

Sustainability Appraisal of the Worcestershire Minerals Local Plan

Main Modifications Addendum

Worcestershire County Council

Final report

Prepared by LUC

July 2021



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Chapter 1

Introduction

1.1 LUC was appointed by Worcestershire County Council (hereafter referred to as WCC) in April 2018 to carry out the Sustainability Appraisal (SA) incorporating Strategic Environmental Assessment (SEA) of the Worcestershire Minerals Local Plan (hereafter referred to as the MLP). The Publication Version MLP [See reference 1] was submitted to the Secretary of State for Examination in December 2019 and hearing sessions took place in November and December 2020.

1.2 Following these hearings, WCC worked with the Inspectors to prepare a Schedule of Main Modifications to the Publication Version MLP. The purpose of this SA Addendum is to consider whether the proposed modifications are likely to have any new or different sustainability effects to those identified in the SA of the Publication Version MLP (2019) and, if so, carry out SA of the proposed modifications. This addendum should be read in conjunction with the SA of the Publication Version MLP (2019) [See reference 2].

1.3 The Council also identified a number of additional modifications (minor modifications). However, the additional modifications are not included in this addendum as they are minor changes that do not change the policy wording and do not have any implications for the SA.

1.4 The remainder of this SA Addendum is structured as follows:

- Chapter 2 sets out the methodology used for assessments presented in this Addendum.
- Chapter 3 summarises the appraisal of the Main Modifications.
- Chapter 4 sets out the implications of the Main Modifications for the cumulative effects of the MLP.

- Chapter 5 presents a summary of this SA Addendum and sets out next steps for the MLP and the SA.

1.5 This SA Addendum is supported by three appendices:

- Appendix A sets out the SA Framework.
- Appendix B presents appraisal matrices for new and updated policies and areas of search.
- Appendix C reproduces the schedule of Main Modifications, with commentary on the SA implications of each proposed modification.

1.6 In addition, a separate annex has been provided, which reproduces the Schedule of Main Modifications and sets out the SA implications for each.

Chapter 2

Methodology

2.1 The approach to assessing the SA implications of the proposed modifications firstly involved considering each proposed modification set out in WCC's Schedule of Main Modifications. A column was added to each table within sections a) to ad) of the Schedule of Main Modifications to consider and record whether the proposed modification would change the SA findings presented in the SA of the Publication Version MLP (2019) for the relevant part of the MLP that the modification relates to. The Schedule of Main Modifications sections a) to ad) with the additional 'SA implications' column is presented in Appendix C of this SA Addendum, and the findings are summarised in Chapter 3.

2.2 For a number of the policies and Areas of Search, the proposed modifications set out in the Schedule of Main Modifications either significantly alter the wording of the policy or introduce a new policy that was not appraised previously, revise the boundary of the Area of Search or introduce a new Area of Search. In these cases, new or revised appraisal matrices have been prepared and these are presented in Appendix B and the findings are summarised in Chapter 3.

2.3 The Appendices A to F in the Schedule of Main Modifications have not been included in Appendix C of this SA Addendum because they do not result in any changes to the SA findings presented in the SA of the Publication Version MLP or in Chapter 3 of this Addendum and/or any implications are discussed against the relevant modifications proposed in sections a) to ad) of the Schedule of Main Modifications. Appendices C to E reflect the changes to the Areas of Search, which have been assessed individually within this SA Addendum. Appendix F sets out changes to some of the indicators proposed for monitoring implementation of the MLP policies, and these have been reviewed and updated as relevant in the SA monitoring table (Table 9.2 in the 2019 SA Report) and the updated SA monitoring table is presented in Chapter 4 of this SA Addendum.

2.4 The SA of the Publication Version MLP assessed each Area of Search and policy against 17 SA objectives, which together formed the SA framework. The SA framework used to appraise the MLP is presented in Appendix A.

2.5 The SA uses colour-coded symbols attributed to each policy and Area of Search to indicate its likely sustainability effects and performance against each SA objective. Table 2.1 shows how these symbols are applied to the appraisals. Note that the colours used have been updated since the SA of the Publication Version MLP in order to comply with the Government’s accessibility guidelines.

Table 2.1: Key to symbols and colour coding used in the SA of the MLP

Symbol and colour coding	Description
++	The policy is likely to have a significant positive impact on the SA objective(s).
+	The policy is likely to have a minor positive impact on the SA objective(s).
0	The policy is likely to have a negligible or no impact on the SA objective(s).
+/-	The policy is likely to have a mixture of both minor positive and minor negative impacts on the SA objective(s).
++/--	The policy is likely to have a mixture of both significant positive and significant negative impacts of the SA objective(s)
-	The policy is likely to have a minor negative impact on the SA objective(s).
--	The policy is likely to have a significant negative impact on the SA objective(s).
?	It is uncertain what effect the policy will have on the SA objective(s).

Symbol and colour coding	Description
++/-	The policy is likely to have a mixture of both significant positive and minor negative impacts on the SA objective(s).
--/+	The policy is likely to have a mixture of both significant negative and minor positive impacts on the SA objective(s).

2.6 In order to be consistent with previous SA work undertaken, the SA framework and colour-coded symbols described above have been applied in the same way to policies and Area of Search appraisals set out in this addendum as applied in the previous SA Reports.

Chapter 3

Appraisal of Main Modifications

3.1 This chapter summarises the findings of the SA of the Main Modifications.

3.2 The majority of the proposed modifications in the Schedule of Main Modifications do not affect the SA findings presented in the SA of the Publication Version MLP (2019), as noted in Appendix C, generally because they are updates or clarifications to text within the MLP and not changes to the policies or Areas of Search. Some policy updates do not change the overall SA effects recorded but strengthen the effect previously recorded in the SA of the Publication Version MLP. For example, reference to conserving (rather than protecting) green infrastructure (GI) for Policy MLP 7 (previously MLP 3) will add to the significant positive effects already identified against many SA objectives, as it implies more active maintenance of GI. However, the overall SA effects remain the same as previously stated for MLP 3 in the SA of the Publication Version MLP, as the policy still seeks to maintain and enhance GI.

3.3 Some of the proposed modifications to policies do not change the intention of the policy and therefore also do not change the SA findings presented in the SA of the Publication Version MLP (2019).

3.4 Table 3.1 shows how the policies in the Publication Version MLP relate to those in the MLP as proposed to be modified. The final column sets out where the most up to date policy assessment can be found. For some policies this is the SA of the Publication Version MLP because the policy has either not changed or has changed in a very minor way. For any new or significantly altered policies, full appraisal matrices are presented in Appendix B and the assessment results are summarised in this chapter. The assessments presented in this SA addendum supersede any previous assessment. Where the policy number and name have changed, this document refers to the new number and name unless stated otherwise.

Table 3.1: Relationship between policies in the Publication Version MLP and the MLP as proposed to be modified

Policy number and name in Publication Version MLP	Policy number and name as per Main Modifications	Most up to date policy assessment
Policy MLP 1: Strategic Location of Development	Policy MLP 1: Spatial Strategy	SA Addendum
Policy MLP 1: Strategic Location of Development	Policy MLP 2 Strategic Location of Development – Specific Sites and Preferred Areas	SA Addendum
Policy MLP 1: Strategic Location of Development	Policy MLP 3: Strategic Location of Development – Areas of Search and Windfall Sites within the Strategic Corridors	SA Addendum
Policy MLP 1: Strategic Location of Development	Policy MLP 4: Strategic Location of Development – Windfall Sites outside the Strategic Corridors	SA Addendum
Policy MLP 1: Strategic Location of Development	Policy MLP 5: Extant Mineral Sites and Safeguarded Resources	SA Addendum
Policy MLP 2: Borrow Pits	Policy MLP 6: Borrow Pits	Publication Version SA
Policy MLP 3: Green Infrastructure	Policy MLP 7: Green Infrastructure	Publication Version SA
Policy MLP 4: Avon and Carrant Brook Strategic Corridor	Policy MLP 8: Avon and Carrant Brook Strategic Corridor	Publication Version SA
Policy MLP 5: Lower Severn Strategic Corridor	Policy MLP 9: Lower Severn Strategic Corridor	Publication Version SA
Policy MLP 6: North East Worcestershire Strategic Corridor	Policy MLP 10: North East Worcestershire Strategic Corridor	Publication Version SA

Policy number and name in Publication Version MLP	Policy number and name as per Main Modifications	Most up to date policy assessment
Policy MLP 7: North West Worcestershire Strategic Corridor	Policy MLP 11: North West Worcestershire Strategic Corridor	Publication Version SA
Policy MLP 8: Salwarpe Tributaries Strategic Corridor	Policy MLP 12: Salwarpe Tributaries Strategic Corridor	Publication Version SA
Policy MLP 9: Contribution of Substitute, Secondary and Recycled Materials and Mineral Waste to Overall Minerals Supply	Policy MLP 13: Contribution of Substitute, Secondary and Recycled Materials and Mineral Waste to Overall Minerals Supply	Publication Version SA
N/A	Policy MLP 14: Scale of Sand and Gravel Provision	SA Addendum
Policy MLP 10: Steady and Adequate Supply of Sand and Gravel	Policy MLP 15: Delivering a Steady and Adequate Supply of Sand and Gravel	Publication Version SA
N/A	Policy MLP 16: Scale of Crushed Rock Provision	SA Addendum
Policy MLP 11: Steady and Adequate Supply of Crushed Rock	Policy MLP 17: Delivering a Steady and Adequate Supply of Crushed Rock	Publication Version SA
N/A	Policy MLP 18: Scale of Brick Clay Provision	SA Addendum
Policy MLP 12: Steady and Adequate Supply of Brick Clay and Clay Products	Policy MLP 19: Delivering a Steady and Adequate Supply of Brick Clay and Clay Products	Publication Version SA
N/A	Policy MLP 20: Scale of Silica Sand Provision	SA Addendum
Policy MLP 13: Steady and Adequate Supply of Silica Sand	Policy MLP 21: Delivering a Steady and Adequate Supply of Silica Sand	Publication Version SA
N/A	Policy MLP 22: Scale of Building Stone Provision	SA Addendum

Policy number and name in Publication Version MLP	Policy number and name as per Main Modifications	Most up to date policy assessment
Policy MLP 14: Adequate and Diverse Supply of Building Stone	Policy MLP 23: Delivering an Adequate and Diverse Supply of Building Stone	Publication Version SA
Policy MLP 15: Supply of Other Locally and Nationally Important Industrial Minerals	Policy MLP 24: Supply of Other Locally and Nationally Important Industrial Minerals	Publication Version SA
Policy MLP 16: Supply of Energy Minerals	Policy MLP 25: Supply of Energy Minerals	Publication Version SA
Policy MLP 17: Prudent Use of Resources	Policy MLP 26: Efficient Use of Resources	Publication Version SA
Policy MLP 18: Green Belt	Policy MLP 27: Green Belt	Publication Version SA
Policy MLP 19: Amenity	Policy MLP 28: Amenity	SA Addendum
N/A	Policy MLP 29: Air Quality	SA Addendum
Policy MLP 20: Access and Recreation	Policy MLP 30: Access and Recreation	Publication Version SA
Policy MLP 21: Biodiversity	Policy MLP 31: Biodiversity	Publication Version SA
Policy MLP 22: Historic Environment	Policy MLP 32: Historic Environment	Publication Version SA
Policy MLP 23: Landscape	Policy MLP 33: Landscape	Publication Version SA
Policy MLP 24: Soils	Policy MLP 34: Soils	Publication Version SA
Policy MLP 25: Best and Most Versatile Agricultural Land	Policy MLP 35: Best and Most Versatile Agricultural Land	Publication Version SA
Policy MLP 26: Geodiversity	Policy MLP 36: Geodiversity	Publication Version SA
Policy MLP 27: Water Quality and Quantity	Policy MLP 37: Water Quality and Quantity	Publication Version SA
Policy MLP 28: Flooding	Policy MLP 38: Flooding	Publication Version SA

Policy number and name in Publication Version MLP	Policy number and name as per Main Modifications	Most up to date policy assessment
Policy MLP 29: Transport	Policy MLP 39: Transport	Publication Version SA
Policy MLP 30: Planning Obligations	Policy MLP 40: Planning Obligations	Publication Version SA
Policy MLP 31: Safeguarding Locally and Nationally Important Mineral Resources	Policy MLP 41: Safeguarding Locally and Nationally Important Mineral Resources	Publication Version SA
Policy MLP 32: Safeguarding Mineral Sites and Supporting Infrastructure	Policy MLP 42: Safeguarding Mineral Sites and Supporting Infrastructure	Publication Version SA

3.5 Note that, whilst the plan period has changed from 2016 – 2036 to 2017-2037, this does not have any implications for the SA findings.

3.6 For those policies that are new or significantly altered, the new SA findings are discussed below. These are grouped as follows:

- New Spatial Strategy policies (Policies MLP 1-5).
- New Supply of Mineral Resources policies (Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22).
- New and amended Development Management policies (Policies MLP 28 and MLP 29).

3.7 These are followed by a summary of the implications of the proposed modifications to the Areas of Search.

Spatial Strategy Policies

3.8 The new spatial strategy policies set out in the Main Modifications schedules collectively replace the previous Policy MLP 1: Strategic Location of

Development, as set out in the Publication Version MLP. These new spatial strategy policies are:

- MLP 1: Spatial Strategy.
- MLP 2: Strategic Location of Development – Specific Sites and Preferred Areas.
- MLP 3: Strategic Location of Development – Areas of Search and Windfall Sites within the Strategic Corridors.
- MLP 4: Strategic Location of Development – Windfall Sites outside the Strategic Corridors.
- MLP 5: Extant Mineral Sites and Safeguarded Resources.

3.9 Table 3.2 summarises the sustainability effects of the new Spatial Strategy policies and these are explained below the table. The detailed appraisal matrices are provided in Appendix B.

Table 3.2: Summary of SA effects of the new Spatial Strategy Policies

Sustainability Appraisal Objectives	MLP 1	MLP 2	MLP 3	MLP 4	MLP 5
SA1: Landscape	+?/--?	--?	--?	--?	--?
SA2: Biodiversity and geodiversity	+?/--?	--?	--?	--?	--?
SA3: Cultural heritage, architecture and archaeology	+?/--?	--?	--?	--?	--?
SA4: Material assets	++?/--	++?/--?	++?/--	++?/--?	++?/--?
SA5: Natural Resources	--?	--?	--?	-?	--?
SA6: Climate Change and energy	+?/-?	+?/-?	+?/--?	+?/-?	+?/-?

Sustainability Appraisal Objectives	MLP 1	MLP 2	MLP 3	MLP 4	MLP 5
SA7: Flooding	-?	-?	-?	-?	-?
SA8: Access to Services	+/--?	--?	--?	--?	--?
SA9: Health and amenity	+/--?	--?	--?	--?	--?
SA10: Waste	-	-	-	-	-?
SA11: Traffic and transport	+/--?	+/--?	+/--?	+/--?	+/-?
SA12: Growth with prosperity for all	+/--?	+/--?	+/--?	+/--?	+/-?
SA13: Provision of housing	+/--?	+/--?	+/--?	+/--?	+/-?
SA14: Participation by all	0	0	0	0	0
SA15: Technology, innovation and inward investment	0	0	0	0	0
SA16: Population (skills and education)	0	0	0	0	0
SA17: Population (crime and fear of crime)	0	0	0	0	0

3.10 Policy MLP 1 seeks to focus development in the strategic corridors and therefore the assessment has focused on the effects that might occur if minerals development comes forward anywhere within the strategic corridors, taking into account how they were defined and their associated opportunities for restoration. Whilst Policy MLP 3 also relates to minerals development within strategic corridors (by supporting proposals within the Areas of Search and windfall sites within the strategic corridors), the assessment has focused on the requirements of the policy, rather than the potential for effects that might occur anywhere within the strategic corridors (which is covered by the assessment for

MLP 1). The assessment of MLP 3 also reflects effects identified through the appraisal of the individual areas of search, where relevant.

3.11 Policy MLP 2 explains the role of specific sites and preferred areas, explaining that minerals development will be permitted within specific sites and may also be permitted in preferred areas where certain conditions apply. Specific sites and preferred areas are to be set out in the emerging Mineral Site Allocations Development Plan Document and are therefore unknown at this stage. However, specific sites and preferred areas will be allocated within the strategic corridors, therefore this has been used as the basis for assessment.

3.12 Policies MLP 1, MLP 2, MLP 3, MLP 4 and MLP 5 are generally expected to have negative effects with regards to the environmental SA objectives (significant negative effects for SA 1: Landscape, SA2: Biodiversity and geodiversity, SA3: Cultural heritage, architecture and archaeology and SA5: Natural resources and minor negative effects for SA7: Flooding) because potential locations for minerals development set out in these policies could adversely impact sensitive receptors. However, these effects are uncertain as it is not known exactly where new minerals development will come forward. For MLP 1 these are generally mixed with positive effects, as the strategic corridors were defined with consideration for avoiding certain environmental designations and each has associated green infrastructure priorities, which could bring a range of environmental benefits. In terms of SA4: Material assets, these five policies are expected to have mixed significant positive and significant negative effects, as all may lead to minerals development on grade 1 agricultural land but may also lead to development on previously developed land. All five policies also promote extraction of primary minerals.

3.13 For SA6: Climate change and energy and SA11: Traffic and transport, these five policies are expected to have mixed positive and negative effects, as all could lead to development with potential to utilise more sustainable modes of transport but all could increase road traffic, leading to an increase in greenhouse gas emissions. Policy MLP 3 is expected to have significant negative effects for SA6 (mixed with a minor positive effect), where the other four policies are expected to have minor positive effects, because minerals development in some areas of search could result in significant net loss of tree

cover. Policy MLP 4 is expected to have minor negative effects (mixed with a minor positive effect) for SA objective 11, where the other four policies are expected to have significant negative effects, because any alterations to development within the boundary of permitted sites will be able to take advantage of existing transport infrastructure. This efficiency is likely to mean the impact on traffic and transport will be minor, rather than significant.

3.14 Policies MLP 1, MLP 2, MLP 3, MLP 4 and MLP 5 are generally expected to have significant negative effects on SA8: Access to services and SA9: Health and amenity, as many potential areas for minerals development coincide with public rights of way (PROWs) and/or have potential to result in development in proximity to sensitive receptors, such as residential areas, schools and recreation facilities. However, these effects are uncertain as it is not known exactly where new minerals development will come forward. Policy MLP 1 could also have a minor positive effect on SA8: Access to services and SA9: Health and amenity because the strategic corridors each have associated green infrastructure priorities, which could include public rights of way improvements and could bring a range of health benefits.

3.15 Policies MLP 1, MLP 2 MLP 3, MLP 4 and MLP 5 are also all recorded as having minor negative effects for SA10: Waste, as minerals development could come forward within proximity to an existing waste site, which could affect its operations. In addition, all promote the extraction of primary mineral resources rather than encouraging the use of secondary minerals.

3.16 Policies MLP 1, MLP 2, MLP 3 and MLP 4 are all identified as having mixed significant negative and positive effects on SA12: Growth with prosperity for all and SA13: Provision of housing, as they enable minerals development, which will provide jobs directly, as well as providing the raw materials for industry and house building. However, all could also result in development that conflicts with housing or employment development. Policy MLP 5 would have mixed minor positive and negative effects on these SA objectives for the same reasons as policies MLP 1, 2, 3 and 4, but proposals within the boundary of already permitted sites are likely to have more minor effects, as minerals development would already be present.

3.17 No effects are expected for the remaining SA objectives (14 to 17).

Supply of Mineral Resources Policies

3.18 The Main Modifications present five new Supply of Mineral Resources policies as follows:

- MLP 14: Scale of Sand and Gravel Provision.
- MLP 16: Scale of Crushed Rock Provision.
- MLP 18: Scale of Brick Clay Provision.
- MLP 20: Scale of Silica Sand Provision.
- MLP 22: Scale of Building Stone Provision.

3.19 Table 3.3 summarises the sustainability effects for the new Supply of Mineral Resources policies and these are explained below the table. The detailed appraisal matrices are provided in Appendix B.

Table 3.3: Summary of SA effects for new Supply of Mineral Resources policies

Sustainability Appraisal Objectives	MLP 14	MLP 16	MLP 18	MLP 20	MLP 22
SA1: Landscape	-?	--?	-?	-?	-?
SA2: Biodiversity and geodiversity	-?	-?	-?	-?	-?
SA3: Cultural heritage, architecture and archaeology	-?	+/-?	+/-?	-?	+/-?
SA4: Material assets	-?	-?	-?	-?	-?

Sustainability Appraisal Objectives	MLP 14	MLP 16	MLP 18	MLP 20	MLP 22
SA5: Natural Resources	-?	-?	-?	-?	-?
SA6: Climate Change and energy	-?	-?	-?	-?	-?
SA7: Flooding	+	+?/-?	+?/-?	+?/-?	+?/-?
SA8: Access to Services	0	0	0	0	0
SA9: Health and amenity	-?	-?	-?	-?	-?
SA10: Waste	+?/-	-	+?/-	+?/-	-
SA11: Traffic and transport	+/-?	+?/-?	+/-?	+/-?	+/-?
SA12: Growth with prosperity for all	+	+	+	+	0
SA13: Provision of housing	+	+	+	0	+
SA14: Participation by all	0	0	0	0	0
SA15: Technology, innovation and inward investment	0	0	0	0	0
SA16: Population (skills and education)	0	0	0	0	0
SA17: Population (crime and fear of crime)	0	0	0	0	0

3.20 Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 relate to the required scale of provision of various minerals, with each setting out how need has been calculated and how the supply is expected to be met, such as through development within strategic corridors and/or windfall sites. Given that these policies provide further clarification to Policies MLP 15, MLP 17, MLP 19, MLP

21 and MLP 23, the effects recorded are very similar to the assessments of those policies (as set out in the SA of the Publication Version MLP).

3.21 Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 are generally expected to have minor negative uncertain effects with regards to the environmental SA objectives (SA 1: Landscape, SA2: Biodiversity and geodiversity, SA3: Cultural heritage, architecture and archaeology, SA4: Material assets and SA5: Natural resources) because potential locations for minerals development set out in these policies could adversely impact sensitive receptors. These effects are uncertain as they depend on the scale, location and design of minerals sites. For policy MLP 16, the negative effect on SA1: Landscape is significant because crushed rock development is likely to come through windfall sites outside of the strategic corridors and these are likely to be in and around AONBs. The other four policies primarily direct minerals development within the strategic corridors. For SA3, negative effects are mixed with positive effects for MLP 16, MLP 18 and MLP 22 as these policies relate to minerals that may be important for repair of historic assets. For SA6: Climate change and energy all policies are expected to have minor negative uncertain effects, as increased extraction of any mineral is likely to lead to an increase in vehicles on the road, and therefore an increase in greenhouse gas emissions. For SA7: Flooding, all policies are expected to have positive effects as they could provide flood storage through restoration. No negative effect is identified for MLP 1 for SA7 as sand and gravel extraction is considered compatible in all flood zones.

3.22 Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 are all expected to have minor negative effects for SA9: Health and amenity, as these policies promote minerals development and the operation of minerals sites has potential for adverse impacts on the health and wellbeing of any nearby communities.

3.23 Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 are also all recorded as having minor negative effects for SA10: Waste, as all promote the extraction of primary mineral resources rather than encouraging the use of secondary minerals. For Policies MLP 14, MLP 18 and MLP 20 these are mixed with minor positive uncertain effects, because these policies enable provision to come forward as extensions to extant sites, which may lead to reduced waste

and/or increased efficiencies in waste management as a result of making use of infrastructure, plant and processes already at the site.

3.24 For SA11: Traffic and transport, Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 are expected to have mixed positive and negative effects, as all are likely to increase road traffic, but may also help reduce the amount of minerals that need to be imported into the county. The positive effect is uncertain for Policy MLP 16 as the supply of crushed rock may not come forward within Worcestershire.

3.25 Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22 are generally identified as having minor positive effects on SA12: Growth with prosperity for all and SA13: Provision of housing, as they enable minerals development, which will provide jobs directly, as well as providing the raw materials for industry and house building. For Policy MLP 16 the effects recorded for SA12 are uncertain, as the supply of crushed rock may not come from within Worcestershire itself.

3.26 No effects are expected for the remaining SA objectives (14 to 17).

Development Management Policies

3.27 The Main Modifications present one new development management policy: MLP 29: Air Quality. This separates out air quality from Policy MLP 28: Amenity (was previously MLP 19 in the Publication Version MLP). As such, the assessments of both MLP 28 and MLP 29 are presented below. The detailed appraisal matrices are provided in Appendix B.

Table 3.4: Summary of SA effects for new and amended Development Management policies

Sustainability Appraisal Objectives	MLP 28	MLP 29
SA1: Landscape	+	0
SA2: Biodiversity and geodiversity	+	+
SA3: Cultural heritage, architecture and archaeology	+	0
SA4: Material assets	0	0
SA5: Natural Resources	0	++
SA6: Climate Change and energy	0	+
SA7: Flooding	0	0
SA8: Access to Services	0	0
SA9: Health and amenity	+	+
SA10: Waste	+	0
SA11: Traffic and transport	+	+
SA12: Growth with prosperity for all	0	0
SA13: Provision of housing	+	+
SA14: Participation by all	0	0
SA15: Technology, innovation and inward investment	0	0
SA16: Population (skills and education)	0	0
SA17: Population (crime and fear of crime)	0	0

3.28 No significant effects have been identified for Policies MLP 28 and MLP 29. These policies are generally expected to have either minor positive effects or no effects on all SA objectives because they both seek to improve the quality of the environment, which will have subsequent positive effects on social objectives as well. Whilst effects are similar for both policies, Policy MLP 28 is generally likely to have positive implications for more SA objectives, as it encompasses a wider range of environmental and amenity improvements in comparison to MLP 29, which is focused solely on air quality. Policy MLP 29 is expected to have significant positive effects for SA objective 5: Natural resources, as it requires mineral development to help secure net improvements in overall air quality, where possible.

Areas of Search

3.29 The Main Modifications present alterations to the boundaries of 27 areas of search. This includes:

- Nine terrace and glacial sand and gravel areas of search.
- 10 solid sand areas of search.
- Seven silica sand areas of search.
- One brick clay area of search.

3.30 In addition, four new areas of search for building stone are identified.

3.31 Table 3.5 to Table 3.9 summarise the SA effects of all new and revised areas of search. For the majority of areas of search, the change in boundary has not affected the overall SA assessment that was presented in the SA of the Publication Version MLP, although there have been some small changes in the particular environmental, historic and/or recreational assets that may be within or adjacent to the areas of search. The only change recorded is for silica sand area of search WFSS30; in the SA of the Publication Version MLP the SA recorded a minor negative uncertain effect. This has now changed to a

significant negative uncertain effect, as the area of search now contains PROWs (previously these were adjacent to, but not within the area of search).

3.32 Two of the new areas of search for building stone, Hadley Quarry and Hadley, are adjacent to each other. As building stone areas of search are mapped as point data only and due to their close proximity, there is no difference between the SA assessment between the two. As such, a single assessment has been prepared for these two sites under 'Hadley (central sites)'. Another of the new building stone areas of search is also named 'Hadley'. This has been distinguished from that located adjacent to Hadley Quarry by the name 'Hadley (south)'.

3.33 The four new building stone areas of search are all expected to have very similar effects to each other. All four are expected to have significant negative effects for SA2: Biodiversity and geodiversity and SA3: Cultural heritage, architecture and archaeology, and the Hadley central sites and Monsieurs Hall are expected to have significant negative effects for SA5: Natural resources, because all have potential for adverse effects on sensitive receptors. Generally, minor negative effects are expected for the other environmental objectives (SA4: Material assets and SA6: Climate change and energy) because the areas of search contain Grade 3 agricultural land, are located in a Source Protection Zone and are not adjacent to a water link potentially suitable for transport. Hadley (central sites) are expected to have significant negative effects on SA5: Natural resources because there is a watercourse adjacent to the sites that may be affected. Minor negative effects are expected for SA8: Access to services, as all may lead to the loss or diversion of PROWs.

3.34 For all four new building stone areas of search, minor positive effects are expected for SA12: Growth and prosperity, as all would likely provide new employment opportunities.

Table 3.5: Summary of SA effects for updated areas of search for solid sand

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
SSSG1	--?	--	--?	-	--	+	0	--?	--	-	+	+	+/--?	0	0	0	0
SSSG2	--?	--	--?	-	--?	+	0	--?	--?	-	+	+/--?	+/--?	0	0	0	0
SSSG3	--?	--	--?	-	--	+	0	--?	--?	-	+	+	+?/-	0	0	0	0
SSSG7	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
SSSG12	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG17	--?	--	--?	-	--	+	0	--?	--?	0	+	+/--?	+/--?	0	0	0	0
SSSG21	--?	--	--?	-	--	-	0	--?	--?	-	-	+	+/-?	0	0	0	0
SSSG26	--?	--	0?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG28	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG30	--?	--	--?	-	-?	-	0	--?	--?	0	-	+	+	0	0	0	0

Table 3.6: Summary of SA effects for new and updated areas of search for terrace and glacial sand and gravel

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
TGSG23	--?	--	--?	-	-	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG26	--?	--	--?	-	--?	+	0	-?	--?	0	+	+	+	0	0	0	0
TGSG27	-?	--	--?	-	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG36	--?	--	--?	--?	--	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG39	--?	--	--?	--?	--	+	0	--?	--	-	+	+	+/--?	0	0	0	0
TGSG43	--?	--	--?	--?	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG49	--?	--	--?	--?	0	-	0	-?	--	0	-	+	+	0	0	0	0
TGSG50	--?	--	0?	-	-	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG53	--?	--	--?	-	--?	+	0	--?	--	0	+	+	+	0	0	0	0

Table 3.7: Summary of SA effects for new and updated areas of search for silica sand

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
WFSS3	--?	--	--?	-	--	+	0	--?	--?	-	+	+	--?	0	0	0	0
WFSS7	--?	--	--?	-	--	+	0	--?	--?	-	+	+/--?	--?	0	0	0	0
WFSS14	--?	--	--?	-	--?	+	0	--?	--?	0	+	+/--?	--?	0	0	0	0
WFSS22	--?	--	--?	-	--?	-	0	--?	--?	-	-	+	-?	0	0	0	0
WFSS30	-?	-	0?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS35	--?	--	--?	-	--	-	0	--?	--	0	-	+	0	0	0	0	0
WFSS41	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0

Table 3.8: Summary of SA effects for new and updated areas of search for building stone

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
Hadley (central sites)	-?	--?	--?	-	--?	-	0	-?	-?	0	-	+	0	0	0	0	0
Hadley (South)	-?	--?	--?	-	-?	-	0	-?	-?	0	-	+	0	0	0	0	0
Monsieurs Hall, Quarry Close	-?	--?	--?	-	--?	-	0	-?	--?	0	-	+	0	0	0	0	0

Table 3.9: Summary of SA effects for updated area of search for brick clay

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
CLAY2	--?	--	--?	-	--	+	-?	--?	--?	-	+	+/--?	+/--?	0	0	0	0

Chapter 4

Cumulative Effects, Mitigation and Monitoring

4.1 This chapter considers whether the Main Modifications have any implications for the cumulative effects of the MLP, the mitigation measures identified for the potential negative effects of the MLP and the proposed SA monitoring indicators. This is therefore an update to Chapter 9 of the SA of the Publication Version MLP.

4.2 Table 4.1 sets out a summary of the likely effects of all policies in the MLP as proposed to be modified. The likely effects of the new and updated areas of search are set out in Table 3.5 to Table 3.9. The likely effects of all areas of search in the MLP as proposed to be modified are set out in Appendix C.

4.3 The short, medium and long terms effects set out in Chapter 9 of the SA of the Publication Version MLP remain the same, as these relate to the effects of minerals development in the county in general. Similarly, the cumulative effects set out for each SA objective in Chapter 9 of the SA of the Publication Version MLP have not changed as a result of the new and amended policies and areas of search. This is because the modifications do not substantially change the overall intention and direction of the MLP. The new policies provide additional clarity, rather than a change of strategy. The changes to boundaries of areas of search are generally very small, particularly given the scale of the areas of search and therefore have not resulted in substantial changes to the assessments of these presented in the SA of the Publication Version MLP. Whilst four new building stone areas of search are now included, the types of sustainability effects these may result in already had the potential to occur as a result of other areas of search (although not necessarily on the same features), therefore the cumulative effects assessment and potential mitigation identified in the MLP remains valid.

Table 4.1: Summary of SA effects for the Worcestershire MLP as proposed to be modified

Policy	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
MLP 1	+?/--?	+?/--?	+?/--?	++?/--	--?	+?/-?	-?	+/--?	+/--?	-	+/--?	+/--?	+/--?	0	0	0	0
MLP 2	--?	--?	--?	++?/-- ?	--?	+?/-?	-?	--?	--?	-	+/--?	+/--?	+/--?	0	0	0	0
MLP 3	--?	--?	--?	++?/--	--?	+?/--?	-?	--?	--?	-	+/--?	+/--?	+/--?	0	0	0	0
MLP 4	--?	--?	--?	++?/-- ?	-?	+?/-?	-?	--?	--?	-	+/--?	+/--?	+/--?	0	0	0	0
MLP 5	--?	--?	--?	++?/-- ?	--?	+?/-?	-?	--?	--?	-?	+/-?	+/-?	+/-?	0	0	0	0
MLP 6	+/-?	+/-?	+/-?	++?/-- ?	+/--	+	-?	+/-?	+/--?	-	++	0	+	0	0	0	0
MLP 7	++	++	++	+	++	++	++	+	+	0	0	0	+	0	0	0	0
MLP 8	++/-?	+/--?	+/--?	+/--?	+/--?	+?/?	+/?	+	+?/--?	-	+	++/-- ?	+/--?	0	0	+	0
MLP 9	++/-?	+/--?	+/--?	+?/--?	+/--?	+?/?	+/?	+/--?	++/-- ?	-	+	++/-- ?	+/--?	0	0	+	0

Chapter 4 Cumulative Effects, Mitigation and Monitoring

Policy	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
MLP 10	++/-?	+/--?	+/--?	--?	--	+?/?	+/?	+/--?	++/--?	-	+?	++	+/--?	0	0	+	0
MLP 11	++/-?	+/--?	+/--?	--?	+/--	+?/?	+/?	+/--?	++/--?	-	+?	++/--?	+/--?	0	0	+	0
MLP 12	++/-?	+/--?	+/--?	--?	--?	+?/?	+/?	+/--?	++/--?	-	+?	++/-?	+/--?	0	0	+	0
MLP 13	+/-?	+/-?	+/-?	+	+/-?	+	-?	0	+/-?	++	+/-?	+/-?	+	0	0	0	0
MLP 14	-?	-?	-?	-?	-?	-?	+	0	-?	+?/-	+/-?	+	+	0	0	0	0
MLP 15	-?	-?	-?	+/-?	-?	+	+	0	-?	+/-?	+/-?	+	+	0	?	0	0
MLP 16	--?	-?	+/-?	-?	-?	-?	+?/-?	0	-?	-	+?/-?	+	+	0	0	0	0
MLP 17	--?	-?	+/-?	+/-?	-?	+	+?/-?	0	-?	+/-?	+/-?	+	+	0	?	0	0
MLP 18	-?	-?	+/-?	-?	-?	-?	+?/-?	0	-?	+?/-	+/-?	+	+	0	0	0	0
MLP 19	-?	-?	+/-?	+/-?	-?	+	+?/-?	0	-?	+/-?	+/-?	+	+	0	?	0	0

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Policy	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
MLP 20	-?	-?	-?	-?	-?	-?	+?/-?	0	-?	+?/-	+/-?	+	0	0	0	0	0
MLP 21	-?	-?	-?	+/-?	-?	+	+?/-?	0	-?	+/-?	+/-?	+	0	0	?	0	0
MLP 22	-?	-?	+/-?	-?	-?	-?	+?/-?	0	-?	-	+/-?	0	+?	0	0	0	0
MLP 23	-?	-?	+/-?	+/-?	-?	+	+?/-?	0	-?	+/-?	+/-?	0	+	0	?	0	0
MLP 24	-?	-?	-?	+/-?	-?	?	+?/-?	0	-?	-	+/-?	+	?	0	0	0	0
MLP 25	-?	-?	-?	+/-?	-?	--?	+?/-?	0	-?	-?	+/-?	+/-?	-?	0	-?	0	0
MLP 26	++	+	+	+	+	++	+	0	+	+	+	0	0	0	0	0	0
MLP 27	+	+/?	+/?	+	+/?	+	+	0	+	0	-?	0	+	0	0	0	0
MLP 28	+	+	+	0	0	0	0	0	+	+	+	0	+	0	0	0	0
MLP 29	0	+	0	0	++	+	0	0	+	0	+	0	+	0	0	0	0

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Policy	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
MLP 30	+	+	+	+	0	0	0	++	++	0	++	0	+	0	0	0	0
MLP 31	+	++	+	+	+	+	+	+	+	0	+	0	+	0	0	0	0
MLP 32	+	+	++	+	0	+/-?	0	0	0	0	0	0	+	0	0	0	0
MLP 33	++	+	++	+	0	+/-?	0	0	0	0	0	0	+	0	0	0	0
MLP 34	+/-	+/-	?	+	+	+	+	0	+/-?	+	+	0	+/-?	0	0	0	0
MLP 35	+	+	+	+	0	+	+	0	0	0	0	0	?	0	0	0	0
MLP 36	+	++	+	+	0	0	0	0	0	0	0	0	+	0	0	+	0
MLP 37	+	+	+	+	++	0	+	+?	+	0	0	0	+	0	0	0	0
MLP 38	+	+	+	+	+	+	++	+	+	0	0	0	+	0	0	0	0
MLP 39	+	+	+	+	+	+	+	+	+	0	+	0	+	0	0	0	0

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Policy	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
MLP 40	+	+	+	0	+	0	0	0	+	0	0	0	+	0	0	0	0
MLP 41	+?/-?	+?/-?	+?/-?	++?/-? ?	+?/-?	+?/-?	+/?	+?/-?	+?/-?	-?	+?/-?	+/-	+?/-?	0	+/-	0	0
MLP 42	+?/-?	+?/-?	+?/-?	++?/-? ?	+?/-?	+?/-?	+/?	+?/-?	+?/-?	-?	+?/-?	+/-	+?/-?	0	+/-	0	0

4.4 Chapter 9 of the SA of the Publication Version MLP presented recommendations made through the SA in the preparation of the MLP. No additional recommendations are made in this SA Addendum, as none are considered necessary.

4.5 Chapter 9 of the SA of the Publication Version MLP also set out relevant policies within the MLP that would help to mitigate the potential negative effects identified and proposed monitoring indicators for these potential negative effects. Whilst the potential negative effects that could arise as a result of the MLP remain the same, the Main Modifications include updated monitoring indicators, some of which could be useful in monitoring the sustainability effects of the MLP. In addition, in splitting the previous Policy MLP 19: Amenity into Policy 28: Amenity and Policy MLP 29: Air Quality, there is a need to update the policies listed in the mitigation column of that table (and also update the policy numbering, which has changed as a result of the Main Modifications). As such, an updated version of the monitoring table is presented in Table 4.2. All relevant monitoring indicators presented in the MLP have been included in Table 4.2 and some previously presented in the SA of the Publication Version MLP have been removed, in order to make best use of the data that will be collected by Worcestershire County Council through monitoring the MLP and ensure the proposed indicators are relevant and up to date. Monitoring indicators have been removed for SA objectives 15 and 16 as it is considered these objectives do not need to be monitored as the MLP is not expected to have any cumulative potential negative effects on these objectives. A small number of other indicators were also removed because they are not directly relevant to the SA objectives or they will not be influenced by the MLP.

Table 4.2: Potential cumulative negative effects of the MLP, potential mitigation measures and monitoring indicators

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
SA Objective 1: Landscape	Adverse landscape and visual impacts could arise through creation of new workings, such as quarries, and associated infrastructure, and also through storing of arisings.	Policy MLP 7 (Green Infrastructure), Policy MLP 26 (Efficient Use of Resources), Policy MLP 27 (Green Belt), Policy MLP 28 (Amenity) and Policy MLP 33 (Landscape), should help to ensure that any landscape and visual impacts are taken into account.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will conserve and enhance the character and distinctiveness of the landscape, including inherent landscape character and Areas of Outstanding Natural Beauty.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).* ■ Condition of the Landscape. ■ Planted ancient woodland sites restored to native woodland.
SA Objective 2: Biodiversity and Geodiversity	Minerals development could lead to direct loss of habitats as a result of minerals workings. Minerals workings could also adversely affect habitats and species through increased noise, light and visual	Policy MLP 7 (Green Infrastructure), Policy MLP 31 (Biodiversity) and Policy MLP 36 (Geodiversity), should help to ensure that biodiversity and geodiversity are taken into account.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will conserve, enhance and deliver net gains for biodiversity.* ■ All permitted mineral developments adequately demonstrate that they will conserve and enhance geodiversity.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the

Chapter 4 Cumulative Effects, Mitigation and Monitoring

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
	disturbance, as well as increased levels of air pollution and particulates.		<p>development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).*</p> <ul style="list-style-type: none"> ■ Condition of European nature conservation sites. ■ Extent and condition of SSSIs. ■ Number of permitted developments coinciding with, or adjacent to, a designated site.
SA Objective 3: Cultural heritage, architecture and archaeology	Minerals development could lead to direct loss of historic assets, including damage to archaeological remains. Development could also adversely affect the settings of heritage assets.	Policy MLP 7 (Green Infrastructure) and Policy MLP 32 (Historic Environment) and Policy MLP 33 (Landscape), should help to ensure that the historic environment is taken into account.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will conserve and, where possible, enhance the historic environment.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).* ■ Number of grade I and II* listed buildings 'at risk'. ■ Proportion of undesignated heritage assets at risk. ■ Number of permitted developments coinciding with, or adjacent to, a designated site.
SA Objective 4: Material assets	Minerals development could lead to the direct loss of the Green Belt and agricultural land.	Policy MLP 7 (Green Infrastructure), Policy MLP 26 (Efficient Use of Resources), Policy MLP 27 (Green Belt), Policy MLP 34 (Soils) and	<ul style="list-style-type: none"> ■ All permitted mineral extraction and/or engineering operations within the Green Belt adequately demonstrate that they meet the requirements of policy MLP 27.*

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
		<p>Policy MLP 35 (Best and Most Versatile Agricultural Land), should help to ensure that material assets are taken into account.</p>	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will avoid significant development of best and most versatile agricultural land unless they adequately demonstrate it to be necessary.* ■ All permitted mineral developments adequately demonstrate that they will safeguard the long-term potential of best and most versatile agricultural land by enabling the land to retain its longer-term capability for agricultural use.* ■ All permitted mineral developments adequately demonstrate how they will protect and conserve soil resources.* ■ <p>Percentage of applications where the specific consultation response from Mineral Planning Authority with regard to safeguarding is given weight in the planning balance (as detailed in officer and committee reports).*</p>
<p>SA Objective 5: Natural resources</p>	<p>Minerals development could lead to the pollution of water sources as a result of mineral workings. The plan could also exacerbate air quality issues in AQMAs due to increased heavy vehicle traffic and associated air pollution.</p>	<p>Policy MLP 7 (Green Infrastructure), Policy MLP 26 (Efficient Use of Resources), Policy MLP 29 (Air Quality), Policy MLP 37 (Water Quality and Quantity), Policy 38 (Flooding) and Policy 39 (Transport) are expected to mitigate potential negative</p>	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will protect and, where possible, enhance the quality, quantity and flow of surface water and groundwater resources.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on air quality.*

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
		effects arising in relation to natural resources.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate how they will help to secure net improvements in overall air quality or adequately demonstrate why this is not possible.* ■ All permitted mineral developments adequately demonstrate that they will minimise the use of water in buildings, plant and transport.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).* ■ Number of Air Quality Management Areas (AQMAs) in Worcestershire. ■ Proportion of watercourses meeting 'good' status. ■ Hectares of potentially contaminated land in Worcestershire.
SA Objective 6: Climate change and energy	Opportunities to develop renewable and low-carbon energy on a minerals area of search could be limited by the need to protect and enhance environmental assets, such as landscape or the historic environment. In addition, minerals development	Policy MLP 26 (Efficient Use of Resources), Policy MLP 37 (Water Quality and Quantity), Policy MLP 7 (Green Infrastructure) and Policy MLP 38 (Flooding) are expected to ensure that climate change is mitigated and energy efficiency is promoted. Policy MLP 39	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will use the most sustainable transport options for the movement of minerals and materials.* ■ All permitted mineral developments adequately demonstrate that they will minimise the use of energy in buildings, plant and transport.*

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
	<p>could lead to increased CO2 emissions if there are no alternative sustainable means of transport within or adjacent to the area. The risk of flooding could also be increased as the effects of climate change intensify.</p>	<p>(Transport) could make reference to supporting new technologies, such as electric vehicles.</p>	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will optimise energy generation from renewable and low-carbon sources.* ■ CO2 emissions per capita. ■ Total CO₂ emissions by local authority. ■ Total final energy consumption by local authority (GWh).
<p>SA Objective 7: Flooding</p>	<p>Depending on the type of mineral being extracted, the MLP will mostly likely have a negligible effect. However, for non-sand and gravel based minerals, development could occur in high-risk flood prone areas and contribute to fluvial and surface flooding, which could put properties at risk of flooding.</p>	<p>Policy MLP 38 (Flooding), Policy MLP 37 (Water Quality and Quantity) and Policy MLP 7 (Green Infrastructure) are expected to ensure that development is resilient to flood risk, and does not increase flood risk for people and property.</p>	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will avoid increasing flood risk to people and property on site or elsewhere and contribute, where possible, to a reduction in overall flood risk.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).*
<p>SA Objective 8: Access to services</p>	<p>Minerals development could restrict access to vital services by severing or reducing rights of way, or creating a physical barrier therefore</p>	<p>Policy MLP 7 (Green Infrastructure) and Policy MLP 30 (Access and Recreation) are expected to ensure that rights of way and</p>	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will protect and enhance rights of way and public access provision.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
	compromising the ability of people to access health, educational or other key local services.	public access provision are protected and enhanced.	<p>networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).*</p> <ul style="list-style-type: none"> ■ Net total km of PROWs lost or re-routed as a result of minerals development.
SA Objective 9: Health and amenity	Minerals development could adversely affect the health of persons that live or work in close proximity to an area of search through air pollution and particulates and noise, dust or other emissions. The plan could also lead to loss of or disturbance to recreational opportunities, PROWs and outdoor leisure and recreation facilities.	Policy MLP 7 (Green Infrastructure), Policy MLP 27 (Green Belt), Policy MLP 28 (Amenity), Policy MLP 29 (Air Quality) and Policy MLP 30 (Access and Recreation) are expected to ensure that health and amenity are protected and improved.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on amenity or health and well-being-from dust.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on amenity or health and well-being from odour.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on amenity or health and well-being from noise and vibration.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on amenity or health and well-being from light.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse on amenity or health and well-being from visual impacts.* ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on amenity or health and well-being from contamination.*

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
			<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will not give rise to an unacceptable adverse effect on air quality.* ■ All permitted mineral developments adequately demonstrate how they will help to secure net improvements in overall air quality or adequately demonstrate why this is not possible.* ■ All permitted mineral developments adequately demonstrate that they will provide safe access for employees and visitors.* ■ Percentage of permitted mineral development proposals that adequately demonstrate how they will conserve and enhance networks of green infrastructure throughout the life of the development by adequately taking account of each of the considerations listed in Policy MLP 7 (a-e).* ■ Proportion of population in each ONS general health category. ■ Number of formal complaints regarding loss of amenity due to minerals development.
SA Objective 10: Waste	Minerals development could adversely affect waste site operations, by limiting operation and expansion of the waste site. Minerals development and waste sites in close proximity could have cumulative	Policy MLP 13 (Contribution of Substitute, Secondary and Recycled Materials) and Policy MLP 34 (Soils) are expected to encourage use of recycled materials and soils. See also mitigation for other SA objectives where minerals	<ul style="list-style-type: none"> ■ Number of applications received for development which would enable the supply of minerals from substitute, secondary or recycled materials or mineral waste.*

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SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
	negative effects on a range of sustainability factors, including traffic levels and associated emissions and health and amenity.	and waste sites could have in-combination effects on environment or amenity. The MLP could make reference to ensuring that minerals development does not limit the ability of waste sites to carry out their operations or restrict opportunities to expand sites for sustainable waste management (such as recycling plants).	
SA Objective 11: Traffic and transport	Minerals development could lead to increased traffic congestion and increased CO2 emissions if there are no opportunities for non-road based transport within or adjacent to the area of search.	Policy MLP 39 (Transport) is expected to promote transport of minerals by sustainable means, where possible.	<ul style="list-style-type: none"> ■ All permitted mineral developments adequately demonstrate that they will use the most sustainable transport options for the movement of minerals and materials.* ■ All permitted mineral developments adequately demonstrate that they will not have an unacceptable adverse effect on safety or congestion of the local or strategic transport network.* ■ Method of travel to work.
SA Objective 12: Growth with	Minerals development could lead to an adverse effect on areas allocated for employment development. In addition,	Policy MLP 7 (Green Infrastructure), Policy MLP 28 (Amenity) Policy MLP 29 (Air Quality) and Policy MLP 39 (Transport) are expected to	<ul style="list-style-type: none"> ■ Maintain or increase % of Worcestershire’s Gross Value Added (GVA) from mineral development in relation to the baseline.*

Chapter 4 Cumulative Effects, Mitigation and Monitoring

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
prosperity for all	minerals development could adversely affect existing employment sites in terms of the wellbeing and amenity of those visiting or working at nearby employment sites.	help ensure amenity at employment sites is not compromised by minerals development. The safeguarding policies (MLP 41 and MLP 42) are expected to help ensure that minerals development does not prevent employment allocations coming forward and vice versa.	<ul style="list-style-type: none"> ■ Average Worcestershire household income. ■ Percentage employment rate (working age). ■ GVA per hour worked in Worcestershire.
SA Objective 13: Provision of housing	Minerals development could lead to a negative effect on areas allocated for the provision of housing by compromising residential amenity.	Policy MLP 33 (Landscape) and Policy MLP 28 (Amenity) are expected to help ensure residential amenity is maintained. The safeguarding policies (MLP 41 and MLP 42) are expected to help ensure that minerals development does not prevent housing allocations coming forward and vice versa.	<ul style="list-style-type: none"> ■ New affordable homes built per year.
SA Objective 14:	No potential negative effects were identified.	No mitigation necessary.	<ul style="list-style-type: none"> ■ No monitoring necessary

Chapter 4 Cumulative Effects, Mitigation and Monitoring

SA Objective	Potential cumulative negative effects	Mitigation	Potential monitoring indicators (*indicators taken from the MLP itself are marked with an asterisk)
Participation by all			
SA Objective 15: Technology, innovation and inward investment	No potential negative effects were identified.	No mitigation necessary.	■ No monitoring necessary
SA Objective 16: Population (skills and education)	No potential negative effects were identified.	No mitigation necessary.	■ No monitoring necessary
SA Objective 17: Population (crime & fear of crime)	No potential negative effects were identified.	No mitigation necessary.	■ No monitoring necessary

Chapter 5

Summary and Next Steps

5.1 This document has presented an assessment of the Main Modifications proposed to the Worcestershire Minerals Local Plan. The majority of the proposed modifications in the Schedule of Main Modifications do not affect the SA findings presented in the SA of the Publication Version MLP, generally because they are updates or clarifications to text within the MLP and not changes to the policies or Areas of Search.

5.2 SA assessments of new policies set out in the Main Modifications and modifications that significantly alter the wording of the policy, are set out in Appendix B and summarised in Chapter 3. In addition, assessments of those Areas of Search with revised boundaries and new Areas of Search are presented in Appendix B and summarised in Chapter 3. In these cases, new or revised appraisal matrices have been prepared.

5.3 With the exception of MLP 2, new spatial strategy policies (Policies MLP 1 to MLP 5) are generally identified as having the same negative effects in terms of environmental and social objectives (although these are sometimes mixed with positive effects) as the previous Policy MLP 1 in the Publication Version MLP, due to the potential for minerals development to adversely affect sensitive receptors and to increase vehicle movements on the roads. Policies MLP 1 to MLP 5 also have potential for positive effects (sometimes mixed with negative effects) for SA12: Growth and prosperity for all and SA13: Provision of housing (except Policy MLP 2) as they make provision for extraction of minerals for use in industry and housebuilding. Minerals development will also create jobs in the county.

5.4 The new supply of mineral resources policies (Policies MLP 14, MLP 16, MLP 18, MLP 20 and MLP 22) are also generally identified as having negative effects in terms of environmental and social objectives (although these are sometimes mixed with positive effects), due to the potential for minerals

development to adversely affect sensitive receptors and to increase vehicle movements on the roads. New supply of mineral resources policies also have potential for positive effects for SA12: Growth and prosperity for all (except Policy MLP 22) and SA13: Provision of housing (except MLP 20) as they make provision for extraction of minerals for use in industry and housebuilding.

5.5 The new and amended development management policies (Policies MLP 28 and MLP 29) are expected to have either minor positive or negligible effects for each SA objective. This reflects the effects previously identified for the amenity policy in the SA of the Publication Version MLP.

5.6 The overall SA findings for the areas of search have generally not changed, including for those areas of search with amended boundaries. The four new building stone areas of search are expected to have similar effects to other building stone areas of search as assessed in the SA of the Publication Version MLP. In particular, significant negative effects were identified for SA2: Biodiversity and Geodiversity, SA3: Cultural heritage, architecture and archaeology and SA5: Natural Resources, due to the proximity of sensitive receptors. No significant positive effects were identified, as these largely depend on specific restoration techniques, which will not be known until the planning application stage.

5.7 The overall, cumulative effects of the MLP remain unchanged, and those policies previously recognised as providing mitigation for the negative effects identified continue to provide such mitigation (although the amenity policy is now split into MLP 28: Amenity and MLP 29: Air Quality). In addition, the proposed measures to monitor the sustainability effects of the plan have been updated to incorporate the updated monitoring measures for the MLP included in the Main Modifications.

5.8 Overall, whilst there are some changes to the SA findings that were presented in the SA of the Publication Version MLP, primarily in terms of assessing the new policies and areas of search, the overall intention of and strategy for the MLP is the same, and therefore the overall sustainability of the MLP as a whole is not considered to be changed by the Main Modifications.

Next Steps

5.9 This document will be published for consultation alongside the schedule of Main Modifications. All responses will be considered by the Inspectors, before they finalise the Examination report.

LUC

July 2021

References

- 1 Worcestershire County Council (2019) Worcestershire Minerals Local Plan, Publication Version.
- 2 LUC (2019) Sustainability Appraisal of the Worcestershire Minerals Local Plan, Publication Version.

Appendix A

SA Framework

Table A.1: Sustainability Appraisal Framework for the MLP

Reference	Objective
1: Landscape	Safeguard and strengthen landscape character and quality and minimise negative visual impact
2: Biodiversity and geodiversity	Conserve and enhance Worcestershire's biodiversity and geodiversity.
3: Cultural heritage, architecture and archaeology	Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.
4: Material assets	Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of Green Belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.
5: Natural resources	Protect and enhance water and air quality.
6: Climate change and energy	Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.
7: Flooding	Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.
8: Access to services	Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.

Appendix A SA Framework

Reference	Objective
9: Health and amenity	Improve the health and well-being of the population and reduce inequalities in health.
10: Waste	Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.
11: Traffic and transport	Reduce the need to travel and move towards more sustainable travel patterns.
12: Growth with prosperity for all	Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.
13: Provision of housing	Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.
14: Participation by all	Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.
15: Technology, innovation and inward investment	Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.
16: Population (skills and education)	Raise the skills levels and qualifications of the workforce.
17: Population (crime & fear of crime)	Reduce crime, fear of crime and antisocial behaviour.

A.1

Appendix B

New and Amended Appraisal Matrices

Spatial Strategy Policies

Table B.1: Policy MLP 1: Spatial Strategy

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	+?/--?	<p>The strategic corridors specifically exclude the Cotswolds and Malvern Hills AONBs (although the potential for negative effects to occur through impact on setting must also be taken into account in site-specific proposals). The corridors have been determined, to a large extent, by the coherence of their landscape types. Due to their size, all of the corridors contain parts of nationally and/or locally designated parks and gardens, although a greater number of such assets lie outside the corridors than within them. The landscape and visual impacts of a proposal will vary according to that proposal's specific location, and the corridors introduced by this policy are too large to enable any specific impacts to be identified. Guiding development to locations where the opportunities for landscape safeguarding and strengthening – especially (but not exclusively) occurring post-restoration – will have the greatest benefit, means that this policy should help to foster this SA objective.</p> <p>This policy enables some minerals sites to be developed outside of the strategic corridors, which could lead to minerals development within or in close proximity to the Cotswolds and Malvern Hills AONBs. Although minerals development coming forward outside strategic corridors is likely to be infrequent and small-scale, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the location and scale of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.</p> <p>Overall a mixed significant negative uncertain and minor positive uncertain effect is identified on this SA objective.</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA2: Biodiversity and geodiversity	+?/--?	<p>The strategic corridors include designated and non-designated biodiversity and geodiversity assets, but these are also spread throughout the county; the corridors are too large to enable impacts on specific receptors to be appraised. The corridors do not include either of the county's two SACs. Guiding development to locations where opportunities for biodiversity and geodiversity conservation and enhancement – especially (but not exclusively) occurring post-restoration – will have the greatest benefit, should mean that the policy will contribute to this SA objective.</p> <p>This policy enables some minerals sites to be developed outside of the strategic corridors, which could lead to minerals sites located within or adjacent to the county's two SACs. Although minerals development coming forward outside strategic corridors is likely to be infrequent and small-scale, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the scale and location of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.</p> <p>Overall a mixed significant negative uncertain and minor positive uncertain effect is identified for this SA objective.</p>
SA3: Cultural heritage, architecture and archaeology	+?/--?	<p>There are a range of historic environment assets within the corridors, but equally there are assets outside the corridors, and therefore there is potential for mineral development sites to come forward within or adjacent to a national historic environment site and/or to significantly compromise a historic environment asset through inter-visibility or impacts on setting through other disturbance. Therefore, to align with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified on this SA objective. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.</p> <p>Although the historic environment forms a part of green infrastructure, it has not been instrumental in guiding the location of the strategic corridors, nor in the approach to restoration within them. Each corridor has a table showing the contribution of each corridor's priorities to the various aspects of green infrastructure, and there is only ever a "potential positive contribution" to the historic environment within</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
		every part of every corridor. Landscape-scale restoration can help to improve the setting of the historic environment, and there are close linkages between landscape character and historic landscape character. Therefore, there may also be a minor positive effect in relation to this SA objective, which results in a mixed minor positive uncertain and significant negative uncertain effect.
SA4: Material assets	++?/--	Agricultural land quality varies across the corridors, and the corridors do not specifically seek to avoid best and most versatile agricultural land. Those corridors in the north of the county all include Green Belt land, whilst those in the south do not. While most minerals development is unlikely to be inappropriate in the Green Belt, some aspects could be, and this needs to be taken into account. However, there is potential for mineral development to come forward that could lead to the loss of Grade 1 agricultural land, therefore a significant negative effect is expected, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. Conversely, there is also potential for mineral extraction sites to come forward that lie on previously developed land, and so a significant positive uncertain effect is also identified.
SA5: Natural Resources	--?	The northern corridors include almost all of the county's Source Protection Zones. In addition, strategic corridors also contain and/or are adjacent to various water bodies and/or sensitive receptors, as well as having the potential to impact a nearby Air Quality Management Area. As there is potential for mineral development sites to come forward within any part of a Source Protection Zone or in proximity to sensitive receptors within a strategic corridor (or outside) a significant negative effect is identified on this SA objective, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. However, this is uncertain as the effects are dependent on the location and scale of any mineral development sites coming forward which are unknown at this stage.
SA6: Climate Change and energy	+?/-?	The corridors have been identified through the MLP as the areas where the greatest green infrastructure gains can be realised. The exact climate change impacts of minerals development can only be predicted once the location and detail of workings is known. The corridors are too large to enable any meaningful appraisal of specific impacts to be made. The climate change effects will depend upon working practices and transport modes used at the mineral sties. The corridors are, in very broad terms, close to major rivers, which could provide opportunities for sustainable transport movements, therefore resulting in

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>minor positive effects. Equally, the corridors include areas that are less accessible to the strategic transport network and water links, and the policy could lead to minerals development outside of these corridors, in areas with even more limited access to transport links. This could see transport emissions increase, thereby exacerbating climate change and resulting in minor negative effects. As mineral provision could also be developed outside of the strategic corridors, the green infrastructure mitigation measures specified for the strategic corridors, may not be delivered.</p> <p>Overall a mixed minor negative uncertain and minor positive uncertain effect is identified on this SA objective.</p>
SA7: Flooding	-?	<p>The strategic corridors include significant areas of flood zones 2 and 3, but this is to be expected, as much of the sand and gravel resource is associated with river terraces. Overall, it is considered unlikely that the policy itself will have significant effects on this SA objective, as many aspects of minerals development will not be "inappropriate" in these zones. However, as there is potential for non-sand and gravel spatial options to be located in flood zone 3, a minor negative effect is identified on this SA objective. This SA score is consistent with the assumption set out in Appendix 4 of the Publication Version SA Report. However, as the effects are dependent on the location of specific proposed non-sand and gravel mineral sites, which is unknown at this stage, uncertainty is attached to the minor negative effect.</p>
SA8: Access to Services	+/--?	<p>Public rights of way (PROWs) extend across the county in all areas, inside and outside the corridors. Minerals development within the corridors could both threaten existing routes (although mitigation elsewhere in the plan should limit this), and improve them as part of green infrastructure enhancements during development and restoration (giving a minor positive effect). The policy would support planning permission for mineral extraction sites that could potentially be located where one or more PROWs crosses the site. In line with the assumptions set out in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified on this SA objective. However, the negative effect is uncertain as effects are dependent on the location, scale and type of mineral site that comes forward, which are unknown at this stage.</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA9: Health and amenity	+/--?	<p>A variety of health impacts could arise as a result of minerals development. In the short term, effects may generally be expected to be negative, although the MLP will mitigate these through other policies. In the longer term, the MLP's approach of seeking green infrastructure improvements should have indirect minor positive effects on health, which can be closely linked to GI (for example through the improved quantity of and/or accessibility to green space). However, there is potential for mineral extraction sites (within strategic corridors, or outside of these) to be worked through this policy which could potentially cause noise, dust, or other emissions within 100m of sensitive receptors. In accordance with Appendix 4, a minor positive and significant negative effect is identified. However, the negative effects are uncertain as they depend on the location, scale and operation of the mineral site which is unknown at this stage.</p>
SA10: Waste	-	<p>If a minerals development is located within close proximity of an existing or allocated waste management facility, it could compromise the operation of the waste management facility. There are a number of waste management facilities within the county and within the strategic corridors, and as such, a mineral development site could be located within 250m of a waste management facility.</p> <p>In addition, this policy promotes the use of primary mineral extraction rather than encouraging the use of secondary minerals.</p> <p>A minor negative effect is therefore identified.</p>
SA11: Traffic and transport	+/--?	<p>The policy seeks to enable the sustainable supply of other locally and nationally important industrial mineral resources. Although the type, location, and use of such minerals is currently unknown, the policy provides for these minerals within the county, which may prevent the need to import such minerals from outside the county, thereby reducing transport movements. The precise nature of any benefits on traffic and transport will depend upon where such minerals are found inside and outside the county in relation to their markets, but it is reasonable to assume that delivering supplies to Worcestershire from within Worcestershire will support this SA objective, resulting in a minor positive effect.</p> <p>In addition, within Worcestershire itself, there is potential for mineral development to be located within close proximity to rail and water links, depending on loading/unloading facilities and route availability between source and destination. In contrast, there is also potential for mineral sites to come forward that</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
		are located further away from a strategic road network, including development outside of the strategic corridors, and so a significant negative uncertain effect is also identified.
SA12: Growth with prosperity for all	+/--?	<p>This policy aims to grant planning permission to mineral sites within strategic corridors (and outside mineral corridors). As new sites and extensions to existing sites will provide new job opportunities, a positive effect is identified on this SA objective.</p> <p>In contrast, where a potential mineral site or extension is identified on land allocated for employment development or proposed infrastructure delivery (e.g. dualling of Worcester's Southern Link road, which lies partly within the Lower Severn Strategic Corridor, and Worcestershire Parkway Station, which lies outside of a strategic corridor), this would conflict with other employment opportunities, so a significant negative effect is expected. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect identified.</p> <p>The minor positive and significant negative effects are consistent with the assumptions set out in Appendix 4 of the Publication Version SA Report.</p>
SA13: Provision of housing	+/--?	<p>This policy aims to grant planning permission to mineral sites within strategic corridors (and outside mineral corridors). As new sites and extensions to existing sites will contribute to housebuilding and other infrastructure such as roads, a minor positive effect is identified.</p> <p>Conversely, there is potential for mineral development to be permitted on areas of land allocated for housing provision through this policy, so a significant negative effect is also identified. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect is identified.</p> <p>The minor positive and significant negative uncertain effects are consistent with the assumptions set out in Appendix 4 of the Publication Version SA Report.</p>
SA14: Participation by all	0	No effects on this SA objective have been identified.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.2: Policy MLP 2: Strategic Location of Development – Specific Sites and Preferred Areas

Policy MLP 2 explains the role of specific sites and preferred areas, explaining that minerals development will be permitted within specific sites and may also be permitted in preferred areas where certain conditions apply. Specific sites and preferred areas are to be allocated in the emerging Mineral Site Allocations Development Plan Document and are therefore unknown at this stage, but they will be allocated within the strategic corridors. Therefore, the effects of minerals development anywhere within the strategic corridors has been used as the basis for the assessment of MLP 2.

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	--?	The strategic corridors specifically exclude the Cotswolds and Malvern Hills AONBs, but the Avon and Carrant Brook Corridor is adjacent to the Cotswolds AONB and nearby development could adversely affect its setting. In addition, the strategic corridors contain a number of sensitive receptors, such as PROWs and outdoor recreation facilities. However, the landscape and visual impacts of a proposal will vary according to that proposal's specific location, and the corridors are too large to enable any impacts on specific receptors to be identified. In line with a precautionary approach, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the location and scale of the mineral site coming forward.
SA2: Biodiversity and geodiversity	--?	The strategic corridors do not include either of the county's two SACs, although there are a number of designated and non-designated biodiversity and geodiversity assets within the corridors. However, the impacts of a proposal will vary according to that proposal's specific location, and the corridors are too large to enable any impacts on specific receptors to be identified. In line with a precautionary approach, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the scale and location of the mineral site coming forward, which is unknown at this stage.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA3: Cultural heritage, architecture and archaeology	--?	<p>There are a range of historic environment assets within the strategic corridors, therefore there is potential for mineral development sites to come forward within or adjacent to a national historic environment site and/or to significantly compromise a historic environment asset through inter-visibility or impacts on setting through other disturbance. However, the impacts of a proposal will vary according to that proposal's specific location, and the corridors are too large to enable any impacts on specific receptors to be identified.</p> <p>In line with a precautionary approach, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.</p>
SA4: Material assets	++?/--?	<p>Those strategic corridors in the north of the county all include Green Belt land, while those in the south do not. While most minerals development is unlikely to be inappropriate in the Green Belt, some aspects could be. Agricultural land quality varies across the corridors, including Grades 1, 2 and 3 agricultural land. As there is potential for mineral development to come forward that could lead to the loss of Grade 1 agricultural land, a significant negative effect is expected, in line with a precautionary approach. Conversely, there is also potential for mineral extraction sites to come forward that lie on previously developed land, and so a significant positive effect is also identified. Both effects are uncertain, as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.</p>
SA5: Natural Resources	--?	<p>The northern strategic corridors include almost all of the county's Source Protection Zones. In addition, strategic corridors also contain and/or are adjacent to various water bodies and/or sensitive receptors, as well as having the potential to impact a nearby Air Quality Management Area. As there is potential for mineral development sites to come forward within any part of a Source Protection Zone or in proximity to sensitive receptors within a strategic corridor, a significant negative effect is identified on this SA objective, in line with the precautionary approach. However, this is uncertain as the effects are dependent on the location and scale of any mineral development sites coming forward which are unknown at this stage.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA6: Climate Change and energy	+?/-?	<p>The climate change effects will primarily depend upon working practices and transport modes used at the mineral sties. The strategic corridors are, in very broad terms, close to major rivers, which could provide opportunities for sustainable transport movements, therefore resulting in minor positive effects. Equally, the strategic corridors include areas that are less accessible to the strategic transport network and water links. This could see transport emissions increase, thereby exacerbating climate change and resulting in minor negative effects. However, both effects are uncertain as they depend on the location and scale of any mineral development sites coming forward which are unknown at this stage.</p> <p>Overall a mixed minor negative uncertain and minor positive uncertain effect is identified on this SA objective.</p>
SA7: Flooding	-?	<p>The strategic corridors include significant areas of flood zones 2 and 3, which is to be expected, as much of the sand and gravel resource is associated with river terraces. Overall, it is considered unlikely that the policy itself will have significant effects on this SA objective, as many aspects of minerals development will not be "inappropriate" in these zones. However, as there is potential for non-sand and gravel spatial options to be located in flood zone 3, a minor negative effect is identified for this SA objective. However, the effects are uncertain as they are dependent on the specific locations of non-sand and gravel mineral sites coming forward, which are unknown at this stage.</p>
SA8: Access to Services	--?	<p>Public rights of way (PROWs) extend across the county in all areas, including inside the strategic corridors. The loss or re-routing of these could present a barrier to accessing services and facilities. In line with the precautionary approach, a significant negative effect is identified on this SA objective. However, this is uncertain as effects are dependent on the location, scale and type of mineral site that comes forward, which are unknown at this stage.</p>
SA9: Health and amenity	--?	<p>There is potential for mineral extraction sites within strategic corridors to be worked through this policy, which could potentially cause noise, dust, or other emissions within 100m of sensitive receptors. In line with the precautionary approach, a significant negative effect is identified. However, this is uncertain as effects depend on the location, scale and operation of the mineral site which is unknown at this stage.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA10: Waste	-	<p>If a minerals development is located within close proximity of an existing or allocated waste management facility, it could compromise the operation of the waste management facility. There are a number of waste management facilities within the county and within the strategic corridors, and as such, a mineral development site could be located within 250m of a waste management facility.</p> <p>In addition, this policy promotes the use of primary mineral extraction rather than encouraging the use of secondary minerals. A minor negative effect is therefore identified.</p>
SA11: Traffic and transport	+/--?	<p>The policy seeks to enable the sustainable supply of other locally and nationally important industrial mineral resources. Although the type, location, and use of such minerals is currently unknown, the policy provides for these minerals within the county, which may reduce the need to import such minerals from outside the county, thereby reducing transport movements.</p> <p>Within Worcestershire itself, a minor positive effect can also be identified as there is potential for mineral development to be located within close proximity to rail and water links, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. In contrast, there is also potential for mineral sites to come forward that are located further away from a strategic road network, and so a significant negative uncertain effect is also identified. The negative effect is uncertain as this depends on the exact location of minerals development, which is unknown at this stage.</p>
SA12: Growth with prosperity for all	+/--?	<p>This policy clarifies where minerals should be worked (i.e. within specific sites and preferred areas once allocated), with the inclusion of preferred areas providing some flexibility, to ensure a steady and adequate supply of minerals in the county and surrounding areas. This could have a positive impact on economic growth in the area, as production and construction are not likely to be limited by lack of mineral resources and will provide job opportunities.</p> <p>In contrast, where a potential mineral site or extension is identified on land allocated for employment development or proposed infrastructure delivery (e.g. dualling of Worcester's Southern Link road, which lies partly within the Lower Severn Strategic Corridor), this would conflict with other employment</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>opportunities, so a significant negative effect is expected. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect identified.</p> <p>Overall, mixed minor positive and significant negative uncertain effects are identified for this SA objective.</p>
SA13: Provision of housing	+/--?	<p>In enabling minerals development, this policy will contribute to housebuilding and other infrastructure such as roads, therefore a minor positive effect is identified.</p> <p>Conversely, there is potential for mineral development to be permitted on areas of land allocated for housing provision through this policy, so a significant negative effect is also identified. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect is identified.</p> <p>Overall, minor positive and significant negative uncertain effects are identified for this SA objective.</p>
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.3: Policy MLP 3: Strategic Location of Development – Areas of Search and Windfall Sites within the Strategic Corridors (Areas of Search are assessed individually in Table B.13 to Table B.42)

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	--?	<p>Whilst no areas of search lie within an AONB, some are adjacent to an AONB and therefore minerals development could have a negative effect on its setting. In addition, many areas of search contain, or are adjacent to, a number of sensitive receptors, such as PROWs and outdoor recreation facilities. The policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also result in loss of landscape features and/or their settings. As such, development within areas of search has potential for significant negative effects on this SA objective. However, this is uncertain as the effects would be dependent on the exact location and scale of development.</p>
SA2: Biodiversity and geodiversity	--?	<p>A number of areas of search include or are in proximity to designated and non-designated biodiversity and geodiversity assets, including nationally designated sites. The policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also lead to development that coincides with, or is in close proximity to, designated biodiversity and geodiversity sites. As such, significant negative effects have been identified for this SA objective. However, this is uncertain as the effects would be dependent on the scale and location of the windfall mineral site coming forward outside of the strategic corridors, which are unknown at this stage.</p>
SA3: Cultural heritage, architecture and archaeology	--?	<p>Many areas of search coincide with or lie adjacent to heritage assets. Whilst scheduled monuments and listed buildings have been removed from areas of search, some areas of search completely surround such features. The policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also lead to development that coincides with, or is in close proximity to, heritage assets. As such, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA4: Material assets	++?/--	<p>Some areas of search contain Grade 1 agricultural land, therefore a significant negative effect is expected, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. The policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also lead to development on Grade 1 agricultural land, but could also be on previously developed land, so a significant positive uncertain effect is also identified.</p> <p>Overall a mixed significant positive uncertain and significant negative effect is expected.</p>
SA5: Natural Resources	--?	<p>Many areas of search, particularly in the northern corridors, include Source Protection Zones. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also lead to development within Source Protection Zones. Many areas of search also contain or are located adjacent to a water body and/or sensitive receptors, as well as having the potential to impact a nearby Air Quality Management Area. As such, a significant negative effect is identified on this SA objective, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. However, this is uncertain as the effects are dependent on the location and scale of any mineral development sites coming forward which are unknown at this stage.</p>
SA6: Climate Change and energy	+?/--?	<p>The climate change effects will primarily depend upon working practices and transport modes. Some areas of search contain, or are adjacent to, water links, which could provide opportunities for sustainable transport movements, therefore resulting in minor positive effects. However, many areas of search would not be able to use water transport. This could see transport emissions increase, thereby exacerbating climate change. In addition, development within some areas of search could lead to significant net loss of tree cover, resulting in significant negative effects. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, with unknown opportunities for more sustainable modes of transport.</p> <p>Overall a mixed significant negative uncertain and minor positive uncertain effect is identified for this SA objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA7: Flooding	-?	Some areas of search include significant areas of flood zones 2 and 3, but this is to be expected, as much of the sand and gravel resource is associated with river terraces. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances. Many aspects of minerals development will not be "inappropriate" in these zones. However, as there is potential for some non-sand and gravel areas of search to include areas of flood zone 3, a minor negative effect is identified on this SA objective. This SA score is consistent with the assumption set out in Appendix 4 of the Publication Version SA Report. However, as the effects are dependent on the location of the mineral sites, which is unknown at this stage, an uncertain effect is identified.
SA8: Access to Services	--?	Many areas of search include PROWs and the loss or re-routing of these could present a barrier to accessing services and facilities. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could lead to loss of PROWs. In line with the assumptions set out in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified on this SA objective. However, the negative effect is uncertain as effects are dependent on the location, scale and type of mineral site that comes forward, which are unknown at this stage.
SA9: Health and amenity	--?	Many areas of search are within close proximity of sensitive receptors that could be affected by air pollution, noise and other emissions, including existing residential areas and areas allocated for housing in district Local Plans. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could be in proximity to sensitive receptors. In accordance with the assumptions set out in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified. However, the negative effects are uncertain as they depend on the location, scale and operation of the mineral site which is unknown at this stage.
SA10: Waste	-	A small number of areas of search could result in development within proximity to waste management sites. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could be within proximity to existing waste sites.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>In addition, this policy promotes the use of primary mineral extraction rather than encouraging the use of secondary minerals.</p> <p>A minor negative effect is therefore identified.</p>
SA11: Traffic and transport	+/--?	<p>Permitting minerals development within areas of search and allowing the flexibility to permit windfall sites within strategic corridors in some circumstances will help to enable the sustainable supply of mineral resources within the county, which may prevent the need to import such minerals from outside the county, thereby reducing transport movements and resulting in a minor positive effect.</p> <p>All areas of search are within 5km of the strategic road network and some areas of search contain, or are adjacent to, water links, which could provide opportunities for sustainable transport movements, therefore resulting in minor positive effects. However, many areas of search would not be able to use water transport. This could see transport emissions increase, thereby exacerbating climate change. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, with unknown opportunities for more sustainable modes of transport, and which may be further than 5km from the strategic road network.</p> <p>Overall, a mixed minor positive and significant negative uncertain effect is identified.</p>
SA12: Growth with prosperity for all	+/--?	<p>This policy enables minerals development within areas of search and, in limited circumstances, on windfall sites within strategic corridors, which will provide employment opportunities. However, some areas of search and other parts of the strategic corridors are in close proximity to areas allocated for employment development or existing employment sites and could affect the development or operation of those sites. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect identified.</p> <p>As such, overall mixed minor positive and significant negative uncertain effects are identified.</p>
SA13: Provision of housing	+/--?	<p>In enabling minerals development, this policy will contribute to housebuilding and other infrastructure such as roads, therefore a minor positive effect is identified.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>Conversely, many areas of search lie within proximity to areas of land allocated for housing provision, so a significant negative effect is also identified. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect is identified. In addition, the policy also allows for minerals development on windfall sites within strategic corridors in limited circumstances, which could also result in minerals development coming forward in proximity to sites allocated for housing development.</p> <p>Overall, mixed minor positive and significant negative uncertain effects are identified.</p>
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.4: Policy MLP 4: Strategic Location of Development – Windfall Sites outside the Strategic Corridors

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	--?	As this policy allows windfall sites outside of the strategic corridors, mineral developments could be located within or close proximity to the Cotswolds and Malvern Hills AONBs. Although minerals development coming forward under this policy is likely to be infrequent and small-scale, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified on this SA objective. However, this is uncertain as the effects would be dependent on the location and scale of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.
SA2: Biodiversity and geodiversity	--?	As this policy allows windfall sites outside of the strategic corridors, mineral developments could be located within or adjacent to the county's two SACs and/or other biodiversity designations. Although minerals development coming forward under this policy is likely to be infrequent and small-scale, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the scale and location of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.
SA3: Cultural heritage, architecture and archaeology	--?	There are a range of historic environment assets outside the strategic corridors (as well as within), and therefore there is potential for mineral development sites to come forward within or adjacent to a national historic environment site and/or to significantly compromise a historic environment asset through inter-visibility or clear impacts on setting through other disturbance. Therefore, to align with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA4: Material assets	++?/--?	Agricultural land quality varies across the county and there are areas of best and most versatile agricultural land outside of the strategic corridors. Green Belt land is present in the north of the county, including outside of strategic corridors. While most minerals development is unlikely to be inappropriate in the Green Belt, some aspects could be, and this needs to be taken into account. As there is potential for mineral development to come forward that could lead to the loss of Grade 1 agricultural land, a significant negative effect is expected, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. Conversely, there is also potential for mineral extraction sites to come forward that lie on previously developed land, and so a significant positive effect is also identified. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.
SA5: Natural Resources	--?	The northern strategic corridors include almost all of the county's Source Protection Zones. There are also Source Protection Zones outside of strategic corridors, although there are only a few very small areas outside strategic corridors within Source Protection Zone 1. As there is potential for mineral development sites to come forward within a Source Protection Zone, a significant negative effect is identified for this SA objective, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. However, this is uncertain as the effects are dependent on the location and scale of any mineral development sites coming forward which are unknown at this stage.
SA6: Climate Change and energy	+?/-?	The climate change effects will depend upon working practices and transport modes. Some areas outside of the strategic corridors include major rivers, which could provide opportunities for sustainable transport movements, as well as areas in proximity to potential markets and the strategic transport network, therefore resulting in minor positive effects. Equally, there are areas outside of strategic corridors with more limited access to transport links. This could see transport emissions increase, thereby exacerbating climate change and resulting in minor negative effects. As this policy would allow mineral provision to be developed outside of the strategic corridors, the green infrastructure mitigation measures specified for the strategic corridors, would not be delivered at windfall sites (although some form of green infrastructure provision may be provided as part of site restoration).

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		Overall a mixed minor positive uncertain and minor negative uncertain effect is identified on this SA objective.
SA7: Flooding	-?	There are areas within flood zones 2 and 3 outside of strategic corridors (as well as within them). Overall, it is considered unlikely that the policy itself will have significant effects on this SA objective, as many aspects of minerals development will not be "inappropriate" in these zones. However as there is potential for non-sand and gravel windfall sites to be located in flood zone 3, a minor negative effect is identified for this SA objective. This SA score is consistent with the assumption set out in Appendix 4 of the Publication Version SA Report. However, as the effects are dependent on the location of the mineral sites, which is unknown at this stage, an uncertain effect is identified.
SA8: Access to Services	--?	PROWs extend across the county in all areas, inside and outside the corridors. Minerals development could threaten existing routes (although mitigation elsewhere in the plan should limit this). The policy would support planning permission for mineral extraction sites that could potentially be located where one or more PROWs crosses the site. As this policy would allow mineral provision to be developed outside of the strategic corridors, the green infrastructure mitigation measures specified for the strategic corridors, including creation and enhancement of PROWs, would not be delivered at windfall sites (although some form of green infrastructure provision may be provided as part of site restoration). In line with the assumptions set out in Appendix 4 of the Publication Version SA Report, a significant negative effect is identified on this SA objective. However, the negative effect is uncertain as effects are dependent on the location, scale and type of mineral site that comes forward, which are unknown at this stage.
SA9: Health and amenity	--?	A variety of health impacts could arise as a result of minerals development. In the short term, effects may generally be expected to be negative, although the MLP will mitigate these through other policies. As this policy would allow mineral provision to be developed outside of the strategic corridors, the green infrastructure mitigation measures specified for the strategic corridors would not be delivered at windfall sites (although some form of green infrastructure provision may be provided as part of site restoration). There is potential for mineral extraction sites to be worked through this policy which could potentially cause noise, dust, or other emissions within 100m of sensitive receptors. In accordance with Appendix 4

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		of the Publication Version SA Report, a significant negative effect is identified. However, the negative effects are uncertain as they depend on the location, scale and operation of the mineral site which is unknown at this stage.
SA10: Waste	-	<p>If a minerals development is located within close proximity of an existing or allocated waste management facility, it could compromise the operation of the waste management facility. There are a number of waste management facilities within the county, including outside of the strategic corridors, and as such, a mineral development site could be located within 250m of a waste management facility.</p> <p>In addition, this policy promotes the use of primary mineral extraction rather than encouraging the use of secondary minerals.</p> <p>A minor negative effect is therefore identified.</p>
SA11: Traffic and transport	+/--?	<p>The policy seeks to enable the sustainable supply of other mineral resources that are not found within the strategic corridors. Although the type, location, and use of such minerals is currently unknown, the policy provides for these minerals within the county, which may prevent the need to import such minerals from outside the county, thereby reducing transport movements. The precise nature of any benefits on traffic and transport will depend upon where such minerals are found inside and outside the county in relation to their markets, but it is reasonable to assume that delivering supplies to Worcestershire from within Worcestershire will support this SA objective.</p> <p>Within Worcestershire itself however, a minor positive effect can also be identified as there is potential for mineral development to be located within close proximity to rail and water links, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. In contrast, there is also potential for mineral sites to come forward that are located further away from a strategic road network, including development outside of the strategic corridors, and so a significant negative uncertain effect is also identified.</p>
SA12: Growth with prosperity for all	+/--?	This policy aims to grant planning permission to windfall sites outside strategic corridors, which may support industrial processes and construction that may otherwise lack the resources to take place. In

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>addition, as new sites and extensions to existing sites will provide new job opportunities, a positive effect is identified on this SA objective.</p> <p>In contrast, where a potential mineral site or extension is identified on land allocated for employment development or proposed infrastructure delivery (such as Worcestershire Parkway Station, which lies outside of a strategic corridor), this would conflict with other employment opportunities, so a significant negative effect is expected. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect identified.</p> <p>The minor positive and significant negative uncertain effects are consistent with the assumptions set out in Appendix 4 of the Publication Version SA Report.</p>
SA13: Provision of housing	+/--?	<p>This policy aims to grant planning permission to windfall sites outside strategic corridors. As new sites and extensions to existing sites could contribute to housebuilding and other infrastructure such as roads, a minor positive effect is identified.</p> <p>Conversely, there is potential for mineral development to be permitted on areas of land allocated for housing provision through this policy, so a significant negative effect is also identified. However, the effects are dependent on the location of the mineral site, which is unknown at this stage, hence the uncertain effect identified.</p> <p>The minor positive and significant negative uncertain effects are consistent with the assumptions set out in Appendix 4 of this SA Report.</p>
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.5: Policy MLP 5: Extant Mineral Sites and Safeguarded Resources

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	--?	<p>As mineral provision could take place outside of the strategic corridors under this policy, mineral developments could be located within or close proximity to the Cotswolds and Malvern Hills AONBs, although the landscape and visual impacts of a proposal will vary according to each proposal's specific location.</p> <p>As such, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the location and scale of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.</p>
SA2: Biodiversity and geodiversity	--?	<p>As mineral provision could take place outside of the strategic corridors under this policy, mineral developments could be located within or adjacent to the county's two SACs and/or other designated biodiversity sites. As such, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects would be dependent on the location and scale of the mineral site coming forward outside of the strategic corridors, which are unknown at this stage.</p>
SA3: Cultural heritage, architecture and archaeology	--?	<p>There is potential for mineral development sites to come forward within or adjacent to a national historic environment site and/or to significantly compromise a historic environment asset through inter-visibility or clear impacts on setting through other disturbance. As such, a significant negative effect is identified for this SA objective. However, this is uncertain as the effects are dependent on the specific location of any mineral development site coming forward, which is unknown at this stage.</p>
SA4: Material assets	--?	<p>Agricultural land quality varies across the county, whilst Green Belt is only present in the northern part of Worcestershire. While most minerals development is unlikely to be inappropriate in the Green Belt, some aspects could be, and this needs to be taken into account. Proposals within the boundary of already permitted sites are likely to have relatively minor impacts as minerals development would already be</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>present. However, permitting minerals development to prevent sterilisation could result in loss of Grade 1 agricultural land or development in the Green Belt, depending on the location of development.</p> <p>As there is potential for mineral development to come forward that could lead to the loss of Grade 1 agricultural land, a significant negative uncertain effect is expected, in line with the strategic corridor and areas of search assumptions outlined in Appendix 4 of the Publication Version SA Report. It is considered unlikely that this policy would facilitate mineral extraction sites to come forward that lie on previously developed land.</p>
SA5: Natural Resources	--?	<p>There is potential for mineral development sites to come forward within any part of a Source Protection Zone.</p> <p>As such, a minor negative effect is identified for this SA objective. However, this is uncertain as the effects are dependent on the location and scale of any mineral development sites coming forward which are unknown at this stage.</p>
SA6: Climate Change and energy	+?/-?	<p>This policy allows alterations to development within the boundary of permitted mineral sites, where suitable transport infrastructure is likely to be in place and may make more efficient use of such established infrastructure. Permitting minerals development to prevent sterilisation may enable minerals to be worked prior to another type of development taking place, in which case there is potential for the worked minerals to be used in the future development on site. However, there is still likely to be an increase in vehicle movements as a result of minerals development. As such, this policy is expected to have mixed minor positive effects and minor negative effects in terms of climate change and energy, although these are uncertain as it depends on the exact nature and location of development.</p>
SA7: Flooding	-?	<p>There is potential for minerals development to come forward in flood zones 2 or 3. Overall, it is considered unlikely that the policy itself will have significant effects on this SA objective, as many aspects of minerals development will not be "inappropriate" in these zones. Additionally, permitting minerals development to prevent sterilisation is likely to be in order to work minerals prior to another type</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>of development taking place. This may mean it is less likely that development would be in an area at high risk of flooding, as the non-minerals development may be inappropriate in a flood zone.</p> <p>However as there is potential for non-sand and gravel spatial options to be located in flood zone 3, a minor negative effect is identified for this SA objective. This SA score is consistent with the assumption set out in Appendix 4 of the Publication Version SA Report. However, as the effects are dependent on the location of the mineral sites, which is unknown at this stage, an uncertain effect is identified.</p>
SA8: Access to Services	--?	<p>PROWs extend across the county in all areas, inside and outside the corridors. Proposals within the boundary of already permitted sites are likely to have no effect, as minerals development would already be present. However, permitting minerals development to prevent sterilisation could result in loss or diversion of PROWs, depending on the location of development.</p> <p>As such, a significant negative effect is identified for this SA objective. However, the negative effect is uncertain as effects are dependent on the location, scale and type of mineral site that comes forward, which are unknown at this stage.</p>
SA9: Health and amenity	--?	<p>Proposals within the boundary of already permitted sites could prolong existing negative effects or result in additional health and amenity effects. Permitting minerals development to prevent sterilisation could also result in adverse effects, including potential for noise, dust, or other emissions within 100m of sensitive receptors. In accordance with Appendix 4 of the Publication Version SA Report, a significant negative effect is identified. However, the negative effects are uncertain as they depend on the location, scale and operation of the mineral site which is unknown at this stage.</p>
SA10: Waste	-?	<p>If a minerals development is located within close proximity of an existing or allocated waste management facility, it could compromise the operation of the waste management facility. Proposals within the boundary of already permitted sites are likely to have no effect, as minerals development would already be present. However, permitting minerals development to prevent sterilisation could affect nearby waste management facilities, depending on the location of development. A minor negative effect is therefore identified, although this is uncertain, depending on the location of minerals development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA11: Traffic and transport	+/-?	This policy allows alterations to development within the boundary of permitted mineral sites, where suitable transport infrastructure may already be in place and may make more efficient use of such established infrastructure. Permitting minerals development to prevent sterilisation may be in order to work minerals prior to another type of development taking place, in which case there is potential for the worked minerals to be used in the future development on site. However, there is still potential for this policy to result in an increase in vehicle movements as a result of minerals development. As such, this policy is expected to have mixed minor positive and minor negative uncertain effects in terms of climate change and energy.
SA12: Growth with prosperity for all	+/-?	This policy aims to maximise the efficient use of minerals, and land, which may help contribute to economic growth. Proposals within the boundary of already permitted sites are likely to have more minor effects, as minerals development would already be present, although it could create more jobs at the same site. In addition, permitting minerals development to prevent sterilisation is likely to be in order to work minerals prior to another type of development taking place, which could help to minimise conflicts with other potential uses of the same site, although could restrict other employment opportunities coming forward in the area in the shorter term. As such, mixed minor positive and minor negative uncertain effects are identified for this SA objective.
SA13: Provision of housing	+/-?	Extraction of minerals as a result of this policy would contribute to housebuilding and other infrastructure such as roads, therefore a minor positive effect is identified. Proposals within the boundary of already permitted sites are likely to have more minor effects, as minerals development would already be present. In addition, permitting minerals development to prevent sterilisation is likely to be in order to work minerals prior to another type of development taking place, which could help to minimise conflicts with other potential uses of the same site, although it could temporarily restrict or delay housing development coming forward in the area. As such, mixed minor positive and minor negative uncertain effects are identified for this SA objective.
SA14: Participation by all	0	No effects on this SA objective have been identified.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Supply of Mineral Resources Policies

Table B.6: Policy MLP 14: Scale of Sand and Gravel Provision

Policy MLP 14 refers to the spatial distribution of development in terms of which resources will be worked in which strategic corridors. Given that the principle of focusing development in the strategic corridors is assessed through the SA of MLP 1 above, this is not repeated here. The policy and supporting text also refer to policies MLP 2, MLP 3, MLP 4 and MLP 5. The assessment of these is presented above and is not repeated below.

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	-?	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. This policy is therefore likely to have a minor negative effect as the provision of sand and gravel could result in adverse impacts on landscape character and quality at numerous locations, particularly within strategic corridors. Effects are uncertain as it will depend on the scale, location and design of minerals sites.
SA2: Biodiversity and geodiversity	-?	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. This policy is therefore likely to have a minor negative effect as the provision of sand and gravel mineral sites could result in adverse impacts on biodiversity and geodiversity assets at numerous locations, particularly within strategic corridors. Effects are uncertain as it will depend on the scale, location and design of minerals sites.
SA3: Cultural heritage, architecture and archaeology	-?	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. This policy is therefore likely to have a minor negative effect as the provision of sand and gravel mineral sites could result in adverse impacts on the historic environment and/or historic assets at numerous locations, particularly within the

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		strategic corridors. Effects are uncertain as it will depend on the scale, location and design of minerals sites.
SA4: Material assets	-?	A minor negative effect is identified as the policy supports continued extraction of primary sourced minerals, which could result in development on agricultural land and/or Green Belt. This effect is uncertain as the potential for effects will depend on the exact nature, design and location of the sand and gravel developments, which would not be known until the planning application stage.
SA5: Natural Resources	-?	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. A minor negative effect is identified as it supports the provision of sand and gravel mineral developments which could result in adverse impacts on water quality, leading to a minor negative effect. Effects are uncertain as it will depend on the scale, location and operation of the extraction sites.
SA6: Climate Change and energy	-?	If transportation of sand and gravel utilises the road network, rather than more sustainable modes, there would be an increase in carbon emissions and therefore a minor negative is identified. However, this is uncertain as it depends on the exact location and operation of particular sites.
SA7: Flooding	+	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. This type of mineral development is classified as water-compatible and potentially suitable in all flood zones including 3b (the functional floodplain). Furthermore, these sites may also have the potential to increase flood capacity through their eventual restoration. A minor positive uncertain effect is identified on this SA objective.
SA8: Access to Services	0	No effects on this SA objective have been identified.
SA9: Health and amenity	-?	The policy sets out the scale of sand and gravel developments required within the life of the Plan, and allows flexibility in this based on the latest Local Aggregate Assessment. Minor negative effects are identified as the policy supports the provision of new sand and gravel mineral sites which may have

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		adverse impacts from their operations on the health and wellbeing of nearby communities. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA10: Waste	+?/-	<p>The policy identifies that sand and gravel provision can come forward as extensions to extant sites (as well as new sites), which may lead to reduced waste and/or efficiencies in waste management as a result of making use of existing infrastructure, plant and processes. The nature and extent of waste arisings, however, remain unknown, and it cannot be assumed that these will necessarily be lower at an extended site than at a new site therefore the effects are uncertain.</p> <p>A minor negative effect is likely as the workings of sand and gravel pits would promote the use of primary mineral extraction rather than encourage the use of secondary minerals.</p> <p>Overall a mixed minor positive uncertain and minor negative effect is identified on this SA objective.</p>
SA11: Traffic and transport	+/-?	<p>This policy will help ensure an adequate supply of sand and gravel within Worcestershire, which should help to reduce the need for imported materials from outside the county. Depending on the location of the supply and where it is used, this could help to reduce the need for traffic and transport and so a minor positive effect is identified.</p> <p>However, it is unknown whether the transportation of sand and gravel will utilise sustainable transport modes or the road network. If the road network is used, a minor negative effect is expected, although an uncertain effect is also identified as transport plans are unknown at this stage.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>
SA12: Growth with prosperity for all	+	<p>The policy will help to ensure the provision of adequate minerals to enable Worcestershire's growth. A minor positive effect is therefore identified as it could make some provision for additional sand and gravel mineral sites which will ensure a steady and adequate supply of minerals to meet the county's need and will encourage the growth of the minerals industry.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA13: Provision of housing	+?	The policy will help to ensure adequate sand and gravel minerals that could contribute to the provision of housing. A minor positive effect is therefore identified. The nature of such effects, however, cannot be known at this stage, so the effect is uncertain.
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.7: Policy MLP 16: Scale of Crushed Rock Provision

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	--?	<p>The policy sets out the scale of crushed rock provision required within the life of the Plan, and, given the lack of existing landbank allows substantial flexibility in where this comes forward.</p> <p>The policy promotes ongoing importation of crushed rock, which could be beneficial to this SA objective within Worcestershire in terms of reducing likely risk to designated landscapes. However, there could be landscape effects outside of Worcestershire, depending on where the rock is sourced from. Chapter 2 (portrait of Worcestershire) of the MLP confirms that, apart from some smaller resources at Suckley, Abberley and Woodbury Hills, the crushed rock resource is concentrated within and around (and therefore likely to be within the setting of) Areas of Outstanding Natural Beauty (AONBs). The policy allows crushed rock development on windfall sites, which may well be within these designated landscapes, so that the risk will continue and a significant negative effect is expected.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA2: Biodiversity and geodiversity	-?	<p>There is likely to be limited crushed rock development, given historic trends of zero tonnes per annum since 2010, which could help to conserve biodiversity and geodiversity through avoiding potential risks from development. However, as the policy allows crushed rock development on windfall sites, there is potential for adverse effects to arise on the county's biodiversity and geodiversity assets. A minor negative effect is identified.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA3: Cultural heritage, architecture and archaeology	+/-?	<p>Provision of crushed rock could potentially contribute to resources needed to undertake repairs to Worcestershire's cultural heritage, architecture and archaeology assets, and a minor positive effect is expected.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>The policy allows for mineral developments for crushed rock to come forward on windfall sites, so there is potential for these mineral workings to adversely affect heritage assets and/or their setting and therefore a minor negative effect is also identified.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>
SA4: Material assets	-?	<p>A minor negative effect is identified as the policy supports continued extraction of primary sourced minerals, which could result in development on agricultural land and/or Green Belt. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA5: Natural Resources	-?	<p>This policy allows crushed rock development on windfall sites, which could lead to consequent risks to water and air quality and so a minor negative effect is expected.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA6: Climate Change and energy	-?	<p>This policy supports continued importation of crushed rock, which is likely to result in carbon emissions from transport. If transportation of crushed rock utilises the road network, rather than more sustainable modes, there would be a greater increase in carbon emissions and therefore a minor negative effect is identified. However, this is uncertain as it depends on the exact location and operation of particular sites.</p>
SA7: Flooding	+?/-?	<p>Mixed effects are expected (minor positive/minor negative) as enabling crushed rock mineral development could have an adverse effect on flooding if it occurs within flood zone 3b (the functional floodplain). However, these sites may also have the potential to increase flood capacity through their eventual restoration. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA8: Access to Services	0	<p>No effects on this SA objective have been identified.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA9: Health and amenity	-?	Minor negative effects are identified as the policy supports the provision of crushed rock mineral developments which may have adverse impacts from their operations on the health and wellbeing of nearby communities. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA10: Waste	-	A minor negative effect is likely as the workings of crushed rock developments would promote the use of primary mineral extraction rather than encourage the use of secondary minerals.
SA11: Traffic and transport	+?/-?	<p>This policy allows for crushed rock development on windfall sites to maximise the potential for resources to be worked within the County. This could help to minimise the need to import minerals, resulting in minor positive effects. These effects are uncertain, as the reasoned justification acknowledges that this supply is unlikely to come from within Worcestershire.</p> <p>However, this policy also supports continued importation of crushed rock, which is likely to result in carbon emissions from transport. It is unknown whether the transportation of crushed rock will utilise either more sustainable transport modes or the road network. If the road network is used, a minor negative effect is expected, although an uncertain effect is also identified as transport plans are unknown at this stage.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>
SA12: Growth with prosperity for all	+?	<p>The policy seeks to facilitate any schemes that may come forward, which may encourage growth in the minerals industry. Whilst the MLP seeks a steady and adequate supply, the reasoned justification acknowledges that this supply is unlikely to come from within Worcestershire. As such, the delivery of economic development and infrastructure projects could be compromised if timely, affordable supplies cannot be secured from elsewhere.</p> <p>Overall a minor positive uncertain effect is identified on this SA objective.</p>
SA13: Provision of housing	+?	The policy encourages adequate crushed rock minerals that could contribute to the provision of housing (although it is recognised that these may continue to be imported following past trends). A minor positive

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		effect is therefore identified. The nature of such effects, however, cannot be known at this stage, so these effects are uncertain.
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.8: Policy MLP 18: Scale of Brick Clay Provision

Policy MLP 18 refers to the spatial distribution of development in terms of which strategic corridors brick clay will be worked in. Given that the principle of focusing development in the strategic corridors is assessed through the SA of MLP 1 above, this is not repeated here. The policy and supporting text also refer to policies MLP 3, MLP 4 and MLP 5. The assessment of these is presented above and is not repeated below.

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	-?	The policy sets out the scale of brick clay provision required within the life of the Plan and promotes provision of brick clay from new and existing sites. This policy is therefore likely to have a minor negative effect as the provision of brick clay and clay mineral sites could result in adverse impacts on landscape character and quality at numerous locations, particularly within the strategic corridors. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA2: Biodiversity and geodiversity	-?	The policy sets out the scale of brick clay provision required within the life of the Plan and promotes provision of brick clay from new and existing sites. This policy is therefore likely to have a minor negative effect as the provision of brick clay and clay mineral sites could result in adverse impacts on biodiversity and geodiversity assets at numerous locations, particularly within the strategic corridors. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA3: Cultural heritage, architecture and archaeology	+/-?	<p>The provision of sufficient and different blends of brick clay and clay products will be important in carrying out works to preserve and enhance the historic environment, therefore a minor positive effect is identified.</p> <p>In contrast, brick clay developments could potentially compromise assets under this SA objective and so a minor negative effect is also expected. These effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA4: Material assets	-?	A minor negative effect is identified as this policy supports continued extraction of primary sourced minerals, which could result in development on agricultural land and/or Green Belt. The effects would be uncertain as the potential for effects will depend on the exact nature, design and location of the brick clay developments, which would not be known until the planning application stage.
SA5: Natural Resources	-?	A minor negative effect is identified as the policy supports the provision of clay and brick clay mineral development which could result in negative impacts on water quality at minerals sites. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA6: Climate Change and energy	-?	If transportation of brick clay and brick clay products utilises the road network, rather than more sustainable modes, there would be a greater increase in carbon emissions and therefore a minor negative effect is identified. However, this is uncertain as it depends on the exact location and operation of particular sites.
SA7: Flooding	+?/-?	Mixed effects (minor positive/minor negative) are expected as clay and brick clay mineral development would be suitable in all flood zones, except 3b (the functional floodplain) where development could have an adverse effect on flooding. However, these sites may also have the potential to increase flood capacity through their eventual restoration. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA8: Access to Services	0	No effects have been identified with regards to access to services.
SA9: Health and amenity	-?	Minor negative effects are identified as the policy supports the provision of brick clay and clay mineral developments which may have adverse impacts from their operations on the health and wellbeing of nearby communities. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA10: Waste	+?/-	<p>The policy identifies that brick clay provision can come forward as extensions to extant sites (as well as new sites), which may lead to reduced waste and/or enable efficiencies in waste management as a result of making use of existing infrastructure, plant and processes. The nature and extent of waste arisings, however, remain unknown, and it cannot be assumed that these will necessarily be lower at an extended site than at a new site therefore the effects are uncertain.</p> <p>A minor negative effect is likely as the workings of clay and brick clay developments would promote the use of primary mineral extraction rather than encourage the use of secondary minerals.</p> <p>Overall a mixed minor positive uncertain and minor negative effect is identified on this SA objective.</p>
SA11: Traffic and transport	+/-?	<p>This policy will help to ensure a steady and adequate supply of brick clay and clay products within Worcestershire, which should help to reduce the need for imported materials from outside the county. Depending on the location of the supply and where it is used, this could help to reduce the need for traffic and transport and so a minor positive effect is identified.</p> <p>However it is unknown whether the transportation of brick clay and clay products will utilise either more sustainable transport modes or the road network. If the road network is used, a minor negative effect is expected, although an uncertain effect is also identified as transport plans are unknown at this stage.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>
SA12: Growth with prosperity for all	+	<p>The policy will help to ensure the provision of adequate minerals to enable Worcestershire's growth. A minor positive effect is therefore identified as it makes provision for additional brick clay sites, which will ensure a steady and adequate supply of minerals to meet the county's need and will encourage the growth of the minerals industry.</p>
SA13: Provision of housing	+	<p>The policy promotes development for a range of brick clay products and of clay and brick clay blends to come forward that could contribute to the provision of housing. A minor positive effect is therefore identified.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.9: Policy MLP 20: Scale of Silica Sand Provision

Policy MLP 20 refers to the spatial distribution of development in terms of which strategic corridors silica sand will be worked in. Given that the principle of focusing development in the strategic corridors is assessed through the SA of MLP 1 above, this is not repeated here. The policy and supporting text also refer to policies MLP 3, MLP 4 and MLP 5. The assessment of these is presented above and is not repeated below.

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	-?	<p>The policy sets out the scale of silica sand provision required within the life of the Plan and enables provision of silica sand from new and existing sites, including alongside solid sands. The provision of silica sand mineral sites could result in adverse impacts on landscape character and quality at numerous locations, particularly within the strategic corridors. Currently there is one active site and the justification text to this policy asserts that there is no industrial plant directly associated with this and that there is “no indication that the operator of the current site wishes to invest in industrial plant to use silica sand” in the county, thereby limiting the adverse effects on Worcestershire’s landscape. A minor negative effect is therefore identified on this SA objective.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA2: Biodiversity and geodiversity	-?	<p>The policy sets out the scale of silica sand provision required within the life of the Plan and enables provision of silica sand from new and existing sites, including alongside solid sands. The provision of additional silica sand mineral sites could result in adverse impacts on biodiversity and geodiversity assets at numerous locations, particularly within strategic corridors. Currently there is one active site and the justification text to this policy asserts that there is no industrial plant directly associated with this and the justification text to this policy asserts that there is “no indication that the operator of the current site wishes to invest in industrial plant to use silica sand” in the county, thereby limiting the adverse effects on Worcestershire’s biodiversity and geodiversity. A minor negative effect is therefore identified on this SA objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA3: Cultural heritage, architecture and archaeology	-?	<p>Silica sand is not generally used for building conservation purposes (and the policy only seeks to enable development for industrial uses), so this policy is unlikely to have a beneficial impact on this SA objective. In terms of possible negative effects arising from silica sand development sites, the provision of sand and gravel mineral sites could result in adverse impacts on the historic environment and/ or historic assets at numerous locations, particularly within the strategic corridors. Currently there is one active site and the justification text to this policy asserts that there is no industrial plant directly associated with this and the justification text to this policy asserts that there is “no indication that the operator of the current site wishes to invest in industrial plant to use silica sand” in the county, thereby limiting the adverse effects on Worcestershire’s historic environment. A minor negative effect is therefore identified on this SA objective.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA4: Material assets	-?	A minor negative effect is identified as the policy supports continued extraction of primary sourced minerals, which could result in development on agricultural land and/or Green Belt. The effects would be uncertain as the potential for effects will depend on the exact nature, design and location of the silica sand developments, which would not be known until the planning application stage.
SA5: Natural Resources	-?	The provision of silica sand mineral developments could result in adverse impacts on water quality at these locations leading to a minor negative effect. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA6: Climate Change and energy	-?	If transportation of silica sand utilises the road network, rather than more sustainable modes, there would be a greater increase in carbon emissions and therefore a minor negative effect is identified. However, this is uncertain as it depends on the exact location and operation of particular sites.
SA7: Flooding	+?/-?	The policy sets out the scale of silica sand provision required within the life of the Plan and enables provision of silica sand from new and existing sites, including alongside solid sands. Mixed effects (minor positive/minor negative) are expected as the provision of silica sand mineral development would be

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		<p>suitable in all flood zones, except 3b (the functional floodplain) where development could have an adverse effect on flooding. However, these sites may also have the potential to increase flood capacity through their eventual restoration.</p> <p>Effects are uncertain as they will depend on the scale, location and design of the extraction sites.</p>
SA8: Access to Services	0	No effects have been identified on access to services.
SA9: Health and amenity	-?	<p>Minor negative effects are identified as the policy supports the provision of silica sand mineral developments, which may have adverse impacts from their operations on the health and wellbeing of nearby communities.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA10: Waste	+?/-	<p>The policy sets out the scale of silica sand provision required within the life of the Plan and enables provision of silica sand from new and existing sites, including alongside solid sands. Extensions of exiting sites may lead to reduced waste and/or enable efficiencies in waste management as a result of making use of existing infrastructure, plant and processes. The specific nature and extent of waste arisings, however, remain unknown, and it cannot be assumed that these will necessarily be lower at an extended site than at a new site.</p> <p>The workings of silica sand mineral developments would promote the use of primary mineral extraction rather than encourage the use of secondary minerals.</p> <p>Overall a mixed minor positive uncertain and minor negative effect is identified on this SA objective.</p>
SA11: Traffic and transport	+/-?	<p>Providing for silica sand development within Worcestershire should help to reduce the need for imported materials from outside the county. Depending on the location of the supply and where it is used, this could help to reduce the need for traffic and transport.</p> <p>However it is unknown whether the transportation of silica sand to industrial plant off site will utilise either more sustainable transport modes or the road network. If the road network is used, a minor negative</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		effect is expected, although an uncertain effect is also identified as transport plans are unknown at this stage. Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.
SA12: Growth with prosperity for all	+	This policy enables silica sand development to come forward, which could contribute to the adequate supply of minerals to meet the county's need and will encourage the growth of the minerals industry. A minor positive effect is therefore identified.
SA13: Provision of housing	0	Silica sand is not generally used in housing construction, therefore no effects on this SA objective have been identified.
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Table B.10: Policy MLP 22: Scale of Building Stone Provision

Policy MLP 22 refers to the spatial distribution of development in terms of which strategic corridors building stone will be worked in. Given that the principle of focusing development in the strategic corridors is assessed through the SA of MLP 1 above, this is not repeated here. The policy and supporting text also refer to policies MLP 3, MLP 4 and MLP 5. The assessment of these is presented above and is not repeated below.

Sustainability Appraisal Objectives	SA Score	Potential Effects
SA1: Landscape	-?	<p>The policy seeks to enable an adequate and diverse supply of building stone, including within strategic corridors and on windfall sites. Although there is no information available to indicate the scale of provision required for building stone over the life of the plan, demand may rise during the life of the Minerals Local Plan. This policy is therefore likely to have a minor negative effect as the provision of building stone mineral sites could result in adverse impacts on landscape character and quality at numerous locations, and so a minor negative effect is identified.</p> <p>Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA2: Biodiversity and geodiversity	-?	<p>The policy seeks to enable an adequate and diverse supply of building stone, including within strategic corridors and on windfall sites. The provision of building stone mineral sites could result in adverse impacts on biodiversity and geodiversity assets at numerous locations and so a minor negative effect is identified. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>
SA3: Cultural heritage, architecture and archaeology	+/-?	<p>The provision of building stone will be important in carrying out works to preserve and enhance the historic environment, as well as in enabling new architectural proposals to be realised. The policy, in facilitating developments to allow this, will support this SA objective and so a minor positive effect is identified.</p> <p>In contrast, minerals sites could potentially compromise assets under this SA objective, and so a minor negative effect is also expected. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.</p>

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.
SA4: Material assets	-?	A minor negative effect is identified as this policy supports extraction of a primary mineral that is not currently worked in the county and expects this to be delivered from new developments, which could result in development on agricultural land and/or Green Belt. The effects would be uncertain as the potential for effects will depend on the exact nature, design and location of the developments, which would not be known until the planning application stage.
SA5: Natural Resources	-?	The policy seeks to enable an adequate and diverse supply of building stone, including within strategic corridors and on windfall sites. Although there are no active building stone sites at present, demand may rise during the life of the Mineral Local Plan. A minor negative effect is identified as it supports the provision of building stone mineral development which could result in negative impacts on water quality at these locations. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA6: Climate Change and energy	-?	If transportation of building stone utilises the road network, rather than more sustainable modes, there would be a greater increase in carbon emissions and therefore a minor negative effect is identified. However, this is uncertain as it depends on the exact location and operation of particular sites.
SA7: Flooding	+?/-?	Mixed effects (minor positive/minor negative) are expected as supporting building stone mineral development would be suitable in all flood zones, except 3b (the functional floodplain) where development could have an adverse effect on flooding. However, these sites may also have the potential to increase flood capacity through their eventual restoration. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA8: Access to Services	0	No effects have been identified on access to services.

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Sustainability Appraisal Objectives	SA Score	Potential Effects
SA9: Health and amenity	-?	The policy seeks to enable an adequate and diverse supply of building stone, including within strategic corridors and on windfall sites. Although there are no active building stone sites at present, demand may arise during the life of the Minerals Local Plan. Minor negative effects are identified as the policy supports the provision of building stone mineral developments which may have adverse impacts from their operations on the health and wellbeing of nearby communities. Effects are uncertain as it will depend on the scale, location and design of the extraction sites.
SA10: Waste	-	A minor negative effect is likely as the workings of building stone developments would promote the use of primary mineral extraction.
SA11: Traffic and transport	+/-?	<p>The policy seeks to enable an adequate and diverse supply of building stone, including within strategic corridors and on windfall sites. This could help to minimise the need for importing building stone from outside the county. Depending on the location of the supply and where it is used, this could help to reduce the need for traffic and transport and so a minor positive effect is identified.</p> <p>However, it is unknown whether the transportation of building stone will utilise either more sustainable transport modes or the road network. If the road network is used, a minor negative effect is expected, although an uncertain effect is also identified as transport plans are unknown at this stage.</p> <p>Overall a mixed minor negative uncertain and minor positive effect is identified on this SA objective.</p>
SA12: Growth with prosperity for all	0	Although building stone can be used in the construction of infrastructure and buildings for economic development – especially in those buildings requiring building stone as part of their architectural design – it is not generally an essential requirement for their construction, and is used primarily for aesthetic value. As such, whilst there could be a very slight beneficial effect, a negligible effect is considered likely for this SA objective.
SA13: Provision of housing	+?	Whilst building stone is not essential in the direct delivery of housing, it can be used in housing developments. This will be especially important in sensitive locations where there is a strong history of

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Sustainability Appraisal Objectives	SA Score	Potential Effects
		building stone. As such, a minor positive effect is identified on this SA objective. The nature of such effects, however, cannot be known at this stage, so this effect is uncertain.
SA14: Participation by all	0	No effects on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	No effects on this SA objective have been identified.
SA16: Population (skills and education)	0	No effects on this SA objective have been identified.
SA17: Population (crime and fear of crime)	0	No effects on this SA objective have been identified.

Development Management Policies

Table B.11: Policy MLP 28: Amenity

Sustainability Appraisal Objectives	SA Score	Potential effects
SA1: Landscape	+	<p>The policy requires the mitigation of visual impacts, which will directly help to meet the safeguarding element of this SA objective. The policy does not, however, provide for the strengthening of landscape, as it recognises that negative impacts may arise, albeit “the proposed development will not cause unacceptable harm to sensitive receptors”.</p> <p>Overall a minor positive effect is expected on this SA objective.</p>
SA2: Biodiversity and geodiversity	+	<p>Although the policy is not directly concerned with biodiversity and geodiversity, many of the sensitivities envisaged by the policy apply equally to natural environment receptors, as well as to humans. Certain wildlife, for example, may be particularly sensitive to light, and reducing any light pollution will benefit all types of receptors. Similarly, geodiversity sites can be susceptible to the build-up of dust, which can obscure their geological interest, so any measures to mitigate dust will be of wide-ranging benefit. Odour, noise and vibration can all potentially affect environmental assets to a greater or lesser extent, and so the mitigation of these should also help to support this SA objective. The policy is therefore positive in terms of the conservation element of this SA objective. Therefore, a minor positive effect is expected for this SA objective.</p>
SA3: Cultural heritage, architecture and archaeology	+	<p>This objective will be supported by the policy because the historic environment and local distinctiveness can be compromised by some or all of the various types of pollution mentioned. Historic England recognises that “noise, odour, vibration, dust etc.” are among those factors which can affect the setting of an historic asset. The mitigation measures will therefore help to deliver the preservation element of this SA objective. The policy does not, however, provide for any enhancement, and focuses only on</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		reducing harm to an acceptable level, meaning that some degree of harm – even if very minor – could occur. Overall a minor positive effect is expected on this SA objective.
SA4: Material assets	0	The policy's requirement to address matters of health and wellbeing, as well as some other issues, can help to contribute to the safeguarding of green infrastructure. However, overall the indirect nature of this is considered too minor to allow a positive rating, and so no overall effect has been recorded against this SA objective.
SA5: Natural Resources	0	No impacts on this SA objective have been identified.
SA6: Climate Change and energy	0	No impacts on this SA objective have been identified.
SA7: Flooding	0	No impacts on this SA objective have been identified.
SA8: Access to Services	0	No impacts on this SA objective have been identified.
SA9: Health and amenity	+	The policy will help to reduce negative health and wellbeing impacts, and although it is unlikely to lead to actual improvements, an indirect minor positive effect is expected on this SA objective.
SA10: Waste	+	Waste associated with mineral sites often arises from the fine sediments associated with processing. The generation and movement of these wastes can be a source of noise and dust, and so the minimisation of noise and dust can, in turn, mean the minimisation of waste. In addition, criterion 'f' should help to minimise levels of contamination caused by mineral waste. The policy is therefore likely to support, albeit indirectly, the achievement of the waste hierarchy. Overall a minor positive effect is expected on this SA objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA11: Traffic and transport	+	This policy could indirectly help to deliver this SA objective. The policy specifically refers to the impacts associated with transport and, as transport can give rise to dust, noise and vibration impacts (as well as, to a lesser extent, impacts on odour, light, levels of contamination and visual amenity and intrusion), the minimisation of these will necessarily mean the minimisation of unnecessary transport movements. Overall a minor positive effect is expected on this SA objective.
SA12: Growth with prosperity for all	0	There may be some very indirect benefits arising from this policy as a result of skills in pollution control and prevention being developed, but this is too minor to register as an impact for SA purposes. Overall, a negligible effect is likely.
SA13: Provision of housing	+	This policy will help to ensure that minerals operations are 'good neighbours' to homes which may be in close proximity. By minimising the emission of pollutants, this will help to ensure that minerals sites and their surroundings are clean, safe and pleasant local environments. The policy does state that "the proposed development should cause no unacceptable harm" to sensitive receptors. However, what is and is not "unacceptable" will vary on a case-by-case basis, but it is possible that some degree of negative impact on the cleanliness and safety of local environments – even if very minor - could occur. Overall a minor positive effect is expected on this SA objective.
SA14: Participation by all	0	No impacts on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	There may be some very indirect benefits arising from this policy as a result of new technologies being developed and employed to realise the policy's aims, but this is too minor to register as an impact for SA purposes. Overall, a negligible effect is likely.
SA16: Population (skills and education)	0	There may be some very indirect benefits arising from this policy as a result of skills levels and qualifications in pollution and health being supported, but this is too minor to register as an impact for SA purposes. Overall, a negligible effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA17: Population (crime and fear of crime)	0	No impacts on this SA objective have been identified.

Table B.12: Policy MLP 29: Air quality

Sustainability Appraisal Objectives	SA Score	Potential effects
SA1: Landscape	0	No impacts on this SA objective have been identified.
SA2: Biodiversity and geodiversity	+	The policy refers directly to avoiding unacceptable impacts of poor air quality on sensitive natural environment receptors. The policy addresses these potential impacts by requiring that minerals development proposals must not result in degradation of air quality that would cause unacceptable harm to sensitive habitats or designated sites of importance for biodiversity. Therefore, a minor positive effect is expected for this SA objective.
SA3: Cultural heritage, architecture and archaeology	0	No impacts on this SA objective have been identified.
SA4: Material assets	0	No impacts on this SA objective have been identified.
SA5: Natural Resources	++	This policy directly supports part of SA objective 5 through requiring that minerals proposals do not give rise to unacceptable adverse effects on air quality throughout their lifetime and that they should seek to provide net improvements in overall air quality where possible. Furthermore, it is required that particular consideration be given to potential impacts on areas where air quality is known to be poor, such as Air Quality Management Areas, or areas at risk of designation. Overall, a significant positive effect is expected on this SA objective.
SA6: Climate Change and energy	+	The policy seeks to minimise emissions of air pollution associated with transport, which is likely to also minimise emissions of greenhouse gases from transport due to fewer and/or more efficient vehicle movements. Overall a minor positive effect is expected on this SA objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA7: Flooding	0	No impacts on this SA objective have been identified.
SA8: Access to Services	0	No impacts on this SA objective have been identified.
SA9: Health and amenity	+	The policy will help to reduce negative health and wellbeing impacts arising from poor air quality due to commitments to prevent minerals proposals coming forward that will have adverse impacts on air quality and to requirements to improve air quality where possible. Therefore, a minor positive effect is expected on this SA objective.
SA10: Waste	0	No impacts on this SA objective have been identified.
SA11: Traffic and transport	+	This policy could indirectly help to deliver this SA objective. The policy specifically refers to the impacts associated with transport and, as transport can give rise to poor air quality, the minimisation of these impacts will likely mean the minimisation of unnecessary transport movements. Overall a minor positive effect is expected on this SA objective.
SA12: Growth with prosperity for all	0	No impacts on this SA objective have been identified.
SA13: Provision of housing	+	This policy may help to achieve clean, safe and pleasant local environments through reduction of traffic (see SA11) and air pollution for homes in close proximity to minerals sites or associated transport routes. The policy states that the proposed development should “not cause unacceptable harm” to sensitive receptors. However, what is and is not "unacceptable" will vary on a case-by-case basis, but it is possible that some degree of negative impact on the cleanliness and safety of local environments – even if very minor - could occur. Overall a minor positive effect is expected on this SA objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA14: Participation by all	0	No impacts on this SA objective have been identified.
SA15: Technology, innovation and inward investment	0	There may be some very indirect benefits arising from this policy as a result of new technologies being developed and employed to realise the policy's aims, but this is too minor to register as an impact for SA purposes. Overall, a negligible effect is likely.
SA16: Population (skills and education)	0	There may be some very indirect benefits arising from this policy as a result of skills levels and qualifications in pollution and health being supported, but this is too minor to register as an impact for SA purposes. Overall, a negligible effect is likely.
SA17: Population (crime and fear of crime)	0	No impacts on this SA objective have been identified.

Areas of Search

Table B.13: SSSG1: South of Stourport

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are multiple PROWs that are contained within this area of search, which could be sensitive to landscape and visual changes. In addition, a number of sports and recreation sites are located within the land parcel. These include Stourport RFC, Stourport Swifts FC and Stourport on Severn Cricket Club, as well as play space and a public park/garden. Additionally, Hartlebury Common, an area of registered common land is situated almost adjacent to the eastern boundary of the land parcel. All of the above could be visually impacted (or lost) by modifications to the landscape for a mineral development site.</p> <p>This area of search is made up of two landscape types, Sandstone Estatelands and Riverside Meadows. Key landscape characteristics of Riverside Meadows that could be affected by mineral extraction include pastoral land use and linear tree belts. In addition, some characteristics of Sandstone Estatelands, such as arable land use and hedgerow boundaries</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		to fields, could be affected by mineral extraction. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	--	This area of search lies adjacent to a SSSI (Areley Wood) and in close proximity to two other SSSIs (Hartlebury Common and Hillditch Coppice; and Shrawley Wood). The area contains two LWSs (Redstone Local Nature Reserve (The Bogs); and River Severn), a LNR (Redstone) and a LGS (Redstone Rock). The area is also located within 1.5km of two more LWSs (Ribbesford Wood and Hurtle Hill Farm Orchard), a LNR (Half Crown Wood) and a LGS (Hartlebury Common). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	This area of search contains two Grade II listed buildings (Coneygreen Farmhouse and Old Beams Public House) and is adjacent to multiple Grade II and Grade II* listed buildings, Areley Kings Conservation Area and Stourport-on-Seven (No.1) Conservation Area. As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is

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Sustainability Appraisal Objectives	SA Score	Potential effects
		likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.	-	The eastern section of the area is in the urban area of Stourport and the remainder is made up of Grades 2 and 3 agricultural land. In addition, a small section in the north of the area lies within the Green Belt. Therefore, a minor negative effect is likely.
SA5: Natural Resources - Protect and enhance water and air quality.	--	The northern and southern boundaries of this area of search are situated within Source Protection Zones 2 and 3 and the parcel is adjacent to a number of sensitive receptors. In addition, the confluence of the River Severn and four other minor rivers including the River Stour is contained within the land parcel, which could be adversely affected by minerals development. Therefore, a significant negative effect is likely as the effects depend on where mineral extraction occurs in the area.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate	+?	This area of search surrounds Areley Kings and is adjacent to Stourport-on-Severn, both of which could be potential markets. The presence of a river

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Sustainability Appraisal Objectives	SA Score	Potential effects
change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.		suggests that potentially suitable water links are available within the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This area of search is located where multiple PROWs cross the area. Depending on where minerals extraction takes place, there is potential for the ability of people to access health, educational or other key local services in the settlement of Stourport-on-Severn to be significantly compromised by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--	There are a number of receptors that are contained or located within 100m of the land parcel, including: residential areas of Stourport-on-Severn, Astley Cross and Areley Kings, a number of sport and recreation sites and multiple PROWS. As mineral development across the majority of the land parcel would be within 100m of sensitive receptors, a significant negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search lies within 250m of the OSS Group's physical treatment works. A minor negative effect is therefore likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new

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Sustainability Appraisal Objectives	SA Score	Potential effects
infrastructure and skills base whilst ensuring all share the benefits, urban and rural.		minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+/--?	This area of search contains a proposed allocation for housing development, is adjacent to two areas allocated for the provision of housing and is within 250m of another three, therefore minerals development may compromise residential amenity of these. However, the area of search is identified for sand and gravel which is used in housing construction. Overall, a significant negative effect with uncertainty and a minor positive effect are likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high	0	The locations of areas of search will not affect new technologies and innovation.

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Sustainability Appraisal Objectives	SA Score	Potential effects
value and low impact, especially resource efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.14: SSSG2: North of Stourport

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are several PROWs that are contained within this area of search. In addition, a number of outdoor sports and recreation sites are located within the land parcel. These are Areley Kings Sports Club and Stourport Sports Club. All of these could be visually impacted by modifications to the landscape for a mineral development site.</p> <p>This area is part of Sandstone Estatelands landscape type. Key landscape characteristics that could be affected by mineral extraction are arable land use and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to four SSSIs (River Stour Flood Plain, Wilden Marsh and Meadows, Devil’s Spittleful and Areley Wood). The area contains two LWSs (Blackstone Rock and Mucky Marsh Meadow; and Burlish Camp) and a LNR (Burlish Top). The area is adjacent to an LWS (Staffordshire and Worcestershire Canal). The area is also located within 1.5km of five LWSs (Vicarage Farm Heath; River Severn; Ribbesford Wood;</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Wilden Meadows; and Snuffmill Dingle and Park) and two LGSs (Leapgate Old Railway Line and Blackstone Rock). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	This area of search is located adjacent to two Grade II listed buildings (Woodgreen Farmhouse and 47, Manor Road) and Staffordshire and Worcestershire Canal Conservation Area. The area of search also contains a locally important garden (Ribbesford House and Gardens). As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	The area of search is comprised of a mix of Grades 2 and 3 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--?	<p>The area of search lies within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors. In addition, the River Severn, River Stour and Staffordshire and Worcestershire Canal are all adjacent to the boundaries of the area of search. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral works occur in the area.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	+?	<p>This area of search surrounds Stourport-on-Severn and is in close proximity to Areley Kings, Kidderminster and Bewdley, all of which could be potential markets. The presence of a river suggests that potentially suitable water links are available within the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely</p>	0	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
contribute to fluvial flood risks or contribute to surface water flooding in all other areas.		
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This area of search is located where two PROWs and a cycle route cross the area. Depending on where minerals extraction takes place, there is potential for the ability of people to access health, educational or other key local services in the settlement of Stourport-on-Severn to be significantly compromised by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	There are a number of receptors that are contained or located within 100m of the land parcel, including: the residential areas of Stourport-on-Severn, two outdoor sports/recreation sites and PROWs and the National Cycling Network. All of these could be sensitive to a potential mineral development. Therefore, a significant negative effect with uncertainty is likely, as the effects depend on where mineral development occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Blackstone Quarry landfill site, Lickhill Quarry materials reclamation facility, and Bonemill household recycling centre. The area of search also lies within 250m of 7 Tek Ltd waste, electrical &

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Sustainability Appraisal Objectives	SA Score	Potential effects
		electronic equipment works, and ICL Environmental Services Ltd waste transfer station. Overall, a minor negative effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+/--?	This area of search contains a proposed allocation for employment development. Minerals extraction may compromise this development. However, any new minerals extraction in the area will likely provide new employment opportunities. Overall, a significant negative effect with uncertainty and a minor positive effect are likely for this objective, as the exact scale and location of minerals development is unknown.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+/--?	This area of search contains a proposed allocation for housing development and is located adjacent to an area allocated for the provision of housing, therefore minerals development may compromise residential amenity of these developments. However, the area of search is identified for sand and gravel which is used in housing construction. Overall, a significant negative

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Sustainability Appraisal Objectives	SA Score	Potential effects
		effect with uncertainty and a minor positive effect are likely for this objective, as effects depend on the exact scale and location of minerals development.
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	The locations of areas of search will not affect new technologies and innovation.
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

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Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.15: SSSG3: North of Stourport

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are several sensitive receptors located within or adjacent to the area of search. These include: PROWs, route 45 and 54 of the NCN and a number of outdoor sports/recreation sites.</p> <p>This area of search is made up of two landscape types, Sandstone Estatelands and Riverside Meadows. Key landscape characteristics of Riverside Meadows that could be affected by mineral extraction include pastoral land use and linear tree belts. In addition, some elements of Sandstone Estatelands, such as arable land use and hedgerow boundaries to fields, could be affected by mineral extraction. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is adjacent to three SSSI (River Stour Flood Plain, Hartlebury Common and Hillditch Coppice and Wilden Marsh Meadows) and is in close proximity to another SSSI (Devil's Spittleful). The area is adjacent to two LWSs (Staffordshire and Worcestershire Canal; and Wilden Meadows) and an area of Registered common land (Hartlebury Common).</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		<p>The area is also located within 1.5km of four LWSs (Hartlebury Castle Marsh and Pools; Wilden Meadows; Vicarage Farm Heath; and Burlish Camp). The area contains a LGS (Leapgate Old Railway Line) and is within 1.5km of another LGS (Hartlebury Common). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains two Grade II listed buildings (Wilden Viaduct and Church of All Saints) and is adjacent to a Grade II listed building and Staffordshire and Worcestershire Canal Conservation Area. As such, there is potential for minerals development to significantly compromise these historic environment assets. Additionally, Grade II registered Hartlebury Castle and Hartlebury Common are both within 1.5km of the area of search. Minerals development could lead to disturbance of the setting of these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile</p>	<p>-</p>	<p>The area of search is comprised of Grade 2 agricultural and non-agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	--	The area of search lies within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors. In addition, the River Stour, a lake and Staffordshire and Worcestershire Canal are all situated within the land parcel. Therefore, a significant negative effect is likely as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	This area of search is adjacent to Stourport-on-Severn and is in close proximity to Areley Kings, Kidderminster and Bewdley, all of which could be potential markets. The presence of a river suggests that potentially suitable water links are available within the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where a number of PROWs cross the area. Depending on where minerals extraction takes place, there is potential for the ability of people to access health, educational or other key local services in the settlement of Stourport-on-Severn to be significantly compromised by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	<p>There are a number of receptors that are contained or located within 100m of the land parcel, including: the residential areas of Stourport-on-Severn and Wilden, two outdoor sports sites, several PROWs and the National Cycling Network. All of these could be sensitive to a potential mineral development. In addition, overhead electricity lines run the length of the eastern boundary of the area of search. Therefore, a significant negative</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		effect with uncertainty is likely, as the effects depend on where mineral development occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Summerway landfill and waste transfer station and lies within 250m of Pencroft waste transfer station and Bonemill household recycling centre. A minor negative effect is therefore likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	+?/-	This area of search is located within 250m of an area allocated for the provision of housing, therefore minerals development may compromise residential amenity of these. However, the area of search is identified for

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		sand and gravel which is used in housing construction. Overall, a minor negative effect with uncertainty and a minor positive effect are likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral

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Sustainability Appraisal Objectives	SA Score	Potential effects
		workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.16: SSSG7: North West of Kidderminster

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are several PROWs and two outdoor recreation/sport sites situated inside the area of search. These include: Wolverley playing fields and Habberley golf course. Residential areas of Wolverley and Cookley are adjacent to the land parcel. All of the above could be visually impacted by modifications to the landscape for a mineral development site.</p> <p>The area of search is within the Sandstone Estatelands landscape type. This landscape type is characterised by agricultural fields bounded by hedgerow, with pockets of woodland dispersed across the landscape. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is adjacent to two SSSIs (Kinver Edge and Stourvale Marsh) and in close proximity to a SSSI site, Puxton Marshes. The area contains six LWSs (Parkatt Wood and Honeybottom; Easthams Coppice; Honeytop Farm Pastures; Gloucester Coppice; River Stour; and Habberley Valley) and two LNRs (Kingsford Forest Park and Habberley Valley). It is adjacent to three LWSs (Kingsford Heath; Cornhill Coppice; and Caunsall</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Marsh). The area is also located within 1.5km of three LWSs (Areley Birch and Coldridge Wood; The Island Pool; and Wassell Wood) and two LGSs (Bewdley Road Cutting East and Bewdley Road Cutting West). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search contains four Grade II listed buildings (Low Habberley Farmhouse, Hill House Cottage and Blakeshall Hall and Austcliff Farm House) and is adjacent to Wolverley Conservation Area and Staffordshire and Worcestershire Canal Conservation Area, multiple Grade II and II* listed buildings and a scheduled monument (Small multivallate hillfort on Drakelow Hill). The area of search also contains two locally important gardens (Blakeshall Hall and Kingsford Country Park). As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on where minerals development would come forward.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile</p>	-	<p>The area of search comprises a mix of Grades 2, 3 and 4 agricultural land. In addition, it lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The area of search lies within Source Protection Zones 2 and 3. The River Stour and Staffordshire and Worcestershire Canal both pass through the land parcel. In addition, there are a number of sensitive receptors adjacent to the area. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	This area of search is adjacent to Kidderminster and is in close proximity to Bewdley and Kinver, all of which could be potential markets. The presence of a river and a canal suggests that potentially suitable water links are available within the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where multiple PROWs cross the area. Depending on where minerals extraction takes place, there is potential for the ability of people to access health, educational or other key local services in the settlement of Kidderminster to be significantly compromised by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	<p>The receptors that are contained or located within 100m of the land parcel, include: the residential areas of Kidderminster, Wolverley and Cookley, sports and recreation sites and PROWs. As there is uncertainty regarding the exact scale and location of a mineral development, the impacts could differ across the area of search. However, a significant negative effect with some uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	+/--?	This area of search contains a proposed allocation for housing development. Minerals development could significantly compromise this development. However, the area of search is identified for sand and gravel which is used in housing construction. A mixed minor positive and significant negative

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		effect with uncertainty is likely for this objective, as the exact scale and location of minerals development is unknown.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

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Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.17: SSSG12: Five Ways

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search contains multiple PROWs and Churchill and Blakedown golf course, an outdoor sports/recreation site.</p> <p>This area is part of the Sandstone Estatelands landscape type. Key landscape characteristics that could be affected by mineral extraction are arable land use and hedgerow boundaries to fields. There is an area of woodland in the south eastern corner of the land parcel, which could also be lost to minerals development. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to SSSIs (Hurcott and Podmore Pools and Hurcott Pasture). The area is located within 1.5km of three LWSs (Churchill and Blakedown Valleys; Hurcott and Podmore Pools (Pastures); and The Island Pool) and a LNR (Hurcott Wood). As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area contains two Grade II listed buildings (Parr's Farmhouse and Barn about 15 metres South of Parr's Farmhouse). There is also potential for inter-visibility between the area of search and multiple Grade II listed buildings 280m to the east which may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	<p>-</p>	<p>The area of search is comprised of Grades 2 and 3 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	<p>--?</p>	<p>This area of search is situated within Source Protection Zones 2 and 3 and contains an outdoor sports site. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs in the area.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Kidderminster and Hagley, both of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where a number of PROWs cross the area. Minerals development could cause severance of these which may compromise the ability of people to access schools to the south east and north east of the site or other key local services further to the south west in Kidderminster. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The receptors within the area of search that could be sensitive to a mineral development are Churchill and Blakedown golf course and the PROWs and an overhead electricity line crosses the centre of the area of search. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This area of search is not located within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Overall, a minor positive effect is likely for this objective.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.18: SSSG17: North East of Kidderminster

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are multiple PROWs that pass through the area of search and a number of outdoor sports/recreation facilities. Furthermore, the area of search is adjacent to residential properties in Kidderminster and Blakedown. All of the above could be sensitive to visual changes to the landscape.</p> <p>The area of search lies within a Sandstone Estatelands landscape type. Key characteristics that could be affected by mineral extraction are arable land use and hedgerow boundaries. There is an area of woodland in the south eastern corner of the land parcel, which could be lost to minerals development. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search contains two SSSIs (Hurcott and Podmore Pools; and Hurcott Pasture) and is in close proximity to SSSIs (Stourvale Marsh, Puxton Marshes and Wilden Marsh and Meadows). The area contains seven LWSs (The Island Pool; Caunsall Marsh; Churchill & Blakedown Valleys; Hoo and Barnett Brook; Mearse Farm Heath; and Captain's and Stanklyn Pools and</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Spennells Valley) and a LNR (Hurcott Wood). The area is located within 1.5km of LWSs (River Stour; Staffordshire and Worcestershire Canal; and Hartlebury Castle Marsh and Pools) and an LNR (Spennells Valley). It is also within 1.5km of a LGS (Worcester Road Cutting). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	This area of search contains eleven Grade II listed buildings and is adjacent to Staffordshire and Worcestershire Canal Conservation Area, Churchill Conservation Area and multiple Grade II listed buildings. This area of search also contains a locally important park (Sionhill House). As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land</p>	-	The area of search is comprised of Grades 2 and 3 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	--	The area of search is situated entirely within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors. In addition, the area contains six lakes and seven rivers, including the River Stour, that pass through the land parcel. Therefore a significant negative effect is likely.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	The area is adjacent to Kidderminster and Hagley, both of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. The presence of rivers and a canal suggests that potentially suitable water links are available within and next to the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-	0	Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.		
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search contains multiple PROWs. Depending on where minerals extraction takes place, there is potential for the ability of people to access health, educational or other key local services in the settlement of Kidderminster to be significantly compromised by a physical barrier. Severance of PROWs by minerals development may also compromise the ability of people to access schools to the north east and north west of the site. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	<p>This area of search contains or is adjacent to a number of sensitive receptors, such as outdoor sports sites, PROWs and adjacent residential areas. In addition, two overhead electricity lines cross the area of search. Therefore, a significant negative effect with uncertainty is likely as the effects on health and amenity depend on where mineral extraction occurs.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+/--?	This area of search contains proposed allocations for mixed use development and for employment. Depending on where mineral extraction takes place, this development could be significantly compromised. However, any new minerals extraction in the area will likely provide new employment opportunities. Overall, an uncertain significant negative and a minor positive effect are likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	+/--?	This area of search contains a proposed allocation for housing development, is adjacent to two areas allocated for the provision of housing and also contains a proposed allocation for mixed use development. Therefore,

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		minerals development could compromise these developments. However, the area of search is identified for sand and gravel which is used in housing construction. Overall, a significant negative effect with uncertainty and a minor positive effect are likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.19: SSSG21: Clent to Lydiate Ash

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>There are multiple PROWs and some residential areas that are contained within the area of search. In addition, Sling Common is adjacent to the northern boundary of the parcel and Lickey Hills and Waseley Hills, country parks are situated within 1.5km of the area of search.</p> <p>This area of search is comprised of two landscape types: Principal Settled Farmlands and Enclosed Commons. The main landscape characteristic of Principal Settled Farmlands that could be affected by mineral extraction is the presence of hedgerow boundaries to fields. Some key characteristics of the Enclosed Commons landscape type could be adversely affected by minerals development, including hedgerow boundaries and areas of planned woodland. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Therefore, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is adjacent to a SSSI (Madeley Heath Pit) and is in close proximity to another SSSI (Sling Gravel Pits). The area is adjacent to two LWSs (Great Fareley and Dale Woods; and Sling Pool and Marsh). The area is also located within 1.5km of four LWSs (Beacon Wood and Chadwich Wood; Broadmoor and Chadwich Manor Ponds; Waseley Hills Country Park; and The Roughlands), a LNR (Waseley Hills Country Park) and a LGS (Madeley Heath). As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains four Grade II listed buildings (Lower Madely Farmhouse, Castle Bourne, The Old Toll House and Hayes Farmhouse). As such, there is potential for minerals development to significantly compromise these historic environment assets. There is potential for inter-visibility between the area of search and two Grade II listed buildings 70m to the north west and three Grade II listed buildings 260m to the west which may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search is made up of Grades 2, 3 and 4 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--	<p>The majority of this area of search is situated within Source Protection Zones 2 and 3. However, the south western corner is comprised of a mix of zone 1 and 2. In addition, there are three minor rivers that pass through the area and a number of adjacent residential receptors. Therefore, a significant negative effect is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>This area of search is adjacent to Upper Marlbrook and is in close proximity to the Birmingham District and Hagley, all of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative impact is likely on climate change and energy.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This area of search is located where multiple PROWs cross the area. Depending on where minerals extraction takes place, there is potential for the severance of PROWs to significantly compromise the ability of people to access health, educational or other key local services in the settlements of Catshill and Bromsgrove by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	This area of search contains a number of sensitive receptors that could be impacted by potential mineral development including PROWs and residential areas contained within the area of search. In addition, an overhead electricity line crosses the centre of the land parcel. Therefore, a significant

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Sustainability Appraisal Objectives	SA Score	Potential effects
		negative effect with uncertainty is likely as the effects depend on where extraction occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Quarry Lane household recycling centre, Sandy Lane landfill and biological treatment site, Chadwich Lane Quarry landfill site, Westside Forestry Ltd waste transfer station and Pinches 3 landfill and waste transfer station. The area also lies within 250m of Wildmoor Quarry transfer station. Overall, a minor negative effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	+/-?	This area of search is located within 250m of an area allocated for the provision of housing, therefore minerals development may compromise residential amenity of these. However, the area of search is identified for sand and gravel which is used in housing construction. Overall, a minor

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		negative effect with uncertainty and a minor positive effect are likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

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Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.20: SSSG26: Catshill, Blackwell and Cofton

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains several PROWs, North Bromsgrove Cemetery and an employment site which could all be sensitive to visual and landscape changes. In addition, the residential area of Marlbrook, Route 5 of the NCN and a playing field are all adjacent to the area of search. All of these could also be visually impacted by a potential mineral development.</p> <p>The area is within the Principal Settled Farmlands landscape type. The main landscape characteristic that could be affected by mineral extraction is the presence of hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to two SSSIs (Oakland Pasture and Feckenham Forest). The area is located within 1.5km of five LWSs (Shepley Marsh; Battlefield Brook; Spadesbourne Brook; Burcot Lane Meadow; and Round Hill). As such, there is potential for minerals development to</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	0?	<p>This area of search does not contain and is not adjacent to any national historic environment sites or Conservation Areas. There is sufficient urban development between the area of search and two Grade II listed buildings 630m to the west and 700m to the north west to suggest that these historic environment assets are unlikely to be significantly compromised by inter-visibility with minerals development. Overall, a negligible effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search is made up of Grade 3 agricultural land and lies entirely within the Green Belt. Therefore a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	<p>--?</p>	<p>The area of search is situated within Source Protection Zones 2 and 3 and adjacent to a number of sensitive receptors. In addition, the area of search is located just off the B4096, which leads into the Lickey End/Bromsgrove AQMA. A potential mineral development in this area of search could increase traffic in the AQMA. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral works occur in the area.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	<p>-</p>	<p>The area is adjacent to Upper Marlbrook and in close proximity to Bromsgrove, both of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	<p>0</p>	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	<p>--?</p>	<p>This area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access schools and a GP surgery to the west in Catshill. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	<p>--?</p>	<p>The receptors likely to be sensitive to dust, noise and emissions from a mineral development include the residential area of Catshill, North Bromsgrove Cemetery, the employment site and the multiple PROWs. Therefore, a significant negative effect with some uncertainty is likely, as the effects depend on where mineral extraction occurs.</p>
<p>SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.</p>	<p>0</p>	<p>This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.</p>
<p>SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.</p>	<p>-</p>	<p>This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This area of search is not located within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Overall, a minor positive effect is likely for this objective.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.21: SSSG28: Catshill, Blackwell and Cofton

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains several PROWs which could be sensitive to visual and landscape changes. In addition, the residential area of Blackwell, Sports England’s Hunters Hill Technological College and Lickey End recreational ground and the M42 are all adjacent to the area of search. All of these could be impacted by a mineral development.</p> <p>The area of search is comprised of two landscape types. These are: Principal Settled Farmlands and Settled Farmlands with Pastoral Land Use. The western section of the parcel is characterised by large agricultural fields with limited vegetation and tree cover. On the eastern side of the area of search, the fields are much smaller, with dense tree cover. There is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to two SSSIs (Burcot Lane Cutting and Bittell Reservoirs). The area contains two LWSs, (Spadesbourne Brook and Burcot Lane Meadow). The area is located within 1.5km of six LWSs (Shepley Marsh; Linthurst Wood; Cock’s Croft Wood; Cooper’s Hill Wood;</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Meadow near Foxhill House; and Round Hill) and a LGS: Shepley Sandpit and Knoll. As such, there is potential for minerals development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	This area of search is located adjacent to six Grade II listed buildings. As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	The area of search is made up of Grades 2, 3 and 4 agricultural land. In addition, the area lies entirely within the Green Belt. Therefore, a minor negative effect is likely.
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--?	The area of search lies entirely within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors. In addition, a minor river

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Sustainability Appraisal Objectives	SA Score	Potential effects
		passes through the north western corner of the parcel. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is adjacent to Lickey End and in close proximity to Bromsgrove, both of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Therefore, it is likely that heavy fossil-fuelled vehicle haulage will be required to transport minerals. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,</p>	--?	<p>This area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access health, educational or other key</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		local services to the south west in Bromsgrove. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	This area of search is within 100m of a number of sensitive receptors that could be to be sensitive to dust, noise and emissions from a mineral development. These include the residential area of Blackwell, outdoor sports and recreation sites and PROWs. Therefore, a significant negative effect with some uncertainty is likely as the effects depend on where mineral extraction exists in the area.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will likely require road-based movement by HGVs to transport minerals. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Overall, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This area of search is not located within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Overall, a minor positive effect is likely for this objective.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.22: SSSG30: Blackwell Court to Brockhill

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains several PROWs and a number of outdoor sports and recreation facilities. In addition, the area of search is adjacent to the settlement of Blackwell.</p> <p>The area of search is comprised of two landscape types. These include: Principal Settled Farmlands, and Settled Farmlands with Pastoral Land Use. The western section of the parcel is characterised by large agricultural fields with limited vegetation and tree cover. On the eastern side of the area of search, the fields are much smaller, with dense tree cover. There is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to three SSSIs (Hewell Park Lake; Burcot Lane Cutting; and Bittell Reservoirs). The area is located within 1.5km of eight LWSs (Burcot Lane Meadow; Lickey Hills; Linthurst Wood; Cock’s Croft Wood; Cooper’s Hill Wood; Meadow near Foxhill House; Worcester and Birmingham Canal; and Shortwood Rough Grounds) and of one LGS: Shepley Sandpit and Knoll. As such, there is potential for minerals</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		development to compromise the biodiversity and geodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search contains two Grade II listed buildings (Stoney Lane Farmhouse and Barn about 15 metres North of Lower House Farmhouse). This area of search is also adjacent to a Grade II listed building (Blackwell Road Railway Under Bridge). As such, there is potential for minerals development to significantly compromise these historic environment assets. In addition, there is also potential for inter-visibility between the area of search and a Grade II listed building 60m to the west and a Grade II* and two Grade II listed buildings 90m to the east to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land</p>	-	<p>This area of search is made up of Grades 2 and 3 agricultural land. In addition, it lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	-?	The area of search is situated within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors. Therefore, a significant negative effect is likely. This is uncertain as the effect depends where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The area is adjacent to Blackwell and in close proximity to Barnt Green and Bromsgrove, all of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Therefore, it is likely that HGVs will be required to transport minerals. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Solid sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	<p>--?</p>	<p>This area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access health, educational or other key local services to the south west in Bromsgrove. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	<p>--?</p>	<p>This area of search is within 100m of sensitive receptors that could be sensitive to dust, noise and emissions from a mineral development. These include the residential area of Blackwell, Blackwell Golf Club and the multiple PROWs that cross the parcel. Therefore, a significant negative effect with some uncertainty is likely as the effects depend on where mineral extraction occurs.</p>
<p>SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.</p>	<p>0</p>	<p>This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will likely require road-based movement by HGVs to transport minerals. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Overall, a minor negative effect is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	This area of search is not located within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Overall, a minor positive effect is likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.

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Sustainability Appraisal Objectives	SA Score	Potential effects
pride and social responsibility in the local community.		
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.23: TGSG23: Brockhill to Blackwell

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This sand and gravel area of search contains and is adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the following landscape types; Principal Settled Farmlands and Settled Farmlands with Pastoral Land Use. The main characteristic of Principal Settled Farmlands that could be affected by mineral extraction is the presence of hedgerow boundaries to fields. The Settled Farmlands with Pastoral Land Use landscape type also has key characteristics that could be affected by mineral extraction, such as pastoral land use and a prominent pattern of hedged fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	--	<p>This sand and gravel area of search is 1km away from a SSSI (Hewell Park Lake) to the southeast. It is within 1.5km of two LWSs: Worcester and Birmingham Canal; and Shortwood Rough Grounds. It is also within 1.5km of a LGS: Shepley Sandpit and Knoll. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This sand and gravel area of search contains three Grade II listed buildings. As such, there is potential for minerals development to compromise these historic environment assets.</p> <p>Overall, a significant negative effect with uncertainty is likely, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>This area of search is made up of Grade 2 and 3 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	-	<p>The majority of this sand and gravel area of search is within Source Protection Zone 3 and is adjacent to the Worcester and Birmingham Canal. There are some areas in the south of the area of search that lie within Source Protection Zone 2. Overall, a minor negative impact is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Bromsgrove and Blackwell, both of which could be potential markets. There is not a water link located within or adjacent to this sand and gravel area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,</p>	--?	<p>This sand and gravel area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access key local services in</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		nearby settlements. Overall, a significant negative effect is likely with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--	This area of search is within 100m of the residential area, Blackwell. There is also a golf course that lies within the northern section of the area. In addition, there is a school, pool facilities, playing fields and village envelopes all adjacent to the area of search. Minerals development could have an impact on these sensitive receptors, through noise, dust or other emissions. Overall, a significant negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This sand and gravel area of search is not within 250m of existing waste infrastructure. Overall, it will likely have no impact on waste.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This sand and gravel area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	This sand and gravel area of search is not within 250m of an area allocated for the provision of housing, but it is identified for sand and gravel, therefore a minor positive effect on provision of housing is likely.
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	The locations of areas of search will not affect new technologies and innovation.

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.24: TGSG26: Wychbold

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains and is adjacent to several sensitive receptors including a PROW, a retail park including a pub and a Premier Inn hotel. All of these could be sensitive to a potential mineral development.</p> <p>The area of search lies within the Principal Timbered Farmland landscape type. Landscape characteristics that could be incompatible with mineral development include ancient woodland, thick oak tree cover and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is adjacent to a SSSI (Upton Warren Pools). The area is also adjacent to a LWS (River Salwarpe) and within 1.5km of another LWS (Grafton Manor Pool). This area is within 1.5km of a LGS, Upton Warren Pit. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search is adjacent to Upton Warren Conservation Area. There is also potential for inter-visibility and noise and dust disturbance between the area of search and multiple Grade II listed buildings and a Grade II* listed building 100m to the west which may significantly compromise these historic environment sites. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search is made up of Grade 2 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--?	<p>The area of search lies outside a Source Protection Zone but a minor river passes through the centre of the area of search and it is adjacent to several sensitive receptors. In addition, Worcester Road passes through the area of search, where an AQMA is located on the same road south of the area.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Mineral development could lead to increased traffic in the AQMA. Therefore, a significant negative effect with some uncertainty is likely.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	This area of search is in close proximity to Bromsgrove, Wychbold and Droitwich Spa, all of which could be potential markets. The presence of rivers suggests that potentially suitable water links are available within and next to the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive impact with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,	-?	This area of search is adjacent to a PROW. Minerals development could lead to diversion of this which may compromise the ability of people to

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		access a school to the east in Stoke Prior. Therefore, a minor negative effect with uncertainty is likely for this objective.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The area of search is adjacent to a PROW and is within 100m of the residential area of Upton Warren, where a pub and hotel are adjacent to the boundary of the area of search. Therefore, a significant negative effect with uncertainty is likely as the impact on sensitive receptors depends on where mineral extraction occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This sand and gravel area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This area of search is not within 250m of an area allocated for employment development or proposed infrastructure delivery and any new mineral extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This area of search is not within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Therefore, a minor positive effect on provision of housing is likely.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.25: TGSG27: Wychbold

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>-?</p>	<p>The area of search contains multiple PROWs, which could be sensitive to a potential mineral development. The area of search lies within Principal Timbered Farmland landscape type. Landscape characteristics that could be incompatible with mineral development include ancient woodland, thick oak tree cover and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a minor negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is within close proximity (345m) to a SSSI (Upton Warren Pools). The area also contains a LWS (River Salwarpe) and is within 1.5km of two other LWSs (Upton Warren and Brine Pits Farm Marsh). This area is within 1.5km of a LGS, Upton Warren Pit. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the</p>	<p>--?</p>	<p>This area of search is adjacent to Upton Warren Conservation Area and a Grade II listed building (Staggs Meadow Cottage). There is also potential</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.		for inter-visibility between the area of search and multiple Grade II listed buildings 180m to the north which could significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.	-	The area of search is made up of Grade 2 and 3 agricultural land and lies entirely within the Green Belt. Therefore, a minor negative effect is likely.
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The area of search lies outside a Source Protection Zone but a minor river passes through the centre of the area of search and it is adjacent to several sensitive receptors. In addition, Worcester Road is adjacent to the area of search, where an AQMA is located on the same stretch of road. Mineral development could lead to increased traffic into the AQMA. Therefore, a significant negative effect with some uncertainty is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	+?	<p>This area of search is in close proximity to Bromsgrove, Wychbold and Droitwich Spa, all of which could be potential markets. The presence of rivers suggests that potentially suitable water links are available within and next to the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive impact with uncertainty is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where multiple PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access a school to the east in Stoke Prior and a school to the south in Wychbold. Therefore, a significant</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The area of search is adjacent to the M5 transport corridor and contains several PROWs and is within 100m of residential properties on Worcester road. Therefore, a significant negative effect with uncertainty is likely as the impact on sensitive receptors depends on where mineral extraction occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This sand and gravel area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This area of search is not within 250m of an area allocated for employment development or proposed infrastructure delivery and any new mineral extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This area of search is not within 250m of an area allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Therefore, a minor positive effect on provision of housing is likely.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.26: TGSG36: Charlton 2nd Terrace

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search contains and is adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the following landscape types: Riverside Meadow; Village Farmlands with Orchards; and Principal Village Farmlands. The Riverside Meadows landscape type has a number of key characteristics that could be affected by mineral extraction, such as pastoral land use and linear tree belts. The Village Farmlands with Orchards landscape type has a number of key characteristics that could be affected by mineral extraction, such as extensive apple and plum orchards. The Principal Village Farmlands landscape type also has key characteristics that could be affected by mineral extraction, such as arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is within 1.5km of two SSSIs Tunnel Hill Meadow and Highclere. It is adjacent to an LWS (River Avon) and within 1.5km of three LWSs (Bloomers Meadows; Wood Norton Complex; and Bishampton Bank). It is also within 1.5km of two LGSs: Crophorne Playing Field and Rectors Pit. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This sand and gravel area of search surrounds two Scheduled Monuments, Settlement site NNE of Fernhill Farm and Enclosures NE of Fernhill Farm, to the north, and is in close proximity to another Scheduled Monument, Roman settlement NW of Ryden Farm, to the east. In addition, it is in close proximity to eight Grade II listed buildings to the south east. As such, there is potential for minerals development to compromise these historic environment assets. Additionally, the area of search is in close proximity to a locally important historic park and garden, Wood Norton Hall.</p> <p>There is also potential for inter-visibility between the area of search and multiple Grade II listed buildings 90m to the southeast which could significantly compromise these historic environment assets. Overall, a</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.	--?	The majority of this sand and gravel area of search is made up of Grade 1 and Grade 3 agricultural land. Development in this area of search could lead to the loss of Grade 1 (and Grade 3) agricultural land. Therefore, a significant negative impact with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA5: Natural Resources - Protect and enhance water and air quality.	--	This area of search is not within a Source Protection Zone. The River Avon runs through the northern section and another river runs through the southern section of the area. Overall, a significant negative impact is likely.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The area is in close proximity to Evesham and adjacent to Charlton, both of which could be potential markets. There is a railway line that runs through the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. It is likely that heavy fossil-fuelled vehicle haulage will be necessary to transport minerals. There

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Sustainability Appraisal Objectives	SA Score	Potential effects
		will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	This sand and gravel area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which could compromise the ability of people to access key local services in nearby settlements. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--	This area of search is within 100m of the residential area, Charlton, which contains a cemetery, St. John's Church, and public park or garden. Minerals development could have an impact on these sensitive receptors, through noise, dust and other emissions. Overall, a significant negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This sand and gravel area of search is not within 250m of existing waste infrastructure. Overall, it will likely have no impact on waste.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This sand and gravel area of search is likely to require road-based movement by HGVs to transport minerals. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Overall, a minor negative effect is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	This sand and gravel area of search is not within 250m of an area allocated for the provision of housing, but it is identified for sand and gravel, therefore a minor positive effect on provision of housing is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	<p>0</p>	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.27: TGSG39: Fladbury

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This sand and gravel area of search contains and is adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the Principal Village Farmlands landscape type. A key characteristic of the Principal Village Farmlands landscape type that could be affected by mineral extraction is the presence of arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is in close proximity to three SSSIs: Highclere, Tunnel Hill Meadow, and Crothorne New Inn Section. The area of search contains two LWSs: Lower Moor Pits and Lench Ditch; and Oxtun Ditch and Meadows. It is also within 1.5km of three LWSs: the River Avon which runs along the eastern and southern borders of the area; Piddle and Whitsun Brooks; and Wood Norton Complex. In addition, the south east</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		<p>section of the area is within 1.5km of two LGS, Crophorne Playing Field and Rectors Pit. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This sand and gravel area of search surrounds a Scheduled Monument, Settlement site N of Spring Hill. It also surrounds one Conservation Area and is adjacent to another. Each of these Conservation Areas contain a range of Grade I, II and II* listed buildings. As such, there is potential for minerals development to compromise these historic environment assets.</p> <p>There is also potential for inter-visibility between the area of search and four Grade II listed buildings 558m to the north which could significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value,</p>	<p>--?</p>	<p>This sand and gravel area of search is made up of primarily Grades 1 and 2 agricultural land. Development within the area of search could lead to the loss of Grade 1 agricultural land. Therefore, a significant negative impact is</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>		<p>likely, although this is uncertain as it depends where mineral extraction occurs in the area of search.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	<p>--</p>	<p>This area of search is not within a Source Protection Zone. The River Avon runs adjacent to the area along its eastern and southern borders. Another river runs along its western border. The area of search is also adjacent to existing residential areas, which could be affected by changes in air quality. Overall, a significant negative impact is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	<p>+?</p>	<p>The area is adjacent to Fladbury and Lower Moor and is in close proximity to Pershore, all of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. The River Avon runs adjacent to the area which suggests there may be potential for transporting minerals by water, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>A number of PROWs cross this sand and gravel area of search, and more are located adjacent to the site. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--	<p>This sand and gravel area of search surrounds and is adjacent to two residential areas, Fladbury and Lower Moor as well as places of worship and religious grounds, allotments or community growing spaces, Evesham Golf Course, and playing field and play space. Minerals development could have an impact on these sensitive receptors, through noise, dust and emissions. Overall, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This sand and gravel area of search contains a biological treatment plant. It is also in close proximity (231m) to Hill and Moor waste site. Overall, a minor negative effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This sand and gravel area of search may require road-based movement by HGVs, however since the River Avon runs adjacent to the area there is potential for sustainable means of transport, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive uncertain impact is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+/--?	This sand and gravel area of search is adjacent to two areas allocated for the provision of housing, therefore mineral development could compromise residential amenity of this development. However, the area of search is identified for sand and gravel which is used in housing construction. Therefore, a significant negative effect with uncertainty and a minor positive

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Sustainability Appraisal Objectives	SA Score	Potential effects
		effect are likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	The locations of areas of search will not affect new technologies and innovation.
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

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Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.28: TGSG43: Wick

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search is within 1.5km of the Cotswolds AONB. In addition, the area contains or is adjacent to a number of sensitive receptors, including the residential areas of Pershore and Wick, an outdoor recreation park, religious grounds, several PROWs and community allotments. All of which could be sensitive to landscape and negative visual impact from a potential mineral development.</p> <p>This area is part of the landscape type, Principal Village Farmlands. A key characteristic of the Principal Village Farmlands landscape type that could be affected by mineral extraction is the presence of arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is in close proximity to two SSSIs, Tiddesley Wood and Cropthorne New Inn Section. The area of search is adjacent to an LWS (River Avon) as well as within 1.5km to four LWSs</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		(Piddle and Whitsun Brooks; Lower Moor Pits and Lench Ditch; River Avon; and Oxton Ditch and Meadows). In addition, it is within 1.5km of two LGSs, Cropthorne Playing Field and Rectors Pit. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains a Grade II listed building (The Poplars) and surrounds four Scheduled Monuments. This area of search is adjacent to two Conservation Areas, multiple Grade II listed buildings and is also in close proximity to Pershore Conservation Area 100m to the west which contains multiple Grade II and Grade II* listed buildings and a Grade I listed building. As such, there is potential for minerals development to significantly compromise these historic environment assets. Additionally, this area of search contains a locally important park and garden, Wick House and is within 1.5km of Lower Hill and Endon Hall Park. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile</p>	<p>--?</p>	<p>The area of search is comprised of a mix of Grade 2 and Grade 1 agricultural land. Therefore, a significant negative impact with uncertainty is</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		likely as the effects depend on where mineral extraction occurs in the area of search.
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The River Avon and a number of sensitive receptors are situated adjacent to the area of search. As such, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	The area is in close proximity to Pershore and Evesham, both of which could be potential markets. The presence of rivers suggests that potentially suitable water links are available next to the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive impact with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely	0	Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
contribute to fluvial flood risks or contribute to surface water flooding in all other areas.		
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This area of search is located where a number of PROWs cross the area. Minerals development could lead to severance of these which may compromise the ability of people to access a school to the east in Crophorne or multiple schools to the west in Pershore. Therefore a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The area contains or is adjacent to a number of sensitive receptors, including the residential areas of Pershore and Wick, an outdoor recreation park, religious grounds and community allotments. Minerals development could have an impact on these, through noise, dust or other emissions. Overall, a significant negative effect with uncertainty is likely, as the effects depend on the exact location of mineral extraction in the area.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This sand and gravel area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of any areas allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area is likely to provide new employment opportunities. Therefore, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	This area of search is not located within 250m of any areas allocated for the provision of housing and is identified for sand and gravel which is used in housing construction. Therefore, a minor positive effect is likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.

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Sustainability Appraisal Objectives	SA Score	Potential effects
pride and social responsibility in the local community.		
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.29: TGSG49: Eckington

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This sand and gravel area of search is adjacent to the Cotswolds AONB. It also contains and/or is adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the landscape type, Principal Village Farmlands. A key characteristic of the Principal Village Farmlands landscape type that could be affected by mineral extraction is the presence of arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is in close proximity to three SSSIs, Eckington Railway Cutting, Rectory Farm Meadows and Bredon Hill (which is also an SAC and National Nature Reserve). It is within 1.5km of two LWS (River Avon; and Bow, Shell, Swan and Seeley Brooks). It is also within 1.5km of a LGS, Bredon Hill. As such, there is potential for minerals</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This sand and gravel area of search is adjacent to and surrounds Eckington Conservation Area with multiple Grade II and Grade II* listed building sites. It is in close proximity (382m) to a Scheduled Monument, Ditched enclosures SE of Eckington Field Farm. As such, there is potential for minerals development to compromise this historic environment asset.</p> <p>There is also potential for inter-visibility between the area of search and a small number of Grade II listed buildings and a Grade I listed building around 693m to the west which could significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value,</p>	--?	<p>The majority of this sand and gravel area of search is made up of Grades 1, 2 and 3 agricultural land. Development within this area of search could lead to the loss of Grade 1 agricultural land, therefore, a significant</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		negative effect with uncertainty is likely as the effects depend on where extraction occurs.
SA5: Natural Resources - Protect and enhance water and air quality.	0	This area of search is not within a Source Protection Zone or adjacent to a waterbody. Therefore, no effect is likely.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The area is in close proximity to Eckington which could be a potential market. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Therefore, it is likely that heavy fossil-fuelled vehicle haulage will be necessary to transport minerals. There will be very little to zero net loss of tree cover. Overall, a minor negative effect with is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	-?	<p>This sand and gravel area of search is located where PROWs are adjacent to the area. Overall, a minor negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--	<p>This sand and gravel area of search surrounds a residential area, Eckington, which contains Holy Trinity Church and religious grounds. Minerals development could have an impact on these sensitive receptors, through noise, dust or other emissions. Overall, a significant negative effect is likely.</p>
<p>SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.</p>	0	<p>This sand and gravel area of search is not within 250m of existing waste infrastructure. Overall, it will likely have no impact on waste.</p>
<p>SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.</p>	-	<p>This sand and gravel area of search will likely require road-based movement by HGVs to transport minerals. There is a railway line in close proximity to the area of search but it is unlikely that the necessary</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		<p>infrastructure to transport minerals via this route would be available.</p> <p>Overall, a minor negative impact is likely.</p>
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+	<p>This sand and gravel area of search is not within 250m of an area allocated for the provision of housing, but it is identified for sand and gravel, therefore a minor positive effect on provision of housing is likely.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	The locations of areas of search will not affect new technologies and innovation.
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.30: TGSG50: Mill End Farm

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This sand and gravel area of search is adjacent to the Cotswolds AONB and is located in close proximity to Upham Meadow area of registered common land. It is also located within and adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the landscape type, Principal Village Farmlands. A key characteristic of the Principal Village Farmlands landscape type that could be affected by mineral extraction is the presence of arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is in close proximity to three SSSIs Upham Meadow and Summer Leasow (204m), Rectory Farm Meadows (198m) and Bredon Hill, which is also a SAC, (1.4km). It is also within 1.5km of three LWSs (River Avon; Lillians Orchard; and Kemerton Lake).</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	0?	This sand and gravel area of search is not within or adjacent to a national historic environment site or Conservation Area. There is sufficient tree coverage and residential development to the south of the area of search to reduce the potential for inter-visibility with a Grade I, a Grade II* and multiple Grade II listed buildings. Overall, a negligible effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	This sand and gravel area of search is mostly Grade 2 with small sections in Grade 3 agricultural land. Therefore, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	-	<p>This area of search is not within a Source Protection Zone but The River Avon is in close proximity to the west of the parcel. Therefore, a minor negative effect is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Bredon and Ashchurch, both of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Therefore, it is likely that heavy fossil-fuelled vehicle haulage will be necessary to transport minerals. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,</p>	--?	<p>This sand and gravel area of search is located where a number of PROWs cross the area. Overall, a significant negative effect with uncertainty is likely</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--	This sand and gravel area of search is located within 100m of the residential area of Bredon as well as tennis courts, a bowling green and play space. The area is also adjacent to a playing field and Bredon Cricket Club. Minerals development could have an impact on these sensitive receptors, through noise, dust or other emissions. Therefore, a significant negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This sand and gravel area of search is not within 250m of existing waste infrastructure. Overall, it will likely have no impact on waste.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This sand and gravel area of search will likely require road-based movement by HGVs to transport minerals. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Overall, a minor negative impact is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	This sand and gravel area of search is not within 250m of an area allocated for the provision of housing, but it is identified for sand and gravel, therefore a minor positive effect on provision of housing is likely.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource	0	The locations of areas of search will not affect new technologies and innovation.

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.31: TGSG53: Bredon to Beckford

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search is in close proximity to an AONB (Cotswolds) and is located adjacent to a number of sensitive receptors, such as residential areas, PROWs and areas of outdoor leisure/recreation.</p> <p>This area is part of the landscape type, Principal Village Farmlands. A key characteristic of the Principal Village Farmlands landscape type that could be affected by mineral extraction is the presence of arable/cropping land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This sand and gravel area of search is 330m away from a SSSI (Upham Meadow and Summer Leasow). It contains a LWS, Carrant Brook, and is adjacent to two other LWSs: Kemerton Lake; and Long Meadow. In addition, it is within 1.5km of another LWS, Lillans Orchard. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>The east side of the sand and gravel area of search surrounds a Scheduled Monument, Settlement site NE of Kinsham. It also surrounds multiple Grade II listed building sites and contains a Grade II building site. As such, there is potential for minerals development to compromise these historic environment assets.</p> <p>There is likely to be sufficient tree coverage between the area of search and multiple Grade II listed buildings and a Grade II* listed building around 465m to the southeast of the area to suggest that these historic environment assets are unlikely to be significantly compromised by inter-visibility with minerals development. Overall, a significant negative effect with uncertainty is likely, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land</p>	-	<p>The majority of this area of search lies within Grade 2 agricultural land. Small sections of the area are in Grade 3 agricultural land. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	--?	This area of search is not within a Source Protection Zone. A river runs through the eastern section of the area. Therefore, a significant negative effect with uncertainty is likely, as the effects depend on where mineral extraction occurs in the area.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	The area is adjacent to Kinsham and in close proximity to Bredon and Ashchurch, all of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. The presence of a river suggests that suitable water links may potentially be available for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-	0	Sand and gravel extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.		
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This sand and gravel area of search is located where a number of PROWs cross the area. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--	This area of search surrounds the residential area of Kinsham. There are also allotments or community growing spaces in the northern section of the area. Minerals development could have an impact on these sensitive receptors, through noise, dust or other emissions. Overall, a significant negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This sand and gravel area of search is not within 250m of existing waste infrastructure. Overall, it will likely have no impact on waste.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This sand and gravel area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This sand and gravel area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and the area will likely provide new employment opportunities. Overall, a minor positive effect on growth with prosperity for all.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	+	This sand and gravel area of search is not within 250m of an area allocated for the provision of housing, but it is identified for sand and gravel, therefore a minor positive effect on provision of housing is likely.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.

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Sustainability Appraisal Objectives	SA Score	Potential effects
pride and social responsibility in the local community.		
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.32: WFSS3

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search contains Stourport Rugby Club, Stourport-on-Severn Cricket Club and multiple PROWs. Hartlebury Common is adjacent to the eastern boundary of the area of search which could be sensitive to any visual and landscape changes.</p> <p>This area of search is made up of two landscape types; Riverside Meadows and Sandstone Estatelands. Key landscape characteristics of the Riverside Meadows landscape type that could be affected by mineral extraction include pastoral land uses and linear tree belts. Some key characteristics of the Sandstone Estatelands landscape type that could be affected by mineral extraction are arable land use and hedgerow field boundaries. The low topography of this area of the land parcel could also increase the visibility of a potential mineral development. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	--	<p>This area of search is located directly adjacent to Areley Wood SSSI, and within close proximity to Hartlebury Common & Hillditch Coppice SSSI. It contains two LWS (Redstone and River Severn), Redstone LNR and Redstone Rock LGS. It is also located within close proximity of two other LNRs (Half Crown Wood and Hartlebury Common/Hildditch Pool) and a number of LWSs. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search contains two Grade II listed buildings (Coney-Green Farmhouse, Old Beams Public House) and is also located adjacent to multiple Grade II and Grade II* listed buildings. The Locally important Astley Hall is located within 1.5km of the area of search. The site is also adjacent to the Areley Kings Conservation Area. As such, there is potential for minerals development to significantly compromise these historic environment assets. There is also potential for inter-visibility and noise and dust disturbance between the area of search and multiple Grade II and Grade II* listed buildings located within Areley Kings Conservation Area which may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The northern corner of the area of search lies within the Green Belt. In addition, the area is made up of urban and Grade 2 and 3 agricultural land. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--	<p>The northern and southern sections of this area of search lie within Source Protection Zone 3. The southernmost section of the area of search lies within Source Protection Zone 2. The area of search is adjacent to a number of sensitive receptors. In addition, the River Severn runs alongside the northern boundary of the parcel and four other minor rivers join the River Severn within this area of search. Therefore, a significant negative effect is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate</p>	+?	<p>The area is adjacent to Areley Kings and Stourport-on-Severn, which could both be potential markets. The presence of rivers suggests that potentially</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.		suitable water links are available within the area, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.	--?	This area of search is located where a number of PROWs cross the area. Depending on where minerals are extracted from, there could be a significant impact on people's ability to access health, educational or other key local services within the settlement of Stourport-on-Seven through a physical barrier. Whilst the site contains parts of the B4194 road, it is assumed that this would not be compromised by any minerals development. Overall, a significant negative effect with uncertainty is likely

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Sustainability Appraisal Objectives	SA Score	Potential effects
		for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The PROWs and Sports England sites that are situated in the area of search could potentially be impacted by a mineral development. Therefore, a significant negative effect with some uncertainty is likely, as it depends on the specific location of mineral extraction.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search is located within 250m of Pelican Food Services physical treatment works and the OSS Group's physical treatment works. A minor negative effect is therefore likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new

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Sustainability Appraisal Objectives	SA Score	Potential effects
infrastructure and skills base whilst ensuring all share the benefits, urban and rural.		minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	--?	This area of search contains a proposed allocation for housing development and is located adjacent to an area allocated for the provision of housing, therefore mineral development could compromise residential amenity of these developments. As such, significant negative effects with uncertainty are likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource	0	The locations of areas of search will not affect new technologies and innovation.

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.33: WFSS7

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains a number of PROWs, community garden/allotments, Hillary Road Common and outdoor recreational site Wilden Top. In addition, the area of search is adjacent to the residential area of Kidderminster which could be sensitive to landscape/visual modifications.</p> <p>This area of search is made up of two landscape types; Riverside Meadows and Sandstone Estatelands. Key landscape characteristics of the Riverside Meadows landscape type that could be affected by mineral extraction include pastoral land uses and linear tree belts. Some key characteristics of the Sandstone Estatelands landscape type that could be affected by mineral extraction are arable land use and hedgerow field boundaries. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is located directly adjacent to five SSSIs (Hurcott Pasture, Hurcott & Podmore Pools, River Stour Flood Plain, Hartlebury Common & Hillditch Coppice, and Wilden Marsh & Meadows). It contains a number of LWSs, and is adjacent to two LNRs (Hurcott Wood and Spennells Valley). The area is also within 1.5km of a number of other LWSs and two LGSs (Worcester Road Cutting and Hartlebury Common). As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains multiple Grade II listed buildings (Wilden Viaduct, Church of All Saints, The Glebe House, Mearse Farmhouse and Barn about 25 metres north east of Mearse Farmhouse and Park Hall) and is also located adjacent to the Staffordshire and Worcestershire Canal Conservation Area and multiple Grade II listed buildings. Additionally, the area of search is within 1.5km of Grade II listed Hartlebury Castle garden and locally important parks, Sion House and Monks. As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search consists of Grades 2 and 3 agricultural land. In addition, the entirety of the area lies within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--	<p>The majority of the area of search lies within Source Protection Zone 3, but there is land in the southwest and northeast that lies within Source Protection Zone 2. In addition, there are five lakes and six rivers that are contained within the area of search and it is adjacent to a number of sensitive receptors. Therefore, a significant negative effect is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	+?	<p>The area is adjacent to Kidderminster and Stourport-on-Severn, both of which could be potential markets. This area of search is located in close proximity to rivers which could potentially be used for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	This area of search is located where multiple PROWs and cycle routes cross the area. The ability of people to access educational services could be significantly compromised by a physical barrier to a school within the area of search. Whilst the site contains parts of the A448 and A456 roads, it is assumed that they would not be compromised by any minerals development. Therefore, significant negative effects with uncertainty are likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	This area of search is within 100m of residential properties in Kidderminster, two primary schools, multiple PROWs and recreational facilities. In addition, two overhead electricity lines cross this area of

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Sustainability Appraisal Objectives	SA Score	Potential effects
		search. Overall, a significant negative effect with uncertainty is likely as it depends on the specific location of mineral extraction within the area of search.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Summerway landfill and waste transfer station, and is located within 250m of Bonemill household recycling centre and ICL Environmental Services Ltd waste transfer station. Overall, a minor negative effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+/--?	This area of search contains proposed allocations for mixed use development and employment development. Depending on where mineral extraction takes place, this development could be compromised. However, any new minerals extraction in the area will likely provide new employment opportunities. Overall, an uncertain significant negative and a minor positive effect are likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	<p>--?</p>	<p>This area of search contains a proposed allocation for housing development, is located within 250m of two areas allocated for the provision of housing and also contains a proposed allocation for mixed use development. Therefore minerals development could compromise these developments. As such, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	<p>0</p>	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	<p>0</p>	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.34: WFSS14

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains multiple PROWs. In addition, the parcel is adjacent to housing in Broadwaters and Cookley and outdoor recreational sites, Lea Castle Sports Ground and St Oswald C.E Primary School. All of these could be impacted by visual and landscape modifications from a potential mineral development.</p> <p>The area of search is comprised of Sandstone Estatelands landscape type. Key landscape characteristics that could be affected by mineral extraction are arable farming land use and hedgerow boundaries to fields. There are wooded areas in the centre and south of the area of search, which could be lost to minerals development. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is located adjacent to three SSSIs (Hurcott Pasture, Stourvale Marsh and Hurcott & Podmore Pools). It contains Hurcott Wood LNR, four LWSs (Counsall Marsh; The Island Pool; Wolverley Court Lock Carr; and Hurcott and Podmore Pools), and lies within 1.5km of a number of</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		other LWSs. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search contains multiple Grade II listed buildings (Sion Hill House, North Lodges and Gateway of Lea Castle, Ismere House), a locally important park and garden (Sion Hill House) and is adjacent to Staffordshire and Worcestershire Canal Conservation Area. As such, there is potential for minerals development to significantly compromise these historic environment assets. There is potential for inter-visibility between the area of search and two Grade II listed buildings (Parr's Farmhouse and barn) located 170m north east of the site which may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land</p>	-	<p>This area of search consists of Grade 2 and 3 agricultural land. In addition, the area lies entirely within the Green belt. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The area of search is situated entirely within Source Protection Zones 2 and 3 and is adjacent to a number of sensitive receptors in Broadwaters and Cookley. In addition, the A449 which crosses the area of search leads into the Horsefair/Coventry Street AQMA. Development within this area of search could result in more traffic in the AQMA. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	+?	The area is adjacent to Kidderminster, which could be a potential market. The presence of a canal suggests that potentially suitable water links are available within the area for transporting minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little or zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-	0	Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.		
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where a number on PROWs cross the area and could significantly compromise the ability of people to access health, educational or other key local services within the settlement of Kidderminster through a physical barrier. Whilst the area does contain parts of the A449, A451 and B4189 roads it is assumed that they would not be compromised by any minerals development. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	<p>The area of search is within 100m of St Oswalds Primary School, Heathfield Knoll Secondary School, residential areas of Broadwaters and Cookley and multiple PROWs. All of these could be sensitive to noise, dust and emissions from a potential mineral development. In addition, an overhead electricity line crosses the north eastern corner of the area. Therefore, a significant negative effect with some uncertainty is likely as it depends on where mineral extraction occurs in the area.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	+?	This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+/--?	This area of search contains a proposed allocation for mixed use development. Depending on where mineral extraction takes place, this development could be significantly compromised. However, any new minerals extraction in the area will likely provide new employment opportunities. Overall, an uncertain significant negative and a minor positive effect are likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	--?	This area of search is located adjacent an area allocated for the provision of housing and contains a proposed allocation for mixed use development. Therefore, minerals development could compromise these developments.

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		As such, significant negative effects with uncertainty are likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral

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Sustainability Appraisal Objectives	SA Score	Potential effects
		workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.35: WFSS22

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search contains and is adjacent to multiple PROWs, small residential areas and industrial sites. All of these could be visually impacted by a potential mineral development.</p> <p>The area of search is comprised of Principal Settled Farmland and Enclosed Commons landscape types. The key landscape characteristic of Principal Settled Farmland that could be affected by mineral extraction is hedgerow boundaries to fields. A key characteristic of the Enclosed Commons landscape type that could be affected by mineral extraction is thick, vegetated hedgerow boundaries to fields. The area of search is characterised by a low topography, which could result in any minerals development being visible from further afield. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is in close proximity to four SSSIs (Sling Gravel Pits; Feckenham Forest; Hurst Farm Pasture; and Madeley Heath Pit). It is also located within 1.5km of Waseley Hills Country Park LNR, Madeley Heath LGS, and a number of LWSs. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains three Grade II listed buildings (Lower Madley Farmhouse, Castle Bourne and The Old Toll House) and is adjacent to a scheduled monument (Moated site at Fairfield Court). As such, there is potential for minerals development to significantly compromise these historic environment assets. There is potential for inter-visibility between the area of search and multiple Grade II listed buildings 300m to the west which may significantly compromise these historic environment assets. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search is comprised of Grades 2 and 3 agricultural land. In addition, the area of search lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--?	<p>The area of search lies within Source Protection Zone 3 and part of the south of the area of search lies within Source Protection Zone 2. The area of search also contains a number of sensitive receptors. In addition, a minor river passes through the northern corner of the area of search. Therefore, a significant negative effect with uncertainty is likely as it depends on the exact location of the area of search.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Upper Marlbrook and Bromsgrove, both of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little or zero net loss</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		of tree cover. Overall, a minor negative effect is likely on climate change and energy.
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	This area of search is located where a number of PROWs cross the area. Depending on where minerals are extracted from, people's ability to access health, educational and other key local services in the settlement of Bromsgrove may be significantly compromised by a physical barrier. Whilst the area of search contains a part of the A491, it is assumed that this will not be compromised by any minerals development. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	There are PROWs and residential hamlets contained within this area of search. In addition, an overhead electricity line crosses the centre of the parcel. Therefore, a significant negative effect with some uncertainty is

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Sustainability Appraisal Objectives	SA Score	Potential effects
		likely as it depends on the exact location of mineral extraction in the area of search.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Sandy Lane landfill site, Sandy Lane biological treatment works, Chadwich Lane Quarry landfill site, and Westside Forestry Ltd waste transfer station. It also lies within 250m of Wildmoor Quarry transfer station. Overall, a minor negative effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	-?	This area of search is located within 250m of an area allocated for the provision of housing, therefore mineral development could compromise residential amenity of this development. As such, minor negative effects

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Sustainability Appraisal Objectives	SA Score	Potential effects
		with uncertainty are likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	The locations of areas of search will not affect new technologies and innovation.
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

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Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.36: WFSS30

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>-?</p>	<p>This area of search contains one PROW that crosses the parcel and the M42 motorway is adjacent to the southern boundary of the area of search, where views of the area of search can be obtained. All of these could be sensitive to negative visual impacts from a potential mineral development.</p> <p>The area is within the Principal Settled Farmlands landscape type. The key landscape characteristic that could be affected by mineral extraction is hedgerow boundaries to fields. The openness of the area of search may also result in less opportunity to mitigate visual impacts. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a minor negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>-</p>	<p>This area of search is located within 1.5km of a number of LWSs and Shepley Sandpit and Knoll LGS. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	0?	<p>This area of search does not contain and is not adjacent to any national historic environment sites, Conservation Areas or locally important historic parks and gardens. There is sufficient urban development between the area of search and Grade II listed buildings (Christ Church and Catshill and North Marlbrook war memorial) 700m to the north west to suggest that these historic environment assets will not be significantly compromised by inter-visibility with minerals development. Therefore, a negligible effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The area of search consists of Grade 3 agricultural land. In addition, the area lies entirely within the Green Belt. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--?	<p>The east side of the area of search is situated within Source Protection Zone 3 and the west side of the area of search is situated within Source</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		Protection Zone 2. The area of search contains a PROW. In addition, the area of search is adjacent to the M42 and the Lickey End/Bromsgrove AQMA. A mineral development could increase traffic into the AQMA. Therefore, a significant negative effect with uncertainty is likely, as it depends where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The area is in close proximity to Upper Marlbrook, Lickey End and Bromsgrove, all of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will likely be very little to zero net loss of tree cover due to mineral extraction. Overall, a minor negative effect is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local	--?	This area of search contains part of a PROW and is also adjacent to one. Minerals development could lead to severance of these which may

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Sustainability Appraisal Objectives	SA Score	Potential effects
services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.		compromise the ability of people to access schools to the north west in Catshill or other key local services to the south in Bromsgrove. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	The PROW is a sensitive receptor contained within the area of search, which could be impacted by dust, noise and emissions from a potential mineral development. Therefore, a significant negative effect with uncertainty is likely, as it depends on the exact position of mineral extraction within the parcel.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+	<p>This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	0	<p>This area of search is not located with 250m of an area allocated for housing provision. Therefore, no effects are likely for this objective.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
efficient technologies and environmental technology initiatives.		
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.37: WFSS35

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>This area of search contains the B4096 which passes through the centre of the area of search where residential and industrial buildings are situated along it. The area of search also contains three PROW. All of these have clear views into the area of search and could be sensitive to a negative visual impact.</p> <p>The area is within the Principal Settled Farmlands and Settled Farmlands with Pastoral Land Use landscape types. The landscape characteristics that could be affected by mineral extraction are hedgerow boundaries to fields and pastoral land use. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search is located within close proximity to Burcot Lane Cutting SSSI. It partially contains Burcot Lane Meadow LWS and is located within 1.5km of a number of other LWSs and the Shepley Sandpit and Knoll LGS.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	This area of search does not contain and is not adjacent to any national historic environment sites, Conservation Areas or locally important historic parks and gardens. However, the east side of the area of search surrounds four Grade II listed buildings which may be significantly compromised by inter-visibility with minerals development. There is also potential for intervisibility with minerals development for a Grade II listed building 60m to the east (Blackwell Road Railway Underbridge). Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	The area of search consists of Grade 3 agricultural land. In addition, the area of search lies entirely within the Green Belt. Therefore, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	--	<p>The majority of the area of search is situated within Source Protection Zone 2 and a section of the west side of the area of search lies within source protection zone 3. The area of search contains several sensitive receptors along the B4096. Therefore, a significant negative effect is likely.</p>
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Lickey End, Bromsgrove and Blackwell, all of which could be potential markets. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will likely be very little to zero net loss of tree cover due to mineral extraction. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,</p>	--?	<p>This area of search contains four PROWs. Minerals development could lead to diversion of these, which may significantly compromise the ability of people to access schools to the north west in Lickey End and north east in</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		Blackwell or other key local services to the south west in Bromsgrove. Therefore, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development. Note that this effect is different to the effect previously identified for this SA objective and this Area of Search in the SA of the Publication Version MLP. This is because the area of search now includes public rights of way, whereas the previous boundary did not.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--	Residential and commercial properties on the B4096 and four PROW are located within the area of search, which could be impacted by mineral development within the area. Due to the scale of the area of search it is assumed that sensitive receptors will be within 100m of mineral development anywhere in the parcel. Therefore, a significant negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	0	This area of search is not located within 250m of an area allocated for housing provision. Therefore, no effects are likely for this objective.
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.38: WFSS41

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>The area of search contains Blackwell Golf Club, Blackwell outdoor adventure park and multiple PROWs. In addition, the area of search is adjacent to the residential area of Blackwell. All of these could be sensitive to a negative visual impact from a potential mineral development.</p> <p>The area of search is comprised of Settled Farmlands with Pastoral Land Use and Principal Settled Farmlands landscape types. The hilly landscape character of this area of search could play a role in minimising negative impact visual impact. The Settled Farmlands with Pastoral Land Use landscape type also has key characteristics that could be affected by mineral extraction, such as pastoral land use and a prominent pattern of hedged fields. The key landscape characteristic of the Principal Settled Farmlands landscape type that could be affected by mineral extraction is hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	--	<p>This area of search is located within close proximity to Hewell Park Lake SSSI. It is also located adjacent to the Worcester and Birmingham Canal LWS and is within 1.5km of a number of other LWSs. As such, there is potential for minerals development to compromise the biodiversity of the area. Overall, a significant negative effect is likely.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>This area of search contains two Grade II listed buildings (Stoney Lane Farmhouse and Barn about 15 metres north of Lower House Farmhouse). As such, there is potential for minerals development to compromise these historic environment assets. There is potential for inter-visibility between the area of search and Grade II listed buildings 60m to the west and a Grade II* and two Grade II listed buildings 100m to the east to significantly compromise these historic environment assets. In addition, national Grade II* listed Hewell Grange is within 1.5 km of the area of search. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile</p>	-	<p>The area of search consists of predominantly Grade 3 agricultural land in the north, but there is some Grade 2 land in the south of the area of search.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.		The area of search lies entirely within the Green Belt. Therefore, a minor negative effect is likely.
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The north of the area of search is situated within Source Protection Zone 3 and the south of the area of search is located within Source Protection Zone 2. The area of search contains or lies adjacent to a number of sensitive receptors in the settlement of Blackwell. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The area is adjacent to Blackwell and in close proximity to Bromsgrove and Barnt Green, all of which could be potential markets. There is a railway line in close proximity to the area of search but it is unlikely that the necessary infrastructure to transport minerals via this route would be available. Therefore, it is likely heavy fossil-fuelled vehicle haulage will be necessary to transport minerals. There will likely be very little or zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>Silica sand extraction is considered compatible in any flood zone, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	--?	<p>This area of search is located where a number of PROWs cross the area. Depending on where minerals are extracted from, the ability of people to access health, educational or other key local services in the settlement of Bromsgrove may be significantly compromised by a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.</p>	--?	<p>Blackwell Golf Club, Blackwell outdoor adventure centre and multiple PROWs are located within the area of search. In addition, Birmingham Clinic is located within the area of search and the residential area of Blackwell is within 100m of the area of search. All of these could be impacted by noise, dust and emissions from a potential mineral</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		development. Therefore, a significant negative effect with uncertainty is likely as the effects depend on where mineral extraction occurs in the area.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will likely require road-based movement by HGVs to transport minerals. Overall, a minor negative effect is likely.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area will likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.	0	This area of search is not located with 250m of an area allocated for housing provision. Therefore, no effects are likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.39: Hadley (central sites)

Hadley Quarry and Hadley areas of search for building stone are located directly adjacent to each other and have therefore been appraised together below)

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>-?</p>	<p>There is a PROW adjacent to the areas of search and other PROWs in the surrounding area. These could be sensitive to landscape and negative visual impact from a potential mineral development.</p> <p>The areas of search lie within a Principal Timbered Farmland landscape type. Landscape characteristics that could be incompatible with mineral development include ancient woodland, thick oak tree cover and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the areas of search. Overall, a minor negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--?</p>	<p>Westwood Great Pool SSSI is located around 1.3km to the south east of the areas of search. The areas of search appear to coincide with a LGS (Hadley Quarry) and are within 1.5km of four LWSs (Knight’s Grove; Gardener’s Grove; Nunnery Wood Ponds; and Hadley, Elmley and Hockley Brooks). Overall, a significant negative but uncertain effect is likely, as the</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
		effect depends on the specific location and size of the mineral developments.
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	--?	<p>These areas of search are adjacent to a national historic park and garden (Westwood Park). There is also potential for inter-visibility between the areas of search and two Grade II listed buildings (Miller's House and Hadley Mill) 75m to the north east and two Grade II listed buildings (Shoulstone's Farmhouse and barn) 160m to the west which may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	-	<p>The areas of search lie within Grade 3 Agricultural Land. Therefore, a minor negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The areas of search are located within Source Protection Zone 2 and there is a minor river and a PROW adjacent to the areas of search. Therefore, a significant negative effect with uncertainty is likely, as the effects depend on where mineral extraction occurs.
SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.	-	The areas of search are in close proximity to Droitwich Spa, which could be a potential market. There is not a water link located within or adjacent to these areas of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.
SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.	0	The areas of search are not within Flood zone 3, therefore a negligible effect is likely for this objective.
SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age,	-?	These areas of search are adjacent to a PROW. Therefore, a minor negative effect with uncertainty is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
gender, ethnicity, disability, socio-economic status or educational attainment.		
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	-?	There is a PROW less than 100m from the areas of search, which could be sensitive to noise, dust and emissions from mineral extraction. As a result, a minor negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	These areas of search are not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	These areas of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, they will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	These areas of search are not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the areas would likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	0	<p>These areas of search are not located within 250m of an area allocated for the provision of housing. Therefore, no effect is likely for this objective.</p>
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	<p>The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.</p>
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	<p>The locations of areas of search will not affect new technologies and innovation.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	<p>Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.</p>
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	<p>The locations of areas of search will not affect crime and the fear of crime.</p>

Table B.40: Hadley (South)

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>-?</p>	<p>There is a PROW 250m to the south east of the area of search and other PROWs in the surrounding area. These could be sensitive to landscape and negative visual impact from a potential mineral development.</p> <p>The area of search lies within the Principal Timbered Farmland landscape type. Landscape characteristics that could be incompatible with mineral development include ancient woodland, thick oak tree cover and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a minor negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	<p>--?</p>	<p>Westwood Great Pool SSSI is located around 1.1km to the east of the area of search. The area of search is also within 1.5km of a LGS (Hadley Quarry) and five LWSs (Knight’s Grove; Gardener’s Grove; Nunnery Wood Ponds; Hadley, Elmley and Hockley Brooks; and Droitwich Canal). Overall, a significant negative but uncertain effect is likely, as the effect depends on the location and size of the mineral developments.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search is within 300m of a national historic park and garden (Westwood Park) to the east. There is also potential for inter-visibility between the area of search and Grade II listed building 375m to the north west. Minerals development may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	<p>-</p>	<p>The area of search lies within Grade 3 Agricultural Land. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	<p>-?</p>	<p>The area of search is located within Source Protection Zone 2 and there is a PROW in close proximity to the area of search. Therefore, a minor negative effect with uncertainty is likely, as the effects depend on where mineral extraction occurs in the area.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area of search is in close proximity to Droitwich Spa, which could be a potential market. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>The area of search is not within Flood zone 3, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	-?	<p>This area of search is adjacent to a PROW. Therefore, a minor negative effect with uncertainty is likely for this objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	-?	There is a PROW in close proximity to the search area, which could be sensitive to noise, dust and emissions from mineral extraction. As a result, an uncertain minor negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area would likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	0	This area of search is not located within 250m of an area allocated for the provision of housing. Therefore, no effect is likely for this objective.

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Table B.41: Monsieurs Hall, Quarry Close

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	-?	<p>There is a PROW adjacent to the search area. This could be sensitive to landscape and negative visual impact from a potential mineral development.</p> <p>The area of search lies within the Principal Timbered Farmland landscape type. Landscape characteristics that could be incompatible with mineral development include ancient woodland, thick oak tree cover and hedgerow boundaries to fields. As such, there is potential for minerals development to compromise the landscape of the area; however it depends on where development occurs within the area of search. Overall, a minor negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire’s biodiversity and geodiversity.</p>	--?	<p>The area of search is adjacent to Battlefield Brook LWS and East Lodge and Breakback Hill LWS lies within 1.5km to the south. Overall, a significant negative but uncertain effect is likely, as the effect depends on the location and size of the mineral developments.</p>
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the</p>	--?	<p>There are three Grade II listed buildings (Monsieurs Hall, Outbuilding immediately south of Monsieurs Hall and Barn south east of Monsieurs</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.		Hall) located 400m to the west of the area of search. There is potential for intervisibility between the area of search and these listed buildings. Minerals development may significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.	-	The area of search lies within the Green Belt and Grade 3 Agricultural Land. Therefore, a minor negative effect is likely.
SA5: Natural Resources - Protect and enhance water and air quality.	--?	The area of search is adjacent to a waterbody (Battlefield Brook), is located within Source Protection Zone 2 and there is a PROW adjacent to the area of search. In addition, this area of search could lead to increased traffic in the Lickey End/Bromsgrove AQMA. Therefore, a significant negative effect

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential effects
		with uncertainty is likely, as the effects depend on where mineral extraction occurs in the area.
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	-	<p>The area is in close proximity to Bromsgrove, which could be a potential market. There is not a water link located within or adjacent to this area of search and, as such, it is likely to require the use of heavy fossil-fuelled vehicle haulage. There will be very little to zero net loss of tree cover. Overall, a minor negative effect is likely on climate change and energy.</p>
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	0	<p>The area is not within Flood zone 3, therefore a negligible effect is likely for this objective.</p>
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.</p>	-?	<p>This area of search is adjacent to a PROW. Therefore, a minor negative effect with uncertainty is likely for this objective.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	-?	There is a PROW adjacent to the search area which could be sensitive to noise, dust and emissions from mineral extraction. As a result, an uncertain minor negative effect is likely.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	0	This area of search is not located within 250m of existing waste infrastructure. Therefore, no effect is likely.
SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.	-	This area of search will require road-based movement by HGVs because there are no sustainable means of transport within or adjacent to the area. Overall, it will likely have a minor negative effect on traffic and transport.
SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.	+	This area of search is not located within 250m of an area allocated for employment development or proposed infrastructure delivery and any new minerals extraction in the area would likely provide new employment opportunities. Overall, a minor positive effect is likely for this objective.
SA13: Provision of housing - Provide decent affordable housing for all, of the right	0	This area of search is not located within 250m of an area allocated for the provision of housing. Therefore, no effect is likely for this objective.

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Sustainability Appraisal Objectives	SA Score	Potential effects
quality and tenure and for local needs, in clean, safe and pleasant local environments.		
SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.	0	The locations of areas of search will not affect new technologies and innovation.
SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential effects
		education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

B.1

Table B.42: CLAY2

Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA1: Landscape - Safeguard and strengthen landscape character and quality and minimise negative visual impact.</p>	<p>--?</p>	<p>Pipershill and Dodderhill common land and open spaces are located inside the area of search. Both Route 45 and 46 of the national cycling network are within the search area and there is a network of PROWs across the area of search. The area of search lies within the Principal Timbered Farmland landscape type, where dense ancient woodlands are situated adjacent to and within the area of search boundaries. A minority of the area of search on the eastern side lies within the Wooded Estatelands landscape type, which is characterised by large discrete blocks of woodland. There is potential for minerals development to compromise the landscape of the area; however effects depend on where development occurs within the area of search. Overall, a significant negative effect with uncertainty is likely.</p>
<p>SA2: Biodiversity and geodiversity - Conserve and enhance Worcestershire's biodiversity and geodiversity.</p>	<p>--</p>	<p>This area of search contains a number of LWSs. It also lies directly adjacent to a number of SSSIs, including Feckenham Forest, which coincides with Chaddesley Woods NNR. The site is also within 1.5km of a LGS (Hadley Quarry). Overall, a significant negative effect is likely.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA3: Cultural heritage, architecture and archaeology - Preserve and enhance the historic environment and deliver well-designed and resource-efficient development which respects local character and distinctiveness.</p>	<p>--?</p>	<p>This area of search contains over 40 Grade II listed buildings, multiple Grade II* listed buildings, Droitwich Canal Conservation Area, Chaddesley Corbett Conservation Area and is adjacent to multiple Grade II and Grade II* listed buildings. The area of search also contains a number of registered parks and gardens including Westwood Park and Hanbury Hall. As such, there is potential for minerals development to significantly compromise these historic environment assets. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.</p>
<p>SA4: Material assets - Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, land of green belt value, maximising use of previously-developed land and reuse of vacant buildings, whilst safeguarding open space/green infrastructure.</p>	<p>-</p>	<p>The bulk of the search area is classified Grade 3 agricultural land and small pockets of Grade 2 classified land are dispersed across the area. The majority of the area of search lies within the Green Belt, the south western corner of the search area is situated just outside of it. Therefore, a minor negative effect is likely.</p>
<p>SA5: Natural Resources - Protect and enhance water and air quality.</p>	<p>--</p>	<p>The area of search coincides with Source Protection Zone 2. There is a network of minor rivers and canals across the area of search and a number of sensitive receptors lie adjacent to the area. In addition, a section of the</p>

Appendix B New and Amended Appraisal Matrices

Sustainability Appraisal Objectives	SA Score	Potential effects
		Worcester Road AQMA, on the M5 and A38 junction, is located within the area of search. The introduction of a mineral development could add to the traffic within the AQMA. Therefore, a significant negative effect is likely.
<p>SA6: Climate Change and energy - Reduce causes of and adapt to the impacts of climate change. Promote energy efficiency and energy generated from renewable energy and low-carbon sources.</p>	+?	This area of search surrounds Wychbold and is adjacent to Droitwich Spa and Bromsgrove, all of which could be potential markets. The presence of rivers and canals suggests that there are potentially suitable water links available that could be used to transport minerals, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. There will be very little to zero net loss of tree cover. Overall, a minor positive effect with uncertainty is likely on climate change and energy.
<p>SA7: Flooding - Ensure inappropriate development does not occur in high-risk flood-prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.</p>	-?	This area of search is within flood zones 2 and 3. Overall, a minor negative effect with uncertainty is likely, as the effect depends on where minerals are extracted from within the area.
<p>SA8: Access to Services - Improve the quality of, and equitable access to, local</p>	--?	Multiple Public Rights of Way cross the area of search. There is potential for minerals development to significantly compromise the ability of people

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Sustainability Appraisal Objectives	SA Score	Potential effects
services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.		to access health, educational and other key local services in the settlements of Bromsgrove and Droitwich Spa, through a physical barrier. Overall, a significant negative effect with uncertainty is likely for this objective, as effects depend on the exact scale and location of a mineral development.
SA9: Health and amenity - Improve the health and well-being of the population and reduce inequalities in health.	--?	There are a number of sensitive receptors situated within the boundaries of the area of search. These include: four schools, two residential areas and numerous open and recreational spaces. In addition there are two electricity transmission lines that pass through the parcel. Therefore, a significant negative effect with uncertainty is likely as the effects depend where mineral extraction occurs.
SA10: Waste - Manage waste in accordance with the waste hierarchy: 1) reduce, 2) reuse, 3) recycling and composting, 4) recovery, 5) disposal.	-	This area of search contains Tickeridge Farm landfill site, Hartlebury landfill site, Waresley Quarry landfill site, Hartlebury EFW thermal treatment works, A-Z Skips waste transfer station, and Droitwich household waste recycling centre. The area of search also lies adjacent to the Potter Group Premises waste transfer station, and Bromsgrove waste transfer station. Overall, a minor negative effect is likely.

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA11: Traffic and transport - Reduce the need to travel and move towards more sustainable travel patterns.</p>	+?	<p>This area of search may require road-based movement by HGVs, however there is potential for more sustainable means of transport since there may be suitable water links available, although this is uncertain, as it will depend on loading/unloading facilities and route availability between source and destination. Overall, a minor positive effect with uncertainty is likely.</p>
<p>SA12: Growth with prosperity for all - Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all share the benefits, urban and rural.</p>	+/--?	<p>This area of search is located adjacent to two areas allocated for employment development. However, any new minerals extraction in the area is likely to provide new employment opportunities. Overall, a significant negative effect with uncertainty and a minor positive effect are likely for this objective, as effects depend on the exact scale and location of minerals development.</p>
<p>SA13: Provision of housing - Provide decent affordable housing for all, of the right quality and tenure and for local needs, in clean, safe and pleasant local environments.</p>	+/--?	<p>This area of search is located adjacent to and within 250m of multiple areas allocated for the provision of housing, therefore minerals development could compromise residential amenity of these. However, the area of search is identified for brick clay which is used in housing construction. Overall, a significant negative effect with uncertainty and a minor positive effect are likely for this objective, as effects depend on the exact scale and location of minerals development.</p>

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Sustainability Appraisal Objectives	SA Score	Potential effects
<p>SA14: Participation by all - Provide opportunities for communities to participate in and contribute to decisions that affect their neighbourhood and quality of life, encouraging pride and social responsibility in the local community.</p>	0	The locations of areas of search will not affect the ability of communities to participate in decisions regarding minerals development.
<p>SA15: Technology, innovation and inward investment - Promote and support the development of new technologies, of high value and low impact, especially resource efficient technologies and environmental technology initiatives.</p>	0	The locations of areas of search will not affect new technologies and innovation.
<p>SA16: Population (skills and education) - Raise the skills levels of qualifications of the workforce.</p>	0	Although exposure of geological features through minerals extraction can provide research and education opportunities, the potential to provide such educational opportunities is not dependent on the location of mineral workings. The locations of areas of search will not affect skills and education. Effects on facilities such as schools via noise and visual disturbance are assessed via other objectives.
<p>SA17: Population (crime & fear of crime) - Reduce crime, fear of crime and antisocial behaviour.</p>	0	The locations of areas of search will not affect crime and the fear of crime.

Appendix C

Summary of Effects for Areas of Search

C.1 The following table sets out a summary of the likely effects of all areas of search included in the MLP as proposed to be modified (i.e. including those that have been amended through the Main Modifications and appraised in Appendix B, and those that are unchanged and their appraisals are set out in the SA of the Publication version MLP).

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
HSBQ1	-?	--?	-?	-	--?	--	0	-?	--	0	-	+	0	0	0	0	0
HSBQ2	-?	--?	-?	-	--?	--	0	-?	--	0	-	+	0	0	0	0	0
HSBQ3	-?	--?	--?	-	-?	-	0	0	--?	0	-	+	0	0	0	0	0
HSBQ4	-?	--?	--?	-	--?	--	0	0	--	0	-	+	0	0	0	0	0
HSBQ5	-?	--?	--?	-	-	--	0	-?	-	0	-	+	0	0	0	0	0
HSBQ6	-?	-?	--?	-	-	-	0	-?	0	0	-	+	0	0	0	0	0
HSBQ7	-?	--?	--?	-?	--?	-	0	-?	-?	0	-	+	0	0	0	0	0
HSBQ8	-?	--?	--?	-?	-	-	0	-?	0	0	-	+	0	0	0	0	0
HSBQ9	-?	--?	--?	-	-	--	0	0	0	0	-	+	0	0	0	0	0
HSBQ10	-?	--?	--?	-	-	-	0	0	0	0	-	+	0	0	0	0	0
HSBQ11	-?	--?	--?	-	-	-	0	0	0	0	-	+	0	0	0	0	0
HSBQ12	-?	--?	--?	-	-	-	0	0	0	0	-	+	0	0	0	0	0
HSBQ13	--?	--?	0?	-	--?	-	0	-?	--	0	-	+	0	0	0	0	0
Hadley (central sites)	-?	--?	--?	-	--?	-	0	-?	-?	0	-	+	0	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
Hadley (South)	-?	--?	--?	-	-?	-	0	-?	-?	0	-	+	0	0	0	0	0
Monsieurs Hall, Quarry Close	-?	--?	--?	-	--?	-	0	-?	-?	0	-	+	0	0	0	0	0
TGSG1	--?	--	--?	-?	-	-	0	--?	-?	0	-	+	+	0	0	0	0
TGSG2	--?	--	0?	-?	-	-	0	--?	-?	0	-	+	+	0	0	0	0
TGSG3	--?	--	--?	-?	--	+	0	--?	--	0	+	+	+	0	0	0	0
TGSG4	--?	--	--?	-	--?	-	0	--?	--?	-	-	+	+	0	0	0	0
TGSG5	-?	--	-?	-	--?	-	0	--?	-?	-	-	+	+	0	0	0	0
TGSG6	--?	--	--?	-	--?	-	0	--?	--?	-	-	+	+/--?	0	0	0	0
TGSG7	--?	--	--?	-	--?	-	0	--?	--?	-	-	+	+	0	0	0	0
TGSG8	--?	--	--?	-	--	-	0	--?	-?	0	-	+	+	0	0	0	0
TGSG9	--?	--	--?	-	--?	+	0	--?	--?	-	+	+	+	0	0	0	0
TGSG10	-?	--	0?	-	-?	-	0	0	-?	0	-	+	+	0	0	0	0
TGSG11	--?	--	0	-	-?	-	0	--?	-?	0	-	+	+	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
TGSG12	-?	--	--?	-	-	-	0	-?	-?	0	-	+	+	0	0	0	0
TGSG13	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG14	--?	--	--?	-	--	-	0	-?	--?	-	-	+	+	0	0	0	0
TGSG15	--?	--	0?	-	--?	+	0	-?	--?	0	+	+	+/--?	0	0	0	0
TGSG16	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
TGSG17	--?	--	0?	-	--	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG18	--?	--	0?	-	--?	-	0	-?	--	0	-	+	+	0	0	0	0
TGSG19	-?	--	-?	-	-	-	0	0	0	0	-	+	+	0	0	0	0
TGSG20	--?	--	-?	-	--?	-	0	0	0	0	-	+	+	0	0	0	0
TGSG21	--?	--	--?	-	--	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG22	--?	--	--?	-	--	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG23	--?	--	--?	-	-	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG24	--?	--	--?	-	-	-	0	--?	-?	0	-	+	+	0	0	0	0
TGSG25	--?	--	--?	-	-	-	0	0	0	0	-	+	+	0	0	0	0
TGSG26	--?	--	--?	-	--?	+	0	-?	--?	0	+	+	+	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
TGSG27	-?	--	--?	-	--?	+?	0	--?	--?	0	+?	+	+	0	0	0	0
TGSG28	--?	--	--?	-	--?	+?	0	--?	--?	0	+?	+	+	0	0	0	0
TGSG29	--?	--	--?	-	0	-	0	--?	--	0	-	+	+/--?	0	0	0	0
TGSG30	--?	--	--?	-	--?	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG31	--?	--	--?	--	--?	+?	0	--?	--?	0	+?	+	+	0	0	0	0
TGSG32	--?	--	--?	-	--?	+?	0	--?	--?	0	+?	+	+/--?	0	0	0	0
TGSG33	--?	--	--?	-?	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
TGSG34	--?	--	--?	-	--?	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG35	--?	--	--?	-	0	-	0	--?	-	0	-	+	+	0	0	0	0
TGSG36	--?	--	--?	--?	--	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG37	--?	--	--?	-	--?	-	0	--?	--	0	-	+	+/--?	0	0	0	0
TGSG38	--?	--	--?	-?	0	-	0	--?	--	0	-	+	+/--?	0	0	0	0
TGSG39	--?	--	--?	--?	--	+?	0	--?	--	-	+?	+	+/--?	0	0	0	0
TGSG40	--?	--	--?	-?	--?	-	0	--?	--?	-	-	+	-?/+	0	0	0	0
TGSG41	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+/--?	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
TGSG42	--?	--	--?	-	--?	-	0	--?	--?	0	-	-?/+	+	0	0	0	0
TGSG43	--?	--	--?	--?	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG44	--?	--	--?	--?	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG45	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
TGSG46	--?	--	--?	--?	--	+	0	--?	--	0	+	+	+	0	0	0	0
TGSG47	--?	--	--?	-	0	-	0	--?	--	0	-	+	+/--?	0	0	0	0
TGSG48	--?	--	--?	-	0	-	0	0	--	0	-	+	+/--?	0	0	0	0
TGSG49	--?	--	--?	--?	0	-	0	-?	--	0	-	+	+	0	0	0	0
TGSG50	--?	--	0?	-	-	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG51	--?	--	-?	-	--?	-	0	-?	--	0	-	+	+	0	0	0	0
TGSG52	--?	--	-?	-	--?	-	0	-?	--	0	-	+	+/--?	0	0	0	0
TGSG53	--?	--	--?	-	--?	+	0	--?	--	0	+	+	+	0	0	0	0
TGSG54	--?	--	--?	--?	--	-	0	--?	-	0	-	+	+/--?	0	0	0	0
TGSG55	--?	--	--?	-	0	-	0	--?	--	0	-	+	+	0	0	0	0
TGSG56	--?	--	--?	-	0	-	0	--?	--	0	-	+	+	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
TGSG57	-?	--	--?	-	--?	+	0	0	0	0	+	+	+	0	0	0	0
TGSG58	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG59	--?	--	--?	-	-	-	0	0	0	0	-	+	+	0	0	0	0
TGSG60	--?	--	--?	--?	0	-	0	--?	--?	-	-	+	+	0	0	0	0
TGSG61	--?	--	--?	-?	0	+	0	--?	--	0	+	+	+	0	0	0	0
TGSG62	--?	--	--?	-?	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
TGSG63	--?	--	--?	-?	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
TGSG64	--?	--	--?	--?	--?	-	0	-?	--?	0	-	+	+	0	0	0	0
TGSG65	-?	--	-?	-	--?	-	0	-?	--?	0	-	+	+	0	0	0	0
TGSG66	--?	--	--?	--?	--?	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
TGSG67	-?	--	--?	-?	-?	-	0	--?	--?	0	-	+	+	0	0	0	0
TGSG68	-?	--	--?	-?	--?	+	0	0	0	0	+	+	+	0	0	0	0
TGSG69	--?	--	--?	-?	--	+	0	--?	--?	0	+	+	-?/+	0	0	0	0
TGSG70	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
WFSS1	-?	--	--?	-	--	-	0	--?	-	0	-	+	0	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
WFSS2	-?	--	--?	-	-	-	0	--?	--	0	-	+	0	0	0	0	0
WFSS3	--?	--	--?	-	--	+	0	--?	--?	-	+	+	--?	0	0	0	0
WFSS4	--?	--	--?	-	--?	+	0	--?	--	-	+	+	--?	0	0	0	0
WFSS5	-?	--	0?	-	--	-	0	-?	--?	0	-	+	0	0	0	0	0
WFSS6	--?	--	-?	-	--	+	0	-?	--?	-	+	+	0	0	0	0	0
WFSS7	--?	--	--?	-	--	+	0	--?	--?	-	+	+/--?	--?	0	0	0	0
WFSS8	--?	--	--?	0	--?	-	0	-?	--	0	-	+	-?	0	0	0	0
WFSS9	--	--	-?	0	--	+	0	0	--	0	+	+	--?	0	0	0	0
WFSS10	--	--	-?	-?	--	+	0	0	--	0	+	+	0	0	0	0	0
WFSS11	--?	--	-?	-?	--	+	0	--?	--	0	+	+	0	0	0	0	0
WFSS12	--	--	-?	0	--?	-	0	0	--	0	-	+	0	0	0	0	0
WFSS13	--	--	-?	-?	--?	--	0	0	--	0	-	+	0	0	0	0	0
WFSS14	--?	--	--?	-	--?	+	0	--?	--?	0	+	+/--?	--?	0	0	0	0
WFSS15	--	--	-?	-	--?	-	0	0	--	0	-	+	0	0	0	0	0
WFSS16	-?	--	0?	-	--?	--	0	0	0	0	-	+	0	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
WFSS17	-?	--	--?	-	--?	--	0	0	0	0	-	+	0	0	0	0	0
WFSS18	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	--?	0	0	0	0
WFSS19	--?	-	--?	-	-?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS20	-?	--	--?	-	-	-	0	-?	-?	0	-	+	0	0	0	0	0
WFSS21	-?	--	--?	-	-	-	0	--?	-?	0	-	+	0	0	0	0	0
WFSS22	--?	--	--?	-	--?	-	0	--?	--?	-	-	+	-?	0	0	0	0
WFSS23	--?	--	0?	-	--?	-	0	--?	--?	-	-	+	-?	0	0	0	0
WFSS24	-?	-	0?	-	-	-	0	0	0	-	-	+	0	0	0	0	0
WFSS25	--	-	0?	-	--?	-	0	0	--	0	-	+	--?	0	0	0	0
WFSS26	--?	-	--?	-	--?	-	0	--?	--?	-	-	+	0	0	0	0	0
WFSS27	--?	-	0	-	--?	-	0	--?	--	0	-	+	0	0	0	0	0
WFSS28	--?	--	0?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS29	--?	--	0?	-	--?	-	0	-?	--?	0	-	+	0	0	0	0	0
WFSS30	-?	-	0?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS31	--?	--	0?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
WFSS32	--?	--	0?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS33	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS34	0?	--	0?	-	-	-	0	0	0	0	-	+	0	0	0	0	0
WFSS35	--?	--	--?	-	--	-	0	-?	--	0	-	+	0	0	0	0	0
WFSS36	--?	--	--?	-	--?	-	0	0	--	0	-	+	0	0	0	0	0
WFSS37	-?	--	--?	-	-?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS38	-?	--	--?	-	-?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS39	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
WFSS40	--?	--	--?	-	-?	-	0	0	-?	0	-	+	0	0	0	0	0
WFSS41	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	0	0	0	0	0
SSSG1	--?	--	--?	-	--	+	0	--?	--	-	+	+	+/--?	0	0	0	0
SSSG2	--?	--	--?	-	--?	+	0	--?	--?	-	+	+/--	+/--?	0	0	0	0
SSSG3	--?	--	--?	-	--	+	0	--?	--?	-	+	+	-?/+	0	0	0	0
SSSG4	-?	--	0?	-	--	-	0	-?	--?	0	-	+	+	0	0	0	0
SSSG5	--?	--	-?	-	--	+	0	-?	--?	-	+	+	+	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
SSSG6	--?	--	0?	-	--?	-	0	0	--	0	-	+	+	0	0	0	0
SSSG7	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
SSSG8	--?	--	0	0	--	-	0	0	--	0	-	+	+	0	0	0	0
SSSG9	-?	--	0?	-	--?	-	0	-?	-?	0	-	+	+	0	0	0	0
SSSG10	--?	--	--?	-	--	+	0	--?	--?	0	+	+	+	0	0	0	0
SSSG11	-?	--	--?	-	--?	+	0	--?	-?	0	+	+	+	0	0	0	0
SSSG12	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG13	--?	--	--?	0	--?	-	0	-?	--	0	-	+	-?/+	0	0	0	0
SSSG14	--	--	-?	0	--	+	0	0	--	0	+	+	+/--?	0	0	0	0
SSSG15	--	--	-?	-?	--	+	0	0	--	0	+	+	+	0	0	0	0
SSSG16	--?	--	0?	-	--?	-	0	-?	--	0	-	+	+	0	0	0	0
SSSG17	--?	--	--?	-	--	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
SSSG18	--?	--	--?	-	--	+	0	--?	--?	0	+	+	+	0	0	0	0
SSSG19	-?	--	--?	-	-	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG20	-?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
SSSG21	--?	--	--?	-	--	-	0	--?	--?	-	-	+	-?/+	0	0	0	0
SSSG22	--?	--	0?	-	--	+	0	-?	--	0	+	+	+/--?	0	0	0	0
SSSG23	--?	--	--?	-	--?	+	0	--?	--?	-	+	+	+	0	0	0	0
SSSG24	--?	--	0	-	--?	-	0	0	--	0	-	+	+	0	0	0	0
SSSG25	--?	--	-?	-	--?	-	0	-?	--?	0	-	+	+	0	0	0	0
SSSG26	--?	--	0?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG27	--?	--	--?	-	--	+	0	--?	--	0	+	+	+	0	0	0	0
SSSG28	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG29	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
SSSG30	--?	--	--?	-	-?	-	0	--?	--?	0	-	+	+	0	0	0	0
CLAY1	--?	--	--?	-	--	+	-?	--?	0	0	+	+	+	0	0	0	0
CLAY2	--?	--	--?	-	--	+	-?	--?	--?	-	+	+/--?	+/--?	0	0	0	0
CLAY3	--?	--	--?	-	--?	-	0	--?	--?	0	-	+	+	0	0	0	0
CLAY4	-?	--	--?	-	0	-	0	--?	0	0	-	+	+	0	0	0	0
CLAY5	--?	-	--?	-	--	+	0	--?	--?	-	+	+	+/--?	0	0	0	0

Appendix C Summary of Effects for Areas of Search

Area of Search	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17
CLAY6	--?	--	--?	-	--?	+	0	--?	--?	0	+	+	+	0	0	0	0
CLAY7	--?	--	--?	--?	--	+	-?	--?	--?	0	+	+	+/--?	0	0	0	0
CLAY8	--?	--	--?	--?	--?	+	-?	--?	--?	0	+	+	+	0	0	0	0
CLAY9	--?	--	--?	--?	--?	+	-?	--?	--?	0	+	+	-?/+	0	0	0	0
CLAY10	--?	--	--?	--?	--	+	-?	--?	--?	-	+	+	+/--?	0	0	0	0
CLAY11	--?	--	--?	--?	--	+	0	--?	--?	0	+	+	+/--?	0	0	0	0
CLAY12	--?	--	--?	--?	--?	-	0	--?	--	0	-	+	+/--?	0	0	0	0
CLAY13	--?	--	--?	-	--?	+	-?	--?	--?	0	+	+	+/--?	0	0	0	0

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