

## 13.0 Summary of Effects and Mitigation

### 13.1 Overview

The Environmental Statement has presented the findings of the Environmental Impact Assessment (EIA) process undertaken for the proposed development at Land between Tamworth Road and Fivefield Road, Keresley.

Each of the technical chapters has presented a number of mitigation measures aimed at avoiding, reducing or compensating for potentially significant environmental effects. As discussed in *Chapter 2*, mitigation measures have been classified based on their deliverability:

- **Inherent mitigation measures** – those ‘designed in’ to the scheme and certain to be delivered, i.e. what is proposed on the application form, parameter plans and access drawings;
- **Standard mitigation measures** – e.g. construction mitigation with a high degree of certainty over delivery i.e. measures to be included in a draft Construction Environmental Management Plan (CEMP); and
- **Actionable mitigation measures** - those that require a controlling mechanism or legal undertaking to be implemented, but are under the control of the applicant, Local Authority, Highway Authority or Education Authority and therefore, have a good certainty over delivery, e.g. Planning Conditions, Community Infrastructure Levy (CIL) payments, S106 and S278 agreements.

Potentially significant impacts as a result of the proposed development have been assessed firstly with inherent and standard mitigation measures implemented. The residual impacts have then been assessed with inherent, standard and actionable mitigation measures implemented.

*Table 13.1* presents a summary of the proposed mitigation measures and the residual effects that are predicted to remain once these mitigation measures are in place.

*Table 13.2* then presents a summary of potential ‘in-combination’ effects. In-combination effects are where a single receptor could be impacted by several different types of effects, e.g. nearby residents could be impacted by a combination of noise, dust and visual impacts during construction of a proposed development.

Please note that only residual effects of at least minor significance have been included in *Table 13.2*.

<b>Table 13.1 – Summary of Effects and Mitigation</b>			
<b>Environmental Topic</b>	<b>Mitigation Measures</b>	<b>Means by which Mitigation will be Delivered</b>	<b>Residual Effects</b>
<b>Flooding, Hydrology and Water Resources</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u>		<u>Construction Phase</u>
	Built development located outside of areas at risk of surface water flooding.	Parameter Plans	<b>Negligible</b> effects on population (flood risk), Hall Brook or groundwater.
	Drainage Strategy including Sustainable Drainage Systems (SuDS).	Planning Condition	<u>Occupation Phase</u>
	Enhancements to the Hall Brook riparian corridor.		<b>Moderate beneficial</b> effects on water quality and riparian habitats at Hall Brook.
<u>Standard Mitigation Measures</u>		<b>Negligible</b> effects on population (flood risk) and groundwater receptors.	
See draft CEMP ( <i>Appendix 4.1</i> ).	Planning Condition		
<u>Actionable Mitigation Measures</u>		<u>Cumulative Effects</u>	
None.		<b>Moderate beneficial</b> effects on population (flood risk).	
		<b>Minor beneficial</b> effects on Hall Brook.	
		<b>Negligible</b> effects on groundwater receptors.	
<b>Biodiversity</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u>		<u>Construction Phase</u>
Provision of a minimum, 15m buffer around Pikehorne Wood, Keresley Mere and The Alders LWS.	Parameter Plans	<b>Minor adverse</b> effects on ponds and breeding birds.	
		<b>Negligible</b> effects on all other receptors.	

	Provision of a minimum 20m buffer along Hall Brook to provide a green infrastructure network.	Parameter Plans	<p><u>Occupation Phase</u></p> <p><b>Minor beneficial</b> effects on retained and created habitats and roosting bats.</p> <p><b>Negligible</b> effects on all receptors.</p> <p><u>Cumulative Effects</u></p> <p><b>Negligible</b> cumulative effects on all receptors.</p>
	Retention of areas of semi-improved neutral grassland, woodland, tree groups and trees, including the provision of appropriate buffers.	Parameter Plans	
	Retention and provision of buffers along the majority of the hedgerow resource and boundary vegetation.	Parameter Plans	
	Retention and provision of buffer around the existing pond (Pond 1) and buffer offsite pond, with great crested newts.	Parameter Plans	
	Retention and buffering of the active badger setts.	Parameter Plans	
	Provision of new woodland and hedgerow planting along the Green Infrastructure corridors.	Parameter Plans	
	Provision of informal areas of open space comprising grassland habitat (meadow and marshy grasslands) and supporting swales and other Sustainable Drainage Systems (SuDs), set primarily adjacent to the retained stream, hedgerow and tree habitat.	Parameter Plans	
<u>Standard Mitigation Measures</u>			
See Draft CEMP in <i>Appendix D1</i> .	Planning Condition		
Adoption of an Ecological Management Plan during the occupation phase.	Planning Condition		

	<u>Actionable Mitigation Measures</u>		
	None		
<b>Cultural Heritage</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u>		<u>Construction Phase</u>
	Retention of the majority of 'important' historic hedgerows.	Parameter Plans	<b>Minor adverse</b> effects on the 19 <sup>th</sup> Century stable block, the 2 <sup>nd</sup> World War air raid bunker and historic hedgerows.
	Inclusion of additional planting at the boundary with Keresley Manor and Lodge to avoid impacts on setting.	Parameter Plans	<b>Negligible</b> effects on ridge and furrow.
<u>Standard Mitigation Measures</u>		<u>Occupation Phase</u>	
See Draft CEMP in <i>Appendix D1</i> .	Planning Condition	<b>Minor adverse</b> effects on Keresley Manor and Lodge.	
Implementation of a programme of building recording for the 19 <sup>th</sup> Century stable building and 2 <sup>nd</sup> World War air raid bunker.	Planning Condition	<u>Cumulative Effects</u>	
<u>Actionable Mitigation Measures</u>		<b>Moderate adverse</b> effects historic hedgerows.	
None		<b>Minor adverse</b> effects on Keresley Manor and Lodge and ridge and furrow.	
<b>Landscape and Visual</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u>		<b>Note:</b> this chapter includes the additional term 'major' to describe an effect of greater than 'moderate' significance but less than 'substantial' significance.
Retention of the majority of the best quality vegetation within the site.	Parameter Plans		
Retention of existing features that contribute to landscape character, where possible.	Parameter Plans		

	Provision of new landscape planting, public open space and footpaths/cycleways within the proposed development.	Parameter Plans	<u>Construction Phase / Completion (Year 1)</u>  <u>Landscape Effects</u>
	<u>Standard Mitigation Measures</u>  See draft CEMP in <i>Appendix D1</i>	Planning condition	<b>Moderate adverse</b> effects on landscape character and fabric of the site and the host landscape character type – Ancient Arden.
	<u>Actionable Mitigation Measures</u>  None		<u>Visual Effects</u>  <b>Substantial adverse</b> effects on residents on Tamworth Road.  <b>Major adverse</b> effects on Photo View Points (PVP) 2 and 5, and residents on Fivefield Road.  <b>Moderate adverse</b> effects on PVPs 7, 8, 9 and 10 and residents on Bennetts Road and Bennetts Road (South).  <b>Moderate/minor adverse</b> effects on PVP 6 and residents on the settlement edge of Holbrooks.  <b>Minor adverse</b> effects on PVP 1, 3, 4 and 11.  <u>Occupation Phase (Year 15)</u>  <u>Landscape Effects</u>  <b>Moderate/minor adverse</b> effects on landscape character and fabric of the site and the host landscape character type – Ancient Arden.  <u>Visual Effects</u>  <b>Major adverse</b> effects on residents on Tamworth Road.

			<p><b>Major/Moderate adverse</b> effects on Photo View Points (PVP) 2 and 5, and residents on Fivefield Road.</p> <p><b>Moderate adverse</b> effects on PVP 10.</p> <p><b>Moderate/minor adverse</b> effects on PVPs 7, 8 and 9, and residents on Bennetts Road, Bennetts Road (South) and the settlement edge of Holbrooks.</p> <p><b>Minor adverse</b> effects on PVP 3 and 6.</p> <p><b>Minor adverse/negligible</b> effects on PVP 1, 4 and 11.</p> <p><u>Cumulative Effects</u></p> <p>No significant cumulative landscape effects.</p> <p><b>Moderate adverse</b> cumulative visual effects on PVPs 8 and 9.</p>
<p><b>Transport and Traffic</b></p>	<p><b>Construction and Occupation</b></p>		
	<p><u>Inherent Mitigation Measures</u></p>		<p><u>Construction Phase</u></p>
	<p>New vehicular access from Tamworth Road and Fivefield Road</p>	<p>Parameter Plans</p>	<p><b>Negligible</b> effects during construction.</p>
	<p>Delivery of a section of new distributor road</p>	<p>Parameter Plans</p>	<p><u>Occupation Phase</u></p>
<p>New pedestrian and cycle access and infrastructure</p>	<p>Parameter Plans</p>	<p><b>Minor adverse</b> effects on receptors on Fivefield Road and Watery Lane due to severance, driver delay, public transport user delay and pedestrian amenity</p>	
<p>New public transport infrastructure</p>	<p>Parameter Plans</p>		

	<u>Standard Mitigation Measures</u> See draft CEMP in <i>Appendix D1</i> Travel Plan	Planning Condition Planning Condition	<b>Negligible</b> effects on receptors on Fivefield Road and Watery Lane due to pedestrian and cycle delay, fear and intimidation and accidents and safety  <b>Negligible</b> effects on all other receptors
	<u>Actionable Mitigation Measures</u> None		<u>Cumulative Effects</u> Potential significant adverse effects on Tamworth Road (between Fivefield Road and Long Lane), Sandpits Lane, Watery Lane, Bennetts Road (between Fivefield Road and Watery Lane), Bennetts Road (north of Fivefield Road), Fivefield Road (between Tamworth Road and Bennetts Road).
<b>Air Quality</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u> New public transport infrastructure. Electric vehicle charging points. Cycle storage within dwellings.	Parameter Plans Planning Condition Planning Condition	<u>Construction Phase</u> <b>Negligible to minor adverse</b> effects due to dust  <u>Occupation Phase</u> <u>Nitrogen Dioxide</u>
	<u>Standard Mitigation Measures</u> See draft CEMP in <i>Appendix D1</i> . Travel Plan	Planning Condition Planning Condition	<b>Moderate adverse</b> effects on Receptors 8 and 22 <b>Minor adverse</b> effect on Receptor 13 <b>Negligible</b> effects on all other receptors
	<u>Actionable Mitigation Measures</u> None		<u>Particulate Matter</u> <b>Negligible</b> effects on all receptors

			<p><u>Cumulative Effects</u></p> <p>No additional significant cumulative effects during construction</p> <p><u>Nitrogen Dioxide</u></p> <p><b>Substantial adverse</b> effects on Receptors 82 and 83.</p> <p><b>Moderate adverse</b> effects on Receptors 14, 74, 79 and 105</p> <p><b>Minor adverse</b> effect on Receptors 13, 72, 73, 77, 78, 86 and 104</p> <p><b>Substantial beneficial</b> effects at Receptors BA1 and 8</p> <p><b>Moderate Beneficial</b> effects at Receptors 22, 29, 30, 31, 32, 33, 61, 62, 88 and 96</p> <p><b>Minor Beneficial</b> effects at Receptors 2, 20, 27, 35, 52, 55, 56, 57, Site 3 and Site 6</p> <p><b>Negligible</b> effects on all other receptors</p> <p><u>Particulate Matter</u></p> <p><b>Negligible</b> effects on all receptors</p>
<b>Noise and Vibration</b>	<b>Construction and Occupation</b>		
	<u>Inherent Mitigation Measures</u>		<p><u>Construction Phase</u></p> <p><b>Negligible</b> effects due to construction noise and vibration</p>
	No specific measures		



	<p><u>Standard Mitigation Measures</u></p> <p>See draft CEMP in <i>Appendix D1</i>.</p> <p>Dwellings adjacent to Tamworth Road and within 10m of Fivefield Road will require consideration of dwelling orientation, close-boarded fencing and improve glazing and ventilation.</p>	<p>Planning Condition</p> <p>Planning Condition</p>	<p><u>Occupation Phase</u></p> <p><b>Negligible</b> noise effects on existing and proposed receptors</p> <p><u>Cumulative Effects</u></p> <p><b>Moderate beneficial</b> effect on receptors on Sandpits Lane</p> <p><b>Negligible</b> effects on all other receptors</p>
	<p><u>Actionable Mitigation Measures</u></p> <p>None</p>		
<b>Agricultural Land Quality</b>	<b>Construction and Occupation</b>		
	<p><u>Inherent Mitigation Measures</u></p> <p>None</p>		<p><u>Construction Phase</u></p> <p><b>Moderate adverse</b> effects on agricultural land.</p>
	<p><u>Standard Mitigation Measures</u></p> <p>See draft CEMP in <i>Appendix D1</i>.</p>	<p>Planning Condition</p>	<p><u>Occupation Phase</u></p> <p>None</p>
	<p><u>Actionable Mitigation Measures</u></p> <p>None</p>		<p><u>Cumulative Effects</u></p> <p><b>Substantial adverse</b> effects on agricultural land.</p>

<b>Table 13.2 – Summary of ‘In Combination’ Effects</b>								
<b>Nature of Effect</b>	<b>Existing Residents</b>	<b>Water</b>	<b>Flora and Fauna</b>	<b>Heritage Assets</b>	<b>Landscape</b>	<b>Visual Receptors</b>	<b>Air Quality</b>	<b>Agricultural Land</b>
<b>Construction Phase</b>								
<b>Change of Land Use</b>	See ‘Visual Receptors’	Minor Adverse	Minor Adverse (breeding birds)	Minor Adverse (two non-designated assets)	Moderate Adverse	Substantial Adverse to Minor Adverse	-	Moderate Adverse
<b>Noise</b>	-	-	-	-	-	-	-	-
<b>Dust</b>	-	-	-	-	-	-	-	-
<b>Construction Traffic</b>	-	-	-	-	-	-	-	-
<b>Occupation Phase</b>								
<b>Change of Land Use</b>	See ‘Visual Receptors’	-	Minor Beneficial (habitats and bats)	Minor Adverse (Locally listed building)	Moderate / Minor Adverse	Major Adverse to Minor Adverse / Negligible	-	-
<b>Development-related Traffic</b>	Minor Adverse	-	-	-	-	-	Moderate Adverse to Minor Adverse	-
<b>Drainage Strategy</b>	-	Moderate Beneficial and Minor Beneficial	-	-	-	-	-	-

**Note:** ‘Major’ visual effect is greater than ‘moderate’ but less than ‘substantial’ significance.