LAND AT MIDDLETON STONEY ROAD AND HOWES LANE, BICESTER

ENVIRONMENTAL STATEMENT

NON-TECHNICAL SUMMARY

June 2017

Our Ref: Q70433
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1 INTRODUCTION

1.1.1 This Non-Technical Summary (NTS) presents a summary of the findings of an Environmental Impact Assessment (EIA) that has been undertaken on behalf of Albion Land Two Limited (the ‘Applicant’) in respect of their proposal to develop Land at Middleton Stoney Road and Howes Lane, Bicester (‘the Site’) for residential and employment use. The Site is located on the western fringe of the town of Bicester, within the administrative boundary of Cherwell District Council (CDC) who are the local planning authority. Figure 1.1 shows the location of the Site.

Figure 1.1: Site Location
1.1.2 An outline planning application for up to 150 new homes and up to 53,000 square metres (m²) of employment uses submitted by the Applicant in 2014, was refused by CDC in June 2016 and is currently the subject of a Planning Appeal. The 2014 Outline Application was accompanied by an ES (the ‘2014 ES’), and is referred to as the ‘2014 Outline Application’. This ES replaces the 2014 ES which has been updated to inform the Planning Appeal.

1.1.3 The planning application proposes up to 53,000 m² gross external area of employment floorspace in two development plots and up to 150 new homes across two plots, together with access from Middleton Stoney Road and a temporary access from Howes Lane.

1.1.4 The Site covers an area of approximately 20.06 hectares (ha) and is bound by agricultural land to the north, a strip of woodland and agricultural land to the west, Howes Lane to the east with residential housing beyond, and Middleton Stoney Road to the south and Bignell Park beyond. The Site’s planning application boundary is shown in Figure 1.2.

Figure 1.2: Planning Application Boundary
1.1.5 The Site forms part of a wider 390 hectare proposal for an Eco-Town to the north-west of Bicester. The future development of the area includes proposals for up to 5,500 new residential units, new office accommodation, new public amenities such as a nursery, schools, community facilities and a new link road, known as the A4095 North West Strategic Link Road (‘Strategic Link Road’) which has planning permission\textsuperscript{ii}, and will be delivered through the Site.

1.1.6 This ES updates and replaces the 2014 ES, taking into account updates to baseline surveys, assessment scenarios, best practice and refinements to Parameter Plans since the 2014 Outline Application was submitted. It reports the findings of a systematic assessment of the likely significant effects of the proposed Development and is provided to enable the Planning Inspector to make an informed decision on the application. The ES has been prepared in line with the legal requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended)\textsuperscript{1,2}.

1.1.7 The EIA has been informed by the production of a number of technical studies which form part of the ES and accompany the planning application. The survey work and studies undertaken have been carried out by a professional team led by Quod. The ES comprises three volumes, in addition to this Non-Technical Summary:

- **Volume 1: Main document** – provides the full text of the ES along with figures.
- **Volume 2: Landscape and Visual Impact Assessment** – a standalone assessment accompanied by a set of computer generated views of the proposed Development.
- **Volume 3: Appendices** – contains technical surveys, reports and supporting documents to Volume 1.

1.1.8 The ES and planning application can be viewed at the offices of CDC and electronic copies are available view at [http://www.cherwell.gov.uk/planning](http://www.cherwell.gov.uk/planning) by searching Ref: 14/01675/OUT. Comments on the ES can be emailed to hello@quod.com, for the attention of Environmental Planning Team and these will be passed to the Planning Inspector. Copies of the ES can also be purchased from Quod. Please email reception@quod.com for further details or contact 020 3597 1000.

\textsuperscript{ii} Ref: 14/01968/F
2 SITE DESCRIPTION

2.1.1 The Site is located approximately 1.8 kilometres (km) west of the Bicester Town Centre on the edge of the town and covers an area of approximately 20.06 hectares (ha).

2.1.2 The Site comprises three agricultural fields separated by low hedgerows with occasional mature trees. The Site is currently relatively level and open. Records from early mapping shows that the Site has not been previously developed. The majority of agricultural land surrounding the Site has identified for residential-led mixed use development within the boundary of the North West Bicester ‘Eco-Town’. Further details of the status of the Eco-Town planning applications are provided within Section 13: Cumulative Effects.

2.1.3 Immediately adjacent to the northern boundary of the Site is the ‘Land adjacent to Bicester Road and South West of Avonbury Business Park’ development which has outline planning permission IV to provide up to 900 new homes, associated commercial and communal facilities, a new primary school and a new secondary school. Immediately adjacent to the western boundary of the Site is the ‘Himley Village’ development which has outline planning permission V for up to 1,700 new homes, a retirement village, flexible commercial floorspace, social and community facilities, and land to accommodate one new primary school.

2.1.4 The Site is not subject to any heritage or ecological designations, nor are there any such designations in close proximity to the Site. Grade II listed barns are found at Himley Farm located approximately 360 metres (m) north-west of the Site boundary. Bure Park Local Nature Reserve is located approximately 1.2 km north-east of the Site boundary. The closest Site of Special Scientific Interest is the Ardley Cutting and Quarry located 1.8km north-west of the Site.

2.1.5 The Site is not in a flood plain (See Section 11: Water Resources for further details) and is not considered to be at risk of being contaminated.

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IV Ref: 14/01641/OUT
V Ref: 14/02121/OUT
3 EIA METHODOLOGY

3.1.1 The purpose of the EIA is to identify how people and the environment could be affected by the Development and to provide measures (often referred to as ‘mitigation’) that would avoid, minimise or offset any negative effects.

3.1.2 A formal ‘Scoping Opinion’ on the environmental issues to be considered in the EIA was requested from CDC in relation to the 2014 ES and provided by CDC in November 2012. In updating the scope for this ES, a Scoping Note was submitted to CDC in April 2017 and to the Planning Inspectorate in May 2017 which advised that the topics of Soil and Agriculture, Waste, and Utilities would be scoped out of the ES as no significant effects were identified in the 2014 ES. The scoping exercise concluded that the Development is not likely to give rise to significant effects in relation to: Soils and Agriculture; Waste and Recycling; Utilities; Archaeology and Built Heritage; Ground Conditions and Contamination; Wind; Daylight, Sunlight and Overshadowing; Planning Policy; and Sustainability. As such, these issues were not addressed further in this ES.

3.1.3 The ES considers the likely effect of the Development on its neighbours, local environment, local and regional economy, as well as the wider area. Each topic assessment attaches a level of ‘significance’ to the identified effects, i.e. either major, moderate, minor or negligible. Short and long-term (temporary and permanent), direct and indirect effects have been assessed. The following terms have been used to express the nature of the effect: adverse, negligible or beneficial.

3.1.4 The EIA Regulations require that ‘cumulative’ effects are considered in the ES which are principally the effects of the Development in combination with other planned or approved developments. The list of developments to be considered in the cumulative assessment was provided in the Scoping Note to the CDC and Planning Inspectorate for agreement. Both in combination effects with other planned or approved developments and effects from interactions of individual effects are considered under section 13 within this non-technical summary. However, in combination effects with other planned or approved developments are found within the technical ES Chapters (i.e. 6 to 12) of the ES, while effects from interactions of individual effects are found within Chapter 13 of the ES.

3.1.5 ‘Residual effects’ are defined as those that remain after mitigation measures have been implemented. The significance of effects has been identified using best practice and published standards. Where no suitable guidance exists, professional judgements has been applied by the technical specialists.
4 ALTERNATIVES

4.1 No alternative sites have been considered by the Applicant for the Development since the Site is allocated for development in CDC’s Local Plan\(^2\). If the Site were not developed and it were to remain in its current use, there would be a loss of the opportunity to provide new homes, employment space and associated jobs in the Eco-Town area. Given the surrounding land has consent for development as part of Eco-Town, the Site would become an isolated agricultural unit surrounded by development. This is not considered likely given that the Site is allocated for residential and employment use within the Local Plan. The Applicant has not considered alternative land uses for the Site as it is identified for employment-led development with a small amount of residential development to respond to the CDC’s recognised need for housing and jobs.

4.1.2 An outline planning application was submitted by the Applicant in 2012 (2012 Outline Application) for the Site, for employment-based development spread across five plots, three of which were proposed as warehouse units and two as production areas. The design also included five associated service yards for each plot, car parking, an internal highway network and green infrastructure. The 2012 Outline Application also included a new roundabout junction off Howes Lane which was the main access to the Site.

4.1.3 The 2012 Outline Application was submitted in advance of the Eco-Town Masterplan being adopted by CDC, and was subsequently withdrawn so it could be revised in line with the wider development proposals and Strategic Link Road proposals.

4.1.4 The 2014 Outline Application reflects the wider Eco-Town Masterplan and reduced the number of development plots to four, of which, two were set aside for business use in the south of the Site and two for residential use to the north. Figure 4.1 shows the Parameter Plan from the 2014 Outline Application.

4.1.5 The main access proposed in the 2012 Outline Application was moved in the 2014 Outline Application from Howes Lane to Middleton Stoney Road following concerns over the potential for significant noise, light pollution and road safety effects from traffic generated principally by the employment uses. A temporary access road was instead provided off Howes Lane to allow access pending delivery of the Strategic Link Road which would realign the Howes Lane carriageway.
4.1.6 The Appealed Application, which is the subject of the ES, mirrors the scheme presented by the 2014 Outline Application. However, the Parameter Plans have been finessed and additional Parameter Plans have been prepared to provide greater clarity over the proposals. Changes to the Parameter Plans have also been made, in response to concerns over landscape and visual effects, including an increased width of ‘buffer’ planting along the western and southern boundaries and greater clarity over where vegetation and green infrastructure would be removed, retained and delivered compared to that shown in the Parameter Plan for the 2014 Outline Application. The additional Parameter Plans include; 01 Application Site Boundary; 02 Land Use; 03 Building Height; 04 Vegetation Parameters; 05 Vegetation Retention & Removal; and, 06 Access and Circulation. A Development Specification document is also provided.

4.1.7 The ES also considers the alternative of an Office-Led Employment Scheme, as preferred by CDC. The Office-led Employment Scheme, which is predominantly B1a office floorspace, is situated on Plot 4 with the scale/form/height having been designed as ten campus style, approximately 3 storey buildings with a maximum height of 14m, which mirrors the height of the Development. The B1c/B2/B8 class uses are situated within a single shed style building.
4.1.8 The qualitative assessment of the likely associated environmental effects compared to those of the Development has been undertaken for both the Construction, completed Development phases as well as with other cumulative schemes. The assessment found that would be no material difference in effects between the Development and the Office-led Employment Scheme during construction.

4.1.9 The completed Development assessment concluded that there was little difference in likely significant effects between the Development and the Office-led Employment Scheme for Ecology, Light Pollution, Water Resources, Socio-Economics, and Landscape and Visual Impacts. For Transport and Access, Air Quality, and Noise and Vibration, the completed Development assessment concluded that there would be an increase in traffic generated by the Office-led Employment Scheme over the Development which would result in increased effects over those identified by the Development.

4.1.10 As a result of the increase in likely significant effects for Transport and Access, Air Quality, and Noise and Vibration for the completed Development, the cumulative effect across these topics would also increase as a result.
5 DESCRIPTION OF THE DEVELOPMENT

5.1.1 Outline planning permission is sought with all matters reserved for future approval except for access, and proposes the development Site for employment and residential uses (the ‘Development’). The key elements of the Development comprise:

- Up to 53,000 m² B1, B2 and B8 employment uses across two plots;
- Up to 150 new homes across two plots;
- Permanent vehicle and pedestrian access off Middleton Stoney Road, plus highway works (footway and bus layby);
- Temporary access off Howes Lane and Spine Road to serve one of the Site prior to the Strategic Link Road being delivered;
- Reservation of land for delivery of a strategic bus route (delivered by others) proposed as part of wider infrastructure identified as being necessary to support the Eco-Town;
- Reservation of land for delivery of the remainder of the part of the Strategic Link Road within the Site (delivered by others); and,
- 40% of the Site to comprise green space, which will include children’s play space and drainage features.

5.1.2 The outline planning application is defined by a series of Parameter Plans. These identify areas for built development, vegetation to be removed/retained, proposed landscaping (or ‘green infrastructure’) and maximum building heights. Parameter Plans also show how the Development would be accessed by pedestrians and vehicles.

5.1.3 The Land Use Parameter Plan provided in Figure 5.1 identifies the two development zones identified for employment use, the two development zones for residential use and areas allocated for landscaping or green infrastructure. Not all of the development zones will be covered by buildings, they will include landscaping, servicing, deliveries/distribution and car parking.

5.1.4 Wherever possible, existing trees and planting has been incorporated into the Development. Existing hedgerows and field boundaries, including along the eastern boundary of the Site bordering Howes Lane, are to be retained and, where possible, enhanced through planting; except for removal of two sections of hedgerow. Overall, 40% of the Development would be green infrastructure in line with CDC policy for the Eco-Town. Figure 5.2 presents an illustrative masterplan of the Development and shows how the Development and adjacent schemes could be delivered.
Figure 5.1: Land Use Parameter Plan

Figure 5.2: Illustrative Development Masterplan (and adjacent illustrative schemes)
5.1.5 Approximately 7m and 3m of hedgerow will be removed along the eastern boundary of the Site to allow for the temporary access from Howes Lane and pedestrian crossing and footpath connection with the existing residential areas to the east, respectively. Once the temporary road is no longer required, the hedgerow will be replanted. Approximately 30m of hedgerow from the roundabout (at Middleton Stoney Road and Howes Lane), will be removed to allow for the delivery of a bus lay-by and associated highway works. This loss will be offset by a replacement hedgerow directly adjacent to this area. Two existing hedgerows that currently divide the Site into three fields will also be removed.

5.1.6 The residential buildings will range in roof height from 12m to 16m above ground levels, and the employment buildings will range from 14m to 16m. The appearance and detailed design of the all buildings will be subject to market requirements and will be agreed subsequently with CDC through reserved matters applications.

5.1.7 Plot 4 will be accessed directly from Middleton Stoney Road. Plots 1, 2 and 3 will initially be accessed via a temporary access provided in the form of a simple junction T-junction with Howes Lane, connecting to the Spine Road. Temporary access is necessary as the northern section of the Strategic Link Road is expected to be delivered by others later than the Development. Once delivered, the Strategic Link Road will connect Middleton Stoney Road to Lord’s Lane.

5.1.8 Once the Strategic Link Road has been delivered (by others), the Spine Road, pedestrian and cycle infrastructure will be connected. At this time, temporary access to Howes Lane will be closed to vehicular traffic and will be landscaped.

5.1.9 A 32m wide strip of land to the north of Plot 4 will be safeguarded for future use as bus corridor to serve the Eco-Town. This is due to come forward at a later date as part of the wider Eco-Town Masterplan.

5.1.10 Car and cycle parking will be provided in line with CDC standards for both the employment and residential plots of the Development.

5.1.11 **Figure 5.3** provides the Parameter Plan for access and circulation within the Development.
5.1.12 The Development would deliver a sustainable urban drainage strategy which would include features such as attenuation ponds and swales to ensure that drainage from the Development does not pollute water courses or lead to flooding elsewhere.

**Construction**

5.1.13 It is anticipated that the Development would be built-out over approximately five years, with construction expected to be complete by the end of 2023. The Development is expected to be subject to a Construction Environmental Management Plan (CEMP) which will be agreed with CDC and will set out measures to minimise environmental effects and disturbance during construction works. A Construction Traffic Management Plan (CTMP) would also be agreed with CDC to minimise disruption from construction traffic arising from the Development.
6 ECOLOGY

6.1.1 The ecological interest of the Site has been investigated through a background data search, a suite of habitat and protected species surveys and examining other work carried out on adjacent sites.

6.1.2 The evaluation of ecological resources and impact assessment has been undertaken with reference to guidance on ecological impact assessments published by the Chartered Institute of Ecology and Environmental Management.

6.1.3 The data search confirmed that the Site is not covered by any statutory or non-statutory site wildlife designations. The closest designated sites are located within 2km of the Site: Ardley Cutting and Quarry Site of Special Scientific Interest located approximately 1.8km north west of the Site and Bure Park Local Nature Reserve located approximately 1km north east of the Site. There is one non-statutory site approximately 2.5km away of county importance: Bicester Wetland Reserve Local Wildlife Site.

6.1.4 Habitats present within the Site itself includes arable farmland, hedgerows with trees, field margins and ditches. The habitats surrounding the Site include residential development and arable farmland bounded by hedgerows to the north, south, and west. These habitats are between negligible and local importance.

6.1.5 Species present include foraging bats, farmland birds, great crested newts (known to be present in ponds within 500m of the Site), hedgehog, invertebrates and reptiles of between local and district ecological importance.

6.1.6 The design of the Development has been developed to minimise ecological effects and habitats retained where possible. A Biodiversity Strategy for the Site has been produced which sets out the ecological mitigation measures that will be delivered by the Development.

6.1.7 The Development will not give rise to any significant effects on designated sites.

6.1.8 Effects to habitats during construction include the loss of arable land, partial loss of field margins, the loss of three ditches, four hedgerows and associated trees, and the partial loss of two further hedgerows.

6.1.9 Effects to species during construction include loss of habitats for farmland birds, and the marginal loss of habitats for other species. Impacts from the completed Development include lighting effects on bats and disturbance to their habitats from the increase in the number of people and vehicles using the Site.
6.1.10 A Construction Environment Management Plan will be provided, secured by planning condition, which will include measures for habitat protection and enhancement necessary during the construction phase.

6.1.11 The Development will deliver 40% of the total Site area as green space that will allow some habitats to be retained and enhanced. The green space also includes habitat creation to off-set the loss of field margins and hedgerows, act as a protective "buffer zone" to boundary and off-site habitats (such as ponds), and provides replacement and increased habitat for certain species.

6.1.12 With mitigation in place, residual effects on habitats are between ‘neutral’ and ‘non-significant beneficial’ at a Site level. Residual effects on species are between neutral and minor beneficial at a local level.

6.1.13 Overall, the proposed Development will mitigate effects to habitats and species, and provide ecological enhancements that will provide an increase biodiversity over the current situation.
7 LIGHT POLLUTION

7.1.1 A light assessment has been undertaken for the Development which considers the effects of construction lighting over the five-year programme and effects of the completed Development associated with an increase in lighting from the residential and employment use, and other activities within the Site.

7.1.2 A light survey was carried out in November 2016 which identified residential properties approximately 20-100m from the Development Plots that are considered to be of medium sensitivity. A number of bat species are known to utilise the hedgerows surrounding the Site and these species are considered to be of high sensitivity. Existing light levels in the area include street lighting at the junction of Howes Lane and Middleton Stoney Road, Bicester and lighting from residential units at the east of Howes Lane.

7.1.3 Best practice construction methods would be implemented as part of a Construction Environmental Management Plan to control on Site lighting, such as limiting working hours, equipment selection, location and maintenance. With these best practice measures in place, the effects on the closest residential properties would be negligible and minor-negligible at ecological receptors which is not considered to be significant.

7.1.4 The completed Development will not exceed light limitations as stated in relevant guidance at sensitive residential receptors along the Site boundaries.

7.1.5 Following mitigation and best practice design measures, the Development will also not exceed relevant lighting criteria along potential bat foraging/commuting routes. As such, dark corridors within and beyond the limits of the Site are expected to be retained and the effects would not be significant.

7.1.6 The assessment has concluded that, provided the best practice design measures are implemented, the lighting associated with the Development will not have a significant effect on the surrounding dark sky landscape or ecology.
8 TRANSPORT AND ACCESS

8.1.1 The A4095 Howes Lane is a single carriageway road and currently forms the north western boundary of Bicester town. Howes Lane forms the eastern Site boundary and is approximately 6.0 metres wide. It is subject to a speed limit of 50 mph. There are no footways or street lighting provided on Howes Lane at the proposed Site frontage. To the south, Howes Lane links with a four-arm roundabout junction with the B4030 Middleton Stoney Road and Vendee Drive at the south eastern corner of the Site boundary. The M40 is located 1.5km to the west.

8.1.2 There are two bus services which run within close proximity to the Site. The nearest and most accessible bus stops to the Site are situated on Wansbeck Drive and Shakespeare Drive. Bicester benefits from two railway stations in the town; Bicester North and Bicester Village (previously Bicester Town), situated approximately 3.1km and 3.7km from the Site respectively. These stations provide regular services to Birmingham, Banbury, London and Oxford.

8.1.3 A Construction Traffic Management Plan will be required by planning condition to mitigate potential construction traffic impacts. It is anticipated that most construction vehicles will approach the Site either from the motorway or the A41, and arrive from the south due to weight restrictions on roads to the north. Experience of similar developments suggests that construction would only give rise to around 40 additional Heavy Goods Vehicle (HGV) movements (20 on Middleton Stoney Road and 20 on Howes Lane). This represents an increase of only 10-12% in HGVs which is not considered to give rise to significant effects to other drivers or pedestrians/cyclists.

8.1.4 Baseline traffic data for the local network has been obtained from Oxfordshire County Council’s transport model. This model has been used to forecast the likely levels of traffic on the roads in the future year of 2022 and the contribution to traffic that the Development would make. This traffic model assumes that other planned development in the area, including the North West Bicester Eco-Town is delivered. An industry standard database has then been used to predict the number of vehicle trips from the proposed Development.

8.1.5 The proposals cover temporary and permanent access arrangements. Two site access junctions are proposed; a priority junction from Middleton Stoney Road with a designated right turn lane and a temporary junction from Howes Lane in the form of a T-junction and an internal ‘Spine Road’. In the permanent solution, i.e. when the Strategic Link Road is completed, the temporary access formed onto Howes Lane would be stopped up. The Middleton Stoney Road access would remain.
8.1.6 Traffic modelling shows that in the future year of 2022, at worst, the maximum increase in traffic on any single link as a result of the Development is a 9.8% increase in terms of daily traffic flows, which equates to a 11.6% and 8.8% increase during the AM and PM peak periods, respectively.

8.1.7 Further modelling shows that the Site access, B4030/Howes Lane roundabout, and Lords Lane/Bucknell Road roundabout with the Development in place will all operate with modest queuing and minimal delay during the busiest (peak hour) periods. As such, no significant effects are likely on road users.

8.1.8 The Development would give rise to a minor beneficial effect on pedestrians and cycles due to the facilities and opportunities for wider connections to existing and future housing.
9 AIR QUALITY

9.1.1 This assessment has examined both the suitability of the Site for residential occupation and the potential for any air quality impacts on the wider area, as a result of the Development.

9.1.2 A study has been undertaken of the baseline conditions at the Site. This indicated that the Site is not located within an Air Quality Management Area (AQMA) and that the levels of pollutants considered within this assessment (nitrogen dioxide and particulate matter) are well below the yearly average air quality objectives. The nearest AQMA is situated along Kings End and Queens Ave, approximately 1.6km to the east of the Site.

9.1.3 The potential effects during the construction of the Development include dust emissions from earthworks, construction activity and construction vehicles. The closest sensitive receptors who might be affected by construction dust are residents on Isis Avenue which are located 20m to the east of the Site boundary.

9.1.4 During the construction phase, it is anticipated that dust sensitive receptors could potentially experience increased levels of dust and particulate matter, which are predicted to be short term and temporary effects of construction activities. A Construction Environmental Management Plan will be in place to ensure that best practice measures are used to minimise dust at all stages of the construction works. These include covering, seeding or fencing of stockpiles to prevent wind spreading dust and implementing a wheel washing system. With these mitigation measures in place, the effects from the construction are not predicted to be significant.

9.1.5 For the completed and occupied Development, exhaust emissions from vehicles was identified as the main aspect of the Development that has the potential for air quality effects. Therefore, the air quality effects of the completed Development have been predicted using an air quality computer model based on the volumes of traffic generated by the Development and future levels of traffic (which take into account other planned or approved schemes).

9.1.6 The air quality model predicts the future air quality levels in 2022 with and without the Development in place for nitrogen dioxide and particulate matter. The air quality model used to undertake the assessment is routinely used in the UK for environmental assessment work.

9.1.7 With the Development in place, all modelled existing and future receptors are predicted to meet the relevant air quality objectives nitrogen dioxide and particulate matter. No effects are predicted on the nearest AQMA. The modelled results indicate the greatest change in air quality is expected at a receptor
on Isis Avenue (R3) for both nitrogen dioxide and particulate matter. The expected increase in the yearly average for nitrogen dioxide is 0.85 µg/m³ which represents a 2-5% change in comparison to the air quality assessment level. Furthermore, the expected increase in the annual average for particular matter is only 0.16 µg/m³ which represents a 0% change in comparison to the air quality assessment level.

9.1.8 The significance of the effects for nitrogen dioxide and particulates from the Development is determined to be negligible for all existing receptors and the proposed receptors.

9.1.9 The air quality model includes assumptions about future planned and approved developments or cumulative schemes. As such the air quality effects of the Development are presented with these cumulative schemes in place.

9.1.10 Based on the assessment undertaken and data, methodology and assumptions used within this assessment it is concluded that the Site is suitable for the proposed development.
10 NOISE AND VIBRATION

10.1.1 A noise and vibration assessment has been undertaken of the Development which considers the effects over the construction programme and effects of the completed Development associated with an increase in road traffic from the employment use and other activities within the Site.

10.1.2 The existing noise conditions at the Site were determined by detailed environmental noise measurements. A noise survey carried out in January 2013 identified residents around 20m from the eastern Site boundary (adjacent to Plot 2) that are of high sensitivity. The closest existing residents to the proposed employment development zones (Plot 4) are approximately 70m away. Existing noise levels in the area are dominated by road traffic from the surrounding roads, predominantly Howes Lane and Middleton Stoney Road. Daytime measurements were between 64-66 decibels (dB), with night-time measurements between 56-62 dB.

10.1.3 The impact of noise and vibration during construction of the proposed Development have been predicted and assessed in accordance with standard methods. Likely sources of noise during construction would be during periods of earthworks associated with plant/equipment and vehicle traffic. Noise levels during construction at the closest residential properties have been calculated using worst case assumptions. The calculations conclude that the effects on these properties would not be significant during the day.

10.1.4 Best practice construction methods would be implemented as part of a Construction Environmental Management Plan to control noise, such as limiting working hours, equipment selection, location and maintenance. With these best practice measures in place, the impact of noise and vibration during the construction of the proposed Development would be adequately controlled to within accepted criteria, and the effects on the closest residential receptors would not be significant. Vibration from construction activities would also not be significant.

10.1.5 Noise arising from traffic from the completed Development using the surrounding road network has been considered. Traffic data has been analysed to establish whether the increases in traffic associated with the Development would lead to noise effects at nearby residential properties. At the closest properties, the predicted change in noise levels from the increase in road traffic arriving at the Development would be less than 1 decibel (dB). Accepted noise assessment methods states that the smallest change in noise level which would be perceptible is 1dB and that a change of less than 3dB is not significant. The noise levels increase at the nearby residential properties are expected to be negligible to minor adverse (at Vendee Drive only).
10.1.6 Once complete, noise effects could arise from activities such as vehicles arriving at the Development, operations within the employment units, as well as building services plant (e.g. ventilation units) and vehicles (HGVs and forklifts) in servicing yards. Target noise levels have therefore been set for all commercial activities. Providing that the noise levels from the commercial operations do not exceed the stated noise criteria, whether through noise control techniques or design measures, the impact of noise from such sources is predicted to have no significant adverse effect on existing or future receptors. A planning condition is expected in relation to noise, committing the Development to achieving certain noise levels against background levels. Further assessment will be undertaken at the reserved matters stage to demonstrate how these levels have achieved.

10.1.7 The impacts of noise on the residents of the proposed Development have been determined by plotting the predicted future noise levels across the Site. These calculations have been based on traffic flows for the year of 2022 which include other committed schemes including the Strategic Link Road. This modelling shows that mitigation measures are required in terms of ensuring appropriate ventilation strategies and to minimise noise exposure in external amenity areas within the residential plots adjacent the Strategic Link Road. However, the Site is considered suitable for residential development with residual impacts considered to be of negligible significance.
11 WATER RESOURCES

11.1 Historical maps show that the Site has remained undeveloped since 1881. Archaeological studies at the Site show that the geology across the Site was Cornbrash limestone with frequent patches of sandy clay and gravels and solid limestone beneath the Cornbrash limestone (at 0.2m). The topsoil deposits ranged from 0.25-0.40m thick, and consisted of sandy silt.

11.1.2 Drainage ditches are present along Howes Lane and Middleton Stoney Road, which are culverted along certain sections. The Site is not in an area protected as a groundwater water (Source Protection Zone) and it is underlain by a secondary A Aquifer. The Site is located within low risk zone for flooding (Flood Zone 1) and records show that there is no history of flooding on Site or close by.

11.1.3 A Flood Risk Assessment (FRA) and surface water drainage strategy have been prepared for the Development.

11.1.4 During construction, there is a risk of pollution and sediment from general construction activity to the surface water drainage system through the runoff of soil, contaminants or spillages of contaminants such as oils or chemicals. A Construction Environmental Management Plan will include measures to control runoff from the construction works and thereby minimising the risk of sediment and pollution entering drainage ditches. Procedures will be adopted to avoid and remediate any spillages and storage of materials will ensure that any risk of blockage of the local ditches will be minimised. As such, construction effects would be negligible.

11.1.5 Once constructed, the Development would employ sustainable urban drainage methods, such as swales and attenuation areas, to ensure that levels of surface water drainage run-off are restricted to ensure they do not adversely affect existing watercourses or increase flood risk elsewhere. With appropriate drainage systems in place, the residual effects on water resources are predicted to be negligible.
12 SOCIO-ECONOMICS

12.1.1 The ES includes an assessment of the likely socio-economic effects of the Development, including in relation to employment and the impact on the local economy, delivery of housing, and the provision of social infrastructure including education, healthcare and open space.

12.1.2 The baseline socio-economic conditions relevant to the assessment have been established through the interpretation of nationally recognised research and survey information. Data from the 2011 Census indicates a resident population of 30,854 in Bicester, 141,868 in CDC, and 653,798 in OCC. A higher proportion of households are owner-occupied in Bicester over the average across England. The unemployment rate in Bicester at the time of the Census in 2011 was 3%. There is limited surplus capacity at the King’s Meadow Primary School which is within 800m of the Site, while the eight secondary schools and one UTC school within CDC have a surplus capacity over 1,000 spaces. There are no healthcare facilities within 1km of the Site, the four GPs, five dentists, nine pharmacies and six opticians are all located within the town of Bicester.

12.1.3 It is estimated the Development would generate an average of 190 construction jobs on Site over the duration of the five year construction period. The significance of this effect is considered to be negligible due to the size and mobile nature of the regional construction workforce.

12.1.4 The completed Development would accommodate B8, B1c, B2 and ancillary B1a employment space which would be expected to support between 900 - 1,200 jobs on Site, contributing to employment targets as set out by CDC and for the Eco-Town. This is considered to be a moderate beneficial (significant) effect at the local level, minor beneficial at the district level, and negligible at all other spatial scales.

12.1.5 The 150 new homes on Site would contribute to CDC housing targets for the district and the Bicester 1 Eco-Town. This is assessed to be a minor beneficial (not significant) effect at the local and district level, and negligible at all other spatial scales.

12.1.6 The new homes would be expected to accommodate a population of approximately 405 people, including 49 primary age and 30 secondary age children. This population would be expected to create demand for social infrastructure in the local area.

12.1.7 Due to existing capacity in local schools and planned future provision, with respect to education, the effect of the new population would be minor adverse (not significant) at the local level, and negligible at all other
spatial scales. Following mitigation, through S106 payments as set out within the Draft CDC Developer Contributions SPD (2016), the residual effect would be negligible at all spatial scales.

12.1.8 The new population would create demand for the equivalent of approximately 0.2 additional GPs (FTE). There is currently surplus capacity available in existing local GP practices in Bicester. It is assessed therefore that the effect of the development on healthcare would be negligible at all spatial scales.

12.1.9 The Development includes provision of approximately 2.5 ha of publicly accessible open space. This is assessed to be a minor beneficial (significant) effect at the Site level, minor beneficial (not significant) at the local level, and negligible at all other spatial scales.

12.1.10 The approximately 900 – 1,200 employees working within the completed Development, and 150 new households would be expected to generate spending effects in the local economy of approximately £4 million per year. This is assessed to be a minor beneficial (significant) effect at the local level, and negligible at all other spatial scales.
13 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

13.1.1 A detailed baseline analysis survey of the Site and the surroundings has been undertaken which identifies the characteristics of the landscape in which the proposed Development will be located. The analysis includes topography, existing vegetation, patterns of urban settlement and landscape character areas. The analysis of the baseline conditions establishes the context in which the predicted landscape and visual effects of the Development are assessed.

13.1.2 The landscape effects assessment includes both the physical effects of the Development on the existing landscape character and the potential change in character, and the quality of the affected landscape. Visual effects assessment is concerned with how the surroundings of individuals or groups of people may be specifically affected by change in the landscape. This means assessing changes in specific views and in the general visual amenity experienced by particular people in particular places.

13.1.3 The Site is allocated for mixed-use development, therefore both landscape and visual effects are to be anticipated. The effect of the Development on the existing landscape character is considered to range from ‘minor to moderate’ to ‘substantial’ adverse. Substantial effects are limited to the Site area only and would likely arise from any development under this allocation at this location. Substantial effects are limited to the Site area only and would likely arise from any development for employment use.

13.1.4 A comprehensive visual assessment has been undertaken to determine the degree of visual effect the proposed Development would have upon the surrounding landscape. A total of nine representative views have been selected for the analysis of visual effects. For all views an indicative block model has been produced based on Parameter Plans of maximum building heights from an established building plateau. These views are then shown with and without the effects of landscape mitigation. Landscape mitigation is shown at 10 years from the completion of the Development.

13.1.5 It is considered that the Development will affect localised views from within the Site or immediately at its edges – as would be the case with any form of development as per the allocation for the Site. The significance of visual effects range from ‘no change’ to ‘substantial’. The nature of these effects on the visual amenity will generally be adverse but again, ‘substantial’ effects are limited to views close to the Site only (i.e. less than 250m). These effects will however, be reduced when the proposed mitigation measures are taken into consideration. ‘Moderate to substantial’ effects will occur in close proximity for any form of development proposals brought forward that are typical of the allocation. Figure 13.1 shows a view of the maximum building height parameter (as defined by the Parameter Plans) as well as an
Overall, it is considered that the Development can be assimilated to the character of the landscape context without undue substantial harm, as the landscape has some capacity to absorb change. The presence of extensive areas of existing suburban development, and retained hedgerows and vegetation, will assimilate the Development to the receiving landscape. In close range views, the Development will have a more substantial effect on the landscape character and views, however it has been demonstrated that these predicted effects can be reduced through effective mitigation.

**Figure 12. 1 View of Site and Development Proposals from Middleton Stoney Road (with and without mitigation)**
CUMULATIVE EFFECTS

14.1.1 The EIA Regulations require consideration of cumulative effects which include:

- Potential effects from interactions of individual effects during the construction and completed development phase of the Development; and
- Effects which could arise from other schemes planned in the local area.

14.1.2 The list of schemes for consideration in the cumulative assessment is shown in Figure 14.1.

**Figure 14.1: Cumulative Schemes**
14.1.3 Along with the Development, all considered cumulative schemes have committed to implement Construction Environmental Management Plans or similar type measures which will manage and minimise construction effects where possible. It is therefore assumed that both the Site and the cumulative schemes would adhere to good practice site management and standard mitigation measures would be in place to reduce effects during construction works.

14.1.4 The technical chapters of the ES (i.e. 6 to 12) conclude that there would be no significant construction effects for the Development, it therefore follows that no significant inter-project cumulative effects would arise during the construction period of the Development in combination with other schemes.

14.1.5 With the exception of Landscape and Visual Impacts, all assessments have concluded that the residual effects of construction would be negligible (positive for amphibians and birds). Therefore, there is no potential for in-combination cumulative effects to arise during the construction phase of the Development.

14.1.6 For the completed Development, the assessment concluded that no adverse long term or permanent cumulative effects are anticipated to occur as a result of Development and other schemes identified in the vicinity. The exception to this is on the Landscape and Visual Impact Assessment which concludes that the Development will result in at most ‘minor to moderate’ alteration to the landscape character if future development at the Eco-Town is taken into consideration.

14.1.7 Given the location of the various cumulative schemes in relation to the Site and each other, it is considered unlikely that significant environmental effects would result. However, as a worst case, the assessment considered all cumulative schemes are completed and occupied at 2023. This is an unlikely scenario and therefore represents a worst case.

14.1.8 Inter-project cumulative ecological effects with other schemes in the area are harder to judge at this stage, given that many are submitted in outline form and as such lack detail of the development to be delivered. Farmland birds have been considered and measures proposed in the Strategic Environmental Report for NW Bicester Eco-Town, to offset impacts, which the Applicant can contribute financially to. However, there is the potential for an overall benefit for ecology to be delivered if the commitments that have been put forward are achieved.

14.1.9 The assessments of traffic, air quality and noise, all assume that the cumulative schemes are in place in 2022 which is very much a worst case (and unlikely). The transport modelling found that the maximum increase in traffic on any single road with the other planned schemes in place would not lead to significant effects on road users. The planned Strategic Link Road would provide capacity to address existing
deficiencies as well as the planned growth of the Eco-Town (including the Development) and other cumulative schemes. The road traffic noise assessment found that the increase in traffic flows due to the Site and cumulative schemes would have negligible to minor adverse noise effect on roadside receptors, which is not significant. While the air quality assessment for road traffic emissions would have a negligible effect.

14.1.10 The Flood Risk Assessment concluded that as all cumulative schemes would be required to reduce site run-off rates through the use of SuDS and also reduce the water consumption of the site(s) from baseline, in line with planning policy. The cumulative effect on water resources would therefore be negligible from the Development in combination with other cumulative schemes.

14.1.11 An assessment of the likely cumulative effects of the Development along with other planned or approved schemes in the local area found these schemes would have a major beneficial (significant) effect on employment generation at the local and district levels, a minor beneficial effect at the regional level and negligible effects at all other spatial scales. Should all schemes assessed come forward as planned, together with the Development they would generate approximately 6,500 jobs.

14.1.12 The cumulative schemes would deliver approximately 5,880 houses and community facilities that would support local, regional and national policy objectives. Overall the Development and the cumulative schemes would together have a beneficial effect with respect to socio-economics.

14.1.13 The Landscape and Visual Impact Assessment of cumulative effects demonstrates that the Development will result in at most ‘minor to moderate’ alteration to the landscape character if future development at the Eco-Town is taken into consideration. The assessment of visual effects demonstrates the Development will be screened in the majority of medium to long range views by adjacent future building developments. The greatest visual effects occur in close range views of the Site where the Development is not screened by cumulative development. Here, on Site mitigation reduced the visual effect to ‘moderate to substantial’ at worst. For the majority of views, the cumulative visual effects range from ‘no change’ to minor to moderate’ with mitigation.
14.1.14 With the exception of Landscape and Visual Impacts and Noise, all other topic assessments have concluded that the residual effects of completed and occupied Development would be negligible or minor to moderate beneficial (socio-economic). In combination effect interactions may therefore arise on receptors sensitive to both noise (relative to Vendee Drive only) and landscape and visual effects from the completed Development.

14.1.15 In summary, the cumulative schemes, along with the Development, would deliver new housing, new transport infrastructure (particularly cycle and footways) and generate employment meeting local and regional governance targets. Together, these would have a combined permanent beneficial effect in socio-economic terms.
15 SUMMARY OF MITIGATION MEASURES & RESIDUAL EFFECTS

15.1.1 A thorough assessment has been undertaken of the likely significant environmental effects of the proposed Development.

15.1.2 Some adverse effects are inevitable during the construction programme of five years, although these effects are temporary and the majority of effects would be mitigated through implementation of a Construction Environmental Management Plan and Construction Traffic Management Plan. The Development also incorporates measures to offset the loss of habitat during construction, including financial contribution. Some temporary adverse landscape and visual effects can be expected during the construction works.

15.1.3 Once constructed and occupied, the proposed Development is expected to have a beneficial effect on employment at a local and district level by providing between 900-1200 jobs. Effects on landscape character and visual amenity will be mitigated through woodland planting in landscape ‘buffer’ zones on the perimeter of the Development as well as reinforcing existing hedgerows with planting. With this landscaping mitigation in place these effects would be reduced although they would remain significant. There would be no significant increase in the number of vehicles using the adjoining road network as a result of the Development. Therefore, road traffic noise levels are expected to increase by no more than 1 dB on Vendee Drive as a result which would not be noticeable. As such, residual effects from road traffic noise would be minor adverse at Vendee Drive only. These effects would occur in close proximity for any form of development proposals brought forward that are typical of the allocation.
REFERENCES
