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## 13 SUMMARY

13.1.1 This chapter of the Environmental Statement (ES) provides a summary of the various technical assessments which have been undertaken as part of the EIA (Environmental Impact Assessment) process.

### 13.2 LANDSCAPE AND VISUAL

13.2.1 An assessment has been made of the landscape and visual impacts for land located east of junction 11 on the M40, to the east of Banbury. The assessment commenced in October 2021 identifying the landscape and visual constraints to inform an iterative design process, an iterative, consultation and design refinement. It was completed in April 2022.

#### **Baseline Conditions**

13.2.2 The Site consists of open, agricultural land with field hedges and trees that contribute to its rural character. The land has not rare or valuable attributes and does not form part of a valued landscape with reference to NPPF paragraph 174. The change in topography from west to east is a feature of the Site and marks a transition from the settled vale adjoining Banbury to the more deeply rural landscape to the east. The landscape of the site reflects published characteristics of the local landscape character types but the immediately adjoining urban edge, employment land and highway infrastructure are also key features of the local landscape, reflecting the site location on the edge of the wider urban area. The Site creates a transitional area of land between the present urban edge and this more deeply rural landscape to the east.

13.2.3 The sensitivity of the site has been assessed in the Cherwell District Council Banbury Landscape Sensitivity Assessment prior to the construction of the Frontier Park employment land to the immediate west of the site. The assessment identified a generally medium sensitivity to the landscape and medium high sensitivity to the visual sensitivity. This baseline has now been changed due to the influence of the adjoining employment development. Even without this change in baseline, the assessment found capacity for employment development. This published assessment has been confirmed by this landscape and visual impact assessment.

13.2.4 The development proposals are in outline and consist of a number of large scale built forms to accommodate employment uses. These are set within a layout that retains structural hedgerows and trees and avoid the ascending landform found to the east of the land parcel. This approach incorporates inherent mitigation that assists with limiting the potential for significant landscape and visual harm.

#### **Likely Significant Effects**

13.2.5 The introduction of the Frontier Park employment land development has reduced potential views from the wider Banbury area and limited views towards the site from the motorway corridor. Where views remain the new built form of the development has potential to be seen over and through foreground vegetation but where seen it will generally appear as an extension of the existing employment land. This reduces the potential magnitude of change that will be seen in views from confirmed visual receptors. As the value of local views is generally lower because of the influence of the urban edge and highway infrastructure, effects on views are assessed to be limited and less than significant. A significant effect is identified to users of the A361 immediately adjacent to the site before mitigation measures are established.

13.2.6 The introduction of the Frontier Park employment land in association with the existing highway infrastructure and urban edge similarly inform the local landscape character. Whilst the development proposals have been assessed to have a detrimental effect on landscape receptors, these effects are limited in the context of the scale of development. A substantial adverse landscape effect is assessed on the site character itself due to the high magnitude of change that development would cause. However, with mitigation measures established this landscape harm is reduced to moderate.

### **Mitigation and Enhancements**

13.2.7 The landscape strategy uses these retained natural features to create corridors of green infrastructure which contribute to both landscape and visual mitigation as well as provide a distinct sense of place to the future development. The green corridors also conserve existing habitat and provide an opportunity for expansion of this habitat. In landscape and visual terms both the inherent and proposed mitigation measures reduce the scale and massing of the development structures and reduce visual prominence of new built form from confirmed visual receptors.

### **Conclusions**

13.2.8 Overall, the residual landscape and visual harm arising from the development is assessed to be less than significant due to the landscape strategy for mitigation and its potential to contain detrimental effects to the site.

13.2.9 Landscape policy at both national and local level are not 'nil harm' policies due to the undesignated status of the site. Any development in a green field site is likely to give rise to some landscape and visual harm and the development proposals are assessed to give rise to harm which is localised and contained. As such landscape and visual harm does not conflict with national and local policies but must be considered in the overall planning balance.

13.2.10 The Cherwell District Council Banbury Landscape Sensitivity and Capacity Study found that the site has capacity for employment development. This has now been confirmed by this assessment which identified that the harm arising from the development proposals is less than proportionate with the scale and nature of the development proposals. As such the harm that has been assessed in this landscape and visual impact assessment should not carry great weight against the proposal when considered in the full planning balance.

## **13.3 CULTURAL HERITAGE AND ARCHAEOLOGY**

13.3.1 An assessment has been made of potential impacts to heritage assets, including archaeological remains and built heritage assets.

### **Baseline Conditions**

13.3.2 Heritage assets considered to be potentially sensitive to development within the Site comprised Romano-British archaeological remains (low value), ridge and furrow earthworks (low value), buildings at Huscote Farm (low value), the Grade II Listed Seale's Farm (medium value) and the non-designated Overthorpe Grange (low value).

13.3.3 No cumulative effects have been identified.

### **Likely Significant Effects**

13.3.4 One potentially significant effect, if unmitigated, was identified, which was a potentially moderate adverse significance of effect on the Romano-British remains.

**Mitigation and Enhancements**

13.3.5 Proposed mitigation measures comprise a programme of archaeological recording for the potential Romano-British remains, topographic earthwork survey for the ridge and furrow earthworks and building recording for Huscote Farm. Such works will provide a record of the assets, and the information gained will reduce the impact, although as such remains cannot be directly replaced, a residual lower impact will remain.

13.3.6 Following mitigation of archaeological recording, the residual impact on any Romano-British archaeological remains will be permanent Moderate Adverse magnitude of Minor to Moderate Significance of Effect. This will not be significant in EIA terms.

13.3.7 Following mitigation of earthwork survey, the residual impact on the ridge and furrow earthworks will be permanent Low Adverse magnitude of Minor Significance of Effect. This will not be significant in EIA terms.

13.3.8 Following the building recording, the residual effect on Huscote Farm will be permanent Low Adverse, of Minor Significance of Effect. This will not be significant in EIA terms.

**Conclusion**

13.3.9 No residual effects considered significant in EIA terms have been identified.

**13.4 ECOLOGY**

13.4.1 An Ecological Impact Assessment has been undertaken in line with current best practice guidance (CIEEM, 2018). A desk-based assessment was undertaken to identify records of protected and/or notable habitats and species, and designated nature conservation sites in the vicinity of the site. Field survey data was collected in 2021 for the following species or species groups; amphibians, reptiles, birds, badgers, hazel dormice and bats. Information relating to badgers is provided under a separate Confidential Appendix due to the risk of persecution.

**Baseline Conditions**

13.4.2 The Site is dominated by heavily grazed grassland fields which have been modified through re-seeding and the effects of cattle grazing. The fields are typically bounded by species poor hedgerows with scattered mature trees. There are small field ponds within the site that have been poached by cattle and are of low ecological value. A former farmhouse and outbuildings are present on site. Pockets of woodland and gorse scrub are present along the eastern edge of the site.

13.4.3 Surveys to determine the presence/absence of hazel dormouse were undertaken and no hazel dormice were recorded. Pond sampled to determine the presence/absence of great crested newts were negative for this species and remaining ponds in the local landscape were considered to be poor habitat for this species although common amphibians such as frogs and toads could utilise these habitats. Reptile survey did not record the presence of any reptile species. A variety of farmland and urban birds use the site for foraging and nesting typically associated with the hedgerows and trees and low numbers of ground nesting birds recorded, likely due to the high levels of cattle grazing. Brown long-eared bat and common pipistrelle bat roosts was recorded in two buildings within the farm complex and bats use the hedgerows for commuting and foraging into the local landscape.

**Likely Significant Effects**

13.4.4 Based on the data gathered the Proposed Development during the construction phase and without mitigation there is potential for negative effects significant at ar Site to Local level in relation to pollution events, loss of habitats and effects on species such amphibians, reptiles, birds, bats and small mammals and invertebrates.

13.4.5 At the operation stage the Proposed Development will have established newly created habitats including enhanced grassland, species-rich hedgerows, native trees, new ponds, native woodland and an orchard all of which would be positive, permanent and of significance at up to a Local level.

**Mitigation and Enhancement**

13.4.6 The Proposed Development includes retention of green corridors and enhancement of habitats to deliver a measurable biodiversity enhancement at the reserved matter(s) stage which would be secured via a Landscape and Ecological Management Plan (LEMP) via planning condition. The LEMP would provide species-specific enhancements including details on bat and bird box provision, amphibian and reptile refugia and appropriate pond design within the final layout. These measures will enhance the site for amphibians, reptiles, birds, badgers, and bats and invertebrate species at a site to local level.

13.4.7 Site management during construction would include pollution prevention, biosecurity and good environmental site measures to minimise ecological impacts to local wildlife sites and on site wildlife should be set out within a CEMP to be agreed with the LPA. The CEMP will include the requirement for pre-commencement surveys for nesting birds (if vegetation is removed during the breeding season) and amphibians and reptiles under a Reasonable Avoidance Method Statement, badgers and lighting which could affect bats. Appropriate mitigation should be put in place to comply with legal obligations including where necessary obtaining a European Protected Species Licence in respect of bats identified within buildings. It is not know which trees would require felling until final design at the reserved matters stage has been complete and a condition should be imposed to ensure all necessary bat surveys are undertaken of tree prior to felling to determine whether they support roosting bats and any necessary mitigation/licensing put in place. Impacts from construction and operational lighting on bats should be controlled via ecologically sensitive lighting plans secured via planning condition.

**Conclusions**

13.4.8 Overall, the Proposed Development with embedded and additional mitigation will have very few residual effects and none anticipated to be significant under the EIA Regulations.

**13.5 TRANSPORT AND ACCESS**

13.5.1 This Chapter considers the potential traffic and transport implications of the development proposals both during the construction period and once the site is fully operational.

**Baseline Conditions**

13.5.2 The Site is well connected to the local and wider road network with the M40 Junction 11 approximately 500m south. There are currently no significant accident issues within the study area that would require intervention as part of the Proposed Development.

13.5.3 At present, all forms of public transport are over 1km from the Proposed Development, but bus stops are to be built along the A361 adjacent to the western boundary as part of the Frontier Park site which would improve accessibility.

13.5.4 At present there are no pedestrian footways along the A361. As part of the Frontier Park development a footway is being built to allow pedestrian access to the new bus stops. There is a pedestrian/ cycle link provided via the Motorway underpass beneath the M40 which gives access to Banbury Gateway Shopping Centre and the main facilities which will be accessed from the Proposed Development.

### **Likely Significant Effects**

13.5.5 It is estimated there will be 250 car and HGV movements per day generated during peak construction. The vast majority of HGV and car movements generated during the construction period would be expected to route to/ from the M40.

13.5.6 Overall, the residual effect of the proposed development on highways during the construction phase is concluded to be negligible.

13.5.7 Once operational, the development site could generate around 6,300 two-way trips over a 24-hour weekday period, of which approximately 2,200 would be HGVs. The highest number of vehicle trips would route through the A40 north and south.

### **Mitigation and Enhancement**

13.5.8 The primary mitigation during the construction phase will include initial temporary access to the Site to enable preparation for construction and the construction of the new site access roundabout.

13.5.9 A Construction Management Plan would be prepared and the mitigation measures within it implemented throughout the construction phase. The aim of this will be to ensure the contractors meet the requirements of all relevant environmental legislation, agreements, authorisations and commitments.

13.5.10 The primary mitigation during the operational phase will include offsite improvements to J11 to improve capacity.

13.5.11 The site layout can incorporate direct connections to the adjacent existing and proposed bus infrastructure to facilitate public transport to and from the Site. An internal bus loop can be provided as part of the scheme.

13.5.12 The proposed internal access road will include a 3m wide segregated shared footpath and cycleway along the southern side of the access road.

### **Conclusions**

13.5.13 The effects of the Proposed Development with regard to the construction and operation phase have been considered in detail including the effect of driver delay, pedestrian delay, fear and intimidation, and accidents and safety. Overall, in transport terms the residual effects are not considered to be significant for either the construction or operational phase of the Proposed Development.

## **13.6 FLOOD RISK AND DRAINAGE**

13.6.1 This Chapter of the ES has assessed the likely significant effects of the Proposed Development with respect to Flood Risk, Drainage and Water Resources, including the methods used to assess the effects; the baseline conditions currently

existing at the Application Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.

### **Baseline Conditions**

13.6.2 Multiple surface water features are present within the Application Site. The topography of the Application Site indicates flows will travel westwards, leaving the Application Site via two culverts located under the A361.

13.6.3 The River Cherwell is located approximately 250 m west of the Application Site. The River Cherwell generally flows in a southerly direction past the Application Site. Further drainage channels and unnamed watercourses are located to the west, north and south of the Application Site. It was considered that all watercourses / surface water features in a 1 km radius of the Application Site will ultimately drain into the River Cherwell.

13.6.4 The River Cherwell is classified as having 'Moderate' ecological quality but failed the most recent round of chemical testing in 2019. It was considered to be of Medium sensitivity.

13.6.5 No superficial deposits are recorded at the Application Site. The majority of the Application Site is underlain by bedrock deposits of Charmouth Mudstone Formation. The eastern boundary is underlain by Dyrham Formation. These were considered to be of Medium sensitivity.

13.6.6 A historical BGS borehole record in the south-western corner of the Application Site encountered groundwater at 1.2 m below ground level.

13.6.7 No groundwater Source Protection Zones (generally associated with abstraction for drinking water) are present within a 1 km radius of the Application Site.

13.6.8 The Application Site is located in Flood Zone 1, which is considered to be at a low probability of fluvial and tidal flooding.

13.6.9 The majority of the Application Site is at Very Low risk of surface water flooding. An area of elevated risk is shown in the south-western corner of the Site associated with flows travelling across the Site and pooling at the lowest point of the Site against the embanked junction of the M40 / A361.

13.6.10 The Application Site is at Negligible to Low risk from flooding from artificial sources. No public sewers are located within the Application Site.

13.6.11 There are no designated sensitive ecological areas within 1 km of the Application Site into which surface water run-off could flow.

### **Likely Significant Effects**

13.6.12 In summary, the main potential significant effects at the Site revolve around dealing with surface water risk at the Site and the potential for silt laden runoff, spillages, leaks and pollutants during the construction stage and diffuse pollution contained in urban runoff during the operation phase from a water quality / resource perspective. In addition, from a flood risk perspective, the potential significant effects include mud and debris blockages and temporary increases in impermeable areas during the construction phase and the increase in permanent impermeable area and increase in discharge to local watercourses and blockages of drainage networks during the operational phase.

**Mitigation and Enhancement**

13.6.13 Mitigation includes completion of a Construction Environmental Management Plan which will include details of mitigation measures to prevent adverse impacts occurring to controlled waters and SuDS measures to mitigate the surface water risk. Generally, the proposed development is likely to have a low to medium pollution risk and so the management train should normally have one or two treatment stages to mitigate this. Inclusion of detention basins, ponds and/or permeable paving should in general provide sufficient treatment as well as the attenuation required to maintain greenfield runoff rates. A foul treatment plant will be constructed within the Application Site to treat foul drainage prior to discharge into the local drainage system.

**Conclusions**

13.6.14 The Proposed Development at the Application Site could be made acceptable with the mitigation measures identified which would ensure there would be no significant effects, which is considered acceptable in EIA terms.

**13.7 AIR QUALITY**

13.7.1 An Air Quality assessment has been carried out to assess the effects of both construction and operation of the Proposed Development on the Application Site and surrounding area.

**Baseline Conditions**

13.7.2 The most recent CDC ASR includes 2015-2019 monitoring data from the NO<sub>2</sub> diffusion tube network. There has been a general decline in NO<sub>2</sub> concentrations, especially within the Hennef Way AQMA with concentrations reducing from 74.6 to 72.1 µg/m<sup>3</sup>. However, this is still in exceedance of annual mean objective and indicative of likely exceedances of the 1-hour mean objective.

13.7.3 Predicted annual mean NO<sub>2</sub> and PM<sub>10</sub> concentrations for the future baselines of 2025 and 2040 at identified receptors are shown in Appendix 10.5 – Modelled Pollutants.

**Likely Significant Effects**

13.7.4 There would be the potential for some temporary effects due to dust emissions during the initial construction phases, most particularly for those existing dwellings located close to the western boundary of the Application Site, but such effects would be mitigated through appropriate controls agreed with the LPA and be limited to minor adverse effects

13.7.5 As a worst-case assessment, the 2025 and 2040 future year has been modelled using the future year traffic flow data, and 2022 background and emissions data, to account for current uncertainty in future year predictions.

13.7.6 In this situation, annual mean NO<sub>2</sub> concentration are predicted to not lead to any new exceedances of the NO<sub>2</sub> objective level and the incremental change due to traffic generated by development is small ranging between 0.16 µg/m<sup>3</sup> and 1.73 µg/m<sup>3</sup> in 2025 and 0.17 µg/m<sup>3</sup> and 1.59 µg/m<sup>3</sup> in 2040, which would not have a significant impact upon current local air quality.

13.7.7 The impact significance in accordance with the EPUK/IAQM guidance is also presented in Appendix 10.5 for each receptor, the concentrations have been assessed in accordance with the criteria set out in Table 10.4. With the exception of Hennef Way, the



impact due to development is classed as 'Negligible' for all receptors, none of the changes exceed x% of the AQAL

13.7.8 For the neighbouring AQMA, annual mean NO<sub>2</sub> concentrations for the do-nothing scenario, i.e. without proposed development, already exceed the objective level at a number of receptor locations. These comprise the council monitoring location along Hennef Way, with annual mean NO<sub>2</sub> concentrations of 59.61 µg/m<sup>3</sup> in 2025 and 64.91 µg/m<sup>3</sup> in 2040.

13.7.9 Where the ambient concentrations exceed 40 µg/m<sup>3</sup>, the impact due to development is classified as 'Substantial', although this classification is due to the local condition within the AQMA, i.e. baseline concentrations already being above 40 µg/m<sup>3</sup>, rather than any direct impact of development traffic, none of the changes exceed 4% of the AQAL.

13.7.10 The modelled annual mean concentrations of PM<sub>10</sub> are also presented in Appendix 10.5- Modelled Pollutants. The results indicate that annual mean PM<sub>10</sub> concentrations are predicted to remain below the objective for all receptor locations and for all scenarios. The incremental change due to traffic generated by development is small ranging between 0.02 µg/m<sup>3</sup> and 0.67 µg/m<sup>3</sup> in 2025 and 0.03 µg/m<sup>3</sup> and 0.62 µg/m<sup>3</sup> in 2040, which would not have a significant impact upon local air quality.

13.7.11 The impact significance in accordance with the EPUK/IAQM guidance indicates that for all receptors, impact due to development is classed as 'Negligible' at all receptors. With the exception of Hennef Way which is classified as 'Slight', and none of the changes exceed 2% of the AQAL.

### **Mitigation and Enhancements**

13.7.12 Mitigation measures have been proposed to minimise the potential effects associated with increased air pollutant concentrations.

### **Conclusions**

13.7.13 The Proposed Development at the Application Site is acceptable with the mitigation measures identified which would ensure there would be no significant residual effects on air quality, which is considered acceptable in EIA terms

## **13.8 NOISE AND VIBRATION**

13.8.1 This assessment has been undertaken in order to determine the potential impact on sensitive receptors, with respects to noise and vibration, during the construction and operation phase of the proposed development at J11, M40, Banbury.

13.8.2 This assessment has been undertaken in support of the outline planning application for the construction of up to 140,000sqm of Employment floorspace (use class B8 with ancillary offices and facilities) and servicing and infrastructure including new site accesses, internal roads and footpaths, landscaping including earthworks to create platforms and bunds, drainage features and other associated works including demolition of the existing farmhouse. All matters of detail reserved.

### **Baseline Conditions**

13.8.3 Baseline sound surveys have been undertaken which have determined the prevailing acoustic environment is dominated by road traffic noise from the strategic road network.

13.8.4 Site notes indicate that noise levels experienced around the site, including at all identified receptors, are significantly high, this is backed up by relevant measured data.

#### **Likely Significant Effects**

13.8.5 The assessment demonstrated that noise and vibration during the construction phase was unlikely to have any impact on the nearest sensitive receptors due to the high baseline sound levels and increased distance between the Site and nearby receptors. The significance of the residual effects during the construction phase is determined as 'negligible/ no change'.

13.8.6 The assessment demonstrated that noise during the operation phase was unlikely to have an impact on the nearest sensitive receptors due to the high baseline sound levels and increased distance between the Site and nearby receptors. The significance of the residual effects during the operation phase is determined as 'negligible/ no change'.

13.8.7 During all phases of the development that have been assessed (construction and operation), no significant effects have been identified and all are considered to be negligible.

#### **Mitigation and Enhancement**

13.8.8 As no significant effects have been identified, no mitigation measures are warranted.

#### **Conclusions**

13.8.9 It is considered that due to the significant setback distance between all receptors and the high baseline sound levels that the Application Site is acceptable and there would be no adverse significant residual effects.

### **13.9 SOCIO- ECONOMICS**

13.9.1 This chapter has analysed the baseline socio-economic conditions and then gone on to assess the likely socio-economic effects of the Proposed Development.

#### **Baseline Conditions**

13.9.2 Cherwell experienced population growth of 6.7% between 2011 and 2020, presenting 9,500 additional people. Relative to the benchmark areas of Oxfordshire LEP, the South East and Great Britain, Cherwell's population grew at a faster rate over this timeframe. Employment growth in the District over the last five years has been strong, especially when compared to the picture at a LEP, regional and national level. Transport & storage, the sector most likely to see job creation from the Proposed Development, experience strong growth between 2015 and 2020. Cherwell has a net outflow of commuters, while the number of people claiming benefits has started to come down since Covid-19 lockdown restrictions were eased.

#### **Likely Significant Effects**

13.9.3 The temporary effect associated with the construction phase (in terms of job creation and contribution to economic output) is considered to be significantly beneficial in EIA terms.

13.9.4 The operational effect (permanent jobs, contribution to economic output, business rates revenue and wages of on-site employees) is considered to be significantly beneficial in EIA terms.

**Mitigation and Enhancement**

13.9.5 Due to the beneficial impacts identified in the assessment, no specific additional mitigation measures or enhancements have been identified.

**Conclusions**

13.9.6 The Proposed Development would lead to no adverse residual significance effects from a socio-economic perspective. The Proposed Development will result in a moderate to major beneficial effect within the construction and operation period to job creation, gross value added, business rates and wages of receptors and the receiving environment.

**13.10 SUMMARY**

13.10.1 The design of the Proposed Development has taken account of the likely significant environmental effects (alone and in-combination with other cumulative sites) and where necessary, mitigation measures form an integral part of the Proposed Development to ensure that the environment is suitably protected.