

Bournemouth, Dorset and Poole Mineral Sites Plan (MSP) - Examination

Screening of Sites in 'Cluster 4' for Cumulative Impacts on Heritage

Introduction

Cluster 4 comprises three sites: AS 19 (Woodsford Extension); AS25 (Station Road); and AS26 (Hurst Farm).

During the hearing sessions evidence was presented on behalf of FRAME in connection with Cluster 4 that argued the Sustainability Appraisal (SA) of the MSP had not had proper regard to cumulative impacts on particular receptors. In response to this the Mineral Planning Authority (MPA) agreed to carry out a screening exercise of sites to consider potential cumulative impacts. This would comprise the following steps:

1. Reviewing what cumulative impact assessment has already been done
2. Considering subsequent evidence (including heritage assessment for individual sites) that has been prepared in support of the plan
3. Reviewing the results of the assessment
4. Recording the screening in the SA

It was agreed that, should the assessment identify any further avoidance, mitigation or compensatory measures that are required to address materially significant cumulative impacts, these would be recorded in the SA. Should this result in recommendations for main modifications to the plan that the MPA deems necessary, these would be proposed and consulted on (alongside other modifications and the SA Addendum) subject to the agreement of the Inspector.

Screening for Likely Significant Effects

Appendix 1 sets out the screening exercise for Cluster 4. This is presented in the form of a matrix which is populated with text. This matrix is based upon Annex 1 of the SEA Directive which sets out the requirement for Likely Significant Effects:

The information to be provided under Article 5(1), subject to Article 5(2) and (3), (includes) the following:

(f) the likely significant effects¹ on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;

1 These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

It will be seen that the matrix sets out a list of receptors including those identified in the SEA Directive and each site is assessed against these in relation to:

- Whether or not there is a risk of a likely significant effect
- If so, whether this is direct or secondary
- The scope for cumulative impacts (allowing for other mineral sites or other proposed development in the area)
- Whether any impacts could be synergistic (i.e. greater than the sum of their parts)
- A summary of possible relationships between receptors.

The matrix gives further consideration to the potential timescale of impacts and whether or not these could be temporary or permanent.

What is the baseline for this assessment?

The 'baseline' for this matrix is the existing work that has been presented as part of the submitted plan, principally the latest iterations of: the Sustainability Appraisal (MSPSD-11); the Mineral Sites Plan as annotated with the schedule of proposed modifications (MSPSD-15) and the Habitats Regulations Assessment (MSPSD-16); and relevant site assessments.

What is recorded?

1. In each box of the matrix text which is shown in standard black font is taken directly, or summarised from, the baseline sources.
2. Where the baseline is considered deficient or not sufficiently transparent, further text that is introduced which is shown in *red italics*. This is informed by existing commentary on impacts or considerations recorded in the baseline sources, together with the evidence that has been provided in support of the examination process and the hearing sessions. Where this flags up potential cumulative or synergistic impacts this is recorded.
3. The matrix considers whether or not the screening has identified a need for further modifications to the plan. This is recorded in the comments column. It will be seen from the matrix that no further modifications over and above those which have already been tabled are considered necessary.

Next Steps

It is proposed that this screening exercise will form an addendum to the existing SA report. The SA report itself will be updated to include an assessment of all main modifications that have arisen through the examination process, as will the Habitats Regulations Assessment (HRA). The modifications to the plan will be the subject of a formal public consultation (a minimum of 6 weeks) subject to the agreement of the Inspector. The SA and HRA (as amended) will be made available for comment during this period.

Mike Garrity, County Planning, Minerals and Waste Team Leader

Dorset County Council

15th October 2018

APPENDIX 1: SCREENING OF LIKELY SIGNIFICANT EFFECTS: CLUSTER 4 MSDCC-82

AS19 - Woodsford Quarry Extension	Text in black text indicates LSE already identified by the Sustainability Appraisal (SA) process, with proposed mitigation <i>Text in red italics refers to new LSE identified, with mitigation proposed.</i>
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Site	Receptor ¹	Is there a risk of likely significant effects (LSE)?				If risk of LSE, what is the timescale?					Comments
		Direct	Secondary	Cumulative	Synergistic	Short-term (<5 yrs)	Medium-Term (5-10 yrs)	Long-term (10+ yrs)	Temporary	Permanent	
AS19 - Woodsford Quarry Extension	Biodiversity (incl. flora and fauna)	Water voles and other protected species (including otter) may be present in watercourses contained within the proposed site. If they are present, mitigation should not be difficult. This is addressed in the Natural Environment DG for AS19. <i>Potential risk of loss of existing hedges/tree belts. This is addressed in the Landscape/Visual DG.</i>	The permanent change of at least part of the site area from intensive agriculture to mineral extraction restored to extensive grassland and water bodies would be likely to result in a reduction in nitrate levels in receiving waters of the R. Frome, groundwater and Poole Harbour (SPA and Ramsar). If this can be secured there would be strategic nature conservation gain. In addition, reduction in intensive agricultural management of the fields between the proposed extraction area and the R. Frome would be an additional significant gain, preventing more direct runoff of fertiliser into the river and onward to Poole Harbour. Risk of impact on Frome SSSI (e.g. silt) during site clearance/working unless carefully managed. It has been suggested that, following working, the restoration of land nearer to the Frome could significantly enhance the river by establishing a wetland that would remove nitrate, phosphate and silt as well giving additional flood alleviation capacity.	<i>Potential risk of loss of existing hedges/tree belts in combination with adjacent site AS26, due to shared boundary. This is addressed in the Landscape/Visual DG for AS19.</i> Positive cumulative effect in reduction of nitrates on biodiversity (with AS25 and AS26) <i>Potential cumulative adverse effect on River Frome if water quality is affected through other sites being worked simultaneously.</i>	<i>Potential synergistic beneficial effect of reduction of nitrates from AS19, AS25 and AS26. Not quantifiable at this stage.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i>	<i>Benefits from loss of nitrate inputs through restoration of part of the site to wetland.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture during site preparation and working.</i>	<i>Benefits from loss of nitrate inputs through restoration of part of the site to wetland.</i>	No further modifications proposed for AS19. Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Human health - including noise	Potential for direct impacts on surrounding receptors, including from noise generated on the site. 8. To protect and improve air quality and reduce the impacts of noise. Noise mitigation will be addressed at the planning application stage, with appropriate mitigation to be included in the development of the site. Environmental protection measures to reduce dust and ensure noise is appropriately mitigated. 17. To sustain the health and quality of life of the population <u>Impact on Sensitive Human Receptors</u> Residences and businesses within 250-500m. The site is large enough that it should be possible to screen these residences satisfactorily. Development would likely require appropriate mitigation (such as visual and noise attenuation bunding, standoffs) to limit impacts. <u>Impact on Existing Settlements</u> Site is well screened by existing hedges/trees. The site is large enough that where necessary it should be possible to screen any negative impacts satisfactorily, using mitigation such as visual and noise attenuation bunds. Provision of appropriate mitigation, following assessment of likely impacts. Restoration to improve landscape of site where possible; and to seek to increase public access. Screening, bunding, standoffs will mitigate impacts to some extent. Cumulative impacts on surroundings of working along with the adjacent Hurst Farm proposed site to be taken into consideration and mitigated against.	None expected.	The main cumulative impact would occur if this site proposal was to be worked simultaneously with the proposed AS25 & Hurst Farm Woodsford Extension , immediately to the west-east. This could lead to disturbance to properties on the north side of the Frome. <i>There is potential for cumulative adverse impacts in combination with AS25 and AS26. This is addressed through proposed modifications in the 'Other' section of the DGs.</i>	<i>Potential for synergistic impacts if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications to the DGs</i>	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	No permanent health impacts are expected following restoration.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Soil	9. To maintain, conserve and enhance soil quality. Site contains/comprises very good quality agricultural land. Working the site will have impacts on this soil. Restoration will return the land to original ground levels, and will restore the quality of the land. Mitigation Soil to be properly stripped and stored prior to working; protected during working; and re-spread on site after working. Restoration to include high quality agricultural land MSP Appendix A 'AS19 Woodsford Quarry Extension' under 'Other' in DGs notes: The site is BMV agricultural land and protection and appropriate management of soils is required to enable the land to retain its longer term capability.	None expected.	<i>There is potential for cumulative adverse impacts through loss of BMV land in combination with AS25 and AS26. However, no loss of soils is expected.</i>	None expected.	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	Depending on final restoration there is potential that some BMV land could be lost. There will be no overall loss of soil.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Water	Groundwater Site is within 250 m of licensed water supplies. Overlies secondary aquifer, but does not affect any Source Protection Zone. Assessment required to determine possible impacts on hydrogeology. Impacts to be appropriately mitigated. Surface Water River Frome runs north of the site boundary, and there are many other watercourses within and near the site. Restoration proposals should incorporate gain of wetland features which will contribute to the aspirations of the England Biodiversity Strategy. Ensure no impacts from this development and no increased sedimentation. Proposal will reduce nitrate contamination of surface water from agricultural fertiliser Mitigation Hydrological assessment required to determine possible impacts, on ground and surface waters, with appropriate mitigation to be implemented. Where necessary mitigating measures should be installed to maintain groundwater levels. Appropriate arrangements should be put in place to ensure that the water leaving the site and entering the rivers/watercourses is of an acceptable quality. Any fuel on site should be properly stored to avoid contamination in case of spillage. Appropriate arrangements should be installed for surface water and silt collection and fuel storage to prevent contamination of groundwater resources. Land Drainage Consent to be obtained from Dorset County Council if works may affect flow of an ordinary watercourse. Preliminary Hydrological Risk Assessment Refers to risks of contamination of controlled waters or water supplies, due to spillage/seepage of fuel or silt in water. Mitigation includes ensuring silt is removed from runoff; storing fuel in appropriate manner; and on-going monitoring. Site assessment (MSDCC 16) refers to site being within 250m of licensed water supplies; ongoing objection of Environment Agency; potential impacts on River Frome SSSI; and small part of the site is covered by Flood Zones 2 and 3.	<i>Potential for secondary effects of siltation or fuel contamination beyond site boundary.</i> <i>Potential for benefits on Poole Harbour if restoration includes wetland to assist in removing nitrates from ground and surface water</i>	<i>Potential for cumulative impacts of siltation or fuel contamination, in combination with AS26 and AS25.</i> <i>Potential for cumulative benefits on Poole Harbour if restoration to wetland is implemented on AS26 as well.</i>	<i>Potential synergistic beneficial effect of reduction of nitrates from AS19 and AS26. Not quantifiable at this stage.</i>	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts. During this phase the beneficial effects of the wetland would begin to be felt.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Benefits of the wetland and effect of nitrate reduction expected to be long-term/permanent.	No further modifications are proposed to the DGs; potential risks are addressed through the existing pollution control regime. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Air	8. To protect and improve air quality and reduce the impacts of noise. Impacts on air quality expected to be negligible. No AQMAs will be affected by the working of this site proposal. Any dust resulting from working will be controlled through normal dust-suppression measures.	<i>Potential for secondary effects of dust or air pollution beyond site boundary.</i>	<i>Potential for cumulative impacts of dust or air pollution, in combination with AS26 and AS25.</i>	None expected.	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Long-term/permanent impacts not expected.	No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.

Climatic factors	<p>14. To adapt to and mitigate the impacts of climate change.</p> <p>Developing the site as a quarry is expected to have some negative impacts regarding climate change, due primarily to machinery used and transportation of mineral away from site. However, these will in relative terms be negligible. The Bournemouth, Dorset and Poole Minerals Strategy seeks to address and minimise such impacts through Policy CC1 which requires operators to take into consideration climate change impacts and their possible mitigation for any proposed minerals development.</p> <p>Proposed Mitigation: Use energy efficient plant and machinery. Implement restoration which provides appropriate habitats to help to increase resilience of flora/fauna.</p> <p>MSDCC 16 - Criterion C22: Site will rely on road transport, although conveyors will be used to move material to the processing plant within the site.</p>	<p><i>Potential for secondary effects resulting from the production of greenhouse gases (GHGs) beyond site boundary.</i></p>	<p><i>Potential for cumulative impacts of GHG production, in combination with AS26 and AS25, and/or other site proposals/ and other existing or proposed development.</i></p>	<p><i>Potential for synergistic impacts of AS19 being worked simultaneously with other sites, and other development, both locally and more widely.</i></p>	<p>If impacts were to occur they would be expected during and after preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.</p>	<p>If impacts were to occur they would be expected during and after preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.</p>	<p>Yes, however it is expected that phased restoration will be reducing the impacts. It is not known how long the effects of the GHGs are felt after they are produced.</p>	<p>It is expected that effects would be temporary, and associated with the production of GHGs. However it is not known how long the effects of the GHGs may last following their production.</p>		<p>No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.</p>
Material assets	<p>NB - The term 'material assets' for the purposes of this assessment is taken to refer to Natural Assets including minerals and land. Built assets are considered to be covered through other aspects of this assessment.</p> <p>The Sustainability Appraisal includes the following Sustainability Objectives:</p> <p>10. To conserve and safeguard mineral resources.</p> <p>11. To promote the use of alternative materials.</p> <p>12. To provide an adequate and affordable supply of minerals to meet society's needs.</p> <p>The SA notes that the site would make an important contribution to the supply of minerals, but does not promote the use of alternative minerals.</p> <p>Impacts on BMV land and Existing Settlements are referred to elsewhere in this assessment.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>Not expected.</p>	<p>No further modifications are proposed to the DGs.</p>
Cultural heritage - archaeology/historic landscapes	<p>Potential for direct impacts on archaeological remains and <i>surviving earthworks</i> of watermeadow systems. Potential for impact on the setting of Frome Bridge. These are addressed through the DG for Historic/Cultural Environment.</p>	<p><i>Potential for secondary effects on archaeological remains beyond the site boundary in the event that workings result in significant off-site changes to hydrology.</i></p> <p><i>These are addressed through the DG for Historic/Cultural Environment.</i></p>	<p><i>Given the potential for archaeological remains in this part of the Frome Valley, there is potential for cumulative impacts from the existing and proposed mineral workings and other non-mineral developments in the event that archaeological remains are damaged or destroyed without being adequately recorded or preserved. AS19, AS25 and AS26 each have a requirement within the DGs for archaeological assessment and evaluation. The MPA can secure mitigation through planning application process if this is required, or refuse consent where adverse impacts cannot be appropriately mitigated</i></p>	<p><i>Potential loss of comprehensive understanding of the archaeology of the Frome Valley if cumulative archaeological loss occurs and assets are not adequately preserved or recorded.</i></p>	<p>Potential adverse impact on the setting of Frome Bridge, depending on the stage of phasing.</p>	<p>Potential adverse impact on the setting of Frome Bridge, depending on the stage of phasing.</p>	<p>Potential adverse impact on the setting of Frome Bridge, depending on the stage of phasing. Yes, however phased restoration will be reducing the impacts.</p>	<p>Setting of Frome Bridge - see short to long term impacts.</p>	<p>Potential for loss of archaeology.</p>	<p>No further modifications are proposed to the DGs.</p>
Cultural heritage - historic buildings	<p>No Likely Significant Effects identified through assessment to date. However as a precaution the DGs require assessment of any affected heritage assets and their settings.</p>	<p>None expected.</p>	<p><i>Potential for impacts from simultaneous existing and potential mineral workings, along with other non-mineral developments, will require Environmental Impact Assessment at the stage of planning application.</i></p>	<p>Not expected.</p>				<p>No LSE expected, however if any impacts are identified through more detailed assessment these are likely to be temporary</p>	<p>There may be some changes to the landscape but the open character of the landscape will be maintained. See Restoration Vision of the DGs</p>	<p>No further modifications are proposed to the DGs.</p>
Landscape	<p>The landscape is open and agricultural in character and development has the potential to impact on the openness of this landscape. Existing and new hedgerows and blocks of woodland provide an element of natural screening which would assist in the mitigation of any quarry development. Potential risk of loss of existing hedges/tree belts. This is addressed in the Landscape/Visual DG.</p>	<p>None expected.</p>	<p>There could be cumulative visual/landscape impacts, depending on how much of previous working of other parts of the existing site have been effectively restored when the North East Extension is applied for. This should be addressed at the stage of the planning application. Full visual impact assessment will be required, to identify impacts and mitigation.</p> <p><i>There is potential for cumulative adverse visual impacts in combination with AS25 and AS26. This is addressed through proposed modification to the DG.</i></p> <p>Potential risk of loss of existing hedges/tree belts in combination with adjacent site AS26, due to shared boundary. This is addressed in the Landscape/Visual DG for AS19. MSP 'Landscape/Visual' DGs notes: A Landscape and Visual Impact Assessment will be required, with appropriate mitigation identified and implemented in order to minimise impacts on surroundings, including possible cumulative impacts with restoration of the current site.</p>	<p><i>Potential for synergistic impacts if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications to the DGs</i></p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes, however phased restoration will be reducing the impacts.</p>	<p>Yes - for duration of preparation and working. The site will be restored, but restoration cannot be exactly as the site was.</p>	<p>There may be some changes to the landscape but the open character of the landscape will be maintained. See Restoration Vision of the DGs</p>	<p>No further modifications proposed for AS19. Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.</p>
Amenity	<p>17. To sustain the health and quality of life of the population</p> <p>NB this section relates primarily to visual amenity; noise is considered separately above under Human Health above.</p> <p>Impact on Sensitive Human Receptors: There are two properties within the proposed allocation boundary and further residences and businesses within 250-500m. The site is large enough that it should be possible to screen these residences satisfactorily. Development would likely require appropriate mitigation (such as visual and noise attenuation bunding, standoffs) to limit impacts.</p>	<p>Higher Woodsford is some 900m away. East Woodsford is within 500m to the east, Tincton some 700m to the north and Pallington 700m north east. <i>Secondary effects on amenity beyond the site boundary are possible. However, these are addressed through the DG for 'Other' in the MSP.</i> An EIA will also be carried out as part of a planning application and appropriate mitigation will be required. For example visual and noise attenuation bunds and reducing noise at source where possible and appropriate. Crossways is approximately 1.3 km to the south</p>	<p>Mitigation: Cumulative impacts on surroundings of working along with the adjacent Hurst Farm proposed site to be taken into consideration and mitigated against.</p> <p>The main cumulative impact would occur if this site proposal was to be worked simultaneously with the proposed AS19 AS26 Hurst Farm Woodsford Extension, immediately to the west east. This could lead to disturbance to properties on the north side of the Frome. The working of these sites will be phased to ensure that they do not work in adjacent areas simultaneously. The northern boundary of the site has been pulled back to provide a greater buffer.</p>	<p><i>Potential for synergistic impacts through noise, affecting tranquillity across a wider area, if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications to the DGs</i></p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes, however phased restoration will be reducing the impacts.</p>	<p>Yes - for duration of preparation and working.</p>	<p>No permanent changes expected.</p>	<p>No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.</p>
			<p><i>There is also potential for cumulative impacts on amenity if this site was to be worked at the same time as AS25, and material from AS25 was processed in a plant located on AS26. There is also potential for impact if this site was worked when other development was ongoing in the vicinity. This is addressed in the 'Other' section of the DGs for this site.</i></p> <p><i>Potential for cumulative effects on amenity beyond the site boundary, in combination with AS26 and AS25.</i></p> <p><i>These are addressed through the DG for 'Other' in the MSP</i></p>							

Relationships between receptors	<i>There is potential for in-combination effects in relation to landscape, amenity and heritage. This could occur in the short to medium term in respect of landscape which contributes to the setting of heritage assets and where the amenity of residents and visitors could be affected by visual/noise impacts in this open landscape. In the long term restoration ensures that the open landscape will be maintained. There are no permanent changes expected that will affect amenity. Proposed modification to the DGs requires cumulative impacts to be taken into consideration (AM09).</i>
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1 Receptors are environmental features (for the purposes of Strategic Environmental Assessment) identified through plan & SA preparation that could potentially be affected by the proposal

AS25 - Station Road	Text in black text indicates LSE already identified by the Sustainability Appraisal (SA) process, with proposed mitigation <i>Text in red italics refers to new LSE identified, with mitigation proposed.</i>
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Site	Receptor ¹	Is there a risk of likely significant effects (LSE)?				If risk of LSE, what is the timescale?					Comments
		Direct	Secondary	Cumulative	Synergistic	Short-term (<5 yrs)	Medium-Term (5-10 yrs)	Long-term (10+ yrs)	Temporary	Permanent	
AS25 Station Road	Biodiversity (incl. flora and fauna)	Potential risk of loss of existing hedges/tree belts noted in MSP Landscape/Visual DG (MSP - Appendix A). This is addressed through a requirement to assess impacts and identify/implement mitigation.	The permanent change of at least part of the site area from intensive agriculture to mineral extraction restored to extensive grassland and water bodies would be likely to result in a reduction in nitrate levels in receiving waters of the R. Frome, groundwater and Poole Harbour (SPA and Ramsar). If this can be secured there would be strategic nature conservation gain. Risk of impact on Frome SSSI (e.g. silt) during site clearance/working unless carefully managed.	Positive cumulative effect in reduction of nitrates on biodiversity (with AS19 and AS26) <i>Potential cumulative adverse effect on River Frome if water quality is affected through other sites being worked simultaneously.</i>	<i>Potential synergistic beneficial effect of reduction of nitrates from AS19, AS25 and AS26. Not quantifiable at this stage.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i>	<i>Benefits from loss of nitrate inputs through restoration of part of the site to non-agricultural use.</i>	<i>Benefits from loss of nitrate inputs through change of land-use from agriculture during site preparation and working.</i>	<i>Benefits from loss of nitrate inputs through restoration of part of the site to non-agricultural use.</i>	No further modifications proposed for AS19. Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Human health - including noise	8. To protect and improve air quality and reduce the impacts of noise. Noise mitigation will be addressed at the planning application stage, with appropriate mitigation to be included in the development of the site. Mitigation. Environmental protection measures to reduce dust and ensure noise is appropriately mitigated. 17. To sustain the health and quality of life of the population Impact on Sensitive Human Receptors Residential properties adjacent to site and in vicinity of site. Site is large enough to include appropriate mitigation to adequately screen surrounding properties from visual/noise impacts. Development is likely to require appropriate mitigation (such as visual and noise attenuation bunding, standoffs) to limit impacts. Mitigation: Provision of appropriate mitigation, following assessment of likely impacts.	None expected.	<i>The main cumulative impact would occur if this site proposal was to be worked simultaneously with the proposed AS26 Hurst Farm, to the west. This is addressed through proposed modifications in the 'Other' section of the DGs.</i> <i>There is potential for cumulative adverse impacts in combination with AS19 and AS26. This is addressed through proposed modifications in the 'Other' section of the DGs.</i>	<i>Potential for synergistic impacts if AS25 and AS26 were worked simultaneously. This is addressed through proposed modifications to the DGs</i>	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	No permanent health impacts are expected following restoration.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Soil	9. To maintain, conserve and enhance soil quality. Site contains/comprises good to moderate quality agricultural land. Working the site will have impacts on this soil. Soils will be stripped and removed to be stored. It is expected that restoration will return at least part of the land to original ground levels, and will restore the quality of the land. Mitigation. Soil to be properly stripped and stored prior to working; protected during working; and returned as part of restoration. Restoration to include high quality agricultural land.	None expected.	<i>There is potential for cumulative adverse impacts through loss of good quality agricultural land in combination with losses at AS19 and AS26. However, no loss of soils is expected.</i>	None expected.	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	Depending on final restoration there is potential that some BMV land could be lost. There will be no overall loss of soil.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Water	4. To maintain, conserve and enhance the quality of ground, surface and sea waters and manage the consumption of water in a sustainable way. Site working and restoration has the potential to reduce flow of nitrates into the groundwater, the Frome and ultimately Poole Harbour Applicants or developers should be aware of their responsibilities to ensure that the operations do not interfere with riparian owners' common law rights to receive water undiminished in quantity or quality. <i>MSP Appendix A under 'Hydrology/Flood Risk' DG notes that a water course flows eastwards through Moreton Village from the vicinity of the site. Development of this site must ensure that the flow of water is not affected in any way.</i>	<i>Potential for secondary effects of siltation or fuel contamination beyond site boundary.</i> <i>Potential for impacts of quality and quantity of water flowing through Moreton.</i> <i>Potential for benefits on Poole Harbour if restoration reduces level and intensity of farming and fertiliser inputs.</i>	<i>Potential for cumulative impacts of siltation or fuel contamination, in combination with AS26 and AS25.</i> <i>Potential for cumulative benefits on Poole Harbour if restoration involving reduction in level/intensity of farming is implemented on AS19 and AS26 as well.</i>	<i>Potential synergistic beneficial effect of reduction of nitrates from AS19, AS25 and AS26. Not quantifiable at this stage.</i>	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts. During this phase the beneficial effects of the wetland would begin to be felt.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Benefits of effects of nitrate reduction expected to be long-term/permanent.	No further modifications are proposed to the DGs; potential risks are addressed through the existing pollution control regime. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Air	8. To protect and improve air quality and reduce the impacts of noise. Any dust resulting from working will be controlled through normal dust-suppression measures. Mitigation. Environmental protection measures to reduce dust and ensure noise is appropriately mitigated.	<i>Potential for secondary effects of dust or air pollution beyond site boundary.</i>	<i>Potential for cumulative impacts of dust or air pollution, in combination with AS26 and AS19.</i>	None expected.	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Long-term/permanent impacts not expected.	No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Climatic factors	14. To adapt to and mitigate the impacts of climate change. Developing the site as a quarry is expected to have some negative impacts regarding climate change, due primarily to machinery used and transportation of mineral away from site. However, these will in relative terms be negligible. The Bournemouth, Dorset and Poole Minerals Strategy seeks to address and minimise such impacts through Policy CC1 which requires operators to take into consideration climate change impacts and their possible mitigation for any proposed minerals development. The development management policies, e.g. DM 1, also address and seek to minimise the issue of sustainable development and climate change. Restoration to some form of vegetated environment will offer benefits in the form of climate change mitigation, including provision of habitat for wildlife, but again these will be relatively small. Mitigation. Use energy efficient plant and machinery. Implement restoration which provides appropriate habitats to help to increase resilience of flora/fauna.	<i>Potential for secondary effects resulting from the production of greenhouse gases (GHGs) beyond site boundary.</i>	<i>Potential for cumulative impacts of GHG production, in combination with AS26 and AS19, and/or other site proposals/ and other existing or proposed development.</i>	<i>Potential for synergistic impacts of AS25 being worked simultaneously with other sites, and other development, both locally and more widely.</i>	If impacts were to occur they would be expected during preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.	If impacts were to occur they would be expected during and after preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.	Yes, however it is expected that phased restoration will be reducing the impacts. It is not known how long the effects of the GHGs are felt after they are produced.	It is expected that effects would be temporary, and associated with the production of GHGs. However it is not known how long the effects of the GHGs may last following their production.		No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.

AS25 Station Road	AS2	Material assets	<p>NB - The term 'material assets' for the purposes of this assessment is taken to refer to Natural Assets including minerals and land. Built assets are considered to be covered through other aspects of this assessment.</p> <p>The Sustainability Appraisal includes the following Sustainability Objectives:</p> <p>10. To conserve and safeguard mineral resources.</p> <p>11. To promote the use of alternative materials.</p> <p>12. To provide an adequate and affordable supply of minerals to meet society's needs.</p> <p>The SA notes that the site would make an important contribution to the supply of minerals, but does not promote the use of alternative minerals.</p>	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	No further modifications are proposed to the DGs.
		Cultural heritage - archaeology/historic landscapes	<p>Potential for direct impacts on archaeological remains</p> <p>Potential for impact on the historic landscape.</p> <p>Potential for impact on Moreton Conservation Area <i>and its setting</i>.</p>	<p><i>Potential for secondary effects on archaeological remains beyond the site boundary in the event that workings result in significant off-site changes to hydrology.</i></p> <p><i>Potential for impacts on the Moreton Conservation Area beyond site boundary.</i></p> <p><i>These are addressed through the DG for Historic/Cultural Environment.</i></p>	<p><i>Given the potential for archaeological remains in this part of the Frome Valley, there is potential for cumulative impacts from the existing and proposed mineral workings and other non-mineral developments in the event that archaeological remains are damaged or destroyed without being adequately recorded or preserved, including cumulative impacts upon hydrology. AS19, AS25 and AS26 each have a requirement within the DGs for archaeological assessment and evaluation. The MPA can secure mitigation through planning application process if this is required, or refuse consent where adverse impacts cannot be appropriately mitigated.</i></p>	<p><i>Potential loss of comprehensive understanding of the archaeology of the Frome Valley if cumulative archaeological loss / impact on hydrology occurs and assets are not adequately preserved or recorded.</i></p>	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Setting of Moreton Conservation Area and Listed Buildings - see short to long term impacts.	Potential for loss of archaeology. Potential for changes to the historic landscape	No further modifications are proposed to the DGs.
		Cultural heritage - historic buildings	<p>6. To maintain, conserve and enhance the historic environment (including archaeological sites, historic buildings, conservation areas, historic parks and gardens and other locally distinctive features and their settings).</p> <p>Historic Buildings</p> <p>Station Road is lined on both sides with an informal avenue of trees and shrubs. The two closest listed buildings are sited to face along the road rather than across it at the site. The avenue of trees will limit impacts on these buildings and their settings. The presence of these heritage assets constitutes a constraint that has been given considerable weight and importance.</p> <p>Mitigation</p> <p>Full heritage assessment required to be carried out, with appropriate mitigation identified and implemented as required. If the impacts cannot be mitigated satisfactorily the site will not be developed</p> <p><i>The DGs require assessment of any affected heritage assets and their settings.</i></p>	<p><i>Potential for impacts on the Moreton Conservation Area and Listed Buildings beyond site boundary.</i></p>	<p><i>Potential for impacts from simultaneous existing and potential mineral workings, along with other non-mineral developments, will require Environmental Impact Assessment at the stage of planning application.</i></p>	Not expected.	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Potential adverse impact on the Moreton Conservation Area and its setting, and Listed Buildings, depending on the stage of phasing.	Setting of Moreton Conservation Area and Listed Buildings - see short to long term impacts.	Potential for loss of archaeology. Potential for changes to the historic landscape	No further modifications are proposed to the DGs.
		Landscape	<p>7. To maintain, conserve and enhance the landscape, including townscape, seascape and the coast.</p> <p>Development will create a medium adverse impact on the openness of the river valley pasture landscape and a significant adverse impact on the pattern of field boundary hedgerows/trees and copses. Existing hedgerows and lines of trees provide an element of natural screening which would assist in the mitigation of any quarry development.</p> <p>Potential risk of loss of existing hedges/tree belts. This is addressed in the Landscape/Visual DG.</p>	None expected.	<p><i>There is limited potential for cumulative adverse visual impacts in combination with AS26. Full visual impact assessment will be required, to identify impacts and mitigation. This is addressed through proposed modification to the DG.</i></p>	Not expected	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. The site will be restored, but restoration cannot be exactly as the site was.	There may be some changes to the landscape but the open character of the landscape will be maintained. See Restoration Vision of the DGs	Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
		Amenity	<p>17. To sustain the health and quality of life of the population</p> <p>Impact on Sensitive Human Receptors: Residential properties adjacent to site and in vicinity of site. Development would likely require appropriate mitigation (such as visual and noise attenuation bunding, standoffs) to limit impacts.</p> <p>Mitigation: Provision of appropriate mitigation, following assessment of likely impacts.</p> <p>NB this section relates primarily to visual amenity; noise is considered separately above under Human Health above.</p>	<p>Moreton Village is adjacent to the eastern end of the site. The size of the site and the level of the existing tree screening should make it possible to effectively screen the workings from the village. Quarry traffic is unlikely to enter the village or travel on Station Road itself. Villages along the B3390 may be affected by site traffic depending on where the site is accessed. <i>Potential for secondary effects on amenity beyond the site boundary.</i></p> <p><i>These are addressed through the DG for 'Other' in the MSP. An EIA will also be carried out as part of a planning application and appropriate mitigation will be required. For example visual and noise attenuation bunds and reducing noise at source where possible and appropriate. Crossways is approximately 1 km away.</i></p>	<p><i>There is potential for cumulative impacts on amenity if this site was to be worked at the same time as AS26, and material from AS25 was processed in a plant located on AS26. If this occurred there a further cumulative impact in combination with AS19. There is also potential for impact if this site was worked when other development was ongoing in the vicinity. This is addressed in the 'Other' section of the DGs for this site. Potential for cumulative effects on amenity beyond the site boundary, in combination with AS26.</i></p> <p><i>These are addressed through the DG for 'Other' in the MSP.</i></p>	Not expected	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working.	No permanent changes expected.	SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Relationships between receptors	<p><i>There is potential for in-combination effects in relation to landscape, amenity and heritage. This could occur in the short to medium term in respect of landscape which contributes to the setting of heritage assets and where the amenity of residents and visitors could be affected by visual/noise impacts if there is a loss of existing tree belts. In the long term restoration ensures that the openness of the river valley pasture will be maintained. Potential long term benefits through restoration, including possible creation of multi-functional green infrastructure which is identified in the restoration vision. Proposed modification to the DGs requires cumulative impacts to be taken into consideration (MM54).</i></p>										

1 Receptors are environmental features (for the purposes of Strategic Environmental Assessment) identified through plan & SA preparation that could potentially be affected by the proposal

AS26 - Hurst Farm	Text in black text indicates LSE already identified by the Sustainability Appraisal (SA) process, with proposed mitigation
	<i>Text in red italics refers to new LSE identified, with mitigation proposed.</i>

Site	Receptor ¹	Is there a risk of likely significant effects (LSE)?				If risk of LSE, what is the timescale?					Comments
		Direct	Secondary	Cumulative	Synergistic	Short-term (<5 yrs)	Medium-Term (5-10 yrs)	Long-term (10+ yrs)	Temporary	Permanent	
Biodiversity (incl. flora and fauna)	Potential risk of loss of existing hedges/tree belts. This is addressed in the Landscape/Visual DG.	<p>The permanent change of at least part of the site area from intensive agriculture to mineral extraction restored to extensive grassland and water bodies would be likely to result in a reduction in nitrate levels in receiving waters of the R. Frome, groundwater and Poole Harbour (SPA and Ramsar). If this can be secured there would be strategic nature conservation gain.</p> <p>In addition, reduction in intensive agricultural management of the fields between the proposed extraction area and the R. Frome would be an additional significant gain, preventing more direct runoff of fertiliser into the river and onward to Poole Harbour.</p> <p>Risk of impact on Frome SSSI (e.g. silt) during site clearance/working unless carefully managed.</p> <p>It has been suggested that, following working, the restoration of land nearer to the Frome could significantly enhance the river by establishing a wetland that would remove nitrate, phosphate and silt as well giving additional flood alleviation capacity.</p>	<p><i>Potential risk of loss of existing hedges/tree belts in combination with adjacent site AS19, due to shared boundary.</i></p> <p>Positive cumulative effect in reduction of nitrates on biodiversity (with AS25 and AS26)</p> <p><i>Potential cumulative adverse effect on River Frome if water quality is affected through other sites being worked simultaneously.</i></p>	<p><i>Potential synergistic beneficial effect of reduction of nitrates from AS19, AS25 and AS26. Not quantifiable at this stage.</i></p>	<p><i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i></p>	<p><i>Benefits from loss of nitrate inputs through change of land-use from agriculture.</i></p>	<p><i>Benefits from loss of nitrate inputs through restoration of part of the site to wetland.</i></p>	<p><i>Benefits from loss of nitrate inputs through change of land-use from agriculture during site preparation and working.</i></p>	<p><i>Benefits from loss of nitrate inputs through restoration of part of the site to wetland.</i></p>	<p><i>Benefits from loss of nitrate inputs through restoration of part of the site to wetland.</i></p> <p><i>If wetland restoration takes place on AS19 and AS26, direct and synergistic benefits could accrue.</i></p>	<p>Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.</p>

AS26 Hurst Farm	Human health - including noise	<p>Potential for direct impacts on surrounding receptors, including from noise generated on the site.</p> <p>8. To protect and improve air quality and reduce the impacts of noise. Noise mitigation will be addressed at the planning application stage, with appropriate mitigation to be included in the development of the site. Environmental protection measures to reduce dust and ensure noise is appropriately mitigated.</p> <p>17. To sustain the health and quality of life of the population <i>Impact on Sensitive Human Receptors</i> Development is likely to require appropriate mitigation (such as visual and noise attenuation bunding, standoffs) to limit impacts.</p> <p>Provision of appropriate mitigation, following assessment of likely impacts. Restoration to improve landscape of site where possible; and to seek to increase public access. Screening, bunding, standoffs will mitigate impacts to some extent.</p>	None expected.	<i>There is potential for cumulative adverse impacts in combination with AS19 and AS25. This is addressed through proposed modifications in the 'Other' section of the DGs.</i>	<i>Potential for synergistic impacts if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications in the 'Other' section of the DGs.</i>	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	No permanent health impacts are expected following restoration.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.	
	Soil	<p>9. To maintain, conserve and enhance soil quality. Site contains/comprises good to moderate quality agricultural land. Working the site will have impacts on this soil.</p> <p>Mitigation: Soil to be properly stripped and stored prior to working; protected during working; and returned as part of restoration. Existing DG addresses the issue of protection of soils.</p>	None expected.	<i>There is potential for cumulative adverse impacts through loss of good quality agricultural land in combination with losses at AS19 and AS25. However, no loss of soils is expected.</i>	None expected.	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. As phased restoration proceeds, impacts will reduce.	Depending on final restoration there is potential that some BMV land could be lost. There will be no overall loss of soil.	No further modifications proposed. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.	
	Water	<p>Groundwater Site boundary is within 100 m of a groundwater SPZ1 and there is a licensed abstraction within 250m (adjacent). The proposed development will need to be supported with a hydrogeological risk assessment at the planning application stage as Hurst Farm is on the border with a groundwater Source Protection Zone 1 (SPZ1) and a licensed abstraction. Development has the potential to reduce the level of nitrate entering the groundwater and affecting the Frome and Poole Harbour.</p> <p>Surface Water There are watercourses shown running within the proposed site and River Frome runs north of the site boundary. It will need to be proved that the minerals proposals will not have an adverse effect on the natural hydrology and water quality. Restoration proposals should incorporate gain of wetland features which will contribute to the aspirations of the England Biodiversity Strategy. Ensure no impacts from this development and no increased sedimentation.</p> <p>Mitigation Appropriate arrangements should be put in place to ensure that the water leaving the site and entering the rivers/watercourses is of an acceptable quality. Any fuel on site should be properly stored to avoid contamination in case of spillage. Appropriate arrangements should be installed for surface water and silt collection and fuel storage to prevent contamination of</p>	<p><i>Potential for secondary effects of siltation or fuel contamination beyond site boundary.</i></p> <p><i>Potential for cumulative impacts of siltation or fuel contamination, in combination with AS19 and AS25.</i></p> <p><i>Potential synergistic beneficial effect of reduction of nitrates from AS19 and AS25. Not quantifiable at this stage.</i></p> <p><i>Potential for cumulative benefits on Poole Harbour if restoration is implemented on AS26 as well.</i></p>	<p><i>Potential for secondary effects of siltation or fuel contamination beyond site boundary.</i></p> <p><i>Potential for cumulative benefits on Poole Harbour if restoration is implemented on AS26 as well.</i></p>	<p><i>Potential synergistic beneficial effect of reduction of nitrates from AS19 and AS25. Not quantifiable at this stage.</i></p>	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts.	During this phase the beneficial effects of the wetland would begin to be felt.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Benefits of the wetland and effect of nitrate reduction expected to be long-term/permanent.	No further modifications are proposed to the DGs; potential risks are addressed through the existing pollution control regime. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.
	Air	<p>8. To protect and improve air quality and reduce the impacts of noise. Impacts on air quality expected to be negligible. Any dust resulting from working will be controlled through normal dust-suppression measures. Noise mitigation will be addressed at the planning application stage, with appropriate mitigation to be included in the development of the site. Environmental protection measures to reduce dust and ensure noise is appropriately mitigated.</p>	<p><i>Potential for secondary effects of dust or air pollution beyond site boundary.</i></p>	<p><i>Potential for cumulative impacts of dust or air pollution, in combination with AS26 and AS19.</i></p>	None expected.	If impacts were to occur they would be expected during preparation and working.	If impacts were to occur they would be expected during preparation and working.	Yes, however phased restoration will be reducing the impacts.	Timescale for potential for impacts would be expected to be temporary, during preparation and working.	Long-term/permanent impacts not expected.	No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.	
	Climatic factors	<p>14. To adapt to and mitigate the impacts of climate change. Developing the site as a quarry is expected to have some negative impacts regarding climate change, due primarily to machinery used and transportation of mineral away from site. However, these will be in relative terms be negligible. The Bournemouth, Dorset and Poole Minerals Strategy seeks to address and minimise such impacts through Policy CC1 which requires operators to take into consideration climate change impacts and their possible mitigation for any proposed minerals development. The development management policies, e.g. DM 1, also address and seek to minimise the issue of sustainable development and climate change. Restoration to some form of vegetated environment will offer benefits in the form of climate change mitigation, including provision of habitat for wildlife, but again these will be relatively small.</p> <p>Proposed Mitigation: Use energy efficient plant and machinery. Implement restoration which provides appropriate habitats to help to increase resilience of flora/fauna.</p>	<p><i>Potential for secondary effects resulting from the production of greenhouse gases (GHGs) beyond site boundary.</i></p>	<p><i>Potential for cumulative impacts of GHG production, in combination with AS26 and AS25, and/or other site proposals/ and other existing or proposed development.</i></p>	<p><i>Potential for synergistic impacts of AS19 being worked simultaneously with other sites, and other development, both locally and more widely.</i></p>	If impacts were to occur they would be expected during and after preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.	If impacts were to occur they would be expected during and after preparation and working. It is not known how long the effects of the GHGs are felt after they are produced.	Yes, however it is expected that phased restoration will be reducing the impacts. It is not known how long the effects of the GHGs are felt after they are produced.	It is expected that effects would be temporary, and associated with the production of GHGs. However it is not known how long the effects of the GHGs may last following their production.		No further modifications are proposed to the DGs. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.	
	Material assets	<p>NB - The term 'material assets' for the purposes of this assessment is taken to refer to Natural Assets including minerals and land. Built assets are considered to be covered through other aspects of this assessment.</p> <p>The Sustainability Appraisal includes the following Sustainability Objectives:</p> <p>10. To conserve and safeguard mineral resources.</p> <p>11. To promote the use of alternative materials.</p> <p>12. To provide an adequate and affordable supply of minerals to meet society's needs.</p> <p>The SA notes that the site would make an important contribution to the supply of minerals, but does not promote the use of alternative minerals.</p>	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	Not expected.	No further modifications are proposed to the DGs.	
	Cultural heritage - archaeology/historic landscapes	<p>Potential for direct impacts on archaeological remains and watermeadow systems. Potential for impact on the setting of Hurst Bridge. These are addressed through the DG for Historic/Cultural Environment.</p>	<p><i>Potential for secondary effects on archaeological remains beyond the site boundary in the event that workings result in significant off-site changes to hydrology.</i></p> <p><i>These are addressed through the DG for Historic/Cultural Environment.</i></p>	<p><i>Given the potential for archaeological remains in this part of the Frome Valley, there is potential for cumulative impacts from the existing and proposed mineral workings and other non-mineral developments in the event that archaeological remains are damaged or destroyed without being adequately recorded or preserved. AS19, AS25 and AS26 each have a requirement within the DGs for archaeological assessment and evaluation. The MPA can secure mitigation through planning application process if this is required, or refuse consent where adverse impacts cannot be appropriately mitigated.</i></p>	<p><i>Potential loss of comprehensive understanding of the archaeology of the Frome Valley if cumulative archaeological loss occurs and assets are not adequately preserved or recorded.</i></p>	Potential adverse impact on the setting of Hurst Bridge, depending on the stage of phasing.	Potential adverse impact on the setting of Hurst Bridge, depending on the stage of phasing.	Potential adverse impact on the setting of Hurst Bridge, depending on the stage of phasing.	Setting of Hurst Bridge - see short to long term impacts.	Potential for loss of archaeology.	No further modifications are proposed to the DGs.	
	Cultural heritage - historic buildings	<p>No Likely Significant Effects identified through assessment to date. However as a precaution the DGs require assessment of any affected heritage assets and their settings.</p>	None expected.	<p><i>Potential for impacts from simultaneous existing and potential mineral workings, along with other non-mineral developments, will require Environmental Impact Assessment at the stage of planning application.</i></p>	Not expected.			No LSE expected, however if any impacts are identified through more detailed assessment these are likely to be temporary	There may be some changes to the landscape but the open character of the landscape will be maintained. See Restoration Vision of the DGs	No further modifications are proposed to the DGs.		
	Landscape	<p>Development will create a medium adverse impact on the openness of the river valley pasture landscape and a significant adverse impact on the pattern of field boundary hedgerows. The landscape is open and agricultural in character and development has the potential to impact on the openness of this landscape.</p> <p>Existing hedgerows and blocks of woodland provide an element of natural screening which would assist in the mitigation of any quarry development.</p> <p>Potential risk of loss of existing hedges/tree belts. This is addressed in the Landscape/Visual DG.</p>	None expected.	<p><i>There is potential for cumulative adverse visual impacts in combination with AS19 and AS25. This is addressed through proposed modifications to the DG.</i></p> <p>Potential risk of loss of existing hedges/tree belts in combination with adjacent site AS26, due to shared boundary. This is addressed in the Landscape/Visual DG for AS19. A modification of the DGs for AS26 is proposed to reflect this potential risk.</p>	<p><i>Potential for synergistic impacts if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications to the DGs</i></p>	Yes - for duration of preparation and working.	Yes - for duration of preparation and working.	Yes, however phased restoration will be reducing the impacts.	Yes - for duration of preparation and working. The site will be restored, but restoration cannot be exactly as the site was.	There may be some changes to the landscape but the open character of the landscape will be maintained. See Restoration Vision of the DGs	Proposed addition of DG for AS26 on Landscape/Visual to prevent loss of boundary hedgerows/trees. SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.	

<p>Amenity</p> <p>NB this section relates primarily to visual amenity; noise is considered separately above under Human Health above.</p>	<p>17. To sustain the health and quality of life of the population</p> <p>Impact on Sensitive Human Receptors: There are residential properties within site, adjacent to site and in vicinity of site, including properties and businesses on the other side of the river.</p> <p>Mitigation: Provision of appropriate mitigation, following assessment of likely impacts. Restoration to improve landscape of site where possible; and to seek to increase public access.</p>	<p>Closest settlements include Moreton, Tincleton and Crossways. Pallington lies to the north. <i>Potential for secondary effects on amenity beyond the site boundary.</i> Villages along B3390 may be affected by site traffic depending upon where the site is accessed.</p> <p><i>These are addressed through the DG for 'Other' in the MSP.</i> An EIA will also be carried out as part of a planning application and appropriate mitigation will be required. For example visual and noise attenuation bunds and reducing noise at source where possible and appropriate.</p>	<p>Cumulative impacts on surroundings of working along with the adjacent to AS19 (Woodsford Extension) to be taken into consideration and mitigated against.</p> <p><i>Potential for cumulative effects on amenity beyond the site boundary, in combination with AS25 (Station Road).</i></p> <p><i>These are addressed through the DG for 'Other' in the MSP.</i></p>	<p><i>Potential for synergistic impacts through noise, affecting tranquility across a wider area, if AS19 and AS26 were worked simultaneously and without appropriate phasing. This is addressed through proposed modifications to the DGs</i></p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes - for duration of preparation and working.</p>	<p>Yes, however phased restoration will be reducing the impacts.</p>	<p>Yes - for duration of preparation and working.</p>	<p>No permanent changes expected.</p>	<p>No further modifications proposed.</p> <p>SA Report (Appendix A) will be updated to reflect additional cumulative impacts highlighted.</p>
<p>Relationships between receptors</p>	<p><i>There is potential for in-combination effects in relation to landscape, amenity and heritage. This could occur in the short to medium term in respect of landscape which contributes to the setting of heritage assets and where the amenity of residents and visitors could be affected by visual/noise impacts in this open landscape. In the long term restoration ensures that the open landscape will be maintained. There are no permanent changes expected that will affect amenity. Proposed modification to the DGs requires cumulative impacts to be taken into consideration (MMS7)</i></p>									

1 Receptors are environmental features (for the purposes of Strategic Environmental Assessment) identified through plan & SA preparation that could potentially be affected by the proposal

(f) the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;

1) These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.