

SALDEN CHASE  
OUTLINE PLANNING APPLICATION

## Chapter 16: Conclusion

## 16.0 CONCLUSIONS

- 16.01 This section provides a summary of the overall impacts during construction and upon completion, before and after mitigation. In order to provide a simple and consistent summary some rationalisation of the conclusions reached in each of the technical assessments has been necessary. Equally, to aid clarification in some instances the consequences of the development have been tabularised although in other instances where the conclusions are more straight forward they are explained in a series of paragraphs.
- 16.02 The main likely significant environmental impacts of the proposed outline scheme were identified in a Scoping Report and in a formal Scoping Opinion from AVDC which includes scoping responses from a number of statutory and non-statutory organisations; the key environmental issues raised in the scoping opinion and responses, and where these are addressed in the ES.
- 16.03 Having duly assessed the key environmental issues determined during the scoping study and the subsequent investigation of the site, the following conclusions are drawn.

### **Archaeology**

- 16.04 The detailed archaeological assessment of the site has lead CgMs to be able to confirm that the earlier use of the site is typical of that found elsewhere in the Claylands of Milton Keynes and its hinterland. The summary of the findings are provided below.

Issue	Description of Impact	Impact	Significance	Duration
Archaeology before mitigation	<b>During Construction</b>			
	Site 1 - Construction groundworks	Substantial	Minor	Permanent
	Site 2 - Construction groundworks	Substantial	Minor	Permanent
	Site 3 - Construction groundworks	Substantial	Minor	Permanent
	Site 4 - Construction groundworks	Substantial	Minor	Permanent
	Site 5 - Construction groundworks	Substantial	Minor	Permanent
	Site 6 - Construction groundworks	Substantial	Minor	Permanent
	Site 7 - Construction groundworks	Substantial	Minor	Permanent
	Site 8 ridge & furrow - Construction groundworks	Substantial	Minor	Permanent
	Site 8 - Construction groundworks	Slight	Moderate	Permanent
	Site 9 - Circular enclosure, etc. - construction groundworks	Slight	Not Significant	Permanent
	Site 9 - ridge & furrow - construction groundworks	Moderate	Minor	Permanent
	Site 10 - construction groundworks	Substantial	Minor	Permanent
	Site 11 - construction groundworks	Substantial	Minor	Permanent
	Site 12 - construction groundworks	Substantial	Minor	Permanent
	Site 13 - construction groundworks	Substantial	Minor	Permanent
	Site 14 - construction groundworks	Substantial	Minor	Permanent
	Site 15 - construction groundworks	Substantial	Minor	Permanent
	Site 16 - construction groundworks	Substantial	Minor	Permanent
Site 17 - construction groundworks	Substantial	Minor	Permanent	
Site 18 enclosures - construction groundworks	Substantial	Moderate	Permanent	
Site 18 ridge and furrow - construction groundworks	Substantial	Minor	Permanent	
Site 19 - construction groundworks	Substantial	Minor	Permanent	

Issue	Description of Impact	Impact	Significance	Duration
	Site 20a Roman settlement - construction groundworks	Substantial	Moderate	Permanent
	Site 20b - construction groundworks	Substantial	Minor	Permanent
	Site 21 enclosures - construction groundworks	Substantial	Moderate	Permanent
	Site 21 ridge & furrow - construction groundworks	Substantial	Minor	Permanent
	Site 22 Roman settlement - construction groundworks	Negligible	Not significant	Permanent
	Site 22 ridge & furrow - construction groundworks	Substantial	Minor	Permanent
	As yet unrecorded archaeological remains	Unknown/ Substantial	Unknown/ Minor/ moderate	Permanent
	Lower Salden Farmhouse - setting	None	Not significant	Permanent
	Newton Longville Conservation Area - setting	None	Not significant	Permanent
	Historic landscape - 19th Century Parliamentary Enclosure - removal	Substantial	Moderate	Permanent
	Historic landscape - Whaddon Chase - removal	Slight	Moderate	Permanent

16.05 The table below summaries the proposed archaeological mitigation / enhancement measures

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
Archaeology and Cultural Heritage	<b>During Construction</b>		
	Site 1 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Site 2 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 3 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 4 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 5 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 6 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 7 - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 8 ridge & furrow - Construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 8 - Iron Age/Roman settlement - Construction groundworks	Majority of the settlement will be preserved in-situ within open space.  Archaeological Evaluation of any areas within developable area & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	Settlement preserved in-situ.  Periphery of site 'preserved by record' - beneficial impact derived from dissemination of results of investigation.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Site 9 Circular enclosure, etc. - construction groundworks	Preserved in-situ within open space	Preserved in-situ
	Site 9 ridge & furrow - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 10 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 11 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 12 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 13 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 14 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 15 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 16 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Site 17 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 18 enclosures - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 18 ridge and furrow - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 19 - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 20a Roman settlement - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 20b - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 21 enclosures - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 21 ridge & furrow - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Site 22 Roman settlement - construction groundworks	Preserved in-situ within open space	Preserved in-situ

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Site 22 ridge & furrow - construction groundworks	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	As yet unrecorded archaeological remains	Archaeological Evaluation & follow-on mitigation investigation (excavation and recording or watching brief) and publication of results	'Preserved by record' - beneficial impact derived from dissemination of results of investigation.
	Lower Salden Farmhouse – setting	None	No change
	Newton Longville Conservation Area – setting	None	No change

### Agricultural Land

16.06 The proposed development has the potential to affect a number of 'agricultural' receptors as follows: agricultural land quality and farm businesses.

16.07 Land within the outline planning application is classified as predominantly agricultural land with small isolated outcrops of 'non agricultural' (i.e. existing residential, or commercial businesses). A detailed ALC survey has determined that agricultural land within the outline planning application area (i.e. actively farmed arable and pasture agricultural land is largely classified as no higher than Subgrade 3b (moderate quality), with occasional smaller outcrops of 3A. 'Little weight' is given to such land in agricultural terms in PPS7 and development plan policy.

16.08 Whilst there is no mitigation for the loss of agricultural land, mitigation measures are provided to ensure an appropriate re-use of soil resources on-site, in line with emerging EU and UK Government policy and guidance.

16.09 The agricultural land within the outline planning application area is managed by a number of owner occupier farmers and a tenant farmer. Interviews held by Kernon Countryside Consulting have established that none of the land lost by this development will have undue results on the financial viability of the existing business that use the site. In this respect, the proposed development is considered to have only a minor negative impact on the national agricultural interest.

Issue	Description of Impact	Impact	Significance	Duration
Agricultural Land	<b>On Completion</b>			
	The site comprises predominately of Grade 3b land with patches of good quality grade 3a land. Based on the combined FRCA and KCC survey results the site comprises of 39.5 hectares of "best and most versatile agricultural land".	Moderate negative.	Moderate adverse	Permanent
	The development will involve the loss of land from seven agricultural holdings.	Slightly Negative on the 7 occupying farm businesses.	Minor Adverse	Duration of affected farm business

16.10 The mitigation and enhancement measures relating to agricultural land are itemised below.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
<b>Agricultural Land</b>	Loss of 39.5 hectares of "best and most versatile agricultural land".	There is little that can be done to mitigate against the loss of agricultural land. However, to minimise the impact where soils are to be retained for use within the development soil handling and conservation should be undertaken in accordance with the relevant chapters in "The Good Practice for Handling Soils" (MAFF 2000).	Moderate adverse
	The scheme will result in the loss of land from 7 agricultural businesses.	There is little that can be done to mitigate against the effects on farm businesses. Therefore, in this case, the residual impacts are the same as those set out above i.e. the effects before mitigation	Minor Adverse

16.11 Therefore, land within the outline planning application area is suitable for the proposed development in terms of agriculture and soil resources.

### **Ecology**

16.12 As described in the work undertaken by Aspect Ecology, the outline application site consists of arable farmland, a large number of buildings and associated infrastructure, a small area of woodland and tree belts, scrub and rough grassland, hedgerows and ponds. Habitat and species diversity is moderate, enriched by the field margins and woodlands.

16.13 Within the site there are no areas of ecological designation. Equally, there are no sites of local value within close proximity which the proposal will impact upon.

16.14 The site supports habitats of mostly limited inherent nature conservation interest; in particular the arable fields were botanically impoverished and typical of this habitat within the south east of England. Therefore provided the surrounded habitats are retained within the development and with mitigation/compensation, the residual impact on the habitats is likely to be low. The detailed summary is indicated below.

Issue	Description of Impact	Impact	Significance	Duration
Ecology	<i>During Construction</i>			
	<b>Non-statutory designated sites</b> Alteration to the hydrological, dust and noise quality environment and increase in human disturbance	negative	moderate – high	Temporary
	Loss of <b>Arable</b>	negative	none	Permanent
	Loss of <b>Grassland</b>	negative	minor	Permanent
	Loss or breaching of approximately 39 <b>Hedgerows</b> . Retained hedgerows could be negatively affected by vehicle or human disturbance, chemical pollution, dumping of construction materials or littering.	negative	moderate	Permanent / Temporary
	Four <b>Ponds</b> will be lost. Retained ponds could be negatively affected by adverse drainage and laden silts, pollutants and contaminants	negative	moderate – high	Permanent / Temporary

Issue	Description of Impact	Impact	Significance	Duration
	Potential loss of <b>ditches and minor watercourses</b> . Retained watercourse WC3 could be negatively affected by laden silts and other contaminants along with alterations to the hydrological regime.	negative	moderate	Permanent / Temporary
	Loss of <b>Buildings and Hardstanding</b>	-	none	Permanent
	Loss of <b>Trees</b> associated with lost hedgerows. Indirect impacts to occur on retained trees and their root systems.	negative	moderate	Permanent / Temporary
	Potential for damage to be caused to the trees and their roots of <b>Woodland / Maturing Amenity Planting</b> during clearance and construction works particularly associated with highways works in the vicinity of Bottledump Roundabout. Retained Woodland / Maturing Amenity Planting could be negatively affected by lighting and contaminated run off.	negative	low	Permanent / Temporary
	<b>Off-site unimproved grassland</b> could be negatively affected by remedial engineering work to reopen the East West rail link (outside the scope of this proposal)	negative	low	Permanent / Temporary

Issue	Description of Impact	Impact	Significance	Duration
	<b>Off-site ponds</b> could be negatively affected by laden silts, contaminants or polluted run off and suffer adverse drainage/ changes to the hydrological regime	negative	low	Permanent / Temporary
	<b>Off-site Watercourse</b> could be negatively affected by laden silts, contaminants or polluted run off and suffer adverse drainage/ changes to the hydrological regime	negative	low	Permanent / Temporary
	<b>Off-site scattered scrub</b> could be negatively affected by remedial engineering work to reopen the East West rail link (outside the scope of this proposal)	negative	none	Permanent / Temporary
	Loss of large areas of potential foraging habitat for <b>Badgers</b> . Presence of potential hazards including open trenches and chemicals. Badgers could be affected by increased disturbance due to presence of humans and landscaping works.	negative	low	Permanent / Temporary

Issue	Description of Impact	Impact	Significance	Duration
	Loss of buildings and trees which offer potential to support roosting <b>bats</b> , although no evidence or presence of roosting bats has been recorded in survey work undertaken to date. Loss of foraging and commuting features including hedgerows trees, ponds and watercourses. Effects on retained areas from light spill.	negative	low - moderate	Permanent
	<b>Otter and Water Vole</b> could potentially be negatively affected by laden silts and other contaminants entering WC3 along with alterations to the hydrological inputs should they utilise this habitat.	negative	low	Permanent / Temporary
	Loss of grassland, arable and scrub habitat for foraging or resting <b>Brown Hare</b> .	negative	low - moderate	Permanent
	Loss of breeding sites and foraging habitat for Birds and destruction of nests	negative	moderate	Permanent
	Construction works within approximately 50m of a pond recorded to support <b>Great Crested Newt</b> , potential isolation of Great Crested Newt populations, potential killing and injury of animals, loss of habitat during construction and by pollution and alterations to hydrological inputs.	negative	moderate	Permanent/ Temporary

Issue	Description of Impact	Impact	Significance	Duration
	Loss and disturbance to habitats offering potential to support <b>common reptiles</b>	negative	minor	Permanent
	Loss of habitat for <b>invertebrate</b> species	negative	none	Permanent
<b>On Completion</b>				
	<b>Non-statutory designated sites</b> – hydrology, noise, increased pressure from public access	<b>negative</b>	<b>moderate – high</b>	<b>Permanent</b>
	Retained <b>hedgerows</b> could be negatively affected during the clearance and construction works by vehicle or human disturbance, chemical pollution, dumping of construction materials or littering. New lighting could negatively affect nocturnal species utilising the hedgerow network of wildlife corridors	negative	moderate	Permanent
	Retained <b>ponds</b> could be negatively affected by adverse drainage and pollutants contaminants	negative	moderate	Permanent / Temporary
	Retained <b>Woodland / Maturing Amenity Planting</b> could be negatively affected by lighting and contaminated run off.	negative	low	Permanent / Temporary
	<b>Off-site ponds</b> could be negatively affected by laden silts, contaminants other or polluted run off and suffer some adverse drainage/ changes to the hydrological input	negative	low	Permanent / Temporary

Issue	Description of Impact	Impact	Significance	Duration
	<b>Off-site Watercourse</b> could be negatively affected by laden silts, contaminants other or polluted run off and suffer some adverse drainage/ changes to the hydrological input	negative	low	Permanent / Temporary
	<b>Badgers</b> could be affected by increased disturbance due to presence of humans	negative	low	Permanent / Temporary
	<b>Bats</b> could be adversely affected by light spill and by increased disturbance due to presence of humans.	negative	low - moderate	Permanent
	<b>Otter and Water Vole</b> could potentially be negatively affected by laden silts and other contaminants entering WC3 along with alterations to the hydrological inputs should they utilise this habitat.	negative	low	Permanent / Temporary
	<b>Great Crested Newt</b> could be affected by potential introduction of fish to ponds by new residents and by pollution and alterations to hydrological inputs	negative	moderate	Permanent/ Temporary

16.15 The 'with mitigation' and the 'residual effects' of the proposed development are set out in the table on the next page.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
Ecology	<b>On Completion</b>		
	<b>Non-statutory designated sites</b> Alteration to the hydrological, dust and noise quality environment and increase in human disturbance	Work in the vicinity of non-statutory designated sites to be kept to a minimum. Implementation of an environmental construction management plan to safeguard the surrounding habitats from pollutants and changes in hydrological regime, decrease the quantity of airborne dust, reduce noise sources to acceptable levels. Provision of significant areas of public open space will largely absorb increased visitor pressure. Trees and their associated root zones will be protected to appropriate British Standards. A sensitive lighting design will be employed. Non-statutory designated sites will benefit from the removal of adjacent land from agricultural regime and over sprays of herbicide, pesticide and fertiliser input.	Residual impacts are at the <b>local - County level</b> and of <b>low</b> significance.
	Loss of <b>Arable</b>	No mitigation is required.	-
	Loss of <b>Grassland</b>	Extensive new areas of grassland will be created and managed and will be of significantly higher ecological value than the existing silage fields.	Residual impacts are <b>positive</b> at the <b>local level</b> and of <b>minor-moderate</b> significance.
Loss or breaching of approximately 39 <b>Hedgerows</b> . Retained hedgerows could be negatively affected by vehicle or human disturbance, chemical pollution, dumping of construction materials or littering.	Retained hedgerows will be protected by the use of appropriate protective fencing. A sensitive lighting design will be employed. New hedgerow planting using native species appropriate to the local context will directly mitigate for the loss of existing hedgerows. Areas of new landscape planting will correlate with and bolster existing hedgerows	Residual impacts are <b>neutral</b> at the <b>local level</b> and of <b>no</b> significance.	

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Four <b>Ponds</b> will be lost. Retained ponds could be negatively affected by adverse drainage and laden silts, pollutants and contaminants	The proposals include the creation of approximately 14 ponds. Ecologically led pond creation, planting regimes and management plans will ensure that the ponds are of benefit to wildlife and biodiversity. A construction environmental management plan will be drawn up which will include an engineering solution to safeguard the retained ponds and to ensure that hydrological inputs to the ponds remain unaltered following the construction of the proposals.	Residual impacts <b>positive</b> at the <b>local level</b> and of <b>moderate significance</b> .
	Potential loss of <b>ditches and minor watercourses</b> . Retained watercourse WC3 could be negatively affected by laden silts and other contaminants along with alterations to the hydrological regime.	An environmental construction management plan and engineering method statement will be worked up and implemented in order to safeguard the watercourses. The watercourse will be enhanced through a selected clearance and opening programme, re-profiling of the banks where necessary, and enhancing the surrounding terrestrial habitat. The creation of a number of off-line ponds will also expand the aquatic environment.	Residual impacts are <b>positive</b> at the <b>local level</b> and of <b>moderate - major significance</b> .
	<b>Loss of Buildings and Hardstanding</b>	No mitigation is required in any event, built form habitat will continue to be represented in the form of the buildings created as part of the development.	-
	<b>Loss of Trees</b> associated with lost hedgerows. Indirect impacts to occur on retained trees and their root systems.	A substantial number of new trees will be planted including native species to compensate for losses of trees. Tree planting will bolster and extend the existing wildlife corridors. Retained trees will be safeguarded where necessary by tree protection fencing, erected to British Standard BS5837:2005	Residual impacts are <b>positive</b> at the <b>local level</b> and of <b>minor significance</b> .

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Potential for damage to be caused to the trees and their roots of <b>Woodland / Maturing Amenity Planting</b> during clearance and construction works particularly associated with highways works in the vicinity of Bottledump Roundabout. Retained Woodland / Maturing Amenity Planting could be negatively affected by lighting and contaminated run off.	Trees and their associated root protection zones will be safeguarded where necessary by tree protection fencing, erected to British Standard BS5837:2005. A construction environmental management plan and an engineering method statement will implemented in order to safeguard the woodland areas. A sensitive lighting design will be employed.	Residual impacts are at the <b>local level</b> and of <b>no significance</b> .
	<b>Off-site unimproved grassland</b> could be negatively affected by remedial engineering work to reopen the East West rail link (outside the scope of this proposal)	No works are proposed by the Salden Chase Consortium in this off-site location.	Residual impacts caused by this development are at the <b>local-county level</b> and of <b>no significance</b> .
	<b>Off-site ponds</b> could be negatively affected by laden silts, contaminants or polluted run off and suffer adverse drainage/ changes to the hydrological regime	A construction environmental management plan will be drawn up which will include an engineering solution to safeguard the off-site ponds and to ensure that hydrological inputs to these off-site ponds remain unaltered.	Residual impacts are at the <b>local level</b> and of <b>no significance</b>
	<b>Off-site Watercourse</b> could be negatively affected by laden silts, contaminants or polluted run off and suffer adverse drainage/ changes to the hydrological regime	A construction environmental management plan will be drawn up which will include an engineering solution to safeguard the off-site watercourse and to ensure that hydrological inputs to the off-site watercourse remains unaltered.	Residual impacts are at the <b>local level</b> and of <b>no significance</b>
	<b>Off-site scattered scrub</b> could be negatively affected by remedial engineering work to reopen the East West rail link (outside the scope of this proposal)	No mitigation is required.	-

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	<p>Loss of large areas of potential foraging habitat for <b>Badger</b>. Presence of potential hazards including open trenches and chemicals. Badger could be affected by increased disturbance due to presence of humans and landscaping works.</p>	<p>Substantial new areas of high value foraging in the form of a large area of public open space will be created. General site safeguards will be undertaken to ensure that the presence of a large construction site in the vicinity of the social group does not represent a significant hazard. Public access in the vicinity of setts will be minimised by new planting of thorn bearing species. If required, a licence from Natural England will be obtained for any works which are likely to disturb or damage any setts.</p>	<p>Residual impacts are at the <b>local level</b> and of <b>no significance</b></p>
	<p>Loss of buildings and trees which offer potential to support roosting <b>bats</b>, although no evidence or presence of roosting bats has been recorded in survey work undertaken to date. Loss of foraging and commuting features including hedgerows trees, ponds and watercourses. Effects on retained areas from light spill.</p>	<p>A large number of hedgerows and trees will be planted under the landscape scheme creating additional linear navigational features which will compensate for the loss of existing hedgerows and trees. The removal of land from an intensive agricultural regime will increase biomass of invertebrate prey. New opportunities for roosting bats will be established by the provision of a number of bat boxes, artificial roosting structures and access points in new buildings. The lighting scheme will be specifically designed to protect the functional viability of the foraging / commuting features for bats.</p>	<p>Residual impacts are at the <b>local level</b> and of <b>minor significance</b></p>

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	<p><b>Otter and Water Vole</b> could potentially be negatively affected by laden silts and other contaminants entering WC3 along with alterations to the hydrological inputs should they utilise this habitat.</p>	<p>An environmental construction management plan and engineering method statement will be worked up and implemented in order to safeguard the watercourse. The watercourse will be enhanced through a selected clearance and opening programme, re-profiling of the banks where necessary and enhancing the surrounding terrestrial habitat.</p>	<p>Residual impacts are at the <b>local level</b> and of <b>minor significance</b></p>
	<p>Loss of grassland, arable and scrub habitat for foraging or resting <b>Brown Hare</b>.</p>	<p>A matrix of new habitats in the form of new grassland and scrub planting and areas of open space will create new habitats for Brown Hare. However, these will be of a more enclosed nature than this species typically favours and as such may not fully mitigate this impact</p>	<p>Residual impacts are <b>negative</b> at the <b>local level</b> and of <b>minor significance</b>.</p>
	<p>Loss of breeding sites and foraging habitat for <b>Birds</b> and destruction of nests</p>	<p>Areas of open grassland, landscape planting and a variety of aquatic habitats including ponds, swales and reed beds will be created throughout the proposals and will provide a diverse range of potential foraging and breeding habitats, which may attract new breeding species. A range of bird boxes will be installed on retained trees where appropriate so as to provide additional nesting sites. Areas of potential nesting habitat will only be cleared outside of the bird nesting season (March – July/August) or following the negative result of a nesting bird survey conducted by a suitably qualified ecologist</p>	<p>Residual impacts are <b>negative</b> at the <b>local level</b> and of <b>minor significance</b>.</p>

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	<p>Construction works within approximately 50m of a pond recorded to support <b>Great Crested Newt</b>, potential isolation of Great Crested Newt populations, potential killing and injury of animals, loss of habitat during construction and by pollution and alterations to hydrological inputs.</p>	<p>In order to facilitate development works in the vicinity of pond P2 and ditch D2 a detailed mitigation strategy will be worked up and a licence obtained from Natural England, to safeguard the species. Abundant suitable terrestrial habitat will remain available and will be accessible to dispersing and migrating Great Crested Newts via the existing habitat corridor of Watercourse WC3 which will be fully retained and enhanced. On-site terrestrial habitats present will be brought into a favourable ecological management regime so that their quality will be significantly enhanced and maintained over the long term. Consideration will be given to the hard landscaping and drainage systems such that amphibian friendly features are incorporated. An environmental construction management plan and engineering method statement will be worked up and implemented in order to safeguard the ponds and they will be managed under an ecologically led management regime.</p> <p>14 new water bodies will be created under the proposals.</p>	<p>Residual impacts are <b>positive</b> at the <b>local level</b> and of <b>moderate significance</b>.</p>
	<p>Loss and disturbance to habitats offering potential to support <b>common reptiles</b></p>	<p>A watching brief for reptiles will be maintained during the clearance of suitable habitat. Extensive new areas of reptile habitat will be created including large areas of wildflower grassland, hedgerows, pockets of scrub, new ponds, private gardens and areas of new allotments</p>	<p>Residual impacts are <b>positive</b> at the <b>local level</b> and of <b>moderate significance</b>.</p>

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	Loss of habitat for <b>invertebrate</b> species	No mitigation is required in respect of invertebrates, nonetheless numerous new habitats will be created new habitats for invertebrate species while the removal of the land from an intensive agricultural regime introduction of ecologically led management to the grassland and retained aquatic habitats will likely benefit invertebrate species.	-

### Hydrology and Hydrogeology

- 16.16 Within the agreed scope of the EIA Brookbanks Consulting have undertaken a detailed Flood Risk Assessment (FRA) for submission with the Salden Chase planning application.
- 16.17 Surface water from the study area currently drains to the Loughton Brook in the north and to a tributary south of the railway which eventually leads to the River Ouzel for the southern half of the site.
- 16.18 In tandem with the drainage authorities a drainage strategy has been developed for the study area according to guidance provided by the Environment Agency and the Internal Drainage Board. The location of existing watercourses and combined with the natural gentle downward slopes towards the watercourses, provides the potential for new, site specific, gravity surface water drainage systems to be provided utilizing SuDs devices.
- 16.19 A summary of the impacts are listed below.

Issue	Description of Impact	Impact	Significance	Duration
<b>Hydrology &amp; Hydrogeology</b>	<b>On Completion</b>			
	Flooding	Neutral	Nil	Permanent
	Storm water	Neutral	Nil	Permanent
	Foul water	Neutral	Nil	Permanent
	Water quality	Negative	Insignificant	Short Term

16.20 Consequently, land within the outline planning application area is suitable for the proposed development in terms of both hydrology and its hydrological impacts.

#### **Landscape and Visual**

16.21 FPCR, guided by best practice and comments kindly provided by the local authority, have undertaken a full landscape and visual impact assessment of the application site area and the proposal as demonstrated by the proposed development framework plans.

16.22 Tables 9.6 and 9.7 summarize the limited visual impact of the proposal in the long term.

16.23 The character analysis identified that the majority of the study area sits within an area of low sensitivity which generally lacks intrinsic features of landscape merit.

- 16.24 Whilst the existing sense of openness will inevitably be lost following development, a strong green infrastructure will assist in assimilating development into the surrounding countryside, and the townscape quality of the proposed development will be high, with a strong hierarchy of streets and open spaces.
- 16.25 Within the short term there will be moderately negative effects but within 15 years, the proposals will generally have positive effects on the currently weak landscape character of this area.
- 16.26 A very small portion of the study area to the north west adjacent to Thrift Wood, sits within a character area of high sensitivity as part of the former hunting chase of Whaddon Chase. The wooded character of the overall area is distinctive although there are no visible remnants of the forest within the site itself and the majority of the study area within this area – once mitigated - will be retained as green infrastructure.
- 16.27 Newton Longville Conservation Area is identified as of high sensitivity. However the distance from the Site and the proposed woodland planting along the southern boundary of the study area will reduce potential impacts on this area to minor significance. The creation of a strong landscape corridor in conjunction with elements of the valley to the south will help to permanently separate Newton Longville from Bletchley and the proposed development. The settlements of Bletchley, Far Bletchley, Snelshall East and West and Tattenhoe Park are considered of low townscape/landscape sensitivity and will have negligible adverse effects.

- 16.28 The visual analysis showed that development will be initially visible from the countryside to the south due to the south facing contours below Weasel Lane. However, there are few receptors within this area. Furthermore, there are significant opportunities to enhance the landscaped edge of the Far Bletchley that is visible from this area. The elevated tree lined ridgeline of Weasel Lane will be reinforced to mitigate this impact.
- 16.29 The magnitude of change from close up views from users of Whaddon Road will be high. However, sensitivity of these transient receptors is low and although the sense of openness will be lost and immediate effects are assessed as moderate negative, after 15 years, when the high quality townscape and green infrastructure matures.
- 16.30 There are relatively few residential receptors with views of the study area. These are limited to the edge of Far Bletchley, a small number of properties in the hamlet of Chase Farm, the two existing farmhouses and some longer distance views from Newton Longville. Although open views of the countryside will be lost following the implementation of the proposed structural mitigation planting views will be softened to reduce the impact – over time - to minor.
- 16.31** The short term impact on the views from the long distance footpaths that run through the site, in particular Weasel Lane, will initially be significant. However, their retention within 'greenways' and areas of habitat creation will eventually create a strong network of open space that will provide important links between the countryside and town and will eventually reduce adverse impact to moderate.

**16.32** The proposal forms a logical urban extension to both Far Bletchley together with Snelshall East and West as it abuts the existing mixed use edge of the city and connects well with the recently approved Tattenhoe Park development to the north. The western expansion of the city has been successfully contained by the interaction of established woodland blocks, which reflect the area's historic role as part of Whaddon Chase. This principle will be continued in relationship to the Salden Chase ensuring that the development is appropriate for this location.

#### **Traffic, Movement and Access**

16.33 A Transport Assessment (TA) and accompanying Draft Travel Plan has been prepared by Peter Brett Associates. The TA and the Travel Plan are provided as separate documents as part of the Outline Planning Application, and are summarised in Section 10.0 of this ES.

16.34 The traffic impact of the proposals on the local highway network has been assessed following two years of pre-application discussions with representatives from Aylesbury Vale District Council, Advantage Aylesbury, Buckinghamshire County Council, the Highways Agency and the Highways Authority in Milton Keynes with reference to the highway authority's Milton Keynes Multi Modal Model. This shows that, based on a co-ordinated strategy of non-car transport provision and highway infrastructure enhancements relating in part to the Milton Keynes Transport Strategy Review, that overall levels of delay across the highway network during the peak hours with Salden Chase would be no worse in the 2026 forecast year than in the scenario without the development at this time.

16.35 The analysis of movement associated with the Salden Chase development – and the identification of total forecast flows for each mode of transport throughout the day, including car traffic - has been based on some mode shift to non-car forms of transport. This approach accords with current policies, strategies and objectives relating to limiting the provision of additional highway capacity.

16.36 The assessment – as summarized below - has shown that the traffic generated by the proposed development can be adequately accommodated on the internal road network. This internal road network has been specifically designed in response to the primary aims of ensuring that the proposed development prioritises movement for pedestrians (and that the urban form itself assists in encouraging this), and that it also responds to the public transport route to be provided through the Site.

Issue	Description of Impact	Impact	Significance	Duration
Traffic, Movement and Access	<b>During Construction</b>			
	% Increase in Daily HGV Flows on the A421 Standing Way	Negligible	Not Significant	Construction period only
	Impact on Bridleways NLO/25 and NLO/20	Negligible	Not Significant	Construction period only

Issue	Description of Impact	Impact	Significance	Duration
<b>Traffic, Movement and Access</b>	<b>On Completion</b>			
	<b>Identified Receptors</b>			
	Whaddon Road to the South of Bottledump Roundabout – no footways	Major	Severe	Long-term
	Giles Brook Primary School - adjacent Snelshall Street	Moderate	Major	Long-term
	Shenley Brook End School – adjacent Chaffron Way and Tattenhoe Street	Moderate	Major	Long-term
	Long Meadow School – Adjacent Tattenhoe Street and Childs Way	Minor	Moderate	Long-term
	Howe Park Wood Nature Conservation Area	Major	Moderate	Long-term
	Newton Longville Village Hall – Whaddon Road	Minor	Minor	Long-term
	St Faith's Church – Whaddon Road, Newton Longville	Minor	Minor	Long-term

16.37 Although the impact of increased traffic flow due to the proposed development is mitigated across the whole network in the context of overall infrastructure provision, there may be individual locations where there is a residual impact of traffic flows (or conditions) on the network that remain unmitigated to a minor extent.

16.38 However, due to the extensive level of additional pedestrian, cycle and public transport facilities to be provided by the proposed Salden Chase development (both on- and off-site) there are also considered to be some beneficial residual effects arising from the proposed development. The resulting mitigation and enhancement measures are tabulated below.

Issue	Description of impact	Mitigation / enhancement measures	Residual Effects
<b>Traffic, Movement and Access</b>	<b>During Construction</b>		
	% Increase in Daily HGV Flows on the A421 Standing Way	Site wide Construction Traffic Management Plan to control HGV routing.  Contractors will be required to monitor construction-related movements.  All construction traffic will arrive and depart via the A421 and not be permitted from the south via Whaddon Road.	This will only be for the duration of the construction period.
	Impact on Bridleways NLO/25 and NLO/20	Measures such as advance signing for site traffic, fencing, identified road crossing points.	This will only be for the duration of the construction period.
	<b>On Completion</b>		
	Whaddon Road to the South of Bottledump Roundabout – no footways	As part of the Salden Chase development proposals, a combined cycleway / footway is proposed along this route.	This impact is considered to be fully mitigated.
	Giles Brook Primary School - adjacent Snelshall Street	The schools are not directly accessed from the links experiencing significant traffic growth as a result of the Salden Chase development, but from minor roads that lead off these links.	There may be some minor residual severance to the minor access links to these schools.
	Shenley Brook End School – adjacent Chaffron Way and Tattenhoe Street	Therefore, it is considered that there are limited direct traffic-related impact risks relating to these schools and further mitigation is not considered necessary.	
	Long Meadow School – Adjacent Tattenhoe Street and Childs Way		
	Howe Park Wood Nature Conservation Area	Howe Park Wood Nature Conservation Area is not directly accessed from Childs Way which would experience moderate traffic growth but via local roads. Therefore, further mitigation is not considered necessary.	There may be some minor residual severance to the minor access links to the Park.
	Newton Longville Village Hall – Whaddon Road	Traffic calming is proposed for Whaddon Road to mitigate any minor impact.	
St Faith's Church – Whaddon Road, Newton Longville			

16.39 Salden Chase strongly supports and reflects national, regional and local policy with respect to land-use / transport planning. This is primarily because of the site's excellent accessibility, both in terms of its overall location, and in terms of its non-car transport provision sustainable development policy perspective that it is considered that will be no adverse effects.

#### Air Quality

16.40 The detailed assessment undertaken by Peter Brett Associates has identified that the main potential air quality impacts of the proposed development are dust annoyance and elevated concentrations of particulate matter (PM<sub>10</sub>) during demolition/construction activities, and increased PM<sub>10</sub> and nitrogen dioxide (NO<sub>2</sub>) concentrations resulting from traffic generated by the proposed development. The potential odour annoyance from Bletchley landfill was also considered.

16.41 The relative significance of these matters is detailed below.

Issue	Description of Impact	Impact	Significance	Duration
Air Quality	<b>During Construction</b>			
	Dust annoyance and elevated concentrations of PM <sub>10</sub> associated with construction works	At approximately 320 existing dwellings within 200m of the site boundary, and at future dwellings occupied prior to the completion of construction.  Short-term PM <sub>10</sub> objective is unlikely to be exceeded.	<b>Minor Adverse</b>	Temporary

Issue	Description of Impact	Impact	Significance	Duration
Air Quality	<b>Upon Completion</b>			
	<b>The impact of emissions from traffic generated by the proposed development on existing residential receptors close to the development site</b>	Air quality objectives for NO <sub>2</sub> and PM <sub>10</sub> achieved by a wide margin.  Proposed development predicted to increase annual mean concentrations by less than 4µg/m <sup>3</sup> .	<b>Minor Adverse</b>	Permanent
	Potential odour issues from Bletchley landfill	Winds blow from the landfill to site infrequently, and at a distance of 1 km the future residents are unlikely to experience odour annoyance.	<b>Not Significant</b>	Until the off site reclamation is complete.
	<b>Potential impact due to the proposed re-opening of the railway line at the southern boundary of Salden Chase</b>	Impact considered to be not significant as site boundary 75m from railway line	<b>Not Significant</b>	Unknown as this is within the control of Central Government and Network Rail.

16.42 Working in tandem with the officers at the local authority the following mitigation / enhancement strategies have been developed.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
Air Quality	<b>During Construction</b>		
	Dust annoyance and elevated concentrations of PM <sub>10</sub> associated with construction works	<b>Risk will be reduced provided recommended mitigation measures are fully implemented during construction, particularly close to existing receptors.</b>  <b>Implementation of good working practise and CEMP</b>	At approximately 165 dwellings within 100m of site boundary, and at future dwellings occupied prior to the completion of construction.  Minor Adverse

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
	<b>Upon Completion</b>		
	<b>The impact of emissions from traffic generated by the proposed development on existing residential receptors close to the development site</b>	<b>None required</b>	Minor Adverse
	Potential odour issues from Bletchley landfill	<b>None required</b>	Not significant
	<b>Potential impact due to the proposed re-opening of the railway line at the southern boundary of Salden Chase</b>	<b>None required</b>	Not significant

16.43 With these issues taken into account there are no significant issues relating to this matter that can not be controlled to an acceptable level.

#### Noise and Vibration

16.44 Peter Brett Associates undertook this assessment as part of the scoped works for this proposed development. The assessment of potential adverse impact from sources of noise and vibration has been undertaken based upon a combination recorded measurement results and noise predictions.

16.45 Noise levels across the site are generally acceptable for residential development in the baseline (2009) and design (2026) years. The assessment concludes that all proposed properties can have acceptable noise levels in accordance with current guidelines, with appropriate mitigation. To reduce the impact of noise from fixed services plant associated with the employment area and local centres limiting noise levels for fixed plant have been recommended. These are summarised below.

Issue	Description of Impact	Impact	Significance	Duration
Noise	<b>During Construction</b>			
	Construction noise and vibration to existing dwellings	Low if recommendations are adhered to	<b>Dependant on plant selection, number of items and processes used</b>	Temporary
	<b>Road traffic noise to existing dwellings</b>	Low	<b>Not significant</b>	Permanent
	Road traffic noise to new dwellings	Low	<b>Various depending on proximity to road</b>	Permanent
	<b>Plant noise from Local Centres and Employment Area</b>	Low if recommendations are adhered to	<b>Dependant on plant selection and number of items</b>	Permanent

16.46 Following the completion of the construction phase the following elements are proposed as an acceptable mitigation / enhancement package.

Issue	Description of Impact	Mitigation / Enhancement Measures	Residual Effects
Noise	<b>During Construction</b>		
	<b>Construction noise and vibration to existing dwellings</b>	<b>Implementation of good working practise and CEMP</b>	Not significant
	<b>On Completion</b>		
	<b>Road traffic noise to existing dwellings</b>	<b>None required</b>	Not significant
	Road traffic noise to new dwellings	<b>Glazing, building orientation, buffer zone adjacent to A421 dual carriageway.</b>	Not significant
<b>Plant noise from Local Centres and Employment Area</b>	<b>Limiting sound emission levels to below 5dB above background at nearby receptors</b>	Not significant	

- 16.47 The noise levels generated by the proposed renewable energy centres (within the neighbourhood and local centres) will be assessed as part of a separate detailed application, bearing in mind the need to minimise any adverse effect on adjacent new development.
- 16.48 As the timetable for the use of the railway line to the south of the site and its funding have yet to be secured it will be the responsibility of the potential operator to take into account the likelihood of adverse comment due to vibration, in accordance with BS 6472:2008, from occupants of potentially affected dwellings.
- 16.49 The impact of the completed development is considered to be “not significant” provided that noise limits from the proposed employment area are adhered to during the detailed design stage.
- 16.50 Consequently, the development will not exceed Noise Exposure Categories for occupants as outlined in national guidance; PPG24 and the site is capable of providing an acceptable living environment.

### **Socio-Economic Issues**

- 16.51 The development will provide homes for new residents over the next 20 – 30 years which will have lasting economic and social requirements.

- 16.52 The site will deliver new places of employment, five schools, local shops, health, leisure, civic and community facilities which can be used by the planned and existing residents in the locality.
- 16.53 The mix of uses proposed will provide for the day-to-day needs of the residents and reduce the need to travel, as well as enhancing the facilities available to adjacent communities.
- 16.54 A full range of housing types and tenures are proposed to meet present and predicted housing needs of occupiers and will contribute towards addressing the housing needs of the locality, the district and the wider region.
- 16.55 A variety of open spaces will be provided within the study area including an extension to the Loughton Brook Linear Park which in turn will provide the Whaddon Chase link on the western edge of Salden Chase and the creation of the Weasel Lane Public Open Space Linear Park.
- 16.56 In these circumstances it is considered that the proposal complies with the aspirations of PPS 4 and that an economically and socially vibrant place will be delivered without causing an undue impacts of the social and economic well being of the surrounding existing residents and service providers.

### **Services and Utilities**

- 16.57 The utility companies have a statutory duty to serve new and existing developments.
- 16.58 Brookbanks Consulting were commissioned to investigate issues of availability and capacity relating to the services that will be required by the new occupiers and residents of Salden Chase.
- 16.59 Following the identification of the locality in the South East Plan and the emerging allocation of the site for development by Aylesbury Vale District Council discussions have been held with the principle statutory utility providers. These have all indicated that existing or new utilities such as electricity, gas and telecoms can be provided for the homes and places of work in Salden Chase. There should be no insurmountable major direct or indirect impacts on the existing public utility and foul water drainage network.

### **Overall Conclusion**

- 16.60 This EIA of the Salden Chase Consortium's outline planning application for a sustainable extension to the residential community of Milton Keynes has determined the main likely significant impacts on the environment and has provided mitigation measures to avoid, reduce, or offset those impacts. The residual impacts of the proposed scheme (i.e. impacts that remain post-mitigation) have been identified and these will have to be weighed against the significant benefits of the proposed scheme as demonstrated in the outline planning application submission.