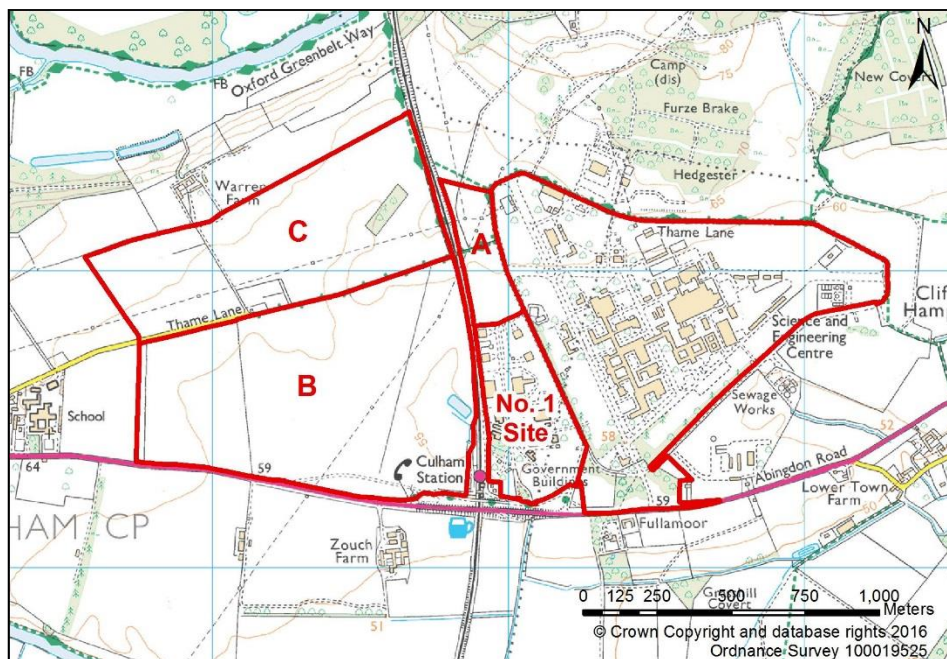


## Appendix A Table 7 Culham Sustainability Appraisal Matrices Alternative Options

The following Alternatives Options have been subject to a Sustainability Appraisal, any development proposals on land not covered by this SA will be considered in future assessments.

1. Option 1 Culham No 1 site
2. Option 2 Culham No 1 site + the additional area in the north (A)
3. Option 3 - Culham No 1 site, including the area to the north (A) and west of the railway (B)
4. Option 4 - Culham No 1 site, including the area to the north (A), west of the railway (B) and extended area northwest of the railway (C)

Please see map below:



✓✓	✓	xx	x	0	?
Major positive	Minor positive	Major negative	Minor negative	Neutral effect	Uncertain effect

SA Objectives	C 1	C 2	C 3	C 4
1 To help to provide existing and future residents with the opportunity to live in a decent home and in a decent environment supported by appropriate levels of infrastructure	✓✓	✓✓	✓✓	✓✓
<p>The area is situated 2.5 miles away from Culham Village and 1.4 miles from Clifton Hampden.</p> <p>Approximately 7.5 miles south of the edge of Oxford, 3.5 miles east of Abingdon-on-Thames and 6 miles north of Didcot. Location of the site results in <b>significant positive effects</b></p> <p>.Development of this area will result in major positive effects in terms of providing housing. <b>Significant positive effects</b> are identified in terms of providing housing.</p> <p>The sites have been promoted through consultation although the Culham number 1 site is currently in use.</p>				
<p><b>Mitigation:</b></p> <p><b>The positive effects could also be enhanced.</b></p> <p>A full detailed landscape and visual impact assessment will be required to inform the final capacity of the site.</p> <p>Ensure infrastructure is phased alongside new housing development and is integrated with the village of Culham and Clifton Hampden, where appropriate.</p> <p>Affordable homes should be provided within all development settlements.</p> <p>Work with service providers to ensure this is implemented in a timely fashion.</p> <p>A masterplan would need to be developed to encompass all mitigation recommendations.</p> <p><b>Cumulative effects</b></p>				

SA Objectives	C 1	C 2	C 3	C 4
	<p>If infrastructure is phased through-out, then the positive effects will be enhanced however if development is not supported by appropriate infrastructure, in the long term and combined with the existing housing allocations this could lead to significant negative effects.</p> <p><b>Enhancement:</b> The positive effect of providing new homes could be enhanced by ensuring that new homes are built to high standards of sustainable design and supported by appropriate levels of infrastructure.</p> <p><b>Likelihood:</b> High</p> <p><b>Scale:</b> Large scale</p> <p><b>Temp or perm:</b> Perm</p> <p><b>Timing:</b> Short to long term</p> <p><b>Significance of effect:</b> Significant.</p>			
2 To help to create safe places for people to use and for businesses to operate, to reduce anti-social behaviour and reduce crime and the fear of crime.	✓	✓	✓	✓
	<p>The area does not suffer from a high crime rate, new development could provide the opportunity to design a safe environment which could reduce and prevent antisocial behaviour. Thames Valley police have suggested that extra homes may require extra policing.</p> <p><b>Mitigation:</b> Ensure good quality urban design is implemented and work with the local community.</p> <p><b>Likelihood:</b> High</p> <p><b>Scale:</b> Localised</p> <p><b>Temp or perm:</b> Perm</p> <p><b>Timing:</b> Short to long term</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<b>Significance of effect:</b> Not significant.			
3 To improve accessibility for everyone to health, education, recreation, cultural, and community facilities and services.	✓	x	✓	x
	<p>All the sites assessed are located adjacent to the Culham Science Centre (CSC) which is part of Science Vale UK, CSC specialises in fusion research and hosts related enterprises. There are currently around 2,000 jobs on the CSC site.</p> <p>The sites are situated 2.5 miles away from Culham Village and 1.4 miles from Clifton Hampden, both villages are small with limited services.</p> <p>The sites are approximately 7.5 miles south of the edge of Oxford, 3.5 miles east of Abingdon and 6 miles north of Didcot. Oxford, Abingdon and Didcot are large towns with many facilities. Some <b>positive effects</b> have been identified due to location of the sites and access to nearby facilities, however there are limited services available within the immediate location for any additional residents.</p> <p><b>Policy CSEM3</b> in the Core Strategy states: <i>‘Culham Science Centre The redevelopment and intensification of Culham Science Centre for research and science based businesses will be supported. Proposals for redevelopment and the intensification of uses with the creation of about 1,000 new jobs will be supported. We will work proactively with Culham to develop an agreed masterplan that facilitates this growth.’</i></p> <p>Due to the location of the CSC, many on-site facilities have been established in order to meet the demands of the resident workforce and visitors. The following amenities are available for use by employees:</p> <ul style="list-style-type: none"> <li>• Staff Restaurant</li> <li>• 2 Site Shops</li> <li>• Children’s Day Nursery</li> <li>• Conference Centre</li> </ul>			

SA Objectives	C 1	C 2	C 3	C 4
	<ul style="list-style-type: none"> <li>• Lecture Theatre</li> <li>• Sports Facilities</li> <li>• Coffee Shop</li> <li>• Cash Machine</li> <li>• Publications, printing and reprographic services</li> </ul> <p><b>Culham</b> is located 2.5 miles from CSC and is classified as a smaller village with the following services: a pub, a primary school and a church.</p> <p><b>The Parish of Clifton Hampden</b> contains the villages of Clifton Hampden and Burcot, Located approx. 1.5 miles from CSC. There is a GP surgery, a shop/post office, a church and a pub.</p> <p>The additional new homes will put pressure on existing services, with neighbouring villages and towns, resulting in <b>negative effects</b>.</p> <p>Development could provide the opportunity to improve services in through the CiL requirements and the IDP.</p> <p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b>          Ensure improvements to service provision commensurate with any increases in population.          Phasing of development to help ensure required infrastructure could be properly planned for.          Identify land required to provide new homes and required infrastructure.          Work with the Masterplan developers and the local community to ensure integration with existing residents and employees, and provide for facilities as required.          Ensure the loss in employment land is replaced in sustainable locations</p> <p><b>Cumulative effects</b>          If required provision to services and facilities is not provided, negative effects may occur.</p> <p><b>Likelihood:</b>          High</p>			



SA Objectives	C 1	C 2	C 3	C 4
	<ul style="list-style-type: none"> <li>• The Parish of Clifton Hampden has a population of 660 with an above average population of people over 65 yrs at 27.80%.</li> <li>• There is a GP surgery, a shop/post office, a church and a pub.</li> <li>• Weekly household earnings are above district and National average and benefits claimants are well below district and National average.</li> <li>• People with highest qualification: Level 4 (degree level qualifications) is above average at 46.5% compared to National average of 27.4%.</li> <li>• 78.8% of residents own their own home.</li> </ul> <p>The additional of new residential development will put pressure on existing services, with neighbouring villages and towns, resulting in <b>negative effects</b>.</p> <p>Development solely of housing at the C1 could result in loss of employment land and not provide enough land sufficient for facilities required for new residents, resulting in <b>significant negative effects</b>.</p> <p>Development could provide the opportunity to improve services in through the CiL requirements and the IDP.</p> <p><b>Mitigation</b>          Ensure improvements to service provision commensurate with any increases in population.          Good phasing of development will be required to ensure that social cohesion is promoted.          Good urban design principles will be required that ensure accessibility is promoted throughout the development phases.          Work with the Masterplan developers and the local community to ensure integration with existing residents and employees, and provide for facilities as required.</p> <p><b>Cumulative effects</b>          If improvements to service provision and accessibility is not provided, negative effects may occur leading to a break down in social cohesion for communities living in the area.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<b>Likelihood:</b> High <b>Scale:</b> Local <b>Temp or perm:</b> Perm <b>Timing:</b> Short to long term <b>Significance of effect:</b> Significant.			
5 To reduce harm to the environment by seeking to minimise pollution of all kinds especially water, air, soil and noise pollution.	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>
	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
	<p>The site is previously development land within the Green Belt. There is a sewage works to the south of CSC, any increase in housing could lead to over capacity at the sewage works, the area is within in an area with high chance of flooding from surface water, the area also lies within a nitrate vulnerability zone and groundwater /water protection zone. Therefore potential</p>	<p>Part of the site is brownfield land and the northern section is greenfield land, both within the Green Belt.</p> <p>Any development on greenfield land would increase hard surfaces, which can increase the risk of surface water flooding.</p> <p>The site is not within a flood zone 2 or 3.</p> <p>There is a sewage works to the south of</p>	<p>This site includes C1 &amp; C2 as well as the area west of Culham station which includes greenfield land.</p> <p>Any development on greenfield land would increase hard surfaces, which can increase the risk of surface water flooding.</p> <p>The site is not within a flood zone 2 or 3.</p>	<p>This site includes C1 &amp; C2, C3 and the extended area to the northwest (see map) which includes greenfield land.</p> <p>Any development on greenfield land would increase hard surfaces, which can increase the risk of surface water flooding.</p> <p>This option includes the development of more greenfield land than the other options.</p>



SA Objectives	C 1	C 2	C 3	C 4
	<p><b>negative effects</b> have been identified.</p> <p>In the short term noise pollution may increase during the construction phase.</p> <p>The eastern edge of the site is adjacent to the train line and Culham station, there is a potential for noise pollution for new residents. Therefore potential <b>negative effects</b> have been identified.</p> <p>There is likely to be an increase in car borne traffic locally, both during the construction and operational phase.</p>	<p>CSC, any increase in housing could lead to over capacity at the sewage works, the area is within in an area with high chance of flooding from surface water, the area also lies within a nitrate vulnerability zone and groundwater /water protection zone. Therefore potential <b>negative effects</b> have been identified.</p> <p>The train line passes alongside both parcels of land and Culham station is adjacent there is a potential for noise pollution for new residents. Therefore potential <b>negative effects</b> have been identified.</p> <p>In the short term noise pollution may increase during the construction phase.</p>	<p>Electricity pylons cross the site to the west of Culham station.</p> <p>There is a sewage works to the south of CSC, any increase in housing could lead to over capacity at the sewage works, the area is within in an area with high chance of flooding from surface water, the area also lies within a nitrate vulnerability zone and groundwater /water protection zone.</p> <p>The train line passes alongside two parcels of land (within this option) and Culham station is adjacent there is a potential for noise pollution for new residents. Therefore potential <b>negative effects</b> have been identified.</p>	<p>The norther edge of the extended area northwest of the railway (C) is within flood zone 3.</p> <p>Electricity pylons cross the site to the west of Culham station.</p> <p>There is a sewage works to the south of CSC, any increase in housing could lead to over capacity at the sewage works, the area is within in an area with high chance of flooding from surface water, the area also lies within a nitrate vulnerability zone and groundwater /water protection zone. Therefore potential <b>negative effects</b> have been identified.</p> <p>The train line passes alongside two parcels of land (within this option) and Culham</p>

SA Objectives	C 1	C 2	C 3	C 4
		<p>There is likely to be an increase in car borne traffic locally, both during the construction and operational phase. Therefore potential <b>negative effects</b> have been identified.</p>	<p>In the short term noise pollution may increase during the construction phase.</p> <p>There is likely to be an increase in car borne traffic locally, both during the construction and operational phase. Therefore potential <b>negative effects</b> have been identified.</p>	<p>station is adjacent there is a potential for noise pollution for new residents. Therefore potential <b>negative effects</b> have been identified.</p> <p>Two sections of land within this option are located adjacent to the sewage works, this could lead to potential problems with smell for new residents and/or pollution from surface water flooding. Therefore potential <b>negative effects</b> have been identified.</p> <p>In the short term noise pollution may increase during the construction phase.</p> <p>There is likely to be an increase in car borne traffic locally, both</p>

SA Objectives	C 1	C 2	C 3	C 4
				during the construction and operational phase. Therefore potential <b>negative effects</b> have been identified.
	<p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b>  A FRA should be carried out.  Encourage green infrastructure and biodiversity enhancement schemes; these are beneficial to flood prevention and resilience to climate change.  Include SUDS in all designs.  Work with Thames Water to discuss sewage capacity.  Work with electricity providers to discuss implications of electric pylons on the site west of Culham station.  Consider noise barriers for the adjacent train line.  No development should occur in floodzone2 or 3.</p> <p><b>Cumulative effects</b>  Development will not be sustainable in the long term if the development is not resilient to flood risk and climate change, pollution incidents may increase.  Noise and air pollution may increase which is detrimental to human health.</p> <p><b>Likelihood:</b>  High</p> <p><b>Scale:</b>  District</p> <p><b>Temp or perm:</b>  Perm</p> <p><b>Timing:</b>  Short to long term</p> <p><b>Significance of</b></p>			

SA Objectives	C 1	C 2	C 3	C 4
	<b>effect:</b> High Significant			
	✓✓	✓✓	✓✓	✓✓
6 To improve travel choice and accessibility, reduce the need to travel by car and shorten the length and duration of journeys.	<p>All the sites assessed are located adjacent to the Culham Science Centre (CSC) which is part of Science Vale UK, CSC specialises in fusion research and hosts related enterprises. There are currently around 2,000 jobs on the CSC site.</p> <p>The sites are situated 2.5 miles away from Culham Village and 1.4 miles from Clifton Hampden. Approximately 7.5 miles south of the edge of Oxford, 3.5 miles east of Abingdon and 6 miles north of Didcot. Oxford, Abingdon and Didcot are large towns with many facilities.</p> <p>Didcot and Milton Park provide access to employment, Milton Park is approx. 4 miles away, buses run every 30 minutes and taken approx. 40 minutes each way. Didcot is 5 miles away, direct trains take 7 minutes but the service is infrequent. Wallingford is large town, approx. 8 miles away offers a range of employment opportunities and links with the concentration of environmental science organisations at nearby Crowmarsh Gifford; and Hithercroft Industrial Estate, the town's main employment area, resulting in potential <b>positive effects</b>. There regular trains to Reading and Oxford, resulting in <b>significant positive effects</b> due to access to sustainable transport.</p> <p>All sites are adjacent to Culham train station, there regular trains to Reading and Oxford, resulting in <b>significant positive effects</b> due to access to sustainable transport.</p> <p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Ensure the ETI results inform the decision making process.</p> <p>Ensure good urban design principles are implemented within the new settlement and to create good access to nearby towns and villages.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>Work with infrastructure providers to identify where an increase in sustainable modes of transport is required. This should include, cycle ways, linking to green infrastructure.</p> <p><b>Cumulative effects</b>  Long term impacts are dependent on the scale of development chosen for these sites. Without mitigation congestion and the associated impacts may increase, this will have a detrimental impact over a wider area.</p> <p><b>Likelihood:</b>  High</p> <p><b>Scale:</b>  Regional</p> <p><b>Temp or perm:</b>  Perm</p> <p><b>Timing:</b>  Short to long term</p> <p><b>Significance of effect:</b>  Significant.</p>			
7 To conserve and enhance biodiversity	x	x	x	x
	<p>All sites are within the conservation target area (CTA), and are within Culham Brake SSSI impact zone, therefore development may result in <b>negative effects</b>.</p> <p>The land adjoining the Thames at Culham is of significant ecological importance and is being carefully managed under Natural England's Stewardship Scheme. Therefore development may result in <b>negative effects</b>.</p> <p>Water meadows are west of the CCS within Options C3 and C4. Subject to seasonal flooding and water-logging, these water meadows provide a very specific habitat for a diverse range of flora and fauna. Therefore development may result in <b>negative effects</b>.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>The following European Sites need to be considered when identifying areas for additional housing development.</p> <p>Aston Rowant SAC, Chiltern Beechwoods SAC, Cothill Fen SAC, Hartslock Woods SAC, Little Wittenham SAC Oxford Meadows SAC. Additional development can lead to increased emissions from vehicle movement and put strain on water resources, both can have detrimental effects on SAC's.</p> <p>A Habitats Regulations Assessment for South Oxfordshire District Council was prepared by LUC in January 2015 and considered four potential growth options. Further HRA Appropriate Assessment would need to be carried out at the next stage of the Plan making process. Therefore current effects are <b>uncertain</b>.</p> <p>Additional development can lead to increased emissions from vehicle movement and put strain on water resources, both can have detrimental effects on SAC's.</p> <p>Additional development in these areas could assist with funding for biodiversity enhancement for example: green infrastructure, wildlife areas, buffer zones etc.</p>			
	There are pockets of broadleaf deciduous woodland within <b>C1</b>	The north west corner of <b>C2</b> is within Culham Brake SSSI impact zone.	The north west corner of C2 and C3 is within Culham Brake SSSI impact zone.	The coppice & Furze Brake are located to the north and there are pockets of broadleaf deciduous woodland to the south of CSC.
	<p><b>Mitigation/enhancement:</b></p> <p><b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Incorporate green infrastructure into the design and biodiversity enhancement schemes.</p> <p>Carry out a BAP phase 1 survey.</p> <p>Ensure further HRA Appropriate Assessment is carried out and all recommendations are included in the Local Plan 2032.</p> <p><b>Cumulative effects</b></p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>Development on land within or adjacent to nature conservation target area will not support targets. The cumulative effects of all housing allocations within Oxfordshire, can lead to detrimental impacts on SAC's from air quality and water use resources and pollution.</p> <p><b>Likelihood:</b> High  <b>Scale:</b> Regional  <b>Temp or perm:</b> Perm  <b>Timing:</b> Short to long term  <b>Significance of effect:</b></p>			
	✓✓	?	x	xx
8. To improve efficiency in land use and to conserve and enhance the district's open spaces and countryside in particular, those areas designated for their landscape importance, minerals, biodiversity and soil quality.	<p>All sites are currently within the Green Belt. The local Green Belt study Sept 2014 has been undertaken and the recommendations include:</p> <p>CSC inclusive of the Culham No.1 Site is suggested to be inset. The inset boundary has been drawn around the most densely developed core, access road and lower density edges. The boundaries are predominantly defined by roads and the edge of the railway line with intermitted blocks of woodland and tree belts adjacent, resulting in <b>significant positive effects</b>. Please see 'Local Green Belt Study for South Oxfordshire District Council Final Report Sept 2015' for further information. Development at C1 will result in efficient use of brownfield land.</p> <p><b>Landscape Capacity Assessment:</b>  <b>C1 : Culham No 1 Site description:</b>  The site is a former MOD facility now in use as a business / light industrial park and located between the Culham Science Centre and the mainline railway. Much of the site is developed with office buildings and hangars, with parking and external storage areas in between and managed</p>			

SA Objectives	C 1	C 2	C 3	C 4
		<p>grassland with some individual trees forming the landscape setting, particularly at the southern end, which has no buildings. The site is accessed from the Abingdon Road to the south.</p> <p><b>Potential capacity of site</b> A full detailed landscape and visual impact assessment will be required to inform the final capacity of the site.</p> <p><b>C2 Land north of Culham No. 1 Site description:</b> The site is a small area of scrub / grassland north of the former MOD facility now in use as a business / light industrial park with the Culham Science Centre to the east and the mainline railway forming the western boundary. The northern area of the site contains a number of pylons. The site has no direct road frontage but can be accessed via Culham No 1 site from the Abingdon Road to the south. Thame Lane defines the site's eastern boundary.</p> <p><b>Key landscape planning factors:</b> The site is within the Oxford Green Belt. The Local Green Belt Study for South Oxfordshire District Council (September 2015) recommended that Culham Science Park be inset. The inset boundary drawn around the 'most densely developed core, access road and lower density edges'. The site was not included in this revised inset. The general area, including the open land to the west of the site, was felt to have some role in separating Culham Science Park and Culham village. In combination with other land parcels the general area is described as contributing to the historic open landscape setting south of Oxford. The northern area of the site was included in a wider area described as being linked to the Nuneham Park parkland to the north and links to the Thames corridor to the north-west.</p> <p>A full detailed landscape and visual impact assessment will be required to inform the final capacity of the site. Potential <b>negative effects</b> are identified as well as <b>uncertain</b> effects, the implementation of mitigation including a LVIA may reduce the negative effects and uncertain effects identified.</p> <p>The field to the west of the CSC beyond the railway line (<b>included in C3 &amp; C4</b>) could provide a potential area for expansion. However the area's openness and degraded field boundaries means it is vulnerable to the perception of encroachment into open countryside and would require reinforcement planting. Expansion into this field would also result in a westwards expansion of</p>		



SA Objectives	C 1	C 2	C 3	C 4
	<p>built form towards Culham village. It is will be important to avoid the perception of the settlements merging. Resulting in potential <b>negative effects</b> if development were to occur.</p> <p>The surrounding land contributes to the separation of nearby settlements particularly of Clifton Hampden Burcot and the CSC. (C4) The semi enclosed farmland of the valley is a particular feature of the countryside of the area and is vulnerable to encroachment. Resulting in <b>significant negative effects</b>. (C4) without the implementation of mitigation.</p> <p><b>Culham Area B &amp; C Site description:</b>  The site comprises a number of large to small arable fields divided by tracks/roads and hedgerows and an area of paddocks and grassland in the north east area. The fields are flat to gently undulating, rising to Culham Hill to the north-west. The eastern boundary is formed by the mainline railway with the former MOD facility (Culham No 1 - now in use as a business / light industrial park) beyond. To the north the land falls to the River Thames and to the east the site abuts a school and further arable fields and woodland. The site is accessed from the Abingdon Road to the south and Thame Lane to the west.</p> <p><b>Key landscape planning factors:</b>  The site is within the Oxford Green Belt. The Local Green Belt Study for South Oxfordshire District Council (September 2015) recommended that Culham Science Park be inset. The inset boundary was drawn around the 'most densely developed core, access road and lower density edges'. The site was not included in this revised inset. The general area was felt to have some role in separating Culham Science Park and Culham village and the area to the west of the Culham Science Centre is noted as being particularly vulnerable to encroachment and already affected by the Culham Science Centre and the railway line. In combination with other land parcels the general area is described as contributing to the historic open landscape setting south of Oxford. The northern area of the site was included in a wider area described as being linked to the Nuneham Park parkland and links to the Thames corridor to the north-west.</p> <p><b>Culham Station</b>  There are sand and gravel resources in this area that may be covered by the mineral safeguarding policy in the emerging new Minerals and Waste Local Plan (Part 1 – Core Strategy policy M8).</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>There is a waste transfer/recycling facility at Culham No. 1 site and a radioactive waste facility at the Culham JET site which are both proposed to be safeguarded for waste management use by the waste management site safeguarding policy in the emerging new Minerals and Waste Local Plan (Part 1 – Core Strategy policy W11)</p> <p><b>Mitigation/enhancement:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Boundary trees and hedgerows contribute to the wider Green Belt and should be retained.</p> <p>Consider mitigation measures to reduce impact on tranquillity and It is important to avoid the perception of the settlements merging.</p> <p>A full detailed landscape and visual impact assessment to inform the final capacity of the sites.</p> <p>Ensure phasing of development occurs to reduce noise impacts.</p> <p>Encourage the use of permeable surfaces and SuDS.</p> <p>Consult with Oxfordshire County Council, reference waste and minerals safeguarding policies.</p> <p><b>Cumulative effects</b>  Without mitigation the cumulative and long term effects will be negative towards this objectives landscape importance.</p> <p><b>Likelihood:</b>  High</p> <p><b>Scale:</b>  District wide</p> <p><b>Temp or perm:</b></p>			

SA Objectives	C 1	C 2	C 3	C 4
	Perm <b>Timing:</b> Short to long term <b>Significance of effect:</b> Significant.			
9 To conserve and enhance the district's historic environment including archaeological resources and to ensure that new development is of a high quality design and reinforces local distinctiveness.	C1	C2	C3	C4
	0	?	0	?
	<p>Clifton Hampden and its open, rural setting form part of a historic settlement pattern that contributes to the character of the setting of historic Oxford City. Resulting in <b>potential negative effects</b> if development were to occur (C4) without the implementation of mitigation.</p> <p>Culham station and Culham station over bridge are Grade 11 listed. Thame Lane Bridge at the north west corner of the site is Grade 11 listed. These would need to be protected to prevent negative effects.</p> <p>The Council will ensure that all new development complies with the South Oxfordshire Design Guide. Which will require high quality design and materials, sensitive building heights and would consider the impact on the historic environment.</p> <p>There are known archaeological constraints. A predetermination archaeological desk-based assessment and evaluation would reduce the <b>uncertainties</b> identified.</p> <p>Historic England consultation comments: The present site was planned and built as a whole and the layout also successfully retained the ghost of the wartime airfield. We would prefer to see any redevelopment and intensification at the CSC essentially retain this layout and open character of the airfield and later research centre.</p> <p><b>Mitigation</b></p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p><b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>A predetermination archaeological desk-based assessment and evaluation should be undertaken to establish a suitable and appropriate level of mitigation if required.</p> <p>Continue to consult Historic England to inform the masterplan development.</p> <p><b>Cumulative effects</b></p> <p>The district's historic environment including archaeological resources may be lost or damaged from any development.</p> <p><b>Likelihood:</b> High</p> <p><b>Scale:</b> District</p> <p><b>Temp or perm:</b> Perm</p> <p><b>Timing:</b> Short to long term</p> <p><b>Significance of effect:</b> Significant.</p>			
10 To seek to address the causes and effects of climate change by: a) securing sustainable building practices which conserve energy, water resources and materials; b) protecting, enhancing and improving our water supply where possible	C1	C2	C3	C4
	✓	x	✓	x
	<p>New development offers the opportunity to implement sustainable design principles, which will result in <b>positive effects</b>.</p> <p>South Oxfordshire is in an area of water stress. Additional dwellings will put pressure on resource use including: energy, water capacity and sewage capacity, resulting in potential <b>negative effects</b>, however it is assumed that sustainable design principles will be implemented.</p> <p><b>Mitigation:</b></p>			

SA Objectives	C 1	C 2	C 3	C 4
<p>c) maximizing the proportion of energy generated from renewable sources; and</p> <p>d) ensuring that the design and location of new development is resilient to the effects of climate change.</p>	<p><b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Include SUDS in all designs.</p> <p>Promote sustainable building practices which conserve energy, water resources and materials.</p> <p>Consider implementing decentralised energy. For example: CHP</p> <p>Continue to work with Thames water to ensure water and sewage capacity is maintained.</p> <p><b>Cumulative effects</b>  Development will not be sustainable in the long term as resource use continues.  Lack of appropriate sewage capacity will result in pollution.  <b>Likelihood:</b>  High  <b>Scale:</b>  District  <b>Temp or perm:</b>  Perm  <b>Timing:</b>  Short to long term  <b>Significance of effect:</b>  Significant.</p>			
11 To reduce the risk of, and damage from, flooding.	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>
	✓ x	✓ x	✓ x	✓ x
	The site is previously development land	Part of the site is brownfield land and	The site is not within a flood zone 2 or 3	Any removal of greenfield land is likely to increase hard

SA Objectives	C 1	C 2	C 3	C 4
	<p>The site is not within a flood zone.</p> <p>There is high chance of flooding from surface water, the sites lies within a nitrate vulnerability zone and groundwater /water protection zone.</p>	<p>the northern section is greenfield land</p> <p>Any removal of greenfield land is likely to increase hard surfaces, which can result in surface water flooding.</p> <p>The site is not within a flood zone.</p> <p>There is high chance of flooding from surface water, the sites lies within a nitrate vulnerability zone and groundwater /water protection zone.</p>	<p>There is high chance of flooding from surface water, the sites lies within a nitrate vulnerability zone and groundwater /water protection zone.</p>	<p>surfaces, which can result in surface water flooding.</p> <p>This option includes the removal of more greenfield land, than the other 3 options.</p> <p>The northern edge of the extended area northwest of the railway (C) is within flood zone 3.</p> <p>There is high chance of flooding from surface water, the sites lies within a nitrate vulnerability zone and groundwater /water protection zone.</p>
	<p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>No development should occur in floodzone 2 or 3.</p> <p>A FRA would be required for all strategic development sites.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>Encourage green infrastructure schemes; these are beneficial to flood prevention and resilience to climate change.</p> <p>Include SUDS in all designs.</p> <p><b>Cumulative effects</b> Development will not be sustainable in the long term if the development is not resilient to flood risk and climate change.</p> <p><b>Likelihood:</b> High</p> <p><b>Scale:</b> District</p> <p><b>Temp or perm:</b> Perm</p> <p><b>Timing:</b> Short to long term</p> <p><b>Significance of effect:</b> Low Significant.</p>			
12 To seek to minimise waste generation and encourage the reuse of waste through recycling, compost, or energy recovery.	C1	C2	C3	C4
	x	x	x	x
	<p>The development of new housing, will lead to construction and demolition waste being produced.</p> <p><b>Mitigation:</b> The Site Waste Management Plans Regulations (2008) were repealed on 1 December 2013. Although no longer a regulatory requirement in England, SWMPs are still considered to be good practice</p> <p><b>Cumulative effects</b> Without the reuse of construction and demolition waste, this waste will continue to be disposed of at landfill, this has long term negative impacts on land and resource use.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<b>Likelihood:</b> High <b>Scale:</b> District <b>Temp or perm:</b> Perm <b>Timing:</b> Short to long term <b>Significance of effect:</b> Significant.			
13 To assist in the development of: a) high and stable levels of employment and facilitating inward investment; b) a strong, innovative and knowledge-based economy that deliver high-value-added, sustainable, low-impact activities; c) small firms, particularly those that maintain and enhance the rural economy; and d) thriving economies in market towns and villages	✓	x	✓	x
	<p>Additional housing will increase the population which may maintain and enhance the rural economy, by supporting and enhancing the larger villages. The sites are situated 2.5 miles away from Culham Village and 1.4 miles from Clifton Hampden. Approximately 7.5 miles south of the edge of Oxford, 3.5 miles east of Abingdon and 6 miles north of Didcot. Oxford, Abingdon and Didcot are large towns with many facilities. Location of the site results in <b>significant positive effects</b>.</p> <p>All the sites assessed are located adjacent to the Culham Science Centre (CSC) which is part of Science Vale UK, CSC specialises in fusion research and hosts related enterprises. There are currently around 2,000 jobs on the CSC site. Location of the site results in <b>significant positive effects</b>.</p> <p>Didcot and Milton Park provide access to employment, Milton Park is approx. 4 miles away, buses run every 30 minutes and taken approx. 40 minutes each way. Didcot is 5 miles away, direct trains take 7 minutes but the service is infrequent. Wallingford is large town, approx. 8 miles away offers a range of employment opportunities and links with the concentration of environmental science organisations at nearby Crowmarsh Gifford; and Hithercroft Industrial Estate, the town's main employment area, resulting in potential <b>positive effects</b>. There regular trains to Reading and Oxford, resulting in <b>significant positive effects</b> due to access to sustainable transport.</p>			



SA Objectives	C 1	C 2	C 3	C 4
	<p>There are significant levels of dissatisfaction and frustration with current broadband provision in South Oxfordshire. The lack of adequate broadband services has a direct impact on local businesses and the economy and hence there is a need for fast and reliable access to the internet and mobile phone communications.</p> <p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Ensure any loss of employment land is replaced or integrated within the residential development.</p> <p>Encourage local work force and on the job skill training and ensure access and infrastructure is provided.</p> <p>Encourage green and eco technologies, this will lead to an increase in skills locally and assist in developing new businesses.</p> <p>Work with service providers to ensure a fast and reliable access to the internet and mobile phone communications is provided through-out the district.</p> <p><b>Cumulative effects</b>  Long term positive effects towards employment if mitigation is applied.</p> <p><b>Likelihood:</b>  High</p> <p><b>Scale:</b>  District</p> <p><b>Temp or perm:</b>  Perm</p> <p><b>Timing:</b>  Short to long term</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<b>Significance of effect:</b> Significant.			
14 To support the development of Science Vale as an internationally recognised innovation and enterprise zone by: a) attracting new high value businesses; b) supporting innovation and enterprise; c) delivering new jobs; d) supporting and accelerating the delivery of new homes; and e) developing and improving infrastructure across the Science Vale area.	C1	C2	C3	C4
	✓	x	✓	x
	<p>All the sites assessed are located adjacent to the Culham Science Centre (CSC) which is part of Science Vale UK, CSC specialises in fusion research and hosts related enterprises. There are currently around 2,000 jobs on the CSC site. The sites are situated 2.5 miles away from Culham Village and 1.4 miles from Clifton Hampden. Approximately 7.5 miles south of the edge of Oxford, 3.5 miles east of Abingdon and 6 miles north of Didcot. Oxford, Abingdon and Didcot are large towns with many facilities. Location of the site results in <b>significant positive effects</b>.</p> <p><b>Policy CSEM3</b> in the Core Strategy states: ‘<i>Culham Science Centre The redevelopment and intensification of Culham Science Centre for research and science based businesses will be supported. Proposals for redevelopment and the intensification of uses with the creation of about 1,000 new jobs will be supported. We will work proactively with Culham to develop an agreed masterplan that facilitates this growth.</i>’</p> <p>Due to the location of the CSC, many on-site facilities have been established in order to meet the demands of the resident workforce and visitors. The following amenities are available:</p> <ul style="list-style-type: none"> <li>• Staff Restaurant</li> <li>• 2 Site Shops</li> <li>• Children’s Day Nursery</li> <li>• Conference Centre</li> <li>• Lecture Theatre</li> <li>• Sports Facilities</li> <li>• Coffee Shop</li> <li>• Cash Machine</li> </ul>			

SA Objectives	C 1	C 2	C 3	C 4
	<ul style="list-style-type: none"> <li>Publications, printing and reprographic services</li> </ul> <p>All the options require the use of Culham No. 1 site for housing, which may result in the loss of employment land. Resulting in <b>negative effects</b>. The inclusion additional land combined with Culham No1, will provide opportunity's to develop services and facilities alongside new housing for new residents and may reduce negative impacts identified.</p> <p>Additional land for development could provide further employment opportunities and prevent the loss of existing employment opportunities at the Culham No 1 site.</p> <p>There are significant levels of dissatisfaction and frustration with current broadband provision in South Oxfordshire. The lack of adequate broadband services has a direct impact on local businesses and the economy and hence there is a need for fast and reliable access to the internet and mobile phone communications.</p> <p>See also the information above in objective 13.</p> <p><b>Mitigation:</b>  <b>The negative effects identified above could be improved by the addition of mitigation, positive effects could also be enhanced.</b></p> <p>Development at Culham No.1 site: Ensure any loss of employment land is replaced or integrated within the residential development.</p> <p>Encourage local work force and on the job skill training and ensure access and infrastructure is provided.</p> <p>Encourage green and eco technologies, this will lead to an increase in skills locally and assist in developing new businesses.</p>			

SA Objectives	C 1	C 2	C 3	C 4
	<p>Work with service providers to ensure a fast and reliable access to the internet and mobile phone communications is provided through-out the district.</p> <p><b>Cumulative effects</b>  Long term positive effects towards employment if mitigation is applied.  <b>Likelihood:</b>  High  <b>Scale:</b>  District  <b>Temp or perm:</b>  Perm  <b>Timing:</b>  Short to long term  <b>Significance of effect:</b>  Significant.</p>			
15 To assist in the development of a skilled workforce to support the long term competitiveness of the district by raising education achievement levels and encouraging the development of the skills needed for everyone to find and remain in work.	0	0	0	0
	No Direct Impact	No Direct Impact	No Direct Impact	No Direct Impact
16 To encourage the development of a buoyant, sustainable tourism sector.	0	0	0	0
	No Direct Impact	No Direct Impact	No Direct Impact	No Direct Impact
	✓	✓	✓	✓

SA Objectives	C 1	C 2	C 3	C 4
<p>17 Support community involvement in decisions affecting them and enable communities to provide local services and solutions.</p>	<p>The Council has involved the community in the decision making process.</p> <p><b>Mitigation:</b> Continue to work with the local community.</p>	<p>The Council has involved the community in the decision making process.</p> <p><b>Mitigation:</b> Continue to work with the local community.</p>	<p>The Council has involved the community in the decision making process.</p> <p><b>Mitigation:</b> Continue to work with the local community.</p>	<p>The Council has involved the community in the decision making process.</p> <p><b>Mitigation:</b> Continue to work with the local community.</p>