Transport Research Laboratory
Creating the future of transport



CLIENT PROJECT REPORT CPR2103

Oxfordshire Minerals and Waste Local Plan: Core Strategy

Sustainability Appraisal of the Proposed Submission Document

Appendix D: Assessment of Policies

August 2015

Contents

Appendix D Assessment Matrices

The following tables outline the symbology and abbreviations used to document the results of the assessment process.

D.1 Assessment Key

The results of the assessment utilise the following key to categorise the nature of the effect.

Significance Assessment	Description
++	The option is likely to have a significant positive effect
+	The option is likely to have a positive effect which is not significant
0	No effect / no clear link
?	Uncertain or insufficient information on which to determine effect
-	The option is likely to have a negative effect which is not significant
- -	The option is likely to have a significant negative effect
+/-	The option is likely to have some positive and some negative effects

Duration of effect	
Short Term	0-5 years
Medium Term	5 years to end of Plan period in 2031
Long Term	After life of plan (post 2031)

Reversibility		
Symbol	Meaning	Comment
R	Reversible effect	Environmental effect that can be reversed, for example an incident of water pollution can be cleaned up over time.
I	Irreversible effect	Environmental effect that cannot be reversed such as the loss of a historic feature or the loss of agricultural soil due to permanent development.

Scale		
Symbol	Meaning	Comment
L	Local	Within Oxfordshire Local Authority areas
R	Regional	Oxfordshire and surrounding counties
N	National	UK or a wider global impact

Permanence		
Symbol	Meaning	Comment
P	Permanent	Effect even after mineral and waste activities have ceased
T	Temporary	Effect during mineral and waste activities

The table below outlines the Sustainability Objectives that have been used to focus the assessment process and details the reference term which is used in the assessment tables for the sake of brevity. The full framework of objectives and associated sub-objectives can be found in the main SA Report.

SA Objective		**Reference Term**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geological diversity including natural habitats, flora and fauna and protected species	Biodiversity & geodiversity
2a	To protect and enhance landscape character and local distinctiveness	Landscape
2b	To conserve and enhance the historic environment, heritage assets and their settings	Historic environment
3	To maintain and improve ground and surface water quality	Water quality
4	To improve and maintain air quality to levels which do not damage natural systems	Air quality
5	To reduce greenhouse gas emissions to reduce the cause of climate change	Greenhouse gas emissions
6	To reduce the risk of flooding	Flood risk
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network	Transport effects
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities	Population and health
9	To protect, improve and where necessary restore land and soil quality	Soils
10	To contribute towards moving up the waste hierarchy in Oxfordshire	Waste hierarchy
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	Self-sufficiency
12	To support Oxfordshire's economic growth and reduce disparities across the County	Economic growth

D1. Minerals Planning Strategy

Policy M1: Recycled and Secondary Aggregate

So far as is practicable, the need for aggregate mineral supply to meet demand in Oxfordshire should be met from recycled and secondary aggregate materials in preference to primary aggregates, in order to minimise the need to work primary aggregates.

The production and supply of recycled and secondary aggregate will be encouraged, in particular through:

- Recycling of construction, demolition and excavation waste;
- Recycling of road planings;
- Recycling of rail ballast;
- Recovery of ash from combustion processes; and
- where available, the supply of secondary aggregates from sources outside Oxfordshire;

to enable the contribution made by these materials towards meeting the need for aggregates in Oxfordshire to be maximised.

Where practicable, the transport of recycled and secondary aggregate materials from sources distant to Oxfordshire should be by rail.

Permission will be granted for facilities for the production and/or supply of recycled and secondary aggregate, including temporary recycled aggregate facilities at aggregate quarries and inert waste landfill sites, at locations that meet the criteria in polices W4, W5 and C1 – C11. Proposals for temporary facilities shall provide for the satisfactory removal of the facility. At mineral working and landfill sites the facility shall be removed when or before the host activity ceases. Temporary facility sites shall be restored in accordance with the requirements of policy M10 for restoration of mineral workings.

Sites for the production and/or supply of recycled and secondary aggregate will be safeguarded in accordance with policy W11.

Sites proposed or safeguarded for the production and/or supply of recycled and secondary aggregate will be identified in the Minerals & Waste Local Plan: Part 2 – Site Allocations Document.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	Prioritising the use of recycled and secondary aggregates should have a positive effect on this objective by reducing the land-take for extraction and thereby protecting/maintaining biodiversity and geodiversity in those areas where primary minerals would otherwise be won. The facilities for processing such aggregates are often located in existing quarries/landfills, and so are unlikely to compromise any new areas. The nature of effects will be dependent on the location of facilities. The requirements of Core Policy C7 will ensure that effects on biodiversity and geodiversity from processing secondary and recycled aggregates are avoided or mitigated.
2a	Landscape	+	+	+	R	L	T	By reducing the need for primary extraction landscape and visual impacts in those areas where primary minerals would otherwise be won will be reduced or avoided. The facilities for processing recycled and secondary aggregates are often located in existing quarries/landfills, and so are unlikely to impact on any new areas. The nature of effects will be dependent on the location of facilities. The requirements in the policy for the removal of temporary facilities will help to protect landscapes in the medium to long-term. The requirements of Core Policy C8 will ensure that effects on landscape from processing secondary and recycled aggregates are avoided or mitigated.
2b	Historic environment	+	+	+	I	L	P	By reducing the need for primary extraction the effect on the historic environment will be reduced or avoided. The facilities for processing recycled and secondary aggregates are often located in existing quarries/landfills, and so are unlikely to impact on any new areas. The nature of effects will be dependent on the location of facilities. The requirements of Core Policy C9 will ensure that effects on the historic environment and archaeology from processing secondary and recycled aggregates are avoided or mitigated.
3	Water quality	+	+	+	R	L	T	The effects on the water environment that could otherwise result from primary extraction will be reduced or avoided if less such extraction is required. The nature of effects will be dependent on the location of facilities for processing recycled and secondary aggregates. The requirements of Core Policy C4 will ensure that effects on the water environment from processing recycled and secondary aggregates are avoided or mitigated.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	?	?	?				Effects on air quality will be dependent on the changes in the number of vehicle movements that would result from increasing the use of recycled and secondary aggregates and also on the location of the processing facilities in relation to local populations, which could be affected by dust. The requirements of Core Policies C5 and C10 will ensure that adverse effects associated with air quality will be mitigated.
5	Greenhouse gas emissions	?	?	?				Less extraction of primary aggregates may reduce greenhouse gas emissions from this source. However greenhouse gas emissions will be produced during the processing and distribution of recycled and secondary aggregates and these emissions can be as high as those from extracting primary materials. The main factor affecting the level of emissions is transport distances. Emissions may therefore be reduced if recycled and secondary aggregate processing sites are located closer to the site in which the aggregate is needed than the primary extraction site, reducing transportation distances and subsequently reducing greenhouse gas emissions. Temporary mobile recycling units for example have the advantage of locating close to the source/end point, potentially even on the construction site, resulting in no additional emissions from transportation of materials. Importing secondary and recycled aggregates from outside Oxfordshire could exacerbate transport effects. The policy does however encourage the use of rail for these imported resources. The requirements of Core Policy C2 and C10 will help to reduce the greenhouse gas emissions resulting from the use of recycled and secondary aggregates.
6	Flood risk	?	?	?				The nature of any adverse effects will depend to a large extent on the location of sites for recycled and secondary aggregates. Core Policy C3 will ensure that the siting of new facilities does not increase flood risk.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
7	Transport effects	?	?	?				The nature of any adverse effects will depend to a large extent on the location of sites for recycled and secondary aggregate facilities and the application of the common core policies to any individual applications for production of recycled and secondary aggregates and in particular the planned location of such facilities in relation to the markets/end use sites. Where these facilities exist in close proximity to active mineral workings there could be cumulative effects without appropriate mitigation. Many of the active temporary and permanent recycled and secondary aggregate facilities are located at existing quarries and landfill sites so effects on the local road network are likely to be similar as for primary aggregates, depending on the volumes of material moved and potential for backfilling. Importing secondary and recycled aggregates from outside Oxfordshire could exacerbate transport effects. The policy does however encourage the use of rail for these imported resources. Temporary mobile units have the advantage of locating close to the source/end point, reducing transportation distances and subsequently effects on the strategic road network. Core Policy C10 will help to reduce any negative effects related to the transport of recycled and secondary aggregates.
8	Population and health	?	?	?				The nature of any adverse impacts will depend to a large extent on the location of sites for recycled and secondary aggregate facilities and the application of the common core policies to any individual applications for production of recycled and secondary aggregates and in particular the planned location of such facilities in relation to local communities. Many of the active temporary and permanent recycled and secondary aggregate facilities are located at existing quarries and landfill sites so adverse effects on the local communities are likely to be similar to the winning of primary aggregates, depending on the volumes of material moved and potential for backfilling. Core Policy C5 will help to reduce any adverse effects on local communities.
9	Soils	+	+	+	I	L	P	By reducing the need for primary extraction the effects on the soils will be avoided in those areas where primary minerals would otherwise be won. The facilities for processing recycled and secondary aggregates are often located in existing quarries/landfills, and so are unlikely to impact on any new areas. The nature of effects will be dependent on the location of facilities. The requirements of Core Policy C6 will ensure that effects on soils from processing secondary and recycled aggregates are avoided or mitigated.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
10	Waste hierarchy	+	++	++	R	L	P	The policy encourages use of secondary and recycled aggregates which might otherwise be disposed of to landfill, so should have a significant positive effect in relation to this SA objective.
11	Self-sufficiency	+	+	+	R	L	P	By encouraging the production and supply of recycled and secondary aggregate this policy makes a positive contribution to Oxfordshire's local needs for aggregates. It also helps to achieve self-sufficiency in waste management.
12	Economic growth	+	+	+	R	L	P	Encouraging the production and supply of recycled and secondary aggregate will support Oxfordshire's economic growth over the long term and in particular growth of the local economy. Recycling facilities are often located at existing quarries and landfills, thus continuing to support local jobs and businesses. Any new sites could also potentially increase local jobs and support local business.
Summary of Assessment and Mitigation Measures		Policy M1 seeks to maximise the contribution to aggregate supply from recycled and secondary aggregates. In so doing the policy will reduce the amount of waste being generated and will therefore have a significant positive effect in relation to SA10. Production of secondary/recycled aggregates is recognised as having environmental effects broadly similar to those caused by processing of primary aggregates. The nature of any adverse effects will depend to a large extent on the exact location of sites for secondary and recycled aggregates. If these facilities exist in close proximity to active mineral workings there could be negative cumulative effects upon nearby receptors from increased traffic bringing material to sites and effects such as noise and dust which would need to be considered at the planning application stage. The adverse effects arising from the operation of temporary mobile units associated with individual developments are likely to be temporary and of a more local nature than from those facilities which hold long term consents. The application of the common core policies to any individual applications should assist in mitigating any adverse effects. The policy will support Oxfordshire's economic growth over the long term and in particular growth of the local economy, as recycling facilities are often located at existing quarries and landfills, thus continuing to support local jobs and businesses. Any new sites could also potentially increase local jobs and support local business. By encouraging the production and supply of recycled and secondary aggregate this policy makes a positive contribution to Oxfordshire's local needs for aggregates. It also helps to achieve self-sufficiency in waste management. This supports SA11, self-sufficiency.						

Policy M2: Provision for working aggregate minerals

Provision will be made through policies M3 and M4 to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment throughout the period to the end of 2031.

Permission will be granted for aggregate mineral working under policy M5 to enable separate landbanks of reserves with planning permission to be maintained for the extraction of minerals of:

- at least 7 years for sharp sand and gravel;
- at least 7 years for soft sand;
- at least 10 years for crushed rock;

in accordance with the annual requirement rate in the most recent Local Aggregate Assessment.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects cannot be judged on the LAA provision figure alone. They depend on the location and distribution of mineral working sites which make up the provision – as appraised in Policy M3. There is also uncertainty as to when sites in the landbank will be brought forward for extraction. In recent years, the recession has caused working of existing sites to be extended and implementation of new permissions to be delayed. Uncertain effects have therefore been identified.
2a	Landscape	?	?	?				As above
2b	Historic environment	?	?	?				As above
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	+	+	+	R	N	P	Enabling Oxfordshire to meet the aggregate requirements set out in the LAA will avoid the need to import aggregates into the County, with associated benefits in terms of reducing growth in greenhouse gas emissions.
6	Flood risk	?	?	?				See SA1
7	Transport effects	+	+	+	R	L	P	Enabling Oxfordshire to meet the aggregate requirements set out in the LAA will avoid the need to import aggregates into the County, with associated benefits in terms of reducing the amount of long-distance aggregate transport.
8	Population and health	+/?	+/?	+/?	R	L	P	Effects will be dependent on the sites chosen for aggregate extraction and their proximity to local communities. Enabling Oxfordshire to meet the aggregate requirements set out in the LAA will provide the potential for restoration projects that could enhance access to the countryside which would be of benefit to local communities.
9	Soils	?	?	?				See SA1
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	+	++	++	R	L	P	The policy makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment.
12	Economic growth	+	+	+	R	L	P	The policy makes provision for aggregate supply to support economic growth. Basing the provision on the requirements in the most recent LAA, as opposed to a fixed amount for the plan period, provides the flexibility for extraction to be increased if demand exists, thereby supporting economic growth objectives.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	The effects which might arise from a particular volume of mineral working in the County are difficult to predict based on the figures within the LAA alone, as it is the spatial implications, i.e. the location and distribution of mineral working sites which will mainly determine the effects. The proposed spatial distribution of this is appraised through Policy M3. There is also uncertainty as to when sites in the landbank will be brought forward for extraction. In recent years, the recession has caused working of existing sites to be extended and implementation of new permissions to be delayed. As a result uncertain effects have been identified for many of the SA objectives. The policy makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment. Significant positive effects have therefore been identified for SA11. Basing the provision on the requirements in the most recent LAA, as opposed to a fixed amount for the plan period, provides the flexibility for extraction to be increased if demand exists, thereby supporting economic growth objectives. It is however recognised that effects in the longer term are more uncertain i.e. sites chosen to deliver the strategy may not come forward and other sites which may or may not be more constrained might then be needed. This uncertainty would be addressed through policy monitoring and the implementation of the common core policies when planning applications come forward. Enabling Oxfordshire to meet the aggregate requirements set out in the LAA will avoid the need to import aggregates into the County, with associated benefits in terms of reducing growth in greenhouse gas emissions (SA5) and reducing long-distance transport effects (SA7).						

Policy M3: Principal locations for working aggregate minerals

The principal locations for aggregate minerals extraction will be within the following strategic resource areas, as indicated on the Minerals Key Diagram:

Sharp sand and gravel

- The Thames, Lower Windrush and Lower Evenlode Valleys area from Standlake to Yarnton;
- The Thames and Lower Thame Valleys area from Oxford to Cholsey;
- The Thames Valley area from Caversham to Shiplake.

Soft sand

- The Corallian Ridge area from Oxford to Faringdon;
- The Duns Tew area.

Crushed rock

- The area north west of Bicester;
- The Burford area south of the A40;
- The area east and south east of Faringdon.

Specific sites for working aggregate minerals will be identified within these strategic resource areas in the Minerals & Waste Local Plan: Part 2 – Site Allocations Document.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+/-	+/-	+/-	I	L	P	Some of the Strategic Resource Areas (SRAs) contain areas designated as SSSIs and in addition there are SACs and SSSIs that are in close proximity to SRAs. However criteria within policies M4, M10 and Core Policy C7 will ensure that these designated sites are not adversely affected by mineral extraction. In particular Policy M4 includes requirements to protect the integrity of the Oxford Meadows SAC and the Cothill Fen SAC. The Habitats Regulations Assessment screening report has concluded a finding of no likely significant effect on these sites. There are also Conservation Target Areas associated with SRAs. The main aim within CTAs is to restore biodiversity at a landscape-scale through maintenance, restoration and creation of BAP priority habitats. When working ceases in these areas there is potential for restoration schemes to contribute positively to the planned restoration and habitat creation at a large-scale, which would have significant beneficial cumulative effects for biodiversity. However, these benefits would not be felt until the very long-term as it is likely to take years before the restoration plans are implemented. During the period of active working adverse effects are more likely.
2a	Landscape	-/?	-/?	-/?	I	L	P	Some of the Strategic Resource Areas (SRAs) are in close proximity to AONBs and mineral working in these areas could therefore give rise to adverse effects on the setting of the AONBs in the short to medium term. Working in all the SRAs has the potential for negative effects on local landscape character, however criteria within policies M4, and Core Policy C8 will ensure that any adverse effects are minimised.
2b	Historic environment	-/?	-/?	-/?	I	L	P	The SRAs contain or are in close proximity to a range of heritage assets, including Scheduled Ancient Monuments, Registered Parks & Gardens and Listed Buildings. There are also significant archaeological constraints, particularly in the Lower Windrush Valley. Minerals extraction in these areas could result in adverse effects to the heritage assets, however criteria within policies M4, and Core Policy C9 will ensure that any adverse effects are minimised.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
3	Water quality	+/-	+/-	+/-	I	L	P	There is potential for adverse effects on surface and ground water in the SRAs as a result of mineral workings. Effects may include the modification of surface flows to watercourses or existing ponds, and alteration of groundwater seepages, flushes or spring flows. There is potential for cumulative negative effects on ground water flow as a result of concentration of mineral workings within one area. Policy M4 includes requirements to protect the integrity of the Oxford Meadows SAC and the Cothill Fen SAC. These requirements should have a positive effect on the water quality objective for the water bodies associated with these SACs.
4	Air quality	0	0	0				There is potential for air pollution associated with HGV movements in all the identified areas for working over the lifetime of the working permissions and into the restoration period. However these effects would result wherever minerals are extracted and therefore neutral effects are identified for this policy. Policy C5 should help to mitigate any adverse effects.
5	Greenhouse gas emissions	+	+	+	R	N	P	Greenhouse gas emissions associated with extraction, processing and HGV movements would result wherever minerals are extracted. The distribution of SRAs across the County will help to reduce the transportation distances for minerals and so minor positive effects are predicted for this objective.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
6	Flood risk	**0**	**+**	**+**	**I**	**L**	**P**	Some parts of the SRAs for sharp sand and gravel lie within high flood risk zones (e.g. SRAs 4, 5 and 6 along the Thames Valley). The Environment Agency (EA) requires that development should be avoided in the floodplain where possible and requires the sequential and (where appropriate), the exception tests to be applied. The requirement to apply these tests is explicitly included in common core Policy C3: Flooding. Sand and gravel extraction is considered to be compatible development but the sequential test is still applied to the assessment of these areas as flooding may cause damage, disruption and loss of earnings to this type of development. For example, supporting infrastructure would be at risk from flooding and should be located away from the high risk areas. Extraction of minerals in these areas could offer opportunities to increase flood storage capacity, thereby reducing the risk of flooding in these areas. Most soft sand SRAs lie outside flood risk zones 2 and 3. Where there is potential for flooding, mitigation measures including the sequential test will be required before site allocation of supporting infrastructure. The requirement to apply these tests is now explicitly included in Policy C3: Flooding. None of the SRAs for crushed rock lie within areas of high flood risk.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
7	Transport effects	-	-	-	R	L	P	Continued and concentrated working in the existing areas is likely to result in cumulative effects in terms of congestion, road maintenance and safety. However, mitigation measures at the planning application stage can help reduce such effects where new planning permissions are sought. The plan intends to minimise the distance that minerals need to be transported by road, from quarry to market which would help to minimise negative effects in Oxfordshire and the wider area (e.g. Reading in relation to the SRA at Caversham). Any impact is likely to be greatest in the northern part of the County, particularly in West Oxfordshire and Cherwell districts where sharp sand and gravel production continues to be most concentrated. This may contribute to an increase traffic on the A40. Local effects should be addressed through the application of the common core policies in the Core Strategy and at the planning permission stage. It is not envisaged that soft sand working in any of the identified areas (which are existing areas of sand working) would lead to significant increases in HGV traffic. However, there is potential for some adverse effects from increased traffic on the local roads. Further assessment on access and suitability of roads to accommodate increased HGV traffic is recommended at the application stage. If crushed rock working continues at the current level (identified areas are existing limestone working areas), transport effects will remain as current. However, increased working in any one particular area has potential for negative cumulative effects on the road network and communities near the area. Careful consideration should be given to access and road capacities when considering sites for further working.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	-/?	-/?	+/?	I	L	P	The majority of the SRAs are associated with existing minerals working areas and therefore those communities that are currently adversely affected by mineral workings are expected to continue to experience adverse effects for the plan period and longer term. Once sites are fully worked out and restored, these adverse effects should be reduced, and over time there may even be positive permanent effects as a result of restoration initiatives. The degree and nature of effects will be dependent on mitigation measures put in place through new planning permissions, proximity to sensitive receptors and the duration of working. There may however also be future extraction in areas where local communities are not currently affected by minerals operations. There is potential for negative adverse effects on local communities near to any new minerals workings in the Thames Valley (SRAs 4, 5 and 6) as a result of dust, noise, disruption, adverse visual effects and traffic congestion. The extent of these adverse effects will depend on the mitigation measures put in place, proximity of workings to sensitive receptors and the duration of working – all of which will be addressed at the site specific level. Local effects should be addressed through the application of the common core policies in the Core Strategy at the planning permission stage.
9	Soils	+	+	+	I	L	P	There are extensive Conservation Target Areas within the SRAs. Other areas have potential for beneficial restoration effects depending on the preferred land uses. Restoration of sites is likely to lead to improved land and soil quality which would have an indirect positive effect on this objective.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	+	++	++	R	L	P	The policy (as with M2) makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
12	Economic growth	+	+	+	R	L	P	The SRAs for sharp sand and gravel extraction are well located in terms of proximity to the markets and provide potential for investment and job creation which supports the local economy and has a long term positive effect on this SA objective. Working in the SRAs for soft sand and crushed rock extraction provides some positive economic benefits and allows for use of existing infrastructure and networks. This policy also allows the current pattern of extraction of two different quality sands to be continued which has a positive economic benefit.
Summary of Assessment and Mitigation Measures		A significant positive effect was identified for this policy in the medium to long term for self-sufficiency (SA11), as the policy (like M2) makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire in order to meet the requirement identified in the most recent Local Aggregate Assessment. There are also other positive effects likely from this policy, as the extraction of minerals in these areas could offer opportunities to increase flood storage capacity, thereby reducing the risk of flooding in these areas (SA6). The SRAs for sharp sand and gravel extraction are also well located in terms of proximity to the markets and provide potential for investment and job creation which supports the SA12 (economic growth). The Strategic Resource Areas that are identified in Policy M3 for the extraction of sharp sand and gravel, soft sand and crushed rock have environmental constraints that could result in adverse effects against the objectives for biodiversity (SA1), landscape (SA2a), heritage assets (SA2b) and water (SA4). However the criteria in Policies M4, M10 and the common core policies will ensure that these effects are either avoided or mitigated. The extraction of minerals from the SRAs identified in the policy will inevitably result in some adverse effects on local communities, particularly through transportation effects in Oxfordshire and the wider area. However minerals can only be worked where they exist in the ground and therefore there is not the possibility of dispersing extraction across the County. The other policies in the Plan will help to mitigate adverse effects of extraction in the SRAs and will also seek to enhance the environment wherever possible, particularly through restoration activities. Restoration is predicted to have beneficial effects on the soils and 'population and health' objectives (SA8 and SA9).						

Policy M4: Sites for working aggregate minerals

Specific sites for working aggregate minerals within the strategic resource areas identified in policy M3, to meet the requirements set out in policy M2, will be allocated in the Minerals & Waste Local Plan: Part 2 – Site Allocations Document, in accordance with the following criteria:

a) consideration of the quantity and quality of the mineral resource;

b) achieving a change over the course of the plan period in the balance of production capacity for sharp sand & gravel between the strategic resource areas in western & southern Oxfordshire to more closely reflect the distribution of demand within the County;

c) priority for the extension of existing quarries, where environmentally acceptable (including taking into consideration criteria d) to m)) and after consideration of criterion b), before working new sites;

d) potential for restoration and after-use and for achieving the restoration objectives of the Plan in accordance with policy M10;

e) suitability & accessibility of the primary road network;

f) proximity to large towns and other locations of significant demand to enable a reduction in overall journey distance from quarry to market;

g) ability to provide more sustainable movement of excavated materials;

h) avoidance of locations within or significantly affecting an Area of Outstanding Natural Beauty;

i) avoidance of locations likely to have an adverse effect on sites and species of international nature conservation importance and Sites of Special Scientific Interest; in the case of locations within the Eynsham / Cassington / Yarnton part of the Thames, Lower Windrush and Lower Evenlode Valleys area, it must be demonstrated that there will be no change in water levels in the Oxford Meadows Special Area of Conservation and the proposal must not involve the working of land to the north or north east of the River Evenlode; in the case of locations within the Corallian Ridge area, it must be demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation;

j) avoidance of locations likely to have an adverse effect on designated heritage assets, including World Heritage Sites, Scheduled Monuments and Conservation Areas, or on archaeological assets which are demonstrably of equivalent significance to a scheduled monument;

k) avoidance of, or ability to suitably mitigate, potential significant adverse impacts on:

   i. locally designated areas of nature conservation and geological interest;

   ii. local landscape character;

   iii. water quality, water quantity, flood risk and groundwater flow;

   iv. agricultural land and soil resources;

v. local transport network;
vi. land uses sensitive to nuisance (e.g. schools & hospitals);
vii. residential amenity & human health; and
viii. character and setting of local settlements;

l) potential cumulative impact of successive and/or simultaneous mineral development, including with non-mineral development, on local communities;

m) ability to meet other objectives and policy expectations of this Plan (including policies C1 – C11) and relevant polices in other development plans.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	Through elements d), i) and k) of this policy, adverse effects on internationally, nationally and locally designated sites for nature conservation and geological interest sites will be avoided, or mitigated – in conjunction with Policy C7. By considering the potential for restoration when selecting sites (element d)), this provides an opportunity for providing biodiversity enhancements in the long-term. Policy M4 includes requirements to protect the integrity of the Oxford Meadows SAC and the Cothill Fen SAC.
2a	Landscape	+	+	+	I	L	P	Through this policy (elements h) and k)), adverse effects on nationally important landscapes, local landscape character and the character and setting of local settlements will be avoided, or mitigated – in conjunction with Policy C8.
2b	Historic environment	+	+	+	I	L	P	Through this policy (element j)), adverse effects on the County's most important designated heritage assets and undesignated archaeological assets will be avoided. Policy C9 provides additional mitigation.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
3	Water quality	+	+	+	I	L	P	Through this policy (element k)), adverse effects on water resources, including groundwater, will be avoided, or mitigated. Policy C4 provides additional mitigation. Policy M4 includes requirements to protect the integrity of the Oxford Meadows SAC and the Cothill Fen SAC. These requirements should have a positive effect on the water quality objective for the water bodies associated with these SACs.
4	Air quality	+	+	+	R	L	P	Through this policy (elements e), f) and k)), adverse effects on residential amenity and human health will be avoided, or mitigated. This will include effects relating to air quality. Policy C5 provides additional mitigation.
5	Greenhouse gas emissions	+	+	+	R	N	P	By more closely matching the supply of aggregates with the areas of most demand (element b)) and by seeking the more sustainable movement of excavated materials (element g)), the policy should result in reduced greenhouse gas emissions from transport.
6	Flood risk	+	+	+	I	L	P	Through this policy (element k)), adverse effects relating to flood risk will be avoided, or mitigated. Policy C3 provides additional mitigation.
7	Transport effects	+	+	+	R	L	P	Through this policy (elements e), f), and k)), adverse effects relating to transport will be avoided, or mitigated.
8	Population and health	+	+	+	I	L	P	Through this policy (elements e), k), and l)), adverse effects on residential amenity and human health, including cumulative impacts, will be avoided, or mitigated.
9	Soils	+	+	+	I	L	P	Through this policy (element k)), adverse effects on soil resources will be avoided, or mitigated.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	+	+	+	R	L	P	Element b) of this policy will support the local economy, through the location of sharp sand and gravel workings close to the demand areas in the County. This will have a positive effect on this objective.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	The criteria within Policy M4 will help to ensure that the adverse effects that are associated with working aggregate minerals will be reduced or avoided. Positive effects have therefore been predicted in relation to SA1 – SA9 inclusive. Element b) of this policy will support the local economy, through the location of sharp sand and gravel workings close to the demand areas in the County. This will have a positive effect on SA12.						

Policy M5: Working of Aggregate Minerals

Permission will be granted for the working of aggregate minerals within the sites allocated further to policy M4 provided that the requirements of polices C1 – C11 are met.

Permission will not be granted for the working of aggregate minerals outside the sites allocated further to policy M4 unless the requirement to maintain a steady supply of aggregate in accordance with policy M2 cannot be met from within those sites. The criteria in policy M4 will be taken into consideration in the determination of planning applications for aggregate minerals working in locations not allocated under policy M4.

Permission will exceptionally be granted for the working of aggregate minerals outside the sites allocated further to policy M4 where extraction of the mineral is required prior to a planned development in order to prevent the mineral resource being sterilised, having due regard to policies C1 – C11.

Prior to the adoption of the Minerals & Waste Local Plan: Part 2 – Site Allocations Document, permission will be granted for the working of aggregate minerals where this is required in order to maintain landbanks in accordance with policy M2 and taking into consideration the criteria in policy M4 and provided that the requirements of polices C1 – C11 are met.

Notwithstanding the preceding paragraph, permission for working of ironstone for aggregate use will not be permitted except in exchange for an agreed revocation (or other appropriate mechanism to ensure the non-working) without compensation of an equivalent existing permission in Oxfordshire containing potentially workable resources of ironstone and where there would be an overall environmental benefit.

NB: This Policy is largely procedural and will itself not result in direct effects against the majority of objectives. Effects relating to the allocation of sites have been assessed for Policies M3 and M4 and the assessment provided below is therefore focused on the effects that would result from extraction outside the allocated sites. The majority of these effects are uncertain as much will depend on the size and location of the sites involved.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C7 will provide mitigation.
2a	Landscape	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C8 will provide mitigation.
2b	Historic environment	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C9 will provide mitigation.
3	Water quality	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C4 will provide mitigation.
4	Air quality	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C5 will provide mitigation.
5	Greenhouse gas emissions	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C2 will provide mitigation.
6	Flood risk	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C3 will provide mitigation.
7	Transport effects	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C10 will provide mitigation.
8	Population and health	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C5 and C11 will provide mitigation.
9	Soils	?	?	?				Effects dependent on the location and on the type and scale of the operations. Core Policy C6 will provide mitigation.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	+	+	+	R	L	P	Allowing mineral extraction in certain cases where there is a need under Policy M2 and so that mineral sterilisation is avoided should help to prolong Oxfordshire's self-sufficiency in aggregate supply.
12	Economic growth	+	+	+	R	L	P	This policy will help support the local economy through enabling mineral extraction.
Summary of Assessment and Mitigation Measures		Policy M5 is largely procedural and will itself not result in direct effects against the majority of objectives. Effects relating to the allocation of sites have been assessed for Policies M3 and M4 and the assessment provided below is therefore focused on the effects that would result from extraction outside the allocated sites. The majority of these effects are uncertain as much will depend on the size and location of the sites involved. Positive effects have been identified for the SA objectives relating to self-sufficiency (SA11) and economic growth (SA12), as allowing mineral extraction in certain cases, so that needs identified under Policy M2 are met and mineral sterilisation is avoided, should help to prolong Oxfordshire's self-sufficiency in aggregate supply and support the local economy.						

Policy M6: Aggregates rail depots

The following rail depot sites are safeguarded for the importation of aggregate into Oxfordshire:

- Hennef Way, Banbury (existing facility);
- Kidlington (permitted replacement facility);
- Appleford Sidings, Sutton Courtenay (existing facility);
- Shipton on Cherwell Quarry (permitted facility);
- and any other aggregate rail depot sites which are permitted, as identified in the Annual Monitoring Report.

Permission will be granted for new aggregate rail depots at locations with suitable access to an advisory lorry route shown on the Oxfordshire Lorry Route Maps (policy C10) and that meet the criteria in polices C1 – C11.

Safeguarded rail depot sites will be identified in the Minerals & Waste Local Plan: Part 2 – Site Allocations Document.

Proposals for development that would directly prevent or prejudice the use of a safeguarded rail depot site for an aggregates rail depot will not be permitted unless:

- a suitable alternative rail depot site can be provided; or
- it can be demonstrated that there is no longer a need for the site to be safeguarded for aggregate rail depot use.

Proposals on land near to a safeguarded rail depot site for development sensitive to disturbance from, and which would indirectly prevent or prejudice the operation or establishment of, an aggregate rail depot at the safeguarded site will not be permitted unless:

- the development is in accordance with a site allocation for development in an adopted local plan or neighbourhood plan; or
- a suitable alternative aggregate rail depot site can be provided; or
- it can be demonstrated that the safeguarded rail depot site is no longer needed for Oxfordshire's aggregate supply requirements.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	0	0	+/?	I	L	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This may have more positive long term effects on biodiversity than transportation by road.
2a	Landscape	0	0	+/?	I	L	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This may have more positive long term effects on local landscape character than transportation by road.
2b	Historic environment	0	0	+/?	I	L	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This may have more positive long term effects on heritage assets than transportation by road.
3	Water quality	0	0	+	I	L	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This approach should have a minor positive effect on surface water quality as a result of reduced pollution from runoff from roads arising from transportation of aggregates.
4	Air quality	+	+	+	R	L	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. Bulk transportation by rail is likely to have positive long term effects on air quality compared with transportation by road as it is likely to reduce road transport emissions.
5	Greenhouse gas emissions	+	+	+	R	N	P	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. Bulk transportation by rail is likely to have positive long term effects upon the reduction of greenhouse gas emissions compared with transportation by road.
6	Flood risk	+/-	+/-	+/-	I	L	P	The aggregate rail depots at Appleford Sidings, Shipton on Cherwell and Kidlington are not located in flood zones. However, the site at Hennef Way in Banbury is partly located in flood zones 2 and 3a, although the Banbury Flood Alleviation Scheme (completed in October 2012) may partly alleviate the risk of flooding.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
7	Transport effects	++	++	++	R	L	P	By aiming to facilitate the transport of minerals by rail this policy actively supports this SA objective and a significant positive effect has therefore been predicted. However whilst implementation of the policy should reduce the volume of aggregates travelling on the strategic road network, nevertheless the bulk of aggregate movements and movement in the local area from depots to markets is likely to remain by road.
8	Population and health	0	+	+	R	L	P	This policy is likely to have a positive effect on this objective as it could reduce the volume of aggregates travelling on the local and strategic road network – reducing congestion and amenity effects on local communities over the medium to long term.
9	Soils	0	0	0				No predicted effects
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	+	++	++	R	L	P	This policy safeguards the necessary infrastructure to ensure that Oxfordshire can sustainably support its predicted economic growth over the medium to long term and therefore significant positive effects have been identified.
Summary of Assessment and Mitigation Measures		Policy M6 seeks to safeguard the necessary infrastructure and enables new aggregate rail depots to be developed in suitable locations, reducing the long term cumulative adverse effects on the environment, local communities and local road network experienced by long distance transport of aggregates by road. Significant positive effects have therefore been identified for objective SA7. Safeguarding and encouraging this type of infrastructure also supports sustainable growth of the Oxfordshire economy and as a result significant positive effects have also been identified for objective SA12. Bulk transportation by rail is likely to have positive long term effects on population and health and environmental objectives compared with transportation by road, including a reduction in greenhouse gas emissions (SA5).						

Policy M7: Non-aggregate mineral working

All proposals for the working of non-aggregate minerals, including exploration and appraisal, shall meet the criteria in policies C1 – C11.

Building Stone

Permission will be granted for extensions to existing quarries and new quarries for the extraction of building stone where a need for the material has been demonstrated and the proposed quarrying is small-scale.

Clay

The extraction of clay will be permitted in conjunction with the working of sharp sand and gravel from the locations in policy M3. The extraction of clay will not be permitted in other locations unless it can be demonstrated that there is a local need for clay which:

- cannot be met by extraction in conjunction with sharp sand and gravel working; or
- would be met with less overall environmental impact than by extraction in conjunction with sharp sand and gravel working.

Chalk

The extraction of chalk for agricultural or industrial use in Oxfordshire will be permitted provided the proposed quarrying is small-scale and a local need for the material has been demonstrated. Extraction of chalk for wider purposes, including as an aggregate or for large scale engineering will not be permitted unless the proposal is demonstrated to be the most sustainable option for meeting the need for the material.

Fuller's Earth

The working of fuller's earth will be permitted provided that a national need for the mineral has been demonstrated.

Oil and Gas (conventional and unconventional)

Proposals for the exploration and appraisal of oil or gas will be permitted provided arrangements are made for the timely and suitable restoration and after-care of the site, whether or not the exploration or appraisal operation is successful.

The commercial production of oil and gas will be supported in the following circumstances:

- A full appraisal programme for the oil or gas field has been successfully completed; and
- The proposed location is the most suitable, taking into account environmental, geological, technical and operational factors; and
- For major development in an Area of Outstanding Natural Beauty it is clearly demonstrated that the proposal is in the public interest, including in terms of national considerations.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+/-	+/-	+/-	I	L	P	Some of the Strategic Resource Areas (SRAs) for sharp sand and gravel, and hence under this policy also for clay, contain areas designated as SSSIs and in addition there are SACs and SSSIs that are in close proximity to SRAs. However criteria within policies M4, M10 and Core Policy C7 will ensure that these designated sites are not adversely affected by mineral extraction. In particular Policy M4 includes requirements to protect the integrity of the Oxford Meadows SAC and the Cothill Fen SAC. There are also Conservation Target Areas associated with SRAs. The main aim within CTAs is to restore biodiversity at a landscape-scale through maintenance, restoration and creation of BAP priority habitats. When working ceases in these areas there is potential for restoration schemes to contribute positively to the planned restoration and habitat creation at a large-scale, which would have significant beneficial cumulative effects for biodiversity. However, these benefits would not be felt until the very long-term as it is likely to take years before the restoration plans are implemented. During the period of active working adverse effects are more likely. Extraction of chalk/building stone/ fuller's earth, along with exploration for oils and gas, could have an adverse effect on biodiversity or geodiversity. Effects will be dependent on the location of sites.
2a	Landscape	+/-	+/-	+/-	I	L	P	Areas of the Thames and Lower Thame Valleys Strategic Resource Area are adjacent to the North Wessex Downs AONB. Mineral working in this area could therefore give rise to adverse effects on the setting of the AONB in the short to medium term. Working in all identified areas has the potential for negative effects on local landscape character, however criteria within policies M4, and Core Policy C8 will ensure that any adverse effects are minimised. Two quarries which produce building stone and which have planning permission to extract building stone include Castle Barn quarry, Sarsden and Rollright quarry. Both sites are directly in or adjacent to the Cotswolds AONB. In addition, much of the potential building stone resource is in the Cotswolds AONB and the plan allows for extension and development of small scale stone quarries within the AONB. This could have a negative impact on the landscape character in the area. Extraction of chalk/fuller's earth, along with exploration for oils and gas, could have an adverse effect on landscape. Effects will be dependent on the location of sites. Policy C8 should help to mitigate any adverse effects.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
2b	Historic environment	+/-/?	+/-/?	+/-/?	I	L	P	Some of the Strategic Resource Areas (SRAs) for sharp sand and gravel, and hence under this policy also for clay, contain or are in close proximity to a range of heritage assets, including Scheduled Ancient Monuments, Registered Parks & Gardens and Listed Buildings. There are also significant archaeological constraints, particularly in the Lower Windrush Valley. Minerals extraction in these areas could result in adverse effects to the heritage assets, however criteria within policies M4, and Core Policy C9 will ensure that any adverse effects are minimised. Extraction of chalk/building stone/fuller's earth, along with exploration for oils and gas, could have an adverse effect on heritage assets. However, there is potential for building stone quarrying to have a positive effect by supplying local materials that can be used to repair and maintain historic buildings. Effects will be dependent on the location of sites. Policy C9 should help to mitigate any adverse effects.
3	Water quality	+/-	+/-	+/-	I	L	P	There is potential for adverse effects on surface and ground water as a result of working for clay, especially as clay is usually located below sand and gravel. Effects may include the modification of surface flows to watercourses or existing ponds, and alteration of groundwater seepages, flushes or spring flows. There is potential for negative effects on ground water in the Thames, Lower Windrush and Lower Evenlode Valleys area from Standlake to Yarnton from clay extraction due to the presence of underlying aquifers. There is also potential for negative effects on the surface water quality of the River Windrush, River Evenlode and River Thames and River Thame from Strategic Resource Areas in the Thames Valley (SRA 4, SRA 5 and SRA6). Extraction of chalk/building stone/fuller's earth, along with exploration for oils and gas, could have an adverse effect on water quality. Effects will be dependent on the location of sites. Although ensuring that all proposals meet the criteria for Policy C4 should help to mitigate any adverse effects. Safeguards and mitigation from other policies within the Plan, in particular Policy M4 and C4, will work to reduce these effects.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	0	0	0	R	L	P	There is potential for air pollution associated with HGV movements in all the strategic resource areas for working over the lifetime of the working permissions and into the restoration period. However these effects would result wherever minerals are extracted and therefore neutral effects are identified for this policy. Policy C5 should help to mitigate any adverse effects.
5	Greenhouse gas emissions	?	?	?				Greenhouse gas emissions are expected in all the areas worked for non-aggregate minerals due to transportation of materials by road, particularly from depots to markets. However, the strategy should not lead to significant increases in greenhouse gas emissions as any increase in HGV vehicles that may occur if there is an in mineral demand is not expected to be high. Effects will be dependent on the location of sites and the distance materials need to be transported. Policies C2 and C10 could help to mitigate any adverse effects.
6	Flood risk	?	?	?				Some parts of the SRAs for sharp sand and gravel (and hence also for clay) lie within high flood risk zones (SRAs 4, 5 and 6). The Environment Agency (EA) requires that development should be avoided in the floodplain where possible and requires the sequential and (where appropriate), the exception tests to be applied. The requirement to apply these tests is now explicitly included in Policy C3: Flooding. Effects of chalk, fuller's earth and oil/gas exploration will be dependent on the location of sites. Policy C3 should help to mitigate any adverse effects.
7	Transport effects	-	-	-	R	L	P	Clay extraction in the areas which have been identified for sand and gravel extraction is likely to contribute to continued adverse cumulative effects on the transport network in these areas. However, mitigation measures at the planning application stage can help reduce such effects where new permissions are sought. The effects of chalk, building stone, fuller's earth and oil/gas exploration and extraction will be dependent on the location of sites and the distances that materials need to be transported. Policy C10 should help to mitigate any adverse effects.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	-/?	-/?	-/?	I	L	P	Three SRAs are associated with existing minerals working areas where clay extraction is encouraged and therefore those communities that are currently adversely affected by mineral workings are expected to continue to experience adverse effects for the plan period and longer term. Once sites are fully worked out and restored, these adverse effects should be reduced, and over time there may even be positive permanent effects as a result of restoration initiatives. The degree and nature of effects will be dependent on mitigation measures put in place through new planning permissions, proximity to sensitive receptors and the duration of working. There may however also be future extraction in areas where local communities are not currently affected by minerals operations. There is potential for negative adverse effects on local communities near to any new minerals workings in the Thames Valley (SRAs 4, 5 and 6) as a result of dust, noise, disruption, adverse visual effects and traffic congestion. The extent of these adverse effects will depend on the mitigation measures put in place, proximity of workings to sensitive receptors and the duration of working – all of which will be addressed at the site specific level. Local effects should be addressed through the application of the common core policies in the Core Strategy at the planning permission stage. In relation to chalk, building stone, fuller's earth and oil/gas exploration and extraction the effects on local communities will be dependent on the location of sites. Policy C5 should help to mitigate any adverse effects.
9	Soils	+/?	+/?	+/?	I	L	P	In relation to clay there are extensive Conservation Target Areas within the SRAs. Other areas have potential for beneficial restoration effects depending on the preferred land uses. Restoration of sites is likely to lead to an improvement in land and soil quality from its state as a quarry, which would have an indirect positive effect on this objective. In relation to chalk, building stone, fuller's earth and oil/gas exploration and quarrying the effects on land soil will be dependent on the location of sites. Policy C5 should help to mitigate any adverse effects.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
10	Waste hierarchy	**0**	**0**	**0**				Large quantities of waste stone can be generated in the extraction of building stone, particularly in the initial phases of extraction. Waste stone can potentially have a use as aggregate; the use or disposal of it is an issue which needs to be considered on a case by case basis at the planning application stage.
11	Self-sufficiency	**0**	**0**	**0**				No predicted effects as this objective refers to aggregates only.
12	Economic growth	**+**	**+**	**+**	**I**	**L**	**P**	All the identified areas for clay extraction are well located in terms of proximity to the markets. There are existing workings within all three sand and gravel SRAs where extraction of clay is encouraged. These areas benefit from access to a skilled local labour force, existing infrastructure and investment from the minerals industry, which supports the local economy. Chalk, building stone and fuller's earth extraction, plus and oil/gas exploration could have positive effects on the local economy.

SA Objective	Assessment of effect						
	Duration						
	Short term	Medium term	Long term	Reversibility	Scale	Permanence	Evidence and Reference
Summary of Assessment and Mitigation Measures	Seeking to concentrate clay extraction in areas where sharp sand and gravel working is currently taking place or has taken place recently, or may take place in the future has the economic advantages of using existing infrastructure as well as a skilled local labour force. It also presents opportunities for co-ordinated large-scale restoration projects which would in the longer term lead to a degree of beneficial effects for the local communities (through recreation and leisure opportunities) as well as for biodiversity. There is also potential for building stone quarrying to have a positive effect by supplying local materials that can be used to repair and maintain historic buildings (SA2b). However, there is still potential for ongoing cumulative negative effects throughout the plan period on transport and the local communities (SA7 and SA8), especially with regard to traffic and amenity issues as a result of the concentration of working clay alongside sharp sand and gravel, unless these adverse effects are appropriately mitigated when new planning permissions are sought. The effects of chalk, building stone, fuller's earth and oil/gas exploration and extraction will be dependent on the location of sites and the distances that materials need to be transported. Clay, chalk, building stone and fuller's earth extraction, plus and oil/gas exploration could have positive effects on the local economy. The strategic resource areas that are identified in Policy M3 for the extraction of sharp sand and gravel, and hence could be used for clay extraction under Policy M7, have environmental constraints that could result in adverse effects resulting against the objectives for biodiversity (SA1), landscape (SA2a), heritage assets (SA2b) and water (SA4). Extraction of chalk/fuller's earth, along with exploration for oils and gas, could also have an adverse effect on these objectives. Effects will be dependent on the location of sites; however the criteria in policies M4, M10 and the common core policies will ensure that these effects are either avoided or mitigated.						

Policy M8: Safeguarding mineral resources

Mineral Safeguarding Areas will be defined in the Minerals and Waste Local Plan: Part 2 – Site Allocations Document, covering the following mineral resources:

- Sharp sand and gravel in the main river valleys, including the strategic resource areas identified in policy M3, and other areas of proven resource;
- Soft sand within the strategic resource areas identified in policy M3;
- Limestone within the strategic resource areas identified in policy M3;
- Fuller's earth in the Baulking – Fernham area.

Mineral resources in these areas are safeguarded for possible future use. Development that would prevent or otherwise hinder the possible future working of the mineral will not be permitted unless it can be shown that:

- The site has been allocated for development in an adopted local plan or neighbourhood plan; or
- The need for the development outweighs the economic and sustainability considerations relating to the mineral resource; or
- The mineral will be extracted prior to the development taking place.

Mineral Consultation Areas, based on the Mineral Safeguarding Areas, will be defined, identified and updated when necessary in the Minerals and Waste Annual Monitoring Reports.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	**0**	**0**	**0**				The policy relates to safeguarding mineral for the future and preventing sterilisation, not permitting extraction in these areas. Therefore no effects are predicted against this objective.
2a	Landscape	**0**	**0**	**0**				As above
2b	Historic environment	**0**	**0**	**0**				As above
3	Water quality	**0**	**0**	**0**				As above

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	0	0	0				As above
5	Greenhouse gas emissions	0	0	+	R	N	P	Safeguarding mineral resources for the future should help in the long term for Oxfordshire to be self-sustaining with regards to aggregate and other minerals required within the County for roads, house building etc. This is likely to indirectly help to reduce the need to import minerals from elsewhere and could potentially help to reduce greenhouse gas emissions from transportation.
6	Flood risk	0	0	0				The policy relates to safeguarding mineral resources for the future and preventing sterilisation, not permitting extraction in these areas. Therefore no effects are predicted against this objective.
7	Transport effects	0	0	+	R	L	P	Safeguarding mineral resources for the future should help in the long term for Oxfordshire to be self-sustaining with regards to aggregate and other minerals required within the County for roads, house building etc. This is likely to indirectly help to reduce the need to import minerals from elsewhere and could potentially help to reduce adverse effects from transportation.
8	Population and health	0	0	0				As above
9	Soils	0	0	0				As above
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	+	++	R	L	P	The policy recognises that minerals must not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that must be safeguarded for the long term, including unknown future requirements. The policy safeguards sand and gravel, soft sand and crushed rock aggregate and therefore it should help to protect the delivery of any aggregates needed as set out in the LAA in the future.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
12	Economic growth	**0**	**0**	**+**	**R**	**L**	**P**	The policy recognises that minerals should not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that should be safeguarded for the long term, including unknown future requirements for an increasing population and economic growth. This supports the minerals and construction industry. Safeguarding only proven resources of sand and gravel and limiting safeguarding to SRAs for soft sand and crushed rock (limestone) should also ensure that non mineral development is not prevented unduly.
Summary of Assessment and Mitigation Measures		The policy recognises that in-situ mineral resources should not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that should be safeguarded for the long term, including unknown future requirements for an increasing population and economic growth. Significant positive effects are therefore likely in the long-term with regards to SA objective 11. Safeguarding proven resources is likely to ensure non mineral development is not prevented unduly. This policy should also support Oxfordshire's economic growth. This policy is also likely to indirectly help to reduce the need to import minerals from elsewhere and could therefore potentially help to reduce adverse effects from transportation (SA7) and reduce greenhouse gas emissions (SA5). As the policy is safeguarding mineral resources for the future and preventing sterilisation not permitting extraction in these areas effects upon SA objectives relating to the environment are likely to be neutral.						

Policy M9: Safeguarding mineral infrastructure

Existing and permitted infrastructure that supports the supply of minerals in Oxfordshire is safeguarded against development that would unnecessarily prevent the operation of the infrastructure or would prejudice or jeopardise its continued use by creating incompatible land uses nearby.

Safeguarded sites will be identified in the Minerals and Waste Local Plan: Part 2 – Site Allocations Document.

Proposals for development that would prevent or prejudice the use of a site safeguarded for mineral infrastructure will not be permitted unless:

- the development is in accordance with a site allocation for development in an adopted local plan or neighbourhood plan; or
- it can be demonstrated that the infrastructure is no longer needed; or
- the capacity of the infrastructure can be appropriately and sustainably provided elsewhere.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	0	0	0				No predicted effects
2a	Landscape	0	0	0				No predicted effects
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	0	0	0				No predicted effects
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	+	+	+	R	N	P	The safeguarding of mineral infrastructure will enable Oxfordshire to remain self-sufficient in the provision and processing of aggregates, which will help to reduce the distances that aggregates need to be transported, with associated benefits in terms of greenhouse gas emissions.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
6	Flood risk	**0**	**0**	**0**				No predicted effects
7	Transport effects	**+**	**+**	**+**	**R**	**L**	**P**	The safeguarding of mineral infrastructure will enable Oxfordshire to remain self-sufficient in the provision and processing of aggregates, which will help to reduce the distances that aggregates need to be transported, with associated benefits in terms of reducing the effects of transport.
8	Population and health	**0**	**0**	**0**				No predicted effects
9	Soils	**0**	**0**	**0**				No predicted effects
10	Waste hierarchy	**0**	**0**	**0**				No predicted effects
11	Self-sufficiency	**+**	**+**	**+**	**R**	**L**	**P**	Safeguarding mineral infrastructure will help Oxfordshire to remain self-sufficient in terms of aggregate provision and processing. This will support this SA objective.
12	Economic growth	**+**	**+**	**+**	**R**	**L**	**P**	Safeguarding mineral infrastructure will help to retain local jobs associated with the minerals industry and support the local economy.
Summary of Assessment and Mitigation Measures		Through the safeguarding of mineral infrastructure positive effects have been identified for Policy M9 for the SA objectives relating to greenhouse gas emissions (SA5), transport (SA7), self-sufficiency (SA11) and economy (SA12). These effects relate to the support that the policy provides to Oxfordshire remaining self-sufficient in terms of aggregate provision and processing. No effects are predicted for the other SA objectives.						

Policy M10: Restoration of mineral workings

Mineral workings shall be restored to a high standard and in a timely and phased manner to an after-use that is appropriate to the location and delivers a net gain in biodiversity. The restoration of mineral workings must take into account:

- the characteristics of the site prior to mineral working;
- the character of the surrounding landscape and the enhancement of local landscape character;
- the amenity of local communities, including opportunities to enhance green infrastructure provision and provide for local amenity uses and recreation;
- the capacity of the local transport network;
- the quality of any agricultural land affected;
- flood risk and opportunities for increased flood storage capacity;
- bird strike risk and aviation safety;
- any environmental enhancement objectives for the area;
- the conservation and enhancement of biodiversity appropriate to the local area, supporting the establishment of a coherent and resilient ecological network through the landscape-scale creation of priority habitat;
- the conservation and enhancement of geodiversity; and
- the conservation and enhancement of the historic environment.

Planning permission will not be granted for mineral working unless satisfactory proposals have been made for the restoration, aftercare and after-use of the site, including where necessary the means of securing them in the longer term.

Proposals for restoration must not be likely to lead to any increase in recreational pressure on a Special Area of Conservation.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	**0**	**+**	**++**	**I**	**L**	**P**	The requirement for workings to be restored to a high standard and in a timely and phased manner that aims to provide a net gain in biodiversity and considers the conservation and enhancement of biodiversity appropriate to the local area, supporting the establishment of a coherent and resilient ecological network through the landscape-scale creation of priority habitat should have a significant long term positive effect on this objective. The consideration of opportunities to protect and/or improve geodiversity provides further support to the objective, as does the consideration of recreational impacts on SACs. The positive effects should be enhanced given that Core Policy C7 (Biodiversity and Geodiversity) requires that long-term management arrangements be put in place for restored sites. It is recognised that in the short term positive effects should be minor as restoration schemes take time to establish.
2a	Landscape	**0**	**+**	**++**	**I**	**L**	**P**	The requirement for timely and phased restoration of mineral working sites which considers the character of the surrounding landscape and the characteristics of the site prior to minerals working should have a significant positive, long term effect on landscape character, although it is recognised that in the short term positive effects should be minor as restoration schemes take time to establish This policy also considers how restoration, aftercare and after use of the site is secured in the long term.
2b	Historic environment	**0**	**+**	**++**	**I**	**L**	**P**	The requirement for timely and phased restoration of mineral working sites which considers the conservation and enhancement of the historic environment should have a significant positive, long term effect on this objective. This policy also considers how restoration, aftercare and after use of the site is secured in the long term.
3	Water quality	**0**	**+**	**++**	**I**	**L**	**P**	The requirement for timely and phased restoration of mineral working sites to a high standard should have a significant positive long term effect on ground and surface water quality, although it is recognised that in the short term positive effects should be minor as restoration schemes take time to establish. This policy also considers how restoration, aftercare and after use of the site is secured in the long term.
4	Air quality	**0**	**0**	**0**				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	0	+	++	I	L	P	The requirement for timely and phased restoration of mineral working sites to a high standard should have a long term significant positive effect on flood risk. The policy recognises that mineral working in the flood plain can offer opportunities to increase flood storage capacity and reduce the risk of flooding.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	0	+	++	I	L	P	The consideration of opportunities to enhance green infrastructure provision and provide for local amenity uses and recreation along with the requirement for timely and phased restoration to an after-use appropriate to the location which is to a high standard should have a significant positive long term effect on this objective.
9	Soils	0	+	+	I	L	P	The requirement for workings to be restored to a high standard and in a timely and phased manner that takes into account the characteristics of the site prior to mineral working should have a long term positive effect on restoring soil quality.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	+	+	I	L	P	Over the long term, restoration should help to ensure a high quality environment with improved sport and recreational opportunities for local communities, which should indirectly, support economic growth through potential business opportunities, and reduce disparities in access to such facilities for rural communities.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	The requirement for timely and phased restoration, to a high standard, to an after-use appropriate to the location and aiming to provide for a net gain in biodiversity should have a positive or significant positive long term effect on many of the SA objectives as it provides an opportunity to create or restore habitats and biodiversity, restore landscape character, improve water and soil quality; and address possible amenity effects on local communities arising from the after-use of minerals sites. It also provides opportunities to develop new local amenity facilities, such as sport and recreational uses which can provide new business opportunities and reduce disparities in access to such facilities for rural communities. The consideration of opportunities to protect and/or improve geodiversity provides further support to objective SA1, as does the consideration of recreational impacts on SACs. The policy also recognises that mineral working in the flood plain can offer opportunities to increase flood storage capacity and reduce the risk of flooding, having a significant positive effect in the long term for SA6. Long term management is important however, to maintain long term benefits and this policy supports this by considering how restoration, aftercare and after use of the site is secured in the long term.						

D2. Waste Planning Strategy

Policy W1: Oxfordshire waste to be managed

Provision will be made for waste management facilities that allow Oxfordshire to be net self-sufficient in the management of its principal waste streams – municipal solid waste (or local authority collected waste), commercial and industrial waste, and construction, demolition and excavation waste – over the period to 2031.

The amounts of these wastes that need to be managed are as identified in the most recent Oxfordshire Waste Needs Assessment or update of these amounts in the Oxfordshire Minerals and Waste Annual Monitoring Reports.

Provision of facilities for hazardous waste, agricultural waste, radioactive waste and waste water/sewage sludge will be made in accordance with policies W7, W8, W9 and W10 respectively.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
2a	Landscape	?	?	?				As above
2b	Historic environment	?	?	?				As above
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	+	+	+	R	N	P	Making provision for waste management facilities to enable Oxfordshire to be net self-sufficient sufficient in the management of its principal waste streams should have positive effects on reducing distance travelled and therefore reducing greenhouse gas emissions associated with waste transportation.
6	Flood risk	?	?	?				Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
7	Transport effects	+	+	+	R	R	P	Making local provision for waste management facilities to enable Oxfordshire to be net self-sufficient sufficient in the management of its principal waste streams should have positive effects on reducing the overall distances waste travels for management potentially reducing the effect of transportation of waste. This will also benefit areas outside of Oxfordshire that might otherwise have experienced adverse effects associated with export of waste from the county.
8	Population and health	?	?	?				Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
9	Soils	?	?	?				As above
10	Waste hierarchy	0	0	0				This policy is concerned with the amount of waste to be managed. The waste management methods proposed elsewhere in the MWCS will determine if the proposals will contribute towards moving waste up the waste hierarchy.
11	Self-sufficiency	++	++	++	R	L	P	Policy W1 directly supports the objective for Oxfordshire's self-sufficiency for waste and therefore significant positive effects have been identified for this SA objective.
12	Economic growth	+	+	+	R	L	P	Making local provision for waste management facilities should have a positive effect through new facilities providing local jobs. This would only provide a limited number of jobs and is therefore not considered significant.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	This policy directly supports SA objective 11 on self-sufficiency as it seeks to enable Oxfordshire to be net self-sufficient in the management of its principal waste streams and therefore significant positive effects have been identified. When assessed against the SA objectives, Policy W1 also supports the SA objectives relating to reducing greenhouse gas emissions and minimising the transport effects of transporting waste as making local provision for waste management facilities should reduce the distances travelled. This will also benefit areas outside of Oxfordshire that might otherwise have experienced adverse effects associated with export of waste from the county. It is also supportive of local economic growth as development of new facilities to deliver the required capacity would create new job opportunities in Oxfordshire. Uncertainty regarding effects upon other environmental objectives will depend upon where the waste provision will be located, however other policies in the plan, in particular W5 and the common core policies, should provide appropriate mitigation to minimise and adverse effects.						

Policy W2: Oxfordshire waste management targets

Provision will be made for capacity to manage the principal waste streams in a way that provides for the maximum diversion of waste from landfill, in line with the following targets:

Oxfordshire waste management targets 2012 – 2031

Waste Management / Waste Type	Target Year				
	2012	2016	2021	2026	2031
Municipal waste:					
Composting & food waste treatment	25%	29%	32%	35%	35%
Dry Recycling	33%	33%	33%	35%	35%
Treatment of residual waste	0%	30%	30%	25%	25%
Landfill	42%	8%	5%	5%	5%
Total	100%	100%	100%	100%	100%
Commercial and industrial waste:					
Composting & food waste treatment	0%	5%	5%	5%	5%
Dry Recycling,	50%	55%	60%	65%	65%
Treatment of residual waste	0%	15%	25%	25%	25%
Landfill	50%	25%	10%	5%	5%
Total	100%	100%	100%	100%	100%
Construction, demolition and excavation waste:					
Recycling	52%	55%	60%	60%	60%
Landfill/Restoration*	48%	45%	40%	40%	40%
Total	100%	100%	100%	100%	100%

Targets for 2012 approximate to actual performance for that year

* includes waste disposed as part of a recovery operation

Proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+/?	+/?	+/?	I	L	P	The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for this objective. Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
2a	Landscape	+/?	+/?	+/?	I	L	P	The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for this objective. Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
2b	Historic environment	+/?	+/?	+/?	I	L	P	The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for this objective. Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
3	Water quality	?	+/?	+/?	I	L	P	Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation. However, a reduction in landfill could have a positive effect in the medium and long term by reducing the risk of groundwater pollution.
4	Air quality	?	?	?				Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	+	++	++	R	N	P	The strategy seeks to minimise disposal of waste to landfill. This has positive effects on reducing the emission of the greenhouse gas methane associated with landfilling biodegradable waste. Relative to carbon dioxide, methane is 21 times more potent as a greenhouse gas than CO_2[1].
6	Flood risk	?	?	?				Effects will be is dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
7	Transport effects	?	?	?				Effects will be dependent on the locations of the different facilities and the distance that waste needs to be transported to be managed.
8	Population and health	?	?	?				Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
9	Soils	+	+	+	I	L	P	The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for this objective.
10	Waste hierarchy	+	++	++	R	L	P	The policy sets targets for the management of waste by recycling, composting, treatment and landfilling. The policy sets high targets for recycling and composting and low targets for final disposal via landfill, thereby ensuring waste is moved up the waste hierarchy as high as possible. It also requires that proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed. Significant positive effects are therefore likely, especially in the medium to long term.
11	Self-sufficiency	+	+	+	R	L	P	By reducing the proportion of waste disposal by landfill, the targets support SA11 on enabling Oxfordshire to be more self-sufficient in waste management.

[1] Comparative Assessment of Greenhouse Gas Emissions from Waste Management Services February 2010 (Updated from November 2009) Zero Waste Scotland

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
12	Economic growth	+	+	+	R	L	P	Encouraging the recycling and treatment of waste is likely to support Oxfordshire's economy as this is likely to create new markets for waste products and provide new job opportunities at new waste facilities.
Summary of Assessment and Mitigation Measures		Policy W2 sets waste management targets to provide for maximum diversion of waste from landfill. This policy supports SA5 as diverting waste from landfill (especially bio-degradable waste) would reduce the amount of methane associated with landfilling of such waste. It also supports the management of waste in line with the waste hierarchy as it sets provision for additional recycling, composting and recovery capacity and enables Oxfordshire to become self-sufficient in its waste management by reducing the proportion of waste disposal by landfill. Therefore, significant positive effects have been identified against these objectives in the medium and long term. The policy also requires that all proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed. There are likely to be positive effects upon SA12 on supporting the local economy as facilities required to meet the set targets enhance the local economy and offer potential to create local jobs both direct and indirectly. The targets to significantly reduce the proportions of waste going to landfill will reduce the land-take needed to manage waste, which will have positive implications for the soils objective (SA9) and a reduction in landfill could also have a positive effect on water quality (SA3) in the medium and long term by reducing the risk of groundwater pollution. There may also be positive implications for the other environmental objectives as a result of a reduction in land-take; however effects will depend upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.							

Policy W3: Provision for waste management capacity and facilities required

Provision will be made through this policy and policies W4, W5 and W6 sufficient to meet the need for management of the principal waste streams identified in policy W1 and the waste management targets in policy W2, including any provision that needs to be made for additional waste management capacity that cannot be met by existing facilities.

Waste management capacity requirements will be kept under review and updated in the Oxfordshire Minerals and Waste Annual Monitoring Reports. The Minerals and Waste Annual Monitoring Reports will also set out how the waste management capacity requirements are expected to be met, including the capacity that is expected to be provided by:

- Permanent and established waste management facilities;
- Time-limited waste management facilities;
- Sites with planning permission for waste management facilities that have not yet been built; and
- Sites allocated for waste development in the Minerals and Waste Local Plan: Part 2 – Site Allocations Document.

Account will be taken of any requirements for additional waste management capacity (as identified in Table 7 or the most recent update in the Oxfordshire Minerals and Waste Annual Monitoring Reports) in the consideration of proposals for new waste management facilities for the principal waste streams.

Proposals for facilities for re-use, transfer and pre-treatment of waste (recycling, composting and treatment of food waste) will normally be permitted. Proposals for the treatment of residual waste will only be permitted if it can be demonstrated that the development would not impede the achievement of the waste management targets in policy W2 and that it would enable waste to be recovered at one of the nearest appropriate installations.

Proposals for disposal by landfill will be determined in accordance with policy W6.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects are uncertain as they will be dependent upon exact locations for where this provision is to be located. The implementation of Policies W4 and W5 as well as the common core policies are expected to address this uncertainty. In the short term and medium term effects may be neutral as additional provision is not required for some waste streams.
2a	Landscape	?	?	?				As above
2b	Historic environment	?	?	?				As above
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above
5	Greenhouse gas emissions	+	+	+	R	N	P	The policy states that new facilities for re-use, recycling and composting of waste and for treatment of food waste will normally be permitted. This could therefore divert waste from landfill which will help to reduce the levels of methane generated by this type of waste management. The policy also requires that waste be recovered at one of the nearest appropriate installations which will help to reduce greenhouse gas emissions from waste transportation.
6	Flood risk	?	?	?				As for SA1
7	Transport effects	?	?	?				As above
8	Population and health	?	?	?				As above
9	Soils	?	?	?				As above
10	Waste hierarchy	+	+	+	R	L	P	Policy W3 encourages the provision of new facilities for re-use, recycling and composting of waste and for treatment of food waste which will contribute towards moving up the waste hierarchy.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
11	Self-sufficiency	++	++	++	R	L	P	Policy W3 makes provision in accordance with Oxfordshire's needs therefore enabling the County to be self-sufficient in its waste management. As a result significant positive effects have been identified for this SA objective.
12	Economic growth	+	+	+	R	L	P	Indirectly new waste management facilities to deliver the required capacity should provide local job opportunities and therefore support the local economy
Summary of Assessment and Mitigation Measures		Policy W3 seeks to make provision for additional waste management capacity therefore enabling the County to be self-sufficient in its waste management, a significant positive effect has therefore been identified against this objective (SA11). Effects upon the majority of SA objectives are dependent upon where this provision is located as its focus is ensuring that there is sufficient capacity to deal with Oxfordshire's waste arisings to 2030. This issue is addressed by Policies W4, W5 and the common core policies and the effects are more likely in the medium to long term when further capacity may be required. Positive effects are likely on SA10 relating to moving waste up the waste hierarchy (by encouraging new facilities for re-use, recycling and composting of waste and for treatment of food waste) and the proposed capacity is also assessed as having an indirect positive effect on the local economy through the provision of new waste management facilities which are likely to create new job opportunities. New facilities for re-use, recycling and composting of waste and for treatment of food waste could divert waste from landfill which will help to reduce the levels of methane generated by this type of waste management, supporting SA5 on greenhouse gas emissions. The policy also requires that waste be recovered at one of the nearest appropriate installations which will help to reduce greenhouse gas emissions from waste transportation.						

Policy W4: Locations for facilities to manage the principal waste streams

Facilities (other than landfill) to manage the principal waste streams should be located as follows:

a) Strategic waste management facilities should normally be located in or close to Bicester, Oxford, Abingdon and Didcot, as indicated on the Key Waste Diagram.

b) Non-strategic waste management facilities should normally be located in or close to Bicester, Oxford, Abingdon and Didcot and the other large towns (Banbury, Witney and Wantage & Grove), as indicated on the Key Waste Diagram.

c) Elsewhere in Oxfordshire, and particularly in more remote rural areas, facilities should only be small scale, in keeping with their surroundings.

Specific sites for waste management facilities (other than landfill) to meet the requirements set out in Policy W3 will be allocated in accordance with this locational strategy in the Minerals and Waste Local Plan: Part 2 – Site Allocations Document. The suitability of any new sites for allocation in the Site Allocations Document will be assessed against the criteria in policies W5 and C1 – C11.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to mitigate adverse environmental effects.
2a	Landscape	?	?	?				Effects will depend upon the exact location and type of facilities. The policy restricts the scale of facilities in the more remote rural areas which should help to protect local landscapes. The policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
2b	Historic environment	?	?	?				Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to mitigate adverse environmental effects.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above
5	Greenhouse gas emissions	+	+	+	R	N	P	Provision of facilities close to waste arisings is likely to reduce greenhouse gas emissions associated with waste transportation.
6	Flood risk	?	?	?				Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
7	Transport effects	+	+	+	R	L	P	Provision of facilities close to waste arisings of the County's future growth areas is likely to minimise adverse effects associated with waste transportation. However, effects will depend upon the exact location and type of facilities.
8	Population and health	?	?	?				Effects will depend upon the exact location and type of facilities. If sites are located near to residential areas they may have a negative impact on local populations. However, policies C1-C11 are expected to help mitigate adverse environmental/health effects.
9	Soils	?	?	?				Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	0	0				No predicted effects

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Policy W4 outlines the provision of different types of waste management facilities in Oxfordshire and their broad locations. Provision of facilities close to waste arisings of the County's future growth areas is likely to have positive effects on SA5 and SA7 as it should minimise adverse effects associated with waste transportation, and help to reduce associated greenhouse gas emissions. However, it is recognised that there will be differing effects according to the exact location and type of facilities. It is noted that the policy refers to the criteria in Policy W5 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.						

Policy W5: Siting of waste management facilities

Priority will be given to siting waste management facilities on land that:

- is already in waste management or industrial use; or
- is previously developed, derelict or underused; or
- is at an active mineral working or landfill site; or
- involves existing agricultural buildings and their curtilages; or
- is at a waste water treatment works.

Proposals for temporary facilities must provide for the satisfactory removal of the facility and restoration of the site at the end of its temporary period of operation, including at mineral working and landfill sites where the facility shall be removed on or before the cessation of the host activity. Temporary facility sites shall be restored in accordance with the requirements of policy M10 for restoration of mineral workings.

Waste management facilities will not be permitted on green field land unless this can be shown to be the most suitable and sustainable option for location of the facility.

Waste management development that is inappropriate in the Green Belt will not be permitted unless there are very special circumstances why it should be located in the Green Belt. Conditions may be imposed on any permission granted to ensure that the development only serves to meet a need that comprises or forms part of the very special circumstances.

Proposals for new waste management facilities shall meet the criteria in policies C1 – C11.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	0	+/ ?	+/ ?	I	L	P	The policy states that waste management facilities will generally not be permitted on green field land and priority will be given to locating facilities on land that is already being used for waste or mineral purposes; is previously developed, derelict, or underused; or involves existing agricultural buildings. This should reduce use of greenfield land which is likely to have a positive effect on biodiversity. This is because sites designated for their biodiversity importance are generally undeveloped and therefore the policy would reduce disturbance. The requirement to restore temporary sites in accordance with Policy M10 could result in net gains in biodiversity. However, it should be noted that previously developed land and derelict land, as well as existing agricultural buildings, can provide important habitats and therefore effects will be dependent upon the implementation of the common core policies.
2a	Landscape	0	+/ ?	+/ ?	I	L	P	Waste management facilities have the potential to adversely affect landscapes and townscapes through visual intrusion. The types of locations stated by the policies include sites already in waste management or industrial use, active mineral sites, waste water treatment work where visual intrusion is generally less of an issue. Redevelopment of previously developed sites and derelict land can also help to enhance the local landscape. Proposals in the Green Belt may have negative effects upon the landscape, but these will only be permitted where very special circumstances are demonstrated. The effects will be dependent upon landscape mitigation and therefore the implementation of Policy C8 will assist in mitigating any potential negative effects. The supporting text of Policy C8 notes that small scale waste management facilities, for local needs, could be acceptable within AONBs, where the development would not compromise the objectives of the designation. It also notes that proposals for waste development within or in close proximity to AONBs will need to be considered against Policy C8, which should help to mitigate any adverse effects. The requirement to restore temporary sites in accordance with Policy M10 could result in landscape improvements.
2b	Historic environment	?	?	?				Effects will be dependent upon development locations, although giving priority to previously developed, derelict or underused land and avoiding the use of green field land should minimise the impacts on archaeological sites.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above
5	Greenhouse gas emissions	+	+	+	R	N	P	Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities thereby reducing greenhouse gas emissions. However, the sites are only likely to be serving local needs and some effects will be minor.
6	Flood risk	?	?	?				Effects will be dependent upon development locations.
7	Transport effects	+	+	+	R	L	P	Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities. However, the sites will only be serving local needs and so effects will be very minor.
8	Population and health	?	?	?				Effects will be dependent upon development locations.
9	Soils	+	++	++	I	L	P	Use of previously developed land and derelict land could lead to the restoration of land which may have been previously contaminated. Significant positive effects have therefore been identified with regards to the objective in the medium to long term. By avoiding the use of green field land this will also reduce the impact of this policy on soils.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	+	+	+	R	L	P	Allowing waste development to be located at existing waste management sites is likely to assist in the co-location of waste operations and therefore could assist in achieving economies of scale. There could also be efficiencies achieved by locating waste management facilities at active minerals sites.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Policy W5 provides guidance on the siting of waste management facilities. It prioritises land that is already in permanent waste management or industrial use, is previously developed, derelict or underused, involves existing agricultural buildings and their curtilages, active minerals workings, and at waste water treatment works. The use of previously developed or derelict land could lead to the restoration of land which may have been previously contaminated. This would have significant positive effects for SA9 (soils) in the medium and long term, and avoiding the use of greenfield land would also reduce the impact of this policy on soils. This policy has the potential for indirect positive effects on protection of nature conservation by prioritising the use of land that is already used for waste or mineral purposes; is previously developed, derelict, or underused; or involves existing agricultural buildings, thereby reducing development of green field land which is likely to host local biodiversity. However it should be noted that previously developed land and derelict land, as well as existing agricultural buildings, can provide important habitats. The likely effects will be dependent upon the implementation of the policy in conjunction with the common core policies which are expected to help mitigate adverse effects. Use of derelict buildings and development of previously developed sites can also help improve the local landscape. Proposals in the Green Belt may have negative effects upon the landscape, but these will only be permitted where very special circumstances are demonstrated. The effects will be dependent upon landscape mitigation and therefore the implementation of Policy C8 will assist in mitigating any potential negative effects. The supporting text of Policy C8 notes that small scale waste management facilities, for local needs, could be acceptable within AONBs, where the development would not compromise the objectives of the designation. It also notes that proposals for waste development within or in close proximity to AONBs will need to be considered against Policy C8, which should help to mitigate any adverse effects. Effects on the environmental objectives will be dependent upon development locations, although giving priority to previously developed, derelict or underused land and avoiding the use of green field land should help to minimise the impacts on archaeological sites (SA2b, historic environment). Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities thereby having positive implications for transport effects (SA7) and contributing to a reduction in greenhouse gas emissions SA5). However, the sites are only likely to be serving local needs and so effects will be minor. The requirement to restore temporary sites in accordance with Policy M10 could result in environmental enhancements.						

Policy W6: Landfill

Non-hazardous waste disposal facilities

Provision for disposal of Oxfordshire's non-hazardous waste will be made at existing non-hazardous landfill facilities which will also provide for the disposal of waste from other areas (including London and Berkshire) as necessary. Further provision for the disposal of non-hazardous waste by means of landfill will not be made.

Permission may be granted to extend the life of existing non-hazardous landfill sites to allow for the continued disposal of residual non-hazardous waste to meet a recognised need and where this will allow for the satisfactory restoration of the landfill in accordance with a previously approved scheme.

Permission will be granted for facilities for the management of landfill gas and leachate where required to fulfil a regulatory requirement or to achieve overall environmental benefit, including facilities for the recovery of energy from landfill gas. Provision should be made for the removal of the facilities and restoration of the site at the end of the period of management.

Inert waste disposal facilities

Provision for the disposal of inert waste which cannot be recycled will be made at existing facilities and in sites that will be allocated in the Minerals and Waste Local Plan: Part 2 – Site Allocations Document. Provision will be made for sites with capacity sufficient for Oxfordshire to be net-self-sufficient in the management and disposal of inert waste.

Priority will be given to the use of inert waste that cannot be recycled as infill material to achieve the satisfactory restoration and after use of active or unrestored quarries. Permission will not otherwise be granted for development that involves the disposal of inert waste on land unless there would be overall environmental benefit.

General

Proposals for landfill sites shall meet the criteria in policies C1 – C11.

Landfill sites shall be restored in accordance with the requirements of policy M10 for restoration of mineral workings.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+/ ?	+/ ?	+/ ?	I	L	P	New non-hazardous landfill sites would be restricted as a result of this policy which may therefore lead to the protection of Oxfordshire's biodiversity. The likely effects of extending the life of existing landfill sites are neutral as these would not increase in size. Using inert waste for restoration will depend upon the exact location of active or unrestored quarries required to be restored and potential adverse negative effects would be mitigated by the common core policies.
2a	Landscape	+	+	+	I	L	P	This policy would assist in the restoration of active or unrestored quarries which should enhance local landscape character and where these are located in the AONB enable appropriate restoration. Extending the life of existing non-hazardous landfill sites would result in restoration of sites being delayed and the period of impact extended and therefore the enhancement of local landscapes may be limited in the short – medium term. None of these sites are located within or near to an AONB therefore effects are likely to be minor.
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	+	+	+	I	L	P	Enabling the provision of facilities to manage leachate will help to reduce the risks of groundwater and water course contamination. No new non-hazardous landfill sites are being proposed and inert material for infilling is unlikely to negatively affect ground and surface water quality as it will not generate leachate.
4	Air quality	?	?	?				Effects will be dependent upon the exact location of inert landfilling and the mitigation measures associated with the operation as this may give rise to dust which could damage natural systems. The common core policies could assist in mitigation of these potential adverse effects. The policy makes provision for waste from other areas to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and much of this waste is likely to be transported by rail as is currently the case, which will help to limit transport related air quality issues.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	+/ ?	+/ ?	+/ ?	R	N	P	Restricting new non-hazardous landfill sites in accordance with Oxfordshire's need is likely to be positive in relation to this objective, as the amount of methane per annum will decrease. Enabling the provision of facilities to manage landfill gas will help to reduce the greenhouse gas emissions from the landfill sites, as well as reducing some need for energy generated at power stations. However effects relating to transportation will depend on the exact location of sites to be filled with inert waste relative to the sources of waste arising and therefore the distance the waste has to be transported. Effects will also depend on the mode of transport used. The policy makes provision for waste from other areas to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and this could have a potential positive effect on the levels of greenhouse gas emissions generated by landfills in the County. However, as landfill facilities close, any waste that is landfilled is likely to have to be transported further to access those facilities that do remain open. This could have a negative impact on transport related greenhouse gas emissions.
6	Flood risk	0	0	0				No predicted effects.
7	Transport effects	?	?	?				Effects will depend on the exact location of sites to be filled with inert waste relative to the sources of waste arising and therefore the distance the waste has to be transported. The policy makes provision for waste from other areas to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and much of this waste is likely to be transported by rail as is currently the case. This could reduce or slow the growth of greenhouse gas emissions from transport. As landfill facilities close, they are not being replaced and the declining quantity of any waste that is landfilled is likely to have to be transported further to access those facilities that do remain open. This could have a negative impact on transport related greenhouse gas emissions.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	?	?	?				This policy restricts new non-hazardous landfill sites therefore potentially protecting local communities from the negative effects of new sites for this type of waste management. However it does support extending the life of landfill sites where there is a need to and this may therefore continue existing effects in the short to medium term in existing landfill locations. Effects of inert landfilling will depend upon the exact location of these sites.
9	Soils	+/-	+/-	+	I	L	P	Provision for additional landfill capacity for inert waste where used to restore minerals sites has a positive effect on SA objective 9. However extending the life of the non-hazardous landfills may prolong the life of the existing landfills and delay restoration in the short – medium term.
10	Waste hierarchy	0	0	0				The policy is restricting new landfill sites but is allowing the landfilling of inert waste which cannot be recycled. Landfilling is the option of last resort and it does not contribute towards moving waste up the hierarchy. However, it is recognised that it should be adequately provided for. Overall, neutral effects are predicted.
11	Self-sufficiency	++	++	++	R	L	P	Making local provision for inert landfilling and non-hazardous landfill capacity should allow for County self-sufficiency with respect to the disposal of waste via landfill.
12	Economic growth	+	+	+	R	L	P	Making local provision for inert landfilling has the potential to create local job-opportunities.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures							Permission will not be granted for new landfill sites for non-hazardous waste and existing non-hazardous landfills may be extended in terms of their life. This is likely to prolong any negative effects on areas affected by existing landfill sites, however it will reduce the potential for adverse effects upon other areas of the County that would otherwise have been affected by new sites. By making local provision for inert landfilling and non-hazardous landfill capacity, Policy W6 should have a significant positive effect by allowing for County self-sufficiency with respect to the disposal of waste via landfill (SA11). Policy W6 does not support SA objective 10 on moving waste up the hierarchy as landfill does not lead to more waste being recycled or recovered. However, it is recognised that although seen as the option of last resort, landfill must be adequately planned for as it still has a role to play in waste management and permission will only be granted for inert landfilling where material cannot be recycled. Making local provision for inert landfilling has the potential to create local job-opportunities (SA12). Providing for inert landfill especially for restoration purposes is assessed as having positive effects on improving land quality (SA objective 9) and also landscape quality (SA objective 2a), however the potential for existing non-hazardous landfill sites to extend in life may have negative effects on the restoration of sites in the short to medium term. Enabling the provision of facilities to manage leachate will have a positive effect on water quality (SA3) as it will help to reduce the risks of groundwater and watercourse contamination. The potential transport and climate mitigation effects of the proposed approach are difficult to assess without knowing the location of sites for inert landfilling, although restricting new non-hazardous landfill sites in accordance with Oxfordshire's need is likely to be positive in relation to greenhouse gas emissions, as the amount of methane per annum will decrease. This should be addressed during the planning stage to ensure that sites are located close to sources of waste arisings. The policy makes provision for waste from other areas to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and this could have a potential positive effect on the levels of greenhouse gas emissions generated by landfills in the County. The common core policies should help to address any potential adverse effects on the built and natural environment.

Policy W7: Management and disposal of hazardous waste

Permission will be granted for facilities for the management and disposal of hazardous waste where they are designed to manage waste produced in Oxfordshire. Facilities that are likely to serve a wider area should demonstrate that they will meet a need for waste management that is not adequately provided for elsewhere.

Proposals for new waste management facilities shall meet the criteria in policies W4, W5 and C1 – C11.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Effects will depend upon the exact locations of these facilities. The common core policies will help to mitigate adverse effects and in addition, outside the planning process, proposals for hazardous landfilling would need to be assessed under the Environmental Permitting Regulations.
2a	Landscape	?	?	?				As above
2b	Historic environment	?	?	?				As above
3	Water quality	?	?	?				As above
4	Air quality	?	?	?				As above
5	Greenhouse gas emissions	?	?	?				The policy supports applications for the management of hazardous waste produced in Oxfordshire but these facilities may also provide for this type of waste from elsewhere where a need can be met which is not currently met elsewhere. The policy would allow Oxfordshire to be more self-sufficient with regards to hazardous waste, however it is unknown where other waste may be travelling from and if current exports of hazardous waste may continue. Therefore the effects on ghg emissions from transport are uncertain.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	?	?	?				The policy supports applications for the management of hazardous waste produced in Oxfordshire but these facilities may also provide for this type of waste from elsewhere where a need can be met which is not currently met elsewhere. The policy would allow Oxfordshire to be more self-sufficient with regards to hazardous waste, however it is unknown where other waste may be travelling from and if current exports of hazardous waste may continue. Therefore the effects on the local and strategic road network are uncertain.
8	Population and health	?	?	?				Effects will depend upon the exact locations of these facilities. Proposals for hazardous landfilling would need to be assessed against strict Environmental Agency landfilling criteria as well as planning criteria to ensure no adverse environmental effects. The common core policies will help to mitigate mitigation of significant adverse effects and in addition, outside the planning process, proposals for hazardous landfilling would need to be assessed under the Environmental Permitting Regulations.
9	Soils	?	?	?				As above.
10	Waste hierarchy	?	?	?				Effects are dependent on the management route applied to the hazardous waste (treatment or disposal).
11	Self-sufficiency	+/?	+/?	+/?	R	L	P	The policy supports self-sufficiency and encourages facilities that are designed to deal with hazardous waste arising in Oxfordshire. However, for hazardous waste this is not always possible due to the specialist nature of hazardous waste management facilities and their associated costs and so there is also uncertainty about the effects.
12	Economic growth	+	+	+	R	L	P	Making local provision for management and disposal of hazardous waste has the potential to create local job-opportunities.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Oxfordshire is a net exporter of hazardous waste. The Council acknowledges that the County should be as self-sufficient as is reasonably possible in managing hazardous waste. However, due to the specialist nature of these types of waste management facilities, they currently tend to serve larger catchment areas than a single County. Oxfordshire estimates that additional capacity could be required for approximately 50,000 tpa of hazardous waste produced in the County. Policy W8 does not specifically provide for additional hazardous waste management capacity in Oxfordshire but supports applications designed to meet Oxfordshire's hazardous waste management needs and those that are required to meet a need for waste management that is not adequately provided for elsewhere. The likely effects upon many of the SA objectives are uncertain as they depend upon the exact location and type of management proposed, however the common core policies are expected to ensure the mitigation of significant adverse effects if applications come forward in Oxfordshire. The policy supports self-sufficiency (SA11) and encourages facilities that are designed to deal with hazardous waste arising in Oxfordshire. Making local provision for management and disposal of hazardous waste also has the potential to create local job opportunities, supporting SA12.						

Policy W8: Management of agricultural waste

Proposals for the treatment of agricultural waste within a unit of agricultural production will normally be acceptable; and such proposals will be encouraged to provide for the generation of energy from this waste or heat for local use.

Proposals that are designed to treat agricultural waste in conjunction with other wastes at facilities not located on an agricultural unit will be assessed in accordance with policies W4 and W5.

Provision for the management of non-organic agricultural waste will be made at facilities designed to manage inert, non-hazardous and hazardous wastes in accordance with policies W3 and W7.

All proposals shall meet the criteria in policies C1 – C11.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	0	+	+	I	L	P	By encouraging the treatment of agricultural waste the risk of waste contaminating watercourses should be reduced, thereby having a potentially indirect positive effect against this objective.
2a	Landscape	?	?	?				New waste processing facilities could affect local landscapes, however the effects will be dependent on the location of the facilities. The common core policies should however help to mitigate any adverse effects.
2b	Historic environment	?	?	?				New waste processing facilities could affect heritage assets or their settings, however the effects will be dependent on the location of the facilities. The common core policies should however help to mitigate any adverse effects.
3	Water quality	0	+/?	+/?	I	L	P	By encouraging the treatment of agricultural waste the risk of waste contaminating watercourses and groundwater should be reduced, thereby having a potentially positive effect against this objective. There could however be adverse effects if leachate from the on-farm processing is not correctly managed.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	?	?	?				Effects will be dependent on whether the treatment of waste resolves existing air quality issues arising from agricultural waste, or whether it creates new issues. This will vary on a case by case basis.
5	Greenhouse gas emissions	0	+	+	R	N	P	Encouraging the use of agricultural waste for energy generation will help to reduce greenhouse gas emissions from the waste itself (i.e. methane) and will help to reduce the need for energy generation from power stations.
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	0	+/?	+/?	R	L	P	As a general rule the management of waste on farms should result in a reduction in vehicle movements. However this does depend on where waste would have gone and whether waste is imported in from other units.
8	Population and health	?	?	?				The on-farm management of waste could result in localised odour issues which could affect amenity. However there is also the potential for the management to result in improvement to any existing odour issues. Effects will vary on a case by case basis. The common core policies should also help to mitigate any adverse effects.
9	Soils	0	+/?	+/?	I	L	P	Treatment of wastes on-farm could help to reduce soil contamination. However it could also result in the loss of soil nutrients – that would have resulted if the waste were to have been spread on fields. Core policy C6 will provide mitigation.
10	Waste hierarchy	+	+	+	I	L	P	The policy supports the management of waste higher up the waste hierarchy.
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	0	0				No predicted effects

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	By encouraging the treatment of agricultural waste within agricultural units, Policy W8 should result in positive effects against the SA objectives for biodiversity (SA1), water (SA3), greenhouse gas emissions (SA5) , transport (SA7), soils (SA9) and waste hierarchy (SA10). However there remains some uncertainty over these effects as they are dependent on the treatment processes and how they differ from the way that the waste is currently managed. Uncertain effects are predicted for landscape (SA2a) and historic environment (SA2b) as effects will be dependent on the type, scale and location of the facilities. There is also uncertainty relating to the effects relating to the air quality (SA4) and population (SA8) objectives – the uncertainty relates to how odour issues could either improve or worsen depending on the type of facility and how the treatment differs from current practices.						

Policy W9: Management and disposal of radioactive waste

Permission will be granted for proposals for the management or disposal of low level radioactive waste where it is demonstrated that a significant contribution could be made to the management or disposal of waste produced in Oxfordshire. Proposals that provide for the needs of a wider area should demonstrate they would meet a need for waste management that is not adequately provided for elsewhere.

The Minerals and Waste Local Plan: Part 2 – Site Allocations Document will allocate sites to make specific provision for:

- the treatment and storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a national disposal facility;
- the treatment and storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its eventual disposal; and
- the disposal of low level radioactive waste at bespoke facilities at Harwell Oxford Campus or at Culham Science Centre if this is demonstrated to be the most sustainable option for disposal of this waste.

All proposals shall meet the criteria in policies C1 – C11.

SA Objective		Assessment of effect						
		Duration						
		Short term	Medium term	Long term	Reversibility	Scale	Permanence	Evidence and Reference
1	Biodiversity & geodiversity	**0**	**0**	**0**				There are no specific designated sites within the Harwell site; however there is a SSSI 7km to the south east of the site. There are no designated nature conservation sites within the Culham site or close to the site. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects biodiversity.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
2a	Landscape	**0**	**0**	**0**				The Harwell site is within the North Wessex Downs AONB. The Culham site is 2.5 km from the North Wessex Downs AONB. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects on landscape.
2b	Historic environment	**0**	**0**	**0**				There are 17 Scheduled Monuments within 5kms of the Harwell site. There is a Scheduled Monument 1km east of the Culham site. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects on heritage assets.
3	Water quality	**0**	**0**	**0**				For both sites, the ecological quality of the river (near the sites) is considered poor and the chemical status good. Ground water contamination is present at Harwell and remediation work continues. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with the common core policies which are expected to provide mitigation for any significant adverse effects. Development proposals should demonstrate that development would not lead to a deterioration of the surface water and ground water quality.
4	Air quality	**0**	**0**	**0**				Development at the Harwell and/or Culham sites should ensure that air quality levels which do not damage natural systems are maintained. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W5 and the common core policies which are expected to provide mitigation for any significant adverse effects on amenity, including air quality.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	**0**	**0**	**0**				For intermediate level waste, Policy W9 would lead to radioactive waste being transported from Culham, although the effect on greenhouse gas emissions is judged to be minor due to the short distance travelled and small quantities of waste involved. Effects are therefore considered to be neutral. For low level waste – Policy W9 would lead to waste being stored on site temporarily but would require disposal either in a bespoke facility at Harwell or Culham, a new facility elsewhere in Oxfordshire, or outside Oxfordshire at a landfill site or incinerator which can accept this type of waste. However, quantities to be transported are likely to be relatively small and therefore the effects on transport related greenhouse gas emissions are likely to be minor. A landfill site in neighbouring Northamptonshire is currently being used to dispose of this waste from Harwell. In addition, an incinerator in Hampshire is expected to continue to provide a management route for this waste. Due to the relatively short distances travelled and small quantities of waste involved the effects are considered to be neutral.
6	Flood risk	**0**	**0**	**0**				Neither the Harwell nor the Culham sites are within areas at high risk from flooding.
7	Transport effects	**0**	**0**	**0**				For intermediate level waste - Policy W9 would lead to radioactive waste being transported from Culham although the effect is judged to be neutral due to the short distance travelled and small quantities of waste involved. For low level waste – Policy W9 would lead to waste being stored on site temporarily, but would require disposal either in a bespoke facility at Harwell or Culham, a new facility elsewhere in Oxfordshire, or outside Oxfordshire at a landfill site or incinerator which can accept this type of waste. However, quantities to be transported are likely to be relatively small and therefore effects are likely to be minor. A landfill site in neighbouring Northamptonshire is currently being used to dispose of this waste from Harwell. In addition, an incinerator in Hampshire is expected to continue to provide a management route for this waste. Due to the relatively short distances travelled and small quantities of waste involved the effects are considered to be neutral.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	?	?	?				Both sites are associated with some radioactive discharges to the environment and these are monitored to ensure they do not exceed permitted limits. Outside of the planning system (i.e. the Environmental Permitting regime) the development of storage facilities would be required to demonstrate that these discharge limits would not be exceeded. By storing waste on site this would reduce the negative effects of waste transportation, however it is uncertain with regards to final disposal of low level waste. Proposals at both sites would need to be made in accordance with the common core policies which are expected to provide mitigation for any significant adverse effects.
9	Soils	0	0	0				There is a degree of land contamination at Harwell. Development on this site should demonstrate that it would not lead to adverse effects on land quality. As Policy W9 is designed to assist in the clean-up of Harwell for future employment development, there are not predicted to be any significant effects on SA9. There is no contaminated land identified at Culham. However, development proposals would be required to demonstrate that they would not lead to contamination of land.
10	Waste hierarchy	0	0	0				Policy W9 relates to storage of radioactive waste and final disposal appropriate to this type of waste. It has a neutral effect upon contributing to moving waste up the waste hierarchy.
11	Self-sufficiency	+	+	+	R	L	P	Policy W9 would allow Oxfordshire to be self-sufficient in meeting its radioactive waste storage needs. However, it is uncertain whether the disposal for low level waste would be outside Oxfordshire. It is recognised that disposal of this type of waste for economic and practical reasons will be at the regional/national level.
12	Economic growth	0	+	+	R	L	P	This policy is designed to clean up the Harwell site for future alternative use, more specifically for employment development as part of the Harwell Science and Innovation Campus. This will support future local jobs and education in the area and hence have a positive effect on economic growth in the medium and long term.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Storage of radioactive waste at Harwell (from Harwell and Culham) pending removal to a national disposal facility would lead to some waste from Culham being transported to Harwell, although the effect on greenhouse gas emissions is likely to be neutral due to the distance travelled (approximately 7 miles) and the quantities of waste to be moved (expected to be small). As a result of this, the policy supports SA objective 11 as it would allow Oxfordshire to be self-sufficient in meeting its radioactive waste storage needs. Cleaning up the Harwell site for employment and education purposes (to be part of the Harwell Science and Innovation Campus) also supports SA objective 12 as it supports future jobs in the area and therefore economic growth. In addition, any proposals would have to be made in accordance with Policy W6 and the common core policies, therefore the effects are neutral for the majority of the SA objectives.						

Policy W10: Management and disposal of waste water and sewage sludge

Permission will be granted for proposals for the treatment and disposal of waste water and sewage sludge where they are:

- in the interests of long term waste water management; or
- to improve operational efficiency; or
- to enable planned development to be taken forward.

Proposals should accord with policies C1 – C11 and will otherwise only be considered favourably if there is an over-riding need that cannot be met in a more suitable location and provided that any adverse environmental impact is minimised.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				New facilities could affect biodiversity and geodiversity, however the effects will be dependent on the location of the facilities. The common core policies should however help to mitigate any adverse effects.
2a	Landscape	?	?	?				New facilities could affect local landscapes, however the effects will be dependent on the location of the facilities. The common core policies should however help to mitigate any adverse effects.
2b	Historic environment	?	?	?				New facilities could affect heritage assets or their settings, however the effects will be dependent on the location of the facilities. The common core policies should however help to mitigate any adverse effects.
3	Water quality	0	+	+	I	L	P	Provision of new facilities for waste water and sewage sludge could help to maintain and improve ground and surface water quality by reducing the likelihood of sewers flooding during extreme weather events and contaminating water sources.
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
6	Flood risk	0	+	+	I	L	P	Provision of new additional capacity for waste water should have a positive effect on this SA objective, by reducing risk of flooding, particularly sewer flooding.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	0	+	+	I	L	P	Provision of new facilities for treating and disposing of waste water and sewage sludge could have positive effects on communities by reducing risks to health and wellbeing that may result from flooding of sewers during extreme weather events.
9	Soils	0	+	+	I	L	P	Provision of new facilities for treating and disposing of waste water and sewage sludge could have positive effects on soil quality as potential contamination as a result of flooding of sewers could be reduced.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	+	+	R	L	P	A lack of waste water treatment capacity can act as a block or brake to development. Allowing additional capacity to enable planned development to be taken forward should support economic growth by allowing new developments to go ahead.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	New facilities could have an adverse effect on the SA objectives on biodiversity (SA 1), landscape (SA 2a) and the historic environment (SA 2b); however the effects will be dependent on the location of the facilities. The common core policies however should help to mitigate any adverse effects. Providing new facilities for waste water and sewage sludge could help to maintain and improve ground and surface water quality and soil quality by reducing the likelihood of sewers flooding during extreme weather events and contaminating water sources. This could also have positive effects on communities by reducing risks to health and wellbeing that may result. New additional capacity for waste water could reduce the risk of flooding, particularly sewer flooding thereby having a positive effect on SA6. A lack of waste water treatment capacity can act as a block or brake to development. Allowing additional capacity to enable planned development to be taken forward should support economic growth by allowing new developments to go ahead. Positive effects have therefore been identified for SA12.						

Policy W11: Safeguarding waste management sites

The Minerals and Waste Local Plan: Part 2 – Site Allocations Document will identify sites that will be safeguarded for waste use for the duration of the plan period, comprising:

- sites in waste use and with planning permission allowing the use to continue for the remainder of the plan period;
- sites with planning permission for waste use but where the use or development permitted has not yet been undertaken;
- vacant sites last used for waste purposes; and
- sites allocated for waste management development in the Site Allocations Document.

Pending the adoption of the Site Allocations Document existing and permitted waste management sites (as specified in Appendix XX) are safeguarded for future waste management use.

The list of sites safeguarded for future waste management use will be monitored and kept up to date in the Minerals and Waste Annual Monitoring Report.

Proposals for development that would prevent or prejudice the use of a site safeguarded for waste management will not be permitted unless:

- the development is in accordance with a site allocation for development in an adopted local plan or neighbourhood plan; or
- equivalent waste management capacity can be appropriately and sustainably provided elsewhere; or
- it can be demonstrated that the site is no longer required for waste management.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	**0**	**0**	**0**				No predicted effects
2a	Landscape	**0**	**0**	**0**				No predicted effects
2b	Historic environment	**0**	**0**	**0**				No predicted effects
3	Water quality	**0**	**0**	**0**				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	+	+	R	N	P	Safeguarded sites can help to ensure that there are suitable sites within Oxfordshire for waste management allowing for waste to be managed within the County and therefore reducing the distances waste is transported for management.
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	0	+	+	R	L	P	Safeguarded sites can help to ensure that there are suitable sites within Oxfordshire for waste management allowing for waste to be managed within the County and therefore reducing the distances waste is transported for management.
8	Population and health	0	0	0				No predicted effects
9	Soils	0	0	0				No predicted effects
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	+	+	R	L	P	Safeguarding sites can indirectly contribute to self-sufficiency by making sure there are available suitable sites for waste management development within the County.
12	Economic growth	0	+	+	R	L	P	Safeguarding waste sites will help to retain local jobs associated with the waste industry and support the local economy.
Summary of Assessment and Mitigation Measures		Policy W11 relates to the safeguarding of waste management sites against other forms of development. This policy does not affect most SA objectives as it specifically seeks to ensure that safeguarded sites are not lost to other development. It is however assessed as having a positive indirect effect on enabling Oxfordshire to be self-sufficient in its waste management (SA11). This is because the policy would ensure that there are available sites within Oxfordshire suitable for waste management uses which provide potential developers with local site alternatives which in turn would lead to facilities being developed within Oxfordshire close to the source of waste arising. This would also support SA12 by helping to retain local jobs associated with the waste industry, thus supporting the local economy. The policy would also have potential for indirect positive effects on objectives SA5 and SA7 on reducing greenhouse gas emissions and transport related effects.						

D3. Common Core Policies for Minerals and Waste

Policy C1: Sustainable Development

A positive approach will be taken to minerals and waste development in Oxfordshire, reflecting the presumption in favour of sustainable development contained in the National Planning Policy Framework and the aim to improve economic, social and environmental conditions of the area.

Planning applications that accord with the policies in this plan will be approved, unless material considerations indicate otherwise. Where there are no policies relevant to the application, or relevant plan policies are out of date, planning permission will be granted unless material considerations indicate otherwise, taking into account whether:

- any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits of the proposed development when assessed against the National Planning Policy Framework; or
- specific policies in the National Planning Policy Framework indicate that the development should be restricted.[2]

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Taking a more positive approach to minerals and waste development in Oxfordshire, as required by the policy, has the potential to lead to approvals for minerals and waste development which in the absence of this policy (and paragraph 14 of the NPPF) may otherwise have been rejected on the grounds of sustainability constraints. This could have associated adverse effects (albeit non-significant effects) on this objective.

[2] For example, those policies relating to sites protected under the Birds and Habitats Directives (NPPF paragraph 119) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, Heritage Coast or within a National Park (or the Broads Authority); designated heritage assets; and locations at risk of flooding or coastal erosion.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
2a	Landscape	?	?	?				See above
2b	Historic environment	?	?	?				See above
3	Water quality	?	?	?				See above
4	Air quality	?	?	?				See above
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	?	?	?				See SA1.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	?	?	?				See SA1.
9	Soils	?	?	?				See SA1
10	Waste hierarchy	?	?	?				See SA1
11	Self-sufficiency	+	+	+	R	L	P	By taking a more positive approach to development this could allow for the development of waste management facilities and minerals beyond those included in the Local Plan. Any such additional development is likely to result in a positive effect on this SA objective.
12	Economic growth	+	+	+	R	L	P	By taking a more positive approach to development this could allow for the development of waste management facilities and minerals workings beyond those included in the Local Plan. Any such additional development is likely to result in a positive effect on the local economy.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Taking a more positive approach to minerals and waste development in Oxfordshire, as required by the policy, has the potential to lead to approvals for minerals and waste development which in the absence of this policy (and paragraph 14 of the NPPF) may otherwise have been rejected on the grounds of sustainability constraints. This could have associated adverse effects (albeit non-significant effects) on a number of environmental objectives, including those on biodiversity, landscape , water quality, air quality, flooding and soils. Uncertain effects have therefore been identified for these objectives. Taking a more proactive approach could also result in adverse effects on local communities, and similarly uncertain effects have been identified for this objective. Positive effects have been identified in relation to the objectives SA11 and SA12 as the policy could allow for the development of waste management facilities and minerals workings, beyond those included in the Local Plan. Any such additional development is likely to result in positive effects on the local economy, and enable Oxfordshire to be self-sufficient in terms of its waste management and contributing to minerals LAA provisions.						

Policy C2: Climate Change

Proposals for minerals or waste development, including restoration proposals, should take account of climate change for the lifetime of the development from construction through operation and decommissioning. Applications for development should adopt a low carbon approach and measures should be considered to minimise greenhouse gas emissions and provide flexibility for future adaptation to the impacts of climate change.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	Ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, could have a positive effect on biodiversity. For example, by providing habitats that will allow species to adapt to climate change, or by ensuring that any habitats created as part of restoration proposals can cope with or adapt to the changing climate – i.e. to ensure the success of the restoration proposal in the long-term.
2a	Landscape	+	+	+	I	L	P	Ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, could have a positive effect on landscape. For example, considering the future climate when developing restoration proposals should ensure that they are a success – i.e. in terms of the habitat that is created being able to cope with or adapt to the future climate – thereby ensure that the landscape that is created is a success in the longer-term.
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	0	0	0				No predicted effects
4	Air quality	?	?	?				By requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network may be reduced. If this were to be the case it would have a positive effect on this objective. However at this stage it remains uncertain.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	++	++	++	R	N	P	This policy directly supports this SA objective and therefore significant positive effects have been predicted in relation to this objective, as a result of the requirement to adopt a low carbon approach and consider measures to minimise ghg emissions.
6	Flood risk	+	+	+	I	L	P	This policy supports this SA objective by requiring proposals for minerals or waste development, including restoration proposals, to take into account climate change for the lifetime of the development and to provide flexibility for future adaptation to the impacts of climate change. It is assumed that this in part refers to the need to mitigate flooding.
7	Transport effects	?	?	?				By requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network may be reduced. If this were to be the case it would have a positive effect on this objective. However at this stage it remains uncertain.
8	Population and health	?	?	?				By requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network may be reduced. If this were to be the case it would have a positive effect on this objective by reducing effects on local communities from traffic and poor air quality. However at this stage it remains uncertain.
9	Soils	0	0	0				No predicted effects
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	+	+	+	R	L	P	Requiring that minerals and waste developments take account of climate change over the life of development should help to ensure that these can continue to contribute towards enabling Oxfordshire to be self-sufficient in its waste management and its requirements for minerals , regardless of future changes to the climate.
12	Economic growth	+	+	+	R	L	P	Requiring that minerals and waste developments take account of climate change over the life of development should help to ensure that these can continue to contribute to Oxfordshire's economic growth regardless of future changes to the climate, protecting local jobs and providing the necessary materials for other industry.

SA Objective	Assessment of effect						
	Duration			Reversibility	Scale	Permanence	Evidence and Reference
	Short term	Medium term	Long term				
Summary of Assessment and Mitigation Measures	Significant positive effects have been identified with regards to SA5 as a result of the requirement to adopt a low carbon approach and consider measures to minimise greenhouse gas emissions. It could be that by requiring developments to take a low carbon approach and consider measures to minimise greenhouse gas emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having a positive effect on SA4 (air quality), SA7 (transportation), SA8 (people and local communities) and SA9 (land and soil quality), however the effects are considered to be uncertain. Ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, could have a positive effect on biodiversity and landscape. For example, by providing habitats that will allow species to adapt to climate change, or by ensuring that any habitats created as part of restoration proposals can cope with or adapt to the changing climate – i.e. to ensure the success of the restoration proposal in the long-term. This policy supports SA6 by requiring proposals for minerals or waste development, including restoration proposals, to take into account of climate change for the lifetime of the development and to provide flexibility for future adaptation to the impacts of climate change. It is assumed that this in part refers to the need to mitigate flooding. Positive effects have been identified for objectives SA11 and SA12 as requiring that minerals and waste developments take account of climate change over the life of development should help to ensure that they can continue to contribute towards enabling Oxfordshire to be self-sufficient in its waste management and towards Oxfordshire's locally agreed figure and can continue to contribute to Oxfordshire's economic growth.						

Policy C3: Flooding

Minerals and waste development will, wherever possible, take place in areas with the lowest probability of flooding. Where development takes place in an area of identified flood risk this should only be where alternative locations in areas of lower flood risk have been explored and discounted (using the Sequential Test and Exceptions Test as necessary) and where a flood risk assessment is able to demonstrate that the risk of flooding is not increased from any source, including:

- an impediment to the flow of floodwater;
- the displacement of floodwater and increased risk of flooding elsewhere;
- a reduction in existing floodwater storage capacity;
- an adverse effect on the functioning of existing flood defence structures; and
- the discharge of water into a watercourse.

The opportunity should be taken to increase flood storage capacity in the flood plain where possible, particularly through the restoration of sand and gravel workings.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	Waste developments are unlikely to be located in the floodplain. However it is important that any new development will not increase flood risk elsewhere. This may have an indirect positive effect on protecting natural habitats and sensitive flora and fauna. Ensuring that minerals development will not increase flood risk elsewhere, by maintaining the effective functioning of flood defences and floodwater storage capacity should have indirect short and long term positive effect on ensuring that natural habitats and sensitive flora and fauna downstream from minerals working areas should not be adversely affected by floodwaters. Any restoration of minerals working sites which incorporates floodwater storage could have an indirect long term beneficial effect in terms of reducing existing flood risk and may create additional habitat.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
2a	Landscape	0	0	0				No predicted effects
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	+	+	+	I	L	P	Limiting the discharge of water in watercourses should help to maintain surface water quality. In addition, ensuring that waste or minerals development does not increase flood risk, and where possible, increasing flood storage capacity should indirectly assist to maintain the quality of water bodies which might otherwise be adversely affected by increased volumes and rates of flow or run-off.
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	++	++	++	I	L	P	This policy directly supports this SA objective and therefore a significant positive effect has been identified. In particular, taking discharges into watercourses into consideration and where possible increasing flood storage capacity in the flood plain should have positive effects.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	+	+	+	I	L	P	This policy should have an indirect positive long term effect on local communities in terms of preventing any additional risk to people's health and assets from flooding as a result of minerals development. The creation of new flood storage during restoration could provide recreational opportunities for local communities.
9	Soils	?	?	?				This policy may have an indirect positive effect on protection of existing soil quality to the extent that it ensures that minerals or waste development does not increase flood risk which might otherwise impact on valued agricultural land or result in soil contamination/pollution from runoff.
10	Waste hierarchy	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
11	Self-sufficiency	+	+	+	R	L	P	The policy would allow sand and gravel working in areas of identified flood risk (using the sequential test and exceptions test as necessary). This would help Oxfordshire remain self-sufficient in aggregate provision.
12	Economic growth	+	+	+	R	L	P	The policy is likely to have a minor indirect positive effect on the economy as the prevention of flood risk supports economic growth by maintaining business continuity.
Summary of Assessment and Mitigation Measures		Policy C3 should have significant positive effects on SA6 (flooding) as it directly supports the objective. The policy should also have a number of indirect positive effects on the SA objectives which relate to the protection of valued habitats, flora and fauna, soil and water quality, local communities and businesses – by preventing damage, disruption and distress caused by flood risk, which might arise if these risks were not appropriately mitigated when new minerals or waste development takes place.						

Policy C4: Water environment

Proposals for minerals and waste development will need to demonstrate that there would be no unacceptable adverse impact on or risk to:

- The quantity or quality of surface or groundwater resources required for habitats, wildlife and human activities;
- The quantity or quality of water obtained through abstraction unless acceptable alternative provision can be made; and
- The flow of groundwater at or in the vicinity of the site.

Proposals for minerals and waste development should ensure that the River Thames and other watercourses and canals of significant landscape, nature conservation or amenity value are adequately protected.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	This policy should result in positive effects on natural habitats to the extent that it requires that there are no "unacceptable" adverse effects on or risk to the quantity or quality of surface or groundwater resources required for habitats or wildlife. It also requires that proposals should ensure that the River Thames and other watercourses and canals of significant nature conservation value are adequately protected.
2a	Landscape	+	+	+	I	L	P	Protection of the River Thames and other watercourses and canals of significant landscape value through the implementation of this policy should have a positive effect on landscape character.
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	++	++	++	I	L	P	The policy directly and positively addresses ground and surface water quality and therefore significant positive effects have been predicted for this objective.
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
6	Flood risk	+	+	+	I	L	P	Ground water flows can have an effect on flood risk, so addressing adverse effects or risks to ground water flows has an in-direct positive effect in relation to this objective.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	+	+	+	I	L	P	Mineral workings may cause dewatering and therefore impact on the availability of groundwater to serve the water supply needs of local communities – this risk is positively addressed through this policy. The policy also recognises the amenity values of maintaining water quality. The policy captures the value of maintaining water quantity and quality for other human activities (such as recreational use). The River Thames for example, is a very important recreational resource.
9	Soils	+	+	+	I	L	P	Maintenance of ground and surface water quality should have an indirect positive effect on protecting the productivity of agricultural land and preventing soil contamination/pollution.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	+	+	+	R	L	P	To the extent that the economy relies on the abstraction of water from surface and groundwater to function and grow, it is important to protect these resources, which the policy sets out to do.
Summary of Assessment and Mitigation Measures		Significant positive effects have been identified for objective SA3 (water), as the policy directly supports that objective. Policy C4 has an indirect positive effect on many of the SA objectives, as maintaining water quality and quantity is an essential precursor to the proper functioning of ecosystems, landscapes, and businesses. Positive effects have also been identified for SA8 (local communities) due to the link of that objective with water supply and also the recreational value of water resources.						

Policy C5: Local environment, amenity and economy

Proposals for minerals and waste development shall demonstrate that they will not have an unacceptable adverse impact on:

- the local environment;
- human health and safety;
- residential amenity and other sensitive receptors; and
- the local economy;

including from:

- noise;
- dust;
- visual intrusion;
- light pollution;
- traffic;
- air quality;
- odour;
- vermin;
- birds;
- litter;
- mud on the road;
- vibration;
- surface or ground contamination;
- tip and quarry-slope stability;
- differential settlement of quarry backfill;
- subsidence; and
- the cumulative impact of development.

Where necessary, appropriate separation distances or buffer zones between minerals and waste developments and occupied residential property or other sensitive receptors and/or other mitigation measures will be required, as determined on a site-specific, case-by-case basis.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	In seeking to protect the environment and amenity there is likely to be an indirect positive effect on this objective as a result of the implementation of this policy. Biodiversity and geodiversity is specifically addressed by Policy C7.
2a	Landscape	+	+	+	I	L	P	The policy seeks to protect the local environment and other sensitive receptors from unacceptable adverse impacts, including from visual intrusion and light pollution. The 'environment' and 'other sensitive receptors' includes local landscape character and so there is likely to be a direct positive effect on this objective as a result of the implementation of this policy.
2b	Historic environment	+	+	+	I	L	P	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts. The 'environment' and 'other sensitive receptors' includes the historic and built heritage and so there is likely to be a direct positive effect on this objective as a result of the implementation of this policy.
3	Water quality	+	+	+	I	L	P	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts, including surface or ground contamination, which should cover water sources.
4	Air quality	+	+	+	R	L	P	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts, including dust and air quality and therefore the policy is likely to help to achieve this SA objective.
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	+	+	+	R	L	P	This policy seeks to minimise adverse effects attributed to minerals and waste activities.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	++	++	++	I	L	P	Significant positive effects have been identified for this policy as it directly aims to address the negative effects of minerals and waste development on local communities through addressing potential effects on human health and safety and residential amenity, including from noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, mud on the road and vibration. The requirement to ensure that where required there are appropriate separation distances or buffer zones further strengthen this policy in relation to this objective.
9	Soils	+	+	+	I	L	P	The policy aims to address the negative effects of minerals and waste development on the environment, including from surface or ground contamination, dust, air quality and litter which could directly or indirectly help to prevent soil contamination. In addition, ensuring that there are no unacceptable adverse effects resulting from tip and quarry-slope stability, differential settlement of quarry backfill and subsidence should also have a positive effect on this SA objective.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	0	0				No predicted effects
Summary of Assessment and Mitigation Measures		Policy C5 seeks to protect the environment, residential amenity and other sensitive receptors from unacceptable adverse effects. The 'environment' and 'other sensitive receptors' can be construed to include those SEA elements covered by the SA objectives, including biodiversity, landscape character, historic and built heritage, air, water and people. The policy specifically covers noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, mud on the road, vibration, surface or ground contamination, tip and quarry-slope stability, differential settlement of quarry backfill and subsidence, as well as any cumulative effect from development. Significant positive effects have been identified with regards to SA8 (communities) whilst there are also positive effects for SA7 (transport) as the policy aims to minimise the adverse effects associated with traffic from minerals and waste activities.						

Policy C6: Agricultural land and soils

Proposals for minerals and waste development shall demonstrate that they take into account the presence of any best and most versatile agricultural land.

The permanent loss of best and most versatile agricultural land will only be permitted where it can be shown that there is a need for the development which cannot reasonably be met using lower grade land, taking into account other relevant considerations.

Development proposals should make provision for the management and use of soils in order to maintain soil quality, including making a positive contribution to the long-term conservation of soils in any restoration.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	The protection of best and most versatile land and maintenance of soil quality should have an indirect positive effect on this objective, by ensuring that such soils can support biodiversity in the future.
2a	Landscape	0	+	+	I	L	P	Protection of soil quality should have an indirect positive effect on this objective in the medium to long term through the preservation of soils that support the vegetation that makes up the landscape.
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	0	0	0				No predicted effects
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	**0**	**0**	**0**				No predicted effects
9	Soils	**++**	**++**	**++**	**I**	**L**	**P**	This policy should have a significant positive effect on this SA objective. It should be noted however, that where suitable, inert infill material is required to achieve high quality agricultural restoration this may not always be available.
10	Waste hierarchy	**0**	**0**	**0**				No predicted effects
11	Self-sufficiency	**0**	**0**	**0**				No predicted effects
12	Economic growth	**0**	**0**	**0**				No predicted effects
Summary of Assessment and Mitigation Measures		Policy C6 is likely to have a significant positive effect upon SA objective 9 (soils) and an indirect positive effect on the objectives SA1 and SA2a, which relate to biodiversity and local landscape character. Effects on other SA objectives are expected to be neutral.						

Policy C7: Biodiversity and Geodiversity

Minerals and waste development should conserve and, where possible, deliver a net gain in biodiversity.

The highest level of protection will be given to sites and species of international nature conservation importance (e.g. Special Areas of Conservation and European Protected Species) and development that would be likely to adversely affect them will not be permitted.

Development that would be likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other development) will not be permitted except where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the Site of Special Scientific Interest and any broader impacts on the national network of Sites of Special Scientific Interest.

Development that would result in the loss or deterioration of irreplaceable habitats, including ancient woodland and aged or veteran trees, will not be permitted except where the need for and benefits of the development in that location clearly outweigh the loss.

Development shall ensure that no significant harm would be caused to:

- Local Nature Reserves;
- Local Wildlife Sites;
- Local Geology Sites;
- Sites of Local Importance for Nature Conservation;
- Protected, priority or notable species and habitats.

Development that would result in significant harm will not be permitted, unless the harm can be adequately mitigated or, as a last resort, compensated for to result in a net gain in biodiversity (or geodiversity) or, if the impact cannot be fully mitigated or compensated for, the benefits of the development on that site clearly outweigh the harm.

All proposals for mineral working and landfill shall demonstrate how the development will make an appropriate contribution to the maintenance and enhancement of local habitats, biodiversity or geodiversity (including fossil remains and trace fossils), including contributing to the objectives of the Conservation Target Areas wherever possible. Satisfactory long-term management arrangements for restored sites shall be clearly set out and included in proposals. These should include a commitment to ecological monitoring and remediation (should habitat creation and/or mitigation prove unsuccessful).

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	++	++	++	I	L	P	Significant positive effects are predicted as this policy directly addresses potential impacts on biodiversity/geodiversity at the international, national, local level and its implementation should have a very positive long term effect on the attainment of this SA objective. The requirements to deliver a net gain in biodiversity and for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term.
2a	Landscape	+	+	+	I	L	P	The policy should have a positive long term effect on protecting landscape character and local distinctiveness, as local habitats and their biodiversity and geological features are a major component of the local landscape character. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term.
2b	Historic environment	0	0	0				No predicted effects
3	Water quality	+	+	+	I	L	P	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective as water bodies are an important component of natural habitats.
4	Air quality	0	0	0				No predicted effects
5	Greenhouse gas emissions	0	0	0				No predicted effects
6	Flood risk	+	+	+	I	L	P	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective as natural habitats can assist to reduce flood risk by regulating run-off and water flows.
7	Transport effects	0	0	0				No predicted effects
8	Population and health	+	+	+	I	L	P	This policy should indirectly have a positive effect on local communities by protecting and where possible enhancing local landscape and natural habitats (and thus local amenity) through the sensitive siting of new minerals and waste development. And preservation of biodiversity.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
9	Soils	+	+	+	I	L	P	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective by indirectly protecting the land and soil quality within these habitats.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	0	0				No predicted effects
Summary of Assessment and Mitigation Measures		Policy C7 directly supports SA1 relating to biodiversity and geodiversity and significant positive effects on the objective are therefore predicted. Minor positive effects have been predicted for SA2a, in relation to the link between biodiversity and landscape character and local distinctiveness, whilst indirect positive effects on water quality, flood risk, soil quality and population and health have also been identified due to their interrelationships with biodiversity. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term. Effects on the other SA objectives are expected to be neutral.						

Policy C8: Landscape

Proposals for minerals and waste development shall demonstrate that they respect and where possible enhance local landscape character, and are informed by landscape character assessment. Proposals shall include adequate and appropriate measures to mitigate adverse impacts on landscape, including careful siting, design and landscaping.

Great weight will be given to conserving the landscape and scenic beauty of Areas of Outstanding Natural Beauty (AONB) and high priority will be given to the enhancement of their natural beauty. Proposals for minerals and waste development within an AONB or that would significantly affect an AONB shall demonstrate that they take this into account and that they have regard to the relevant AONB Management Plan. Major developments within AONBs will not be permitted except where it can be demonstrated they are in the public interest. Development within AONBs shall normally only be small-scale, to meet local needs and should be sensitively located and designed.

Where adverse impacts cannot be avoided or adequately mitigated, compensatory environmental enhancements shall be made to offset the residual landscape and visual impacts.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	+	+	+	I	L	P	The protection and enhancement of local landscape character should have an indirect positive effect on this objective by indirectly assisting to protect natural habitats and geological features, as these habitats and geological features are a major component of the local landscape character.
2a	Landscape	++	++	++	I	L	P	This policy directly supports this SA objective and its implementation should have a significant positive effect on the attainment of the objective. Great weight is afforded to the conservation of AONBs, including the consideration of changes outside an AONB that could significantly affect an AONB, and high priority given to their enhancement - specifically supporting one of the sub-objectives.
2b	Historic environment	+	+	+	I	L	P	The policy will help to protect historic landscapes.
3	Water quality	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	**0**	**0**	**0**				No predicted effects
5	Greenhouse gas emissions	**0**	**0**	**0**				No predicted effects
6	Flood risk	**0**	**0**	**0**				No predicted effects
7	Transport effects	**0**	**0**	**0**				No predicted effects
8	Population and health	**+**	**+**	**+**	**I**	**L**	**P**	This policy should indirectly have a positive effect on local communities by protecting and where possible enhancing local landscape character (and thus local amenity) through the sensitive siting, design and landscaping of new minerals and waste development.
9	Soils	**0**	**0**	**0**				No predicted effects
10	Waste hierarchy	**0**	**0**	**0**				No predicted effects
11	Self-sufficiency	**0**	**0**	**0**				No predicted effects
12	Economic growth	**0**	**0**	**0**				No predicted effects
Summary of Assessment and Mitigation Measures		Policy C8 directly supports SA objective 2a 'landscape' and therefore significant positive effects have been predicted for that objective. A minor positive effect on objective SA2b, relating to the historic environment, has also been predicted due to the potential benefits for historic landscapes. An indirect positive effect has been identified on objective SA1 relating to the protection of biodiversity and natural habitats. Positive effects have also been identified with regards to objective SA8 in relation to the benefits to local communities that would result from landscape protection and enhancement. Effects on other SA objectives are expected to be neutral.						

Policy C9: Historic environment and archaeology

Proposals for minerals and waste development will not be permitted unless it is demonstrated including where necessary through prior investigation, that they or associated activities will not have an unacceptable adverse impact on the historic environment.

Great weight will be given to the conservation of designated heritage assets: Blenheim Palace World Heritage Site; scheduled monuments; listed buildings; conservation areas; historic battlefields; registered parks and gardens; and non-designated archaeological assets which are demonstrably of equivalent significance to a scheduled monument; and the setting of those assets.

Where an application would affect a non-designated heritage asset, the benefits of the proposal will be balanced against the scale of harm to or loss of the heritage asset and its significance.

Where, following assessment of an application, the loss (wholly or in part) of a heritage asset is considered acceptable in principle, the applicant will be required to record and advance understanding of that asset, proportionate to the nature and level of the asset's significance, and to publish their findings.

Proposals for mineral working and landfill shall wherever possible demonstrate how the development will make an appropriate contribution to the conservation and enhancement of the historic environment.

SA Objective		Assessment of effect						
		Duration						
		Short term	Medium term	Long term	Reversibility	Scale	Permanence	Evidence and Reference
1	Biodiversity & geodiversity	0	0	0				No predicted effects
2a	Landscape	0	0	0				No predicted effects
2b	Historic environment	++	++	++	I	L	P	This policy directly supports the SA objective and therefore significant positive effects have been predicted. The policy goes beyond the protection and conservation of assets and their settings to also require wherever possible the enhancement of the historic environment.
3	Water quality	0	0	0				No predicted effects

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
4	Air quality	**0**	**0**	**0**				No predicted effects
5	Greenhouse gas emissions	**0**	**0**	**0**				No predicted effects
6	Flood risk	**0**	**0**	**0**				No predicted effects
7	Transport effects	**0**	**0**	**0**				No predicted effects
8	Population and health	**+**	**+**	**+**	**I**	**L**	**P**	Insofar as the protection of heritage assets and their settings also provides for the enhancement of local amenity and access to the historic environment, the policy has an indirect positive effect on this SA objective.
9	Soils	**0**	**0**	**0**				No predicted effects
10	Waste hierarchy	**0**	**0**	**0**				No predicted effects
11	Self-sufficiency	**0**	**0**	**0**				No predicted effects
12	Economic growth	**0**	**0**	**0**				No predicted effects
Summary of Assessment and Mitigation Measures		Policy C9 has been assessed as having a significant positive effect on SA objective 2b as it will protect the County's historic environment from inappropriate minerals and waste developments and it also seeks to achieve enhancements to the historic environment wherever possible. The policy also should have indirect positive effects on local communities (SA objective 8). There is no direct relationship between this policy and the other SA objectives and therefore effects on those objectives are expected to be neutral.						

Policy C10: Transport

Minerals and waste development will be expected to make provision for safe and suitable access to the advisory lorry routes shown on the Oxfordshire Lorry Route Maps in ways that maintain and, if possible, lead to improvements in:

- the safety of all road users including pedestrians;
- the efficiency and quality of the road network; and
- residential and environmental amenity, including air quality.

Where development leads to a need for improvement to the transport network to achieve this, developers will be expected to provide such improvement or make an appropriate financial contribution.

Where practicable minerals and waste developments should be located, designed and operated to enable the transport of minerals and/or waste by rail, water, pipeline or conveyor.

Where minerals and/or waste will be transported by road:

a) mineral workings should as far as practicable be in locations that minimise the road distance to locations of demand for the mineral, using roads suitable for lorries, taking into account the distribution of potentially workable mineral resources; and

b) waste management and recycled aggregate facilities should as far as practicable be in locations that minimise the road distance from the main source(s) of waste, using roads suitable for lorries, taking into account that some facilities are not economic or practical below a certain size and may need to serve a wider than local area.

Proposals for minerals and waste development that would generate significant amounts of traffic will be expected to be supported by a transport assessment or transport statement, as appropriate, including mitigation measures where applicable.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	?	?	?				Transportation that maintains or improves environmental amenity may have an indirect but localised positive effect due to the fact that some species are sensitive to the dust, vibration and noise generated by HGV traffic and reduction of these effects should be positive. However the installation of alternative infrastructure for transportation (water based, pipeline, and conveyor) also has the potential to adversely affect biodiversity where such infrastructure is proposed. Effects are uncertain as they are dependent on the location of the new infrastructure.
2a	Landscape	?	?	?				The installation of alternative infrastructure for transportation (water based, pipeline, and conveyor) has the potential to adversely affect local landscapes where such infrastructure is proposed. Effects are uncertain as they are dependent on the location of the new infrastructure.
2b	Historic environment	?	?	?				The installation of alternative infrastructure for transportation (water based, pipeline, and conveyor) has the potential to adversely affect heritage assets where such infrastructure is proposed. Effects are uncertain as they are dependent on the location of the new infrastructure.
3	Water quality	+	+	+	R	L	P	This policy may have an indirect positive effect on this SA objective by addressing the adverse effects on water quality which can arise from contaminated dust on roads from the transportation of minerals causing pollution through runoff. Minimising transportation would reduce dust and thereby minimise the potential for water pollution.
4	Air quality	++	++	++	R	L	P	This policy seeks to maintain and if possible lead to improvements in residential and environmental amenity, including air quality, along with ensuring that waste and minerals development does not affect the efficiency and quality of the road network. This directly supports this SA objective and therefore significant positive effects have been predicted. Reducing the number of road miles travelled to reach markets should also have a positive effect on improving air quality, as would a shift to other modes of transport including rail, water, pipeline and conveyor.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
5	Greenhouse gas emissions	++	++	++	R	N	P	Reducing the number of road miles travelled to reach markets and promoting a shift to using non-road modes of transport, including rail, water, pipeline and conveyor, directly supports this SA objective and therefore significant positive have been identified. Improving the efficiency and quality of the road network could also have a positive effect on ghg emissions by reducing congestion, and thus the higher levels of emissions associated with slow moving traffic.
6	Flood risk	0	0	0				No predicted effects
7	Transport effects	++	++	++	R	L	P	This policy directly supports this SA objective and should have a significant positive effect towards the attainment of the objective.
8	Population and health	++	++	++	R	L	P	This policy should have a significant positive effect on minimising impacts on local communities as it seeks to address the transportation impacts of minerals and waste development on residential amenity. The policy also requires development to make provision for safe access and improve road safety for all users including pedestrians thereby also having positive effects on people and the local community. The requirements for certain minerals and waste developments to produce traffic assessments/statements will further help to avoid or mitigate traffic impacts on local communities.
9	Soils	+	+	+	R	L	P	This policy may have an indirect positive effect on this SA objective by addressing the adverse effects on soils which can arise from the transportation of minerals causing pollution through runoff. Minimising transportation would reduce dust and thereby minimise the potential for soil contamination.
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	+	+	+	R	L	P	The policy aims to provide the necessary and appropriate transport infrastructure to ensure that minerals are sustainably transported to their markets, thus helping to meet Oxfordshire's local needs for minerals and self-sufficiency in waste management.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
12	Economic growth	+	+	+	R	L	P	The policy should indirectly assist Oxfordshire's economic growth by providing the necessary and appropriate infrastructure to ensure that waste and minerals are transported efficiently to the relevant markets/management facilities. It should also help to address the issue of congestion which has an effect on business efficiency.
Summary of Assessment and Mitigation Measures		Policy C10 is expected to have a significant positive effect in relation to objectives SA4 (air quality), SA5 (greenhouse gas emissions), SA7 (transport) and SA8 (local communities) associated with reductions in transport impacts, whilst indirect positive effects have been identified for objectives SA3 (water quality) and SA9 (land and soil quality) by addressing the adverse effects on water and soils which can arise through the transportation of minerals causing pollution through runoff. The policy is also expected to have indirect positive effects on self-sufficiency in waste management and sustainable minerals provision (SA11) and economic growth (SA12). Uncertain effects have been identified with regards to objectives SA1 (biodiversity), SA2a (landscape) and SA2b (heritage) as the installation of alternative infrastructure could have adverse effects - although they will be dependent on the location.						

Policy C11: Rights of way

The integrity and amenity value of the rights of way network shall be maintained and if possible it shall be retained in situ in safe and useable condition. Diversions should be safe, attractive and convenient and, if temporary, shall be reinstated as soon as possible. If permanent diversions are required, these should seek to enhance and improve the public rights of way network.

Improvements and enhancements to the rights of way network will generally be encouraged and public access sought to restored mineral workings, especially if this can be linked to wider provision of green infrastructure. Where appropriate, operators and landowners will be expected to make provision for this as part of the restoration and aftercare scheme.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
1	Biodiversity & geodiversity	**0**	**0**	**0**				The supporting text notes that public access to restored mineral workings should be carefully managed so as to not impact on any sensitive habitats and species in the restored area.
2a	Landscape	**0**	**0**	**0**				No predicted effects
2b	Historic environment	**0**	**0**	**0**				No predicted effects
3	Water quality	**0**	**0**	**0**				No predicted effects
4	Air quality	**0**	**0**	**0**				No predicted effects
5	Greenhouse gas emissions	**0**	**0**	**0**				No predicted effects
6	Flood risk	**0**	**0**	**0**				No predicted effects
7	Transport effects	**+**	**+**	**+**	**R**	**L**	**P**	Enhancements to the public rights of way network could have an indirect positive effect on this objective by encouraging people to make local trips on foot or bicycle where such improvements are provided, reducing traffic conflicts on local roads.

SA Objective		Assessment of effect						
		Duration			Reversibility	Scale	Permanence	Evidence and Reference
		Short term	Medium term	Long term				
8	Population and health	+	++	++	R	L	P	The policy provides opportunities for long term enhancement of local amenity and improved access to the countryside by improving the right of way network and therefore significant positive effects in relation to this SA objective have been identified.
9	Soils	0	0	0				No predicted effects
10	Waste hierarchy	0	0	0				No predicted effects
11	Self-sufficiency	0	0	0				No predicted effects
12	Economic growth	0	0	0				No predicted effects
Summary of Assessment and Mitigation Measures		Enhancements to the public rights of way network should have a significant positive effect on local communities (SA8) and indirect positive effects on the local road network by encouraging people to make local trips on foot or bicycle, reducing traffic conflicts on local roads (SA7). The supporting text notes that public access to restored mineral workings should be carefully managed so as to not impact adversely on any sensitive habitats and species in the restored area.						