposed Yarnbrook / West Ashton Relief Road.

15.13.2 A series of noise and vibration surveys were carried out to ascertain the noise levels around the Proposed Development and vibration associated with the operation of the railway, which have been used as the basis of the current assessment to identify potential effects.

15.13.3 Noise levels within the Proposed Development were generally low and principally influenced by road traffic on the surrounding roads and rail traffic using the railway which borders the western site boundary.

15.13.4 The construction of the Proposed Development and relief road has the potential to give rise to short term adverse effects upon existing noise sensitive receptors surrounding the site. Appropriate mitigation and control measures would be adopted during the construction to ensure any potential effects were minimised.

15.13.5 The operation of the proposed employment area within Proposed Development would have the potential to generate significant adverse noise effects. To ensure any potential effects were minimised, appropriate employment uses would be utilised to create a buffer between the employment and adjacent residential land uses. These measures would ensure that the noise levels generated by their use at surrounding noise sensitive properties achieved a satisfactory standard of noise when assessed in accordance with BS 4142.

15.13.6 Road traffic on the roads within and surrounding the Proposed Development and along the proposed relief road would change as a result of the occupation and operation of the completed scheme. The assessment of noise levels associated with the operation of the relief road indicates that the new road would provide an overall benefit to residents within Yarnbrook and West Ashton.

15.13.7 Elsewhere, the assessment of road traffic noise levels indicated that the additional road traffic would result in negligible adverse noise effects, with increases of less than 3 dB(A). Whilst permanent, this level of increase would not be discernible under normal listening conditions and no adverse significant effects have therefore been identified.

15.13.8 Dwelling to be constructed along the main spine roads through the development and adjacent to the relief road, West Ashton Road and Leap Gate have the potential to be affected by road traffic travelling along these roads. Appropriate mitigation measures would be incorporated into the design of these dwellings to ensure that the design requirements of BS 8233 were achieved.

15.13.9 The operation of the school sites has the potential to generate adverse effects upon surrounding residential receptors, particularly associated with the use of sports pitches. Consideration of the noise generated by these uses would be made during detail design to ensure potential effects were minimised.

15.13.10 Finally, the operation of the local centre and local shop sites have the potential to generate adverse effects. A design aim has been specified in relation to external plant, which seeks to ensure an acceptable noise environment is maintained. Additionally appropriate management controls would be developed which would seek to ensure any potential adverse effects associated with deliveries to the units was minimised.

15.13.11 No additional noise mitigation measures have been identified in addition to those which would be incorporated into the design of the Proposed Development and considered at detail design stage.

15.13.12 In summary, with appropriate mitigation and control measures adopted during the construction and design of the Proposed Development, potential noise and vibration effects would be reduced to an acceptable level, thus ensuring the Application Site is suitable for a residential-led mixed use development.

15.14 Hydrology, Drainage And Flood Risk

15.14.1 A Flood Risk Assessment has been prepared which demonstrates that the Proposed Development would be safe from flooding for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible reduces flood risk overall.

15.14.2 A desk study has been undertaken to establish the baseline hydrology (surface water), drainage (including hydrogeology), flood risk, and environmental quality of the Application Site and its immediate vicinity.

15.14.3 The River Biss bisects the Application Site and flows from the south to the north. The Stourton Brook flows through the northern portion of the Application Site and flows from the east to the west. The Stourton Brook joins the River Biss north of the Application Site. A number of small unnamed drainage ditches are present within the Application Site which drain into the River Biss.

15.14.4 None of the on-site drainage or surface water features are designated sites on a local, county, national or international level and the River Biss is classified as moderate ecological quality.

15.14.5 The majority of built development is restricted to an area at low risk of flooding and the only structures proposed within the floodplain are two road bridges with associated earthworks and a footbridge.

15.14.6 Construction of the Proposed Development will result in on-going disruption to the site's drainage regime through disrupting overland flow routes. Furthermore, a number of substances used in the construction process could affect local water quality.

15.14.7 The operation of the Proposed Development will result in the permanent change of the surface water drainage regime. There is a limited risk that the normal operation of the Proposed Development could result in a local effect on water quality.

15.14.8 Mitigation measures in construction include compliance with safe working practices, pollution prevention guidance and emergency planning. These measures ensure disruption of the surface water drainage regime and risk of water pollution are kept to a minimum.

15.14.9 Mitigation measures in operation of the Proposed Development include a surface water drainage system which includes detention basins and swales and floodplain compensation works. These measures ensure the site will not flood and not cause flooding elsewhere up to the 1 in 100 year event, including an allowance for climate change, whilst providing a degree of water quality treatment, increase habitat diversity and provide greenspace within the Proposed Development.

15.14.10 The residual effect of the Proposed Development on the Assessment Site's surface water drainage regime, flood risk and local water quality is not deemed significant with the appropriate mitigation measures in place.

15.15 Ground Conditions

15.15.1 The Application Site is underlain by the Oxford Clay Formation (mudstone), with exception of the south-eastern-most boundary, which is underlain by the Hazelbury Bryan Formation (interbedded sandstone and mudstone).

15.15.2 Alluvium is present in the vicinity of the River Biss that dissects the site from south-west to north and along an un-named stream in the north-eastern-most corner of the site. Head Deposits are located within the western part of the Application Site.

15.15.3 The Application Site is not located within a groundwater source protection zone and there are no recorded groundwater abstractions within the site. The Oxford Clay Formation is classed as unproductive. Alluvium is classed as a secondary A aquifer and the Head Deposits as secondary undifferentiated aquifer.

15.15.4 The Application Site comprises predominantly agricultural land currently used for arable farming and general pasture. No significant historic and current contaminative land uses have been identified within the Application Site or in the immediate wider area. The potential for significant concentrations of contaminants to be present within the Application Site (both within soil and groundwater) is considered to be low.

15.15.5 A former landfill is located within 50m of the Application Site. The nearest proposed development to this landfill within the Application Site is the proposed West Ashton/Yarnbrook relief road comprising road infrastructure. Potential risks arising from this historic landfill to the Application Site are low. The potential for onsite migration of contaminants is low owing to the bedrock geology and the absence of superficial deposits in this part of the Application Site.

15.15.6 The development of the Application Site would have a negligible to minor adverse significance of impact on the ground environment following implementation of mitigation appropriate to each potential environmental effect.

15.15.7 Committed developments within the wider surrounding area and the Application Site are unlikely to have a cumulative effect on the ground environment owing to geographic separation. Where other committed developments are located close to the Application Site, potential cumulative impacts to the ground environment are negligible to minor adverse.

15.16 Cultural Heritage And Archaeology

15.16.1 An assessment of the likely significant cultural heritage resource present at the Application Site and wider area has been undertaken.

15.16.2 The Application Site has been the subject of a heritage desk-based assessment, a geophysical survey and archaeological evaluation by trial trenching. The assessment has been carried out within the framework provided by section 12 of National Planning Policy Framework (NPPF) 'Conserving and Enhancing the Historic Environment', as well as other key heritage guidance including English Heritage's 'Conservation Principles' and 'The Setting of Heritage Assets'. The completed works provide a proportionate level of information with which to determine the outline application, in accordance with paragraph 128 of the NPPF.

15.16.3 Assessment has identified the below ground remains of an Early Roman agricultural complex and a discrete area of Neolithic and Bronze Age activity. Associated remains at these sites have the potential to contribute to a number of regional research aims, including improving the understanding of non-villa Roman rural settlement; the

role of agricultural intensification and diversification in later prehistory; and the impact of the Roman Empire on farming.

15.16.4 Other heritage assets recorded within the Application Site comprise areas of extant ridge and furrow earthworks, as well as the historic landscape, comprising areas of medieval enclosed land and post-medieval enclosed land.

15.16.5 No evidence for non-designated heritage assets within the Application Site of greater than medium value has been identified. NPPF Paragraph 135 states that 'the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application'. Assessment work has therefore identified no potential adverse effects upon heritage assets which would preclude development of the Application Site or be contrary to heritage planning policy, subject to appropriate archaeological conditions being carried out prior to Reserved Matters applications. It has been agreed with the Archaeology Service at Wiltshire Council that the archaeological resource of the Application Site may appropriately be managed via a condition attached to any outline planning permission granted.

15.16.6 No designated heritage assets are located within the Application Site, and no such assets will be physically affected by development. Assessment of potential development effects upon the settings of designated heritage assets in the wider vicinity of the Application Site has identified no significant non-physical development effects. Development within the Application Site therefore would not lead to 'substantial harm to or total loss of significance of a designated heritage asset' as defined within Paragraph 132 of NPPF.

15.16.7 An appropriate programme of investigation will be developed following consultation with Wiltshire Council, in accordance with current national and local planning policy. The completed trial trenching and geophysics will inform a detailed strategy for archaeology which may include measures such as monitoring and recording and archaeological excavation.

15.16.8 Overall residual effects upon below-ground archaeological remains will be minor adverse as development will lead to harm to non-designated heritage assets that can be adequately compensated through the implementation of a programme of industry standard mitigation measures. Overall residual effects upon designated heritage assets in the study area will be Negligible, as development will not lead to any adverse effects to the key elements of the setting of designated heritage assets.

15.17 Agricultural Circumstances

15.17.1 The Application Site comprises predominately Grade 3b agricultural land i.e. land that is not "best and most versatile agricultural land". There are small areas of Grade 3a land, i.e. "best and most versatile agricultural land" on the western edge of the Application Site

15.17.2 The Application site, although owned by a number of separate entities, is farmed by two large farming businesses. The land is a mix of arable and permanent pasture land.

15.17.3 The Proposed Development involves the development of 23 hectares of Grade 3a land i.e. "best and most versatile agricultural land". The significance of effect as a result of this loss is Major Adverse.

15.17.4 The Proposed Development will have only minor adverse effects on the two occupying farm businesses.

15.17.5 There is little that can be done to mitigate against the loss of agricultural land or the effects of the loss on agricultural businesses. However, land at Ashton Park is representative of land quality in and around Trowbridge and any development of a similar scale on the northern or eastern edge of Trowbridge is likely to involve the loss of some Grade 3a or Grade 2 land.

15.18 Conclusions

15.18.1 This ES demonstrates that there are no overriding environmental constraints which would preclude the Proposed Development.

15.18.2 The design of the Proposed Development has taken account of the likely significant environmental effects and where necessary, mitigation measures form an integral part of the Proposed Development to ensure that the environment is suitably protected.