

Annex F: SA/SEA incorporating SFRA and HRA

Appendix 3b: Assessment of Sites in Hambleton District

Joint Minerals and Waste Plan

DRAFT

Sustainability Appraisal Report

Appendix 3: Assessment of Sites

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| MJP07 | Oaklands, near Well | Extraction of sand and gravel | 20 |
| MJP33 | Home Farm, Kirkby Fleetham | Extraction of sand and gravel | 38 |

DRAFT

Sustainability Appraisal Score

| Score | Description |
|-------|---|
| ++ | The Site option is predicted to have higher positive effects on the achievement of the SA objective. For example, this may include a highly significant contribution to issues or receptor of regional or wider significance, or to several issues or receptors of local significance. |
| m+ | The Site option is predicted to have moderate positive effects on the achievement of the SA objective. For example, this may include a positive, but not highly positive contribution to issues or receptor of more than local significance, or to several issues or receptors of local significance. |
| + | The Site option is predicted to have minor positive effects on achievement of the SA objective. For example, this may include a significant contribution to an issue or receptor of more local significance. |
| 0 | The Site option will have no effect on the achievement of the SA objective ¹ . |
| - | The Site option is predicted to have minor negative effects on the achievement of the SA objective. For example, this may include a negative contribution to an issue or receptor of local significance. |
| m- | The Site option is predicted to have moderate negative effects on the achievement of the SA objective. For example, this may include a negative, but not highly negative contribution to an issue or receptor of more than local significance. |
| -- | The Site option is predicted to have higher negative effects on the achievement of the SA objective. For example, this may include a significant negative contribution to an issue or receptor of more than local significance. |
| ? | The impact of the Site option on the SA objective is uncertain. |

¹ This includes where there is no clear link between the site SA objective and the site

MJP06 – Langwith Hall Farm, east of Well – ALLOCATED SITE

| | |
|-----------------------------|---|
| Site Name | MJP06 Land to south of Langwith House, Long Lane, Well, Bedale, Hambleton (XY: 428876 481246) |
| Current Use | Agriculture |
| Nature of Planning Proposal | Extraction of sand and gravel |
| Size | 43.1ha |
| Proposed life of site | 4 to 5 years |
| Notes | Possible restoration to lake, nature conservation, agriculture and forestry. Proposal includes diversion of the Ings Goit stream. Planning application (NY/2011/0242/ENV) is awaiting determination for a similar, but not identical area. An application (NY/2014/0271/ENV) for the continuation of extraction from the existing site and the retention of the plant site until 31 January 2018 was granted planning permission in February 2016. |

SA FINDINGS SUMMARISE SIGNIFICANT EFFECTS ONLY. A WIDER RANGE OF CONSTRAINTS AND OPPORTUNITIES WERE INITIALLY ANALYSED AND DISTILLED DOWN TO ONLY THOSE WITH THE POTENTIAL TO BE SIGNIFICANT (SEE ALSO SITE ASSESSMENT METHODOLOGY SUMMARY REPORT FOR A FULL LIST OF CONSTRAINTS AND OPPORTUNITIES / SITE ASSESSMENT SPREADSHEET).

| Sustainability Objective | Key Observations on Significance | Score | | | | | | |
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| | | P | T | D | I | S | M | L |
| 1. To protect and enhance biodiversity and geo-diversity and improve habitat connectivity | <p>Proximity of international / national and local designations and key features. Natura 2000: 10km to the west lies the North Pennine Moors Special Protection Area / Special Area of Conservation (SPA/SAC); Sites of Special Scientific Interest (SSSI): 4km to Ripon Parks SSSI; Sites of Interest to Nature Conservation (SINC): eastern Boundary of site immediately adjacent to very linear Moor Lane, Kirklington (SE28-10) SINC, Nosterfield Quarry North (SE28-12) 30m. House Close Wood SINC (SE28-04) also 600m; Kirklington Low and High Wood SINC is 1.2km; Low Park Wood is 1.7km and Low Park House Track (deleted SINC) 1.5km. Local Nature Reserve (LNR): Nosterfield LNR is 1.2km to south-west.</p> <p>Priority Habitat: Very small area of deciduous woodland shown on map overlapping boundary; Ecological networks: Living Landscape is circa 10% of site (southern area) in River Ure Corridor NY10; Very small</p> | ✓ | ✓ | ✓ | | - | - | + ? |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>area of England Habitat Network around Fox covert; Green Infrastructure (GI): Site in Bedale sub regional GI network.</p> <p>Site visit recorded hedgerows and standalone trees on site.</p> <p>There have been extensive ecological surveys undertaken as part of a current planning application (NY/2011/0242/ENV). This also includes Phase 1 habitat survey.</p> <p>Local effects. Impacts upon SINC network likely to be minor and possible to mitigate e.g. using stand off from Moor Lane SINC and control measures for dust.</p> <p>Protected species that may be supported by habitats on site include kingfisher, water vole, nesting birds, foraging bats and badger. There is also the potential for the site to attract bittern in the future as it is recorded locally. There may be an impact on the aquatic ecology of Ings Goit as the site would involve the diversion of this water course into a lake (this diversion is also likely to lead to a loss of foraging habitat onsite which may affect certain species).</p> <p>A nearby previously restored minerals site has created priority habitats including reed bed and calcareous grassland. Other priority habitats surrounding the site are found in SINC and Nosterfield LNR. There are opportunities through appropriate restoration to create priority habitats that will provide habitat connectivity and aid species movement.</p> <p>Current Nosterfield Quarry site is known to have New Zealand Pigmyweed <i>Crassula helmsii</i>, an invasive species, which is notoriously difficult to eradicate. As works at the proposed site include working below the water table and there are hydrological links off site via the Ings Goit watercourse there is the potential that the invasive species could be spread.</p> <p>Cumulative impacts may result from existing quarrying at Ladybridge Farm, previous quarrying at Nosterfield Quarry and potential future quarrying. This could cause impacts upon protected species resulting from disturbance to habitats and operational impacts such as noise and dust. There is also potential for positive cumulative impacts resulting from habitat restoration schemes that collectively are</p> | | | | | | | |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>creating priority habitats and therefore improving the local area in terms of habitat connectivity.</p> <p>In the short term there would be potential negative impacts upon habitats and species of conservation concern. In the medium and long term, opportunities to create priority habitats that will support species of conservation concern will come into play, provided that the restoration scheme prioritises biodiversity as a long term objective of the site including long term management (landownership will be key to successful restoration as long term management is very difficult to secure if the developer does not own or have an agreement in place on the land).</p> <p>Plan level / regional / wider effects. Having regard to the source of any impacts, as well as potential pathways and receptors it is considered that there would be no significant impact on the integrity of Natura 2000 sites. It is also considered that there would be no impact upon SSSIs.</p> | | | | | | | |
| 2. To enhance or maintain water quality and improve efficiency of water use | <p>Proximity of water quality / quantity receptors. The site is in a Nitrate Vulnerable Zone (NVZ) (groundwater); no groundwater source protection zones (SPZ); In Humber River Basin Management Plan (RBMP) site is in Swale / Ure / Nidd / Ouse (SUNO) management area. The Ings Goit watercourse cuts through the site. This has good ecological status and good overall status, with a status objective of good by 2015. No RBMP lakes. Groundwater: SUNO Magnesian Limestone (overall status: good / objective: good by 2015).</p> <p>Catchment Abstraction Management Strategy (CAMS): surface water resources available at least 50% of time. At low flows new extraction licenses may be more restricted.</p> <p>Local effects. Any site is likely to require the diversion of Ings Goit which, without mitigation could have significant effects on water body status. However, the Environmental Statement in support of the planning application found that the surface water quality in the watercourse will not be compromised during the operation of the site².</p> <p>Potential spillages could affect groundwater, particularly as it is likely that this site would involve working</p> | ✓ | ✓ | ✓ | | m- ? | m - ? | m- ? |

² Lafarge Tarmac, 2015; Nosterfield Quarry, North Yorkshire – Langwith House Farm Extension. Volume 2 Environmental Statement Revision 2015.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>below the water table as in the recent application at this site, although this is reduced by Middle Permian Marl (MPM) (Edlington Formation), boulder clay and silts beneath the application area. The MPM crops out in a belt of low ground to the east. If this site is similar to the current planning application in the area, impacts on the principal aquifer may be lessened by the geological barriers between the site and the aquifer. Groundwater flow may also be affected; however the planning application found that the proposed development would not significantly alter the groundwater flow direction.</p> <p>The Environmental Statement also highlights the potential for increases in nitrates as a possible eutrophication risk. In terms of this assessment if it is assumed that 43.1ha would be excavated, this would be above the 25ha that would actually be worked in the current application. However, it is far from clear whether the area cited in this submission would also include other areas such as landscaping.</p> <p>Therefore significance is rated as moderate negative but with considerable uncertainty. Impacts may lessen over time as restoration restores some hydrological regimes, but it is likely that at least some hydrological features will be permanently changed. Impacts may be mitigated through sound environmental management.</p> <p>Plan level / regional / wider effects. None Noted.</p> | | | | | | | |
| 3. To reduce transport miles and associated emissions from transport and encourage the use of sustainable modes of transportation | <p>Proximity of transport receptors. Site is close to the A1 (3.8km east) giving reasonably good access to York, Leeds and Harrogate and Teesside (though its central location does not align it with one specific market area). Access: confirmed as being use of existing Nosterfield Quarry access on to B6267 (approximately 500m east of Nosterfield village). Light vehicles: 34 two-way movements (as sourced from application details NY/2011/0242/ENV); HGV Vehicles: 200 two-way movements (as sourced from application details NY/2011/0242/ENV).</p> <p>Net change in daily two-way trips: Light vehicles 0; HGVs: 0. Traffic Assessment rating: Yellow – <i>'submission would maintain traffic levels at the Nosterfield Quarry site and use an established point of access. There are thus expected to be no additional traffic impacts associated with the proposal however it is recommended that similar routing restrictions to those currently in place are maintained as part of any</i></p> | | ✓ | ✓ | | - | 0 | 0 |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p><i>subsequent planning consent.</i>³</p> <p>PRoW: None on site.</p> <p>Rail: 6.5km north (station at Bedale 6.5km north); Strategic Road: A6108 is 2.8km south; B6267 is a timber route; Canal / Freight waterway: Ripon Canal 10km south.</p> <p>Local effects. Site would generate significant HGV movements (200 two-way movements per day), though the net overall impact on traffic levels is effectively the same as current levels (though effects will be extended for the duration of this extension). Although access to the A1 is relatively good, the site is centrally located between northern and southern markets (therefore not particularly proximal to either). HGV movement is acceptable onto B6267; however, minor works may be required to improve the existing access arrangements so a traffic assessment would be required. No sustainable transport is likely to contribute to the site.</p> <p>This is scored as a minor negative against the SA objective for the short term as this site would maintain traffic levels at the Nosterfield Quarry site and use an established point of access. The Traffic Assessment recommends that similar routing restrictions to those currently in place are maintained as part of any subsequent planning consent.</p> <p>Plan level / regional / wider effects. None noted.</p> | | | | | | | |
| 4. To protect and improve air quality | <p>Proximity of air quality receptors. No Air Quality Management Areas (AQMAs) or Hazardous substances consultation zones nearby.</p> <p>Local effects. The current planning application notes minor dust impacts on nearby SINC sites and Nosterfield Quarry LNR. Scoping of the current planning application suggested that dust and air quality impacts would not be significant enough for further assessment. In particular, wet working means that dust is less likely, aside from during initial soil stripping and during restoration. The planning application ruled</p> | | ✓ | ✓ | ✓ | - ? | - ? | 0 |

³ Jacobs (2015); Minerals and Waste Joint Traffic Assessment – Final Traffic Assessment.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>out impacts to Nosterfield and Thornborough on account of distance, citing only limited isolated properties as potentially exposed to levels that were significantly below a nuisance level. Nonetheless this is a site with a slightly different boundary that may involve different configurations of working and for which mitigation is not yet considered. There are very limited numbers of isolated buildings set away from the road en-route to the A1. Therefore minor impacts are predicted in the short and medium term, with uncertainty noted, depending largely on haulage routes and mitigation.</p> <p>Plan level / regional / wider effects. None noted.</p> | | | | | | | |
| 5. To use soil and land efficiently and safeguard or enhance their quality | <p>Proximity of soil and land receptors. Agricultural Land Classification (ALC): Grade 3. Land instability: not in risk area. Contaminated land: Greenfield site so contamination unlikely.</p> <p>Local effects. Up to 43.1ha of possible best and most versatile agricultural land (Grade 3) land will be lost⁴. However, some of this may be restored to agriculture (subject to passing a test of viability e.g. where extraction below the water table is proposed, which can affect the economic viability and timescales of a restoration scheme).</p> <p>Plan level / regional / wider effects. If best and most versatile agricultural land is lost at the site, it would add cumulatively to the loss of agricultural land to development land in England. However, the loss is considered to be a small in relation (0.4%) to the overall agricultural land lost in England per annum to development⁵ but could have a small scale effect on national food production capacity.</p> <p>The overall level of contribution to the objective is considered to be minor negative.</p> | ✓ | ✓ | ✓ | | - ? | - ? | - ? |

⁴ The best and most versatile agricultural land is ALC Grade 1 to 3a. Based on available mapping the site is located within ALC Grade 3 land, without further investigation it is not known whether it is Grade 3a or 3b. For the purposes of this SA a worst case scenario approach has been adopted and it is assumed that Grade 3 land is Grade 3a and the best and most versatile agricultural land.

⁵ 43.1ha (assuming all land is BMV) annualised across the 5 year life of the site would be an annual 8.6ha loss. There was 2365ha of agricultural land was lost to development in 2014/15 across England. An 8.6ha loss would represent a 0.4% contribution to this category of soil loss across England for each year of the site.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 6. Reduce the causes of climate change | <p><u>Proximity of factors relevant to exacerbating climate change.</u> Very small area of deciduous woodland shown on map overlapping boundary. Fox covert woodland adjacent.</p> <p><u>Local effects.</u> As climate change is a global issue effects are reported in wider effects below.</p> <p><u>Plan level / regional / wider effects.</u> The site is not expected to create a net change in vehicle movements from levels that are generated by the existing site (see SA objective 3). However, it would maintain current levels of traffic to and from the site contributing to climate change through vehicle emissions. Although the site is in close proximity to the A1, the site is located midway between northern and southern markets. A significant amount of energy will be required for machinery to extract the minerals from the site, with associated emissions and use of natural resources. Insignificant high carbon habitats are likely to be lost.</p> <p>Overall the site would have a moderate negative effect over the short and medium, and potential minor positive effect in the long term following restoration. An assessment showing how the design for the proposal has taken into account the need for resilience to climate change factors must be undertaken⁶.</p> | ✓ | | | ✓ | m- | m- | + ? |
| 7. To respond and adapt to the effects of climate change | <p><u>Proximity of factors relevant to the adaptive capacity⁷ of a site.</u> About 25% of this site is in Flood Zones 2 and 3. About 15% to 20% of the site is subject to surface water flooding, much of which is at 1:30 (3.33%) high risk of flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses.</p> <p>Ecological networks: West of site (5% (around Fox Covert)) intersects with the England Habitat Network</p> | ✓ | | | ✓ | m- | m- | -? |

⁶ Proposals for new mineral extraction at a rate in excess of 75,000 tonnes per annum should be accompanied by an assessment showing how the design for the proposal has taken into account the need for resilience to climate change factors. These thresholds are based on the 75,000 tonnes per annum threshold for strategically significant waste facilities used in the Yorkshire and Humber Waste Position Statement, which has been applied also to minerals output for the purposes of Development Management, Policy D11.

⁷ Adaptive capacity is defined as the ability of a system to adjust to climate change to moderate potential; damage or take advantage of opportunities (adapted from CARE International, 2015. Adaptive Capacity [URL: http://www.careclimatechange.org/tk/integration/en/key_concepts/adaptive_capacity.html]

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| | <p>(EHN).</p> <p>Up to 43.1ha of possible best and most versatile land will be lost.</p> <p>Local effects. Flooding is considered insignificant to minor negative as sand and gravel extraction is considered water compatible, though workers on site would need emergency planning in place for severe flood events. Climate change is likely to extend the area of flood zones, however, as extraction is only likely to be for 4 to 5 years from 2016, this is not thought to be a significant issue for this site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively. Fox Covert is already isolated from the surrounding landscape so effects are considered neutral. In the medium and longer term restoration to nature conservation would increase the adaptive capacity of the habitats. In the longer term, restoration to water in the floodplain may be beneficial in terms of reducing risk elsewhere in the catchment.</p> <p>Plan level / regional / wider effects. Agricultural land is increasingly recognised as being vulnerable to climate change, loss of this land will have a combined effect with wider losses elsewhere due to climate change – the effect is considered a minor negative.</p> | | | | | | | |
| 8. To minimise the use of resources and encourage their re-use and safeguarding | <p>Proximity of factors relevant to the resource usage of a site. No spatial factors identified.</p> <p>Local effects. This site will extract virgin sand and gravel which will be unavailable for future use (unless recycled). This is considered to have a high negative effect on the SA objective.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | ✓ | | ✓ | | -- | -- | -- |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 9. To minimise waste generation and prioritise management of waste as high up the waste hierarchy as practicable | <p><u>Proximity of factors relevant to managing waste higher up the waste hierarchy.</u> No spatial factors identified.</p> <p><u>Local effects.</u> None noted.</p> <p><u>Plan level / regional / wider effects.</u> The site may have an indirect negative impact on the prioritising the management of waste up the waste hierarchy as a result of providing virgin sand and gravel and reducing the need to recycle sand and gravel from other locations.</p> | | ✓ | | ✓ | - | - | - |
| 10. To conserve or enhance the historic environment and its setting, cultural heritage and character | <p><u>Proximity of historic environment receptors.</u> There are no conservation areas within 1km; Registered Parks and Gardens: Thorp Perrow (Grade 2) is 3.5km north-west (1001075), Norton Conyers (Grade 2) is 4.6km south-east (1001068); Registered battlefields: None within 5km; World Heritage sites: None within 5km; Listed buildings: None within 1km but 5 in Nosterfield just over 1km from site (Grade II Listed Buildings in Nosterfield Village between 680m and 880m south. "The Freemasons Arms, Chapel Row X 2, Village Farmhouse and Kiln Farmhouse" (1150778, 1315194, 1190346, 1150783, 1190384); "At Risk" Scheduled Monument: "Earth circles, cursus, pit alignments and burial sites near Nosterfield and Thornborough, including Centre Hill round barrow" (1004912) 750m south, Scheduled Monument "Moated site at Upsland Farm" (1015439) 1.7km south-east.</p> <p>Historic Landscape Characterisation (HLC) Broad type: Enclosed land; HLC Type: Modern improved fields; Undesignated archaeology in this area includes evidence for prehistoric activity including pits and ditches, and worked stone. Romano-British pottery has also been recovered alongside human remains as well as later medieval pottery and ditches.</p> <p>Site is partially screened by topography and vegetation so is not readily visible. Site contributes to landscape setting of a monument as medieval and post medieval farming landscape. Non-designated assets inculcate a potential for unidentified prehistoric assets which could form part of the significance of the cursus. The site is not on the line of the cursus, but is visible in views from cursus towards round</p> | ✓ | | ✓ | ✓ | - | - | - |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>barrow.</p> <p>There is high archaeological potential for the survival of archaeological remains within the site from the early prehistoric period onwards.</p> <p>Local effects. Increased traffic flows on B6267 may create more intrusive noise and make the buildings less viable due to reduced property values, although the traffic assessment notes no net increase in traffic. The access point is away from the village, however appropriate traffic mitigation should eliminate this impact⁸.</p> <p>Removal of sites landscape context and permanent replacement of agricultural land with invasive wetland landscape in long views from the monument may detract from designation significance. This is considered to be a minor negative effect.</p> <p>As this allocation site is a smaller part of a larger area of similar character type, the proposed extraction is unlikely to have a major impact upon the HLC of the immediately surrounding area, although it is acknowledged that within the site the HLC will become invisible as development will replace an earlier field system. As 20% of the HLC project area has been identified as modern improved fields, this effect is not considered to be significant.</p> <p>A site level assessment of potential impacts to designated heritage assets in the vicinity of the allocated site has been undertaken. A summary of potential impacts and a significance of effect rating is provided below:</p> <ul style="list-style-type: none"> Scheduled Monument “Earth circles, cursus, pit alignments and burial sites near Nosterfield and Thornborough, including Centre Hill round barrow” –the removal of landscape context and permanent replacement of agricultural land with open water in long views from the monument may detract from designation significance. This is considered to be a minor negative effect on significance. Landscaping measures may be able to reduce some of the effects once the site is | | | | | | | |

⁸ Measures to ensure traffic does not turn right onto B6267 through the village

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>exhausted, but without a detailed plan, this is difficult to quantify.</p> <ul style="list-style-type: none"> Five Grade II Listed Buildings in Nosterfield Village between 680m and 880m south. “The Freemasons Arms, Chapel Row X 2, Village Farmhouse and Kiln Farmhouse” – continued traffic flows on B6267 will extend the existing noise impacts by the lifespan of the site. The access point is away from the village, so this is considered a minor negative effect on significance. Measures to ensure minimum traffic movement through the village would remove this effect on significance. <p>The site has been archaeologically evaluated and it is assumed that allocating this site would be likely to cause the loss of these archaeological remains if the site is extracted without mitigation. The results of the field evaluation have provided certainty about the nature and significance of below ground deposits. It is assumed that the archaeological impact will occur throughout the duration of extraction for however many years this will be. It is assumed that mineral extraction will result in the total destruction of the undesignated archaeological remains. As archaeology is a finite, irreplaceable resource, the impact will therefore be significant. However it is expected that investigation works required by the Joint Plan Policy D08 (Historic Environment) – ‘mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, adequate provision should be made for excavation and recording before or during development.’ Would result in an overall minor negative effect⁹.</p> <p>The impact upon HLC is not felt to be significant.</p> <p>Cumulative landscape change with existing quarries to south and proposed Oaklands (MJP07) site to the west.</p> <p><u>Plan level / regional / wider effects.</u> None noted.</p> | | | | | | | |

⁹ Comprehensive archaeological and paleoenvironmental investigation may provide information to enhance the significance of the monument by adding to our knowledge of the past landscape.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 11. To protect and enhance the quality and character of landscapes and townscapes | <p>Proximity of landscape / townscape receptors and summary of character. National Parks, AONBs: Nidderdale AONB 3.6km west; Heritage Coast: None within 10km; Inheritance Tax Exemption Land (ITE): Norton Conyers 4.7km south-east.</p> <p>National Character Area (NCA): Southern Magnesian Limestone; North Yorkshire Landscape Character Assessment (NYLCA): Area 6- Magnesian Limestone Ridge; District LCA: Area 5c in Hambleton LCA - Intensively farmed lowland (open);</p> <p>Intrusion: Undisturbed; Light pollution: the site ranges from <math><0.25</math> to 1 NanoWatts/ cm²/ sr¹⁰.</p> <p>Local effects. No impact in terms of designated landscapes, an Environmental Statement in support of the planning application (NY/2011/0242/ENV) for a similar site assesses the landscape character setting as being of moderate sensitivity. However, the landscape is also sensitive because of the proximity to Thornborough Henges, although historic quarrying has had a greater adverse impact than extraction from this site is likely to have. The Environmental Statement records an impact on the setting of the Henges as negligible/minor.</p> <p>The site is closest to Nosterfield (around 850m to the south-west), but the village is already affected by existing quarrying at Nosterfield Quarry, including the Ladybridge Farm extension. It is likely to be visible in the middle distance from parts of Well, where there are residential properties on sloping ground to the south west of the village.</p> <p>The wider area is generally tranquil, but the immediate locality is affected by active quarrying, mineral processing, and associated traffic. In terms of urban intrusion the wider landscape is assessed as undisturbed by the Campaign to Protect Rural England (CPRE), but on closer inspection it has been much affected by current and previous quarrying which has introduced industrial processes and artificial landforms. Quarry traffic is unlikely to affect character as there is already quarry traffic.</p> | ✓ | ✓ | ✓ | ✓ | -- | - | 0 |

¹⁰ Light pollution and dark skies are measured on a scale <math><0.25</math> (darkest) to >32 (brightest) Nano Watts/ cm²/ sr. CPRE, 2015; England's Light Pollution and Dark Skies – Interactive Map. Available at <http://www.cpre.org.uk/>. Accessed September 2016.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>In the short term there would be a significant further loss of historic landscape, productive farmland, hedgerows and hedgerow trees, and the timescale for the operation of the processing plant would be extended. There would be a possible permanent best and most versatile (Grade 3) and the landscape would be affected by the loss of the original route of Ings Goit. The cumulative impacts with adjoining areas of disturbance would be most apparent and it is considered that extensive development in this area would lead to a loss of legibility of the landscape. In the medium term, these same impacts would be on-going, though as restoration of adjoining areas continues, and mitigation becomes more effective, visual impact could reduce. In the long term, the 'restored' area would become integrated with adjoining areas of new landscape including wetland habitat.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | | | | | | | |
| 12. Achieve sustainable economic growth and create and support jobs | <p>Proximity of factors relevant to sustainable economic growth. The site is close to the A1 giving reasonably good access to York, Leeds and Harrogate and Teesside (though its central location does not align it with one specific market area).</p> <p>Local effects. The estimated mineral reserve at this site is 2.3 million tonnes of sand and gravel, with this potentially being made available to the market over the lifetime of the site This would make a significant contribution to the building sector by helping to boost supply of a key building material. It would also directly support jobs in extraction and freight. However, the extraction of minerals is not considered a sustainable industry as the economic boost and jobs provided at the site is limited to the lifetime of mineral extraction. Overall the allocation is considered to have a minor positive effect in the short term (the five years the site would be operational), with a neutral effect in the medium and long term following closure of the site.</p> <p>Plan level / regional / wider effects. None noted.</p> | | ✓ | ✓ | ✓ | + | 0 | 0 |
| 13. Maintain and enhance the viability | <p>Proximity of factors relevant to community vitality / viability. Tanfield Index of Multiple Deprivation (IMD) Area is not in most deprived 20%, Nosterfield is the nearest settlement (850m south). The following significant settlements are within 5km: Well, Nosterfield, Snape, Kirklington, West Tanfield, Carthorpe,</p> | | ✓ | ✓ | ✓ | + | 0 | 0 |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| and vitality of local communities | <p>Burneston (all Hambleton), North Stainley (Harrogate District). Snape is a Service Village (to which Hambleton Local Plan Policy CP6 applies (housing at a level appropriate to the needs of local communities) and Burneston is a Secondary Village (Policy CP6 – new housing in exceptional circumstances). North Stainley is a Group C settlement in Harrogate (only very limited growth).</p> <p>Local effects. This site could support a modest amount of jobs in extraction and freight. It would also supply a useful supply of building materials to support the planned growth housing stock in nearby settlements. Restoration may provide a useful community resource.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | | | | | | | |
| 14. To provide opportunities to enable recreation, leisure and learning | <p>Proximity to recreation, leisure and learning receptors. Footpath 10.25/7/1 is 100m north-east; Footpath 10.165/10/2 is 227m north. Common land: The Village Green and Gypsy Moor is c800m south; The Village Green, Nosterfield is 950m south-west.</p> <p>Local effects. In the long term restoration will benefit recreation and leisure, but in the short term these footpaths will be potentially be subjected to visual disamenity, though these rights of way will already be subject to significant views of quarries. A minor negative effect is expected in the short term, with a minor positive effect following restoration in the medium and long term.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | | ✓ | ✓ | | - | + | + |
| 15. To protect and improve the wellbeing, health and safety of local communities | <p>Proximity to population / community receptors / factors relevant to health and wellbeing. No schools or health centres within 1km. Nearest settlement is Nosterfield 850m South.</p> <p>Local effects. There are scattered buildings around this site which may be within range of noise and dust impacts, particularly as soil is stripped or re-profiled (if wet-worked dust may lessen, though some operations such as drying may also generate dust). Nosterfield should be out of range of significant impacts, though this would need to be shown in noise and dust assessments. Restoration may bring some wellbeing benefits.</p> | | ✓ | ✓ | ✓ | - | + | + |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | Plan level / regional / wider effects. None noted. | | | | | | | |
| 16. To minimise flood risk and reduce the impact of flooding | <p>Proximity to flood zones. About 25% of this site is in Flood Zones 2 and 3. About 15% to 20% of the site is subject to surface water flooding, much of which is at 1:30 (3.33%) high risk of flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. Risk is spread in patches across the site.</p> <p>Strategic groundwater flooding maps show that most of the site lies in a 1km square where >25% to <50% of the km square has conditions that might support superficial deposits flooding. The southern tip of the site (about 5% of the area) is in a 1km square where >75% of the km square has conditions that might support superficial deposits flooding. A recent application which included this site showed that extraction would take place below the water table which during the maximum extent of the development would lie at 39m Above Ordnance Datum (AOD) (so that application stated that the site would be wet worked). Working below the water table is a routine element of sand and gravel extraction for many sites.</p> <p>Local effects. A Strategic Flood Risk Assessment (SFRA) Sequential Test¹¹ concluded that the site would 'Pass', sand and gravel extraction is considered water compatible, though workers on site would need emergency planning in place for severe flood events.</p> <p>A site specific flood risk assessment should further consider groundwater flooding and how Sustainable Urban Drainage Systems (SuDS) can be used to drain the site. Drainage of site should not increase flooding elsewhere. In the longer term, restoration to water in the floodplain may be beneficial in terms of reducing flood risk elsewhere in the catchment.</p> <p>Plan level / regional / wider effects. None noted.</p> | ✓ | ✓ | | ✓ | 0 | 0 | 0 ? |

¹¹ The Sequential Test approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high flood risk areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 17. To address the needs of a changing population in a sustainable and inclusive manner | <p>Proximity to factors relevant to the needs of a changing population. The site does not conflict with any known allocations in other plans.</p> <p>Local effects. The site would make a significant contribution to self-sufficiency in the supply of sand and gravel.</p> <p>Plan level / regional / wider effects. The site may also support markets outside of the plan area.</p> | | ✓ | ✓ | | ++ | + + | 0 |
| Cumulative / Synergistic effects ¹² | | | | | | | | |
| Planning context | <p>Well is about 1.6km west of the site while Nosterfield is about 850m south-west. North Stainley is about 3.5km south, Kirklington is about 3.5km east and Burneston is more distant. Snape is about 2.5km north, Carthorpe is about 2.5km north-east. Snape is a 'Service Village' and 'Well' is 'Secondary Village' in the adopted Hambleton Core Strategy. These settlements lie in the Bedale sub area (which will take 15% of Hambleton's housing between 2016 and 2021). In each sub area two thirds of new housing development will be concentrated in the service centres, while in designated service villages 'new housing will be supported in the designated Service Villages at a level appropriate to the needs of local communities and within defined Development Limits', 20% of employment land will be focussed in the Bedale sub area. No housing or employment allocations are located within 200m of the site.</p> <p>North Stainley is in Harrogate. It is a Group C settlement which will accommodate only very limited growth mainly in the form of sustainable development within their existing built up areas (Policy SG2). There are no predicted cumulative effects arising out of the analysis of district local plans.</p> | | | | | | | |
| Other Minerals and Waste Joint Plan Sites | Four other potential minerals and waste plan sites lie within 5km, MJP07 Oakland Quarry adjacent to the west, MJP14 Ripon Quarry 4.6km south, MJP11 Gebdykes Quarry 4.6km west, MJP10 Potgate Quarry 4.6km south. | | | | | | | |
| Historic | In terms of active and dormant sites, 3 active quarries lie within 5km, Nosterfield 700m south-west, Ripon 3.7km south, Gebdykes 4.6km | | | | | | | |

¹² Cumulative effects have been factored into the scoring of each SA objective in the assessment framework.

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| minerals and waste sites | <p>west. Haw Wood dormant sand and gravel quarry lies 4.8km south west.</p> <p>Traffic from this site may combine with other active/future sites en route to the A1 which could raise dust, noise, pollution and accident levels either side of the road without mitigation. This would affect a very limited number of receptors however.</p> |
| Landscape Impacts | Cumulative landscape impacts are considered an issue in this area and combined with other nearby development a major negative cumulative landscape impact is anticipated in the short and early medium term. Impacts in the long term are uncertain depending on restoration. |
| Biodiversity Impacts | Cumulative impacts were noted under SA objective 1 resulting from existing quarrying at Ladybridge Farm, previous quarrying at Nosterfield Quarry and potential future quarrying. This could cause impacts upon protected species resulting from disturbance to habitats (in particular the Ings Goit watercourse and associated species) and operational impacts such as noise and dust. There is also potential for positive cumulative impacts resulting from habitat restoration schemes that collectively are creating priority habitats and therefore improving the local area in terms of habitat connectivity. |
| Water Environment | MJP06 and the adjacent MJP07 could lead to cumulative hydrological impacts, particularly relating to the Ings Goit watercourse which passes through both sites. All sites in functional floodplain must remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere. |

Limitations / data gaps

No significant data gaps. More detailed assessment would be required to fully evaluate a number of effects however. This should be addressed at any subsequent planning application stage.

Mitigation requirements identified through Site Assessment process

- Design to mitigate impact on ecological issues, including impacts on: Moor Lane SINC, Ings Goit stream and protected species; potential habitats; presence of invasive species including *Crassula helmsii*; cumulative impact.
- Design to minimise the loss of best and most versatile agricultural land and to protect high quality soil resources
- Design to include landscaping to mitigate impact on heritage assets (Scheduled Monuments including the Thornborough Henges, other potential archaeological remains, Listed Buildings in Nosterfield, Well and Kirklington Conservation areas) and their settings and the impact on villages and local landscape features
- Landscape and visual intrusion issues, including: impact on villages, impact of relocating stream and cumulative impact of increasing areas of open water
- Design to include suitable flood risk assessment ; for an FRA to be satisfactory, it will need to include necessary mitigation, such as

compensatory storage, attenuation and SuDS as appropriate (and in this case, appropriate mitigation for the impact of relocating the stream)

- Appropriate arrangements for the assessment, control of and mitigating the effects of noise and dust, etc.
- Appropriate restoration scheme using opportunities for habitat creation and reconnecting the Henges to their landscape settings, but which is also appropriate to the sites location within the birdstrike safeguarding zone, Any proposal for restoration to agriculture should be tested for viability – e.g. relative to the depth of extraction and requirement for inert material.

DRAFT

MJP07 – Oaklands, near Well – PREFERRED AREA

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|-----------------------------|---|
| Site Name | Site MJP07 Oaklands, Well, Bedale, Hambleton (XY: 427688 481421) |
| Current Use | Agriculture |
| Nature of Planning Proposal | Extraction of sand and gravel as proposed extension to an existing quarry |
| Size | 44.6ha |
| Proposed life of site | 6 years from commencement (estimated date of commencement – approximately 2020 to 2021 (to follow MJP06) |
| Notes | No detailed design yet, but restoration would be in keeping with the existing Nosterfield Quarry and with the Langwith (MJP06) site, involving creation of a lake, nature conservation, agriculture and forestry. |

SA FINDINGS SUMMARISE SIGNIFICANT EFFECTS ONLY. A WIDER RANGE OF CONSTRAINTS AND OPPORTUNITIES WERE INITIALLY ANALYSED AND DISTILLED DOWN TO ONLY THOSE WITH THE POTENTIAL TO BE SIGNIFICANT (SEE ALSO SITE ASSESSMENT METHODOLOGY SUMMARY REPORT FOR A FULL LIST OF CONSTRAINTS AND OPPORTUNITIES).

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 1. To protect and enhance biodiversity and geo-diversity and improve habitat connectivity | <p>Proximity of international / national and local designations and key features. Natura 2000: 9.5km to the west lies the North Pennine Moors SPA/SAC; SSSI: 4.4km to Ripon Parks SSSI, 4.8km to Marr Field Fen SSSI, 5.1km to Hack Fall Wood SSSI; SINC: 14 SINC's lie within 2km. Of these one is located within 500m, Nosterfield Quarry c. 400m south-east. LNR: Nosterfield LNR is 1km to the south.</p> <p>Priority Habitat: Very small area of deciduous woodland and lowland fen shown on map (may be mapping anomaly) overlapping boundary. Deciduous woodland lies adjacent to the site to the east and lowland fen lies adjacent to the site to the south. Ecological networks: Very small area of England Habitat Network around Fox covert in the east of the site. GI: In Bedale sub regional GI network.</p> <p>Site visit recorded hedgerows and standalone trees on site.</p> <p>Local effects. Possible impacts upon SINC network likely to be minor and possible to mitigate.</p> | ✓ | ✓ | ✓ | ✓ | - | - | + |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>The site may have potential impacts upon protected species using the current habitats within and adjacent to the proposed site including badger, nesting birds, foraging bats, water vole, kingfisher. In addition there is a need to consider species using habitats within the restored quarry that might be affected through disturbance e.g. bittern are known to use the reed bed that is adjacent to the proposed site. Habitats affected include Ings Goit watercourse, reed bed (restored quarry), hedgerows and trees.</p> <p>The previously restored minerals site has created priority habitats including reed bed and calcareous grassland. Other priority habitats surrounding the site are found in SINCs and Nosterfield LNR. There are opportunities through appropriate restoration to create priority habitats that will provide habitat connectivity and aid species movement.</p> <p>The current Nosterfield Quarry site is known to have New Zealand Pigmyweed <i>Crassula helmsii</i>, an invasive species, which is notoriously difficult to eradicate. As works to the proposed site are assumed to include working below the water table, and there are hydrological links off site via the Ings Goit watercourse, there is potential that the invasive species could be spread.</p> <p>In the short term there would be potential negative impacts upon habitats and species of conservation concern. Opportunities to create priority habitats that will support species of conservation concern exist, provided that any restoration scheme prioritises biodiversity and long term management of the site as long term objectives of the site (land ownership will be key to successful restoration as long term management is very difficult to secure if the developer does not own or have an agreement in place on the land). In particular here there is the potential to extend the previously created reed bed within the Nosterfield Quarry site.</p> <p>Cumulative impacts may result from existing quarrying at Ladybridge Farm, previous quarrying at Nosterfield Quarry and potential future quarrying. This could cause impacts upon protected species resulting from disturbance to habitats (in particular Ings Goit and its associated species) and operational impacts such as noise and dust. There is also potential for positive cumulative impacts resulting from habitat restoration schemes that collectively are creating priority habitats and therefore improving the local</p> | | | | | | | |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>area in terms of habitat connectivity.</p> <p>Plan level / regional / wider effects. Considering sources of impacts, pathways and receptors it is considered that there would be no significant impact on the integrity of Natura 2000 sites. It is also considered that there would be no impact upon SSSIs.</p> | | | | | | | |
| 2. To enhance or maintain water quality and improve efficiency of water use | <p>Proximity of water quality / quantity receptors. The site lies in a groundwater and surface water NVZ; the site does not lie within or adjacent to a groundwater SPZ. The site is in the Humber RBMP and the SUNO management area. Nearest section of river is Ings Goit from source to Burneston Beck which cuts through site. This has good ecological status and good overall status, with a status objective of good by 2015. No RBMP lakes. Groundwater: SUNO Magnesian Limestone (overall status: good / objective: good by 2015).</p> <p>CAMS: surface water resources are available at least 50% of time. At low flows new extraction licenses may be more restricted.</p> <p>Local effects. Any site is likely to require the diversion of Ings Goit which, without mitigation this could have significant effects on water body status. However, the Environmental Statement in support of the planning application for a site adjacent to the east found that the surface water quality in the watercourse will not be compromised during the operation of the site¹³. Spillages could affect groundwater, particularly as this site would involve working below the water table. Groundwater flow may also be affected. This could affect levels in other water bodies in the vicinity, if there is hydraulic connectivity. An adjacent planning application also highlights the potential for increases in nitrates as a possible eutrophication risk, an issue that could possibly affect this site also.</p> <p>In the absence of further information with regard to hydrology, significance is rated as moderate negative but with considerable uncertainty as it is likely that at least some hydrological features will be permanently changed. Impacts may lessen over time as restoration restores some hydrological regimes. Impacts may be</p> | ✓ | ✓ | ✓ | | m- ? | m- ? | m- ? |

¹³ Lafarge Tarmac, 2015; Nosterfield Quarry, North Yorkshire – Langwith House Farm Extension. Volume 2 Environmental Statement Revision 2015.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>mitigatable through sound environmental management.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | | | | | | | |
| 3. To reduce transport miles and associated emissions from transport and encourage the use of sustainable modes of transportation | <p>Proximity of transport receptors. Site is close to the A1 (4.7km east) giving reasonably good access to York, Leeds and Harrogate and Teesside (though its central location does not align it with a specific market area). Access: Confirmed as being use of existing Nosterfield Quarry access on to B6267 (approximately 500m east of Nosterfield village). Light vehicles: Around 34 two-way movements; HGV Vehicles: Around 200 two-way movements;</p> <p>Net change in daily two-way trip generations: Light vehicles: 0; HGVs: 0. Traffic Assessment Rating: Yellow – ‘The MJP07 proposal would maintain traffic levels at the Nosterfield Quarry site and use an established point of access. There would thus be no increase in traffic associated with the proposal however it is recommended that similar routing restrictions to those currently in place are maintained as part of any subsequent planning consent’.¹⁴</p> <p>PRoW: According to Highways Assessment this site is affected by a registered public right of way which must be kept clear of any obstruction until such time as an alternate route has been provided and confirmed by order.</p> <p>Rail: 6.5km north (station at Bedale); Strategic Road: A6108 is 2.5km south; B6267 is a timber route; Canal / Freight waterway: Ripon Canal 10km south.</p> <p>Local effects. The site would generate significant HGV movements (200 two-way movements per day) though the net overall impact on traffic levels is effectively the same as current levels (though effects will be extended for the duration of this extension after MJP06). Access to the A1 is relatively good. HGV</p> | | ✓ | | ✓ | - | - | 0 |

¹⁴ Jacobs (2015); Minerals and Waste Joint Traffic Assessment – Final Traffic Assessment.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>movement is acceptable onto B6267, however, minor works may be required to improve the existing access arrangements. It is recommended that similar routing restrictions to those currently in place are maintained as part of any subsequent planning consent.</p> <p>This is scored as a minor negative against the SA objective for the short and medium term as this site would maintain traffic levels at the Nosterfield Quarry site and use an established point of access, during site construction, operation and restoration.</p> <p>No sustainable transport is likely to contribute to the site though a travel plan / traffic assessment will be required. Access to the site may be affected by a Highway Authority improvement scheme. Minor negative to uncertain effects.</p> <p>Plan level / regional / wider effects. None noted</p> | | | | | | | |
| 4. To protect and improve air quality | <p>Proximity of air quality receptors. No AQMAs within 2km. Site does not lie within an hazardous substances consultation zone. The site is around 450m from the nearest settlement, Well, and around 50m from the nearest isolated property. A priority woodland to the east may be a receptor for dust.</p> <p>Local effects. The site lies in close proximity to a number of residential receptors which may experience air quality impacts in relation to dust from the site. The adjacent priority woodland may also experience minor dust deposition impacts. However, it is assumed that wet working would take place at the site meaning that dust impacts are less likely, aside from during initial soil stripping and during restoration. Generally, there are few dwellings en-route to the A1, so pollution from traffic is very limited. Therefore minor impacts are predicted in the short and medium term during site construction, operation and restoration, with uncertainty noted, depending largely on haulage routes and any mitigation that may be implemented.</p> <p>Plan level / regional / wider effects. None noted</p> | | ✓ | ✓ | ✓ | - | - | 0 |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 5. To use soil and land efficiently and safeguard or enhance their quality | <p>Proximity of soil and land receptors. ALC Grade 3. Land instability: not in risk area. Contaminated land: Greenfield site / not applicable.</p> <p>Local effects. Up to 44.6ha of possible best and most versatile agricultural land (Grade 3) land may be lost¹⁵. Some of this may be restored however, restoration proposals also include the creation of a lake, forestry and nature conservation land, therefore agricultural land may be permanently lost.</p> <p>Plan level / regional / wider effects. The loss of best and most versatile agricultural land cumulatively could have an effect on national food production capacity. The contribution of this site to the cumulative loss is considered to be a small in relation to the overall agricultural land lost in England per annum to development¹⁶ but could have a small scale effect on national food production capacity.</p> <p>The overall level of contribution to the objective is considered to be moderate negative.</p> | ✓ | ✓ | ✓ | | m- | m- ? | - ? |
| 6. Reduce the causes of climate change | <p>Proximity of factors relevant to exacerbating climate change. Very small area of deciduous woodland and lowland fen shown on map overlapping boundary. Fox Covert woodland adjacent.</p> <p>Local effects / causes An annual output of 500,000 tonnes of sand and gravel is likely to require 200 HGVs to transport it, despite this site's proximity to the A1. The site is midway between northern and southern markets. It will therefore make a significant negative contribution to CO₂. Insignificant carbon stores are likely to be lost. Overall the site would have a moderate negative effect over the short and</p> | ✓ | | | ✓ | m- | m- | + ? |

¹⁵ The best and most versatile agricultural land is ALC Grade 1 to 3a. Based on available mapping the site is located within ALC Grade 3 land, without further investigation it is not known whether it is Grade 3a or 3b. For the purposes of this SA the precautionary principle has been adopted and it is assumed that Grade 3 land is Grade 3a and the best and most versatile agricultural land.

¹⁶ 44.6ha (assuming all land is BMV) annualised across the 6 year life of the site would be an annual 7.4ha loss. There was 2365ha of agricultural land was lost to development in 2014/15 across England. A 7.4ha loss would represent a 0.3% contribution to this category of soil loss across England for each year of the site.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>medium, and potential minor positive effect in the long term following restoration.</p> <p>Plan level / regional / wider effects. An assessment showing how the design for the proposal has taken into account the need for resilience to climate change factors must be undertaken¹⁷.</p> | | | | | | | |
| 7. To respond and adapt to the effects of climate change | <p>Proximity of factors relevant to the adaptive capacity¹⁸ of a site. About 50% of this site, the central and southern area, is in Flood Zones 2 and 3. About 40% of the site is subject to surface water flooding with approximately 30% at 1:30 (3.33%) high risk of flooding and 10% at 1:100 (1%) medium risk or 1:1000 (0.1%) low risk. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. Risk is concentrated in the centre of the site.</p> <p>Ecological networks: East of site (5% (around Fox Covert)) intersects with the England Habitat Network.</p> <p>Up to 44.6ha of possible best and most versatile land (it is not known whether land is grade 3a or 3b).</p> <p>Local effects. Flooding is considered insignificant to minor negative as sand and gravel extraction is considered water compatible, though workers on site would need emergency planning in place for severe flood events. Climate change is likely to extend the area of flood zones. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively. Fox Covert is already isolated from the surrounding landscape so effects are considered neutral. In the medium and longer term effects restoration may provide benefits through habitat creation</p> | ✓ | | | ✓ | m- | m- | + ? |

¹⁷ Proposals for new mineral extraction at a rate in excess of 75,000 tonnes per annum should be accompanied by an assessment showing how the design for the proposal has taken into account the need for resilience to climate change factors. These thresholds are based on the 75,000 tonnes per annum threshold for strategically significant waste facilities used in the Yorkshire and Humber Waste Position Statement, which has been applied also to minerals output for the purposes of Development Management, Policy D11.

¹⁸ Adaptive capacity is defined as the ability of a system to adjust to climate change to moderate potential; damage or take advantage of opportunities (adapted from CARE International, 2015. Adaptive Capacity [URL: http://www.careclimatechange.org/tk/integration/en/key_concepts/adaptive_capacity.html]

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | and a return to agricultural land. Plan level / regional / wider effects. Agricultural land is increasingly recognised as being vulnerable to climate change, loss of this land will have a combined effect with wider losses elsewhere due to climate change – the effect is considered a minor negative. | | | | | | | |
| 8. To minimise the use of resources and encourage their re-use and safeguarding | Proximity of factors relevant to the resource usage of a site. No spatial factors identified. Local effects. This site will extract virgin sand and gravel which will be unavailable for future use (unless recycled). This is considered to have a high negative effect on the SA objective. Plan level / regional / wider effects. None noted | ✓ | | ✓ | | -- | -- | -- |
| 9. To minimise waste generation and prioritise management of waste as high up the waste hierarchy as practicable | Proximity of factors relevant to managing waste higher up the waste hierarchy. No spatial factors identified. Local effects. None noted. Plan level / regional / wider effects. The site may have an indirect negative impact on the prioritising the management of waste up the waste hierarchy as a result of providing virgin sand and gravel and reducing the need to recycle sand and gravel from other locations. | | ✓ | | ✓ | - | - | - |
| 10. To conserve or enhance the historic environment | Proximity of historic environment receptors Well Conservation Area lies 450m north-west of the site; Registered Parks and Gardens: Thorp Perrow Grade 2 (1001075) is 2.8km north-west, Hack Fall Grade 1 (DNY895) 5km south-west; Registered battlefields: None within 5km; World Heritage sites: None within 5 km; Scheduled Monuments: 'Three Round Barrows at Three Hills' (1015764) is 1.1km south-east, "At Risk" 'Earth Circles, Cursus, Pit Alignments and Burial Sites near Nosterfield and Thornborough, including Centre | ✓ | | ✓ | ✓ | m- | m- | m- |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| and its setting, cultural heritage and character | <p>Hill round barrow' (10004912) is 1km south; Grade II Listed Building: "Old School House" (1393103) 940m north-west, Grade II Listed Buildings in Nosterfield Village between 680m and 880m south. "The Freemasons Arms, Chapel Row X 2, Village Farmhouse and Kiln Farmhouse" (1150778, 1315194, 1190346, 1150783 and 1190384).</p> <p>HLC Broad type: Enclosed land; HLC Type: Modern improved fields; Undesignated archaeology in this area includes evidence for prehistoric activity including pits and ditches, and worked stone. Romano-British pottery has also been recovered alongside human remains as well as later medieval pottery and ditches.</p> <p>There is high archaeological potential for the survival of archaeological remains within the site from the early prehistoric period onwards. Archaeological evaluations within the site, as part of the current planning application, have demonstrated the presence of archaeological features in the southern half of this site which have high archaeological value and are part of, and contribute to, our understanding of the significance of the Thornborough landscape. These remains are of national importance.</p> <p>Site is partially screened by topography and vegetation so is not readily visible. Site contributes to landscape setting of monument as medieval and post medieval farming landscape. Non-designated assets include a potential for unidentified prehistoric assets which could form part of the significance of the cursus. The site is not directly on the line of the cursus, but is very nearby the line and is visible in views from the northern henge and in views from local vantage points. The site is almost certainly part of the wider ritual landscape of the monument.</p> <p>Local effects. Increased traffic flows on B6267 may create more intrusive noise and make the buildings less viable due to reduced property values, although the traffic assessment notes no net increase in traffic. The access point is away from the village, however appropriate traffic mitigation should eliminate this impact¹⁹.</p> <p>A site level assessment of potential impacts to designated heritage assets in the vicinity of the allocated site</p> | | | | | | | |

¹⁹ Measures to ensure traffic does not turn right onto B6267 through the village

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>has been undertaken. A summary of potential impacts and a significance of effect rating is provided below:</p> <ul style="list-style-type: none"> Scheduled Monument “Earth circles, cursus, pit alignments and burial sites near Nosterfield and Thornborough, including Centre Hill round barrow” – removal of ritual landscape context and permanent replacement of agricultural land with open water in views from the monument and loss of potential prehistoric assets may detract from designation significance. Additional traffic through Nosterfield village would increase intrusive noise. This is considered to be a moderate negative effect on significance. It is likely that investigation works could produce positive effects that would partially balance negative impacts. Traffic management would reduce noise impacts. Landscaping of the finished site may reduce impacts however, without detailed design, this is difficult to predict. Overall, it is likely that the remaining impact would be Slight negative effect on significance. Five Grade II Listed Buildings in Nosterfield Village between 680m and 880m south. “The Freemasons Arms, Chapel Row X 2, Village Farmhouse and Kiln Farmhouse” – continued traffic flows on B6267 will extend the existing noise impacts by the lifespan of the site. The access point is away from the village, so this is considered a minor negative effect on significance. Measures to ensure minimum traffic movement through the village would remove this impact. <p>The potential change in groundwater levels in the wider ritual landscape of the henge may damage unknown archaeological remains directly associated with the monument. Removal of ritual landscape context and permanent replacement of agricultural land with invasive wetland landscape in views from the monument and loss of potential prehistoric assets may detract from designation significance. Additional traffic through Nosterfield village would increase intrusive noise. This is considered to be a moderate negative effect.</p> <p>As this allocation site is a smaller part of a larger area of similar character type, the proposed extraction is unlikely to have a major impact upon the overall HLC of the immediately surrounding area, although it is acknowledged that within the site the HLC will become invisible as development will replace an earlier field system. As 20% of the HLC project area has been identified as modern improved fields, this effect is not considered to be significant.</p> | | | | | | | |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>It is assumed that allocating this site would be likely to cause the loss of archaeological remains, with particularly sensitive remains in the southern half of the site, if the site is extracted without mitigation. The results of the field evaluation have provided certainty about the nature and significance of below ground deposits. It is assumed that the archaeological impact will occur throughout the duration of extraction (6 years). It is also assumed that mineral extraction will result in the total destruction of the undesignated archaeological remains without mitigation. As archaeology is a finite, irreplaceable resource, the impact will therefore be significant. However, it is expected that investigation works required by the Joint Plan Policy D08 (Historic Environment) – ‘mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, adequate provision should be made for excavation and recording before or during development.’ would reduce this to an overall minor negative effect on archaeology.</p> <p>A landscape and visual impact assessment²⁰ commissioned to look in detail at the potential impact on the landscape and setting of the village of Well from the discounted area immediately adjacent to the east of the allocated site (approximately 330m from Well), concluded that overall, the visual impact on the village of Well and the Well Conservation Area would be low.</p> <p>The impact upon HLC is not felt to be significant.</p> <p>Cumulative landscape change with existing quarries to south and proposed Langwith Hall Farm site to east.</p> <p>Plan level / regional / wider effects. None noted</p> | | | | | | | |
| 11. To protect and enhance the quality and | <p>Proximity of landscape / townscape receptors and summary of character. No National Parks within 10km, AONBs: Nidderdale AONB 3.7km west; Heritage Coast: None within 10km; ITE Land: None within</p> | ✓ | ✓ | ✓ | ✓ | -- | - | + ? |

²⁰ ESP Ltd, 2016. Oaklands, Nosterfield Quarry, near Ripon, North Yorkshire – Landscape and Visual Impact Appraisal of a Potential Extension.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| character of landscapes and townscapes | <p>5km.</p> <p>NCA: Southern Magnesian Limestone; NY LCA: Area 6 – Magnesian Limestone Ridge'; District LCA: Area 5c in Hambleton LCA - 'Intensively farmed lowland (open)'; Intrusion: Undisturbed; Light pollution: the site ranges from <0.25 to 1NanoWatts/ cm²/ sr²¹.</p> <p>The wider area is generally tranquil, but the immediate locality is affected by active quarrying, mineral processing, and associated traffic. In terms of urban intrusion the wider landscape is assessed as undisturbed by CPRE, but on closer inspection it has been much affected by current and previous quarrying which has introduced industrial processes and artificial landforms</p> <p>Local effects No impact in terms of designated landscapes. However the landscape is also sensitive because of the proximity to Thornborough Henges, although historic quarrying has had a greater adverse impact than extraction from this site is likely to have.</p> <p>The site will negatively affect the landscape setting of Well, which is just over 450m distant, with parts of the settlement overlooking the site from slopes to the west. A landscape and visual impact assessment²² commissioned to look in detail at the potential impact on the landscape and setting of the village of Well from the discounted area immediately adjacent to the east of the allocated site (approximately 330m from Well), concluded that overall, the visual impact on the village of Well and the Well Conservation Area would be low.</p> <p>The settlement of Nosterfield which is partly surrounded by active and past quarries is unlikely to be affected as partly restored areas of Nosterfield Quarry intervene.</p> <p>The local area has been extensively disturbed by sand and gravel extraction and also limestone quarrying to the west of Nosterfield. Locally its character has been largely changed (this site would result in the loss</p> | | | | | | | |

²¹ Light pollution and dark skies are measured on a scale <0.25 (darkest) to >32(brightest) NanoWatts/ cm²/ sr. CPRE, 2015; England's Light Pollution and Dark Skies – Interactive Map. Available at <http://www.cpre.org.uk/>. Accessed September 2016.

²² ESP Ltd, 2016. Oaklands, Nosterfield Quarry, near Ripon, North Yorkshire – Landscape and Visual Impact Appraisal of a Potential Extension.

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| | <p>of another section of valley resulting in the loss of most of the original low lying valley) to an area dominated by wetlands. It would be beneficial from the landscape perspective to retain and enhance some of the existing natural and cultural landscape which has evolved over time, particularly within the setting of local villages. However if this site were to be allocated there could be benefits in taking a strategic approach to the creation of new landscapes, together with the Langwith House Farm, Nosterfield and Ladybridge Farm areas.</p> <p>In the short term there would be a significant further loss of historic landscape, productive farmland, hedgerows and hedgerow trees. This quarry would bring extraction close to the village of Well, and greatly extend the area disturbed by quarrying. The landscape would be further affected by the loss of the original route of Ings Goit. The cumulative impacts with adjoining areas of disturbance would be most apparent and it is considered that extensive development in this area would lead to a loss of legibility of the landscape. In the medium term, these same impacts would be on-going, though as restoration of adjoining areas continues, and mitigation becomes more effective, visual impact could reduce. In the medium to long term effects there is the potential for benefits with restoration to a natural landscape.</p> <p>Plan level / regional / wider effects. None noted</p> | | | | | | | |
| 12. Achieve sustainable economic growth and create and support jobs | <p>Proximity of factors relevant to sustainable economic growth. The site is close to the A1 giving reasonably good access to York, Leeds and Harrogate and Teesside (though its central location does not align it with one specific market area).</p> <p>Local effects The estimated mineral reserve at this site is 1.5 million tonnes²³ of sand and gravel, with this potentially being made available to the market over the lifetime of the site. This would make a significant contribution to the building sector by helping to boost supply of a key building material. It would also directly support jobs in extraction and freight. However, the extraction of minerals is not considered a sustainable industry as the economic boost and jobs provided at the site is limited to the lifetime of mineral extraction. Overall the allocation is considered to have a minor positive effect in the short term (the five years the site</p> | | ✓ | ✓ | ✓ | + | 0 | 0 |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | would be operational), with a neutral effect in the medium and long term following closure of the site. | | | | | | | |
| 13. Maintain and enhance the viability and vitality of local communities | <p><u>Proximity of factors relevant to community vitality / viability.</u> IMD area is Tanfield: Not in most deprived 20%. Well is the nearest settlement 450m north-west. Nosterfield also lies 600m south. The Hambleton Core Strategy lists Well as a secondary village. Low level of development is allowable in secondary villages as illustrated by policy CP6 in Core Strategy “<i>within the designated secondary villages land will not be allocated for housing, unless there are exceptional circumstances, but proposals for housing will be supported within the defined Development Limits where it constitutes infill or other development that is small in scale, or redevelopment or the conversion of buildings. Development outside but adjacent to the Development Limits may be supported where it constitutes an exception to achieve affordable housing</i>’</p> <p><u>Local effects</u> Job opportunities arising from this site are likely to be limited, and while the site would provide a further source of sand and gravel which could aid future development, the immediate settlements are unlikely to directly benefit in any significant way. The site is unlikely to either hinder or boost local tourism in the short term although it is considered that opportunities to boost tourism in the area through the proposed restoration scheme. Overall any effect is considered to be minor positive in the short term and a minor positive in the medium and long term.</p> <p><u>Plan level / regional / wider effects.</u> None noted.</p> | | ✓ | ✓ | | + | + | + |
| 14. To provide opportunities to enable recreation, leisure and learning | <p><u>Proximity to recreation, leisure and learning receptors.</u> Footpath 10.165/8/1 runs along western boundary of site and joins footpath 10.165/6/1 which runs c. 130m south of the site. A local footpath lies circa 130m north of the site. No draft common land within 500m (but an area lies 670m south). Village Green listed in Well circa 0.5km to the north-west.</p> <p><u>Local effects.</u> In the long term restoration has the potential to benefit recreation and leisure, but in the short term these footpaths will be subjected to significant visual effects, though these rights of way will already be subject to significant views of quarries. Minor negative.</p> <p><u>Plan level / regional / wider effects.</u> None noted</p> | | ✓ | ✓ | | - | + | + |

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| 15. To protect and improve the wellbeing, health and safety of local communities | <p>Proximity to population / community receptors / factors relevant to health and wellbeing. Well is the nearest settlement 450m north-west. Nosterfield also lies 600m south. Individual properties: Oaklands 50m north, Oak Tree Farm 470m north, Langwith House 480m north-east. No clinics, health centres or hospitals within 1km.</p> <p>Local effects Traffic levels in the area will increase as a result of the allocation however a possible route to the A1 avoids the majority of residential receptors. Other amenity impacts including dust, noise and visual impacts are likely to arise in the short and early medium term. Impacts in the medium and long term are positive with restoration.</p> <p>Plan level / regional / wider effects. None noted</p> | | ✓ | ✓ | ✓ | - | + | + |
| 16. To minimise flood risk and reduce the impact of flooding | <p>Proximity to flood zones. About 50% of this site, the central and southern area, is in Flood Zones 2 and 3. About 40% of the site is subject to surface water flooding with approximately 30% at 1:30 (3.33%) high risk of flooding and 10% at 1:100 (1%) medium risk or 1:1000 (0.1%) low risk. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. Strategic groundwater flooding maps show that most of the site lies in a 1km square where <25% of the km square have conditions that might support Clearwater flooding. About 25% of the site (the eastern part) lies in a 1km square where >25% to <50% of the km square has conditions that might support superficial deposits groundwater flooding.</p> <p>A recent application for a site (MJP06) immediately to the east of this site showed that extraction would take place below the water table which during the maximum extent of the development would lie at 39mAOD (so that application stated that the site would be wet worked). In addition, sand and gravel working to the south of the site has been restored to water suggesting that groundwater will be an issue at this site too. Working</p> | | ✓ | | ✓ | 0 | 0 | 0 |

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| | <p>below the water table is a routine element of sand and gravel extraction for many sites.</p> <p>The 1:20 (5%) event extent mapping for this SFRA shows about 40% of this site is at flood risk²⁴.</p> <p>Local effects. A Strategic Flood Risk Assessment (SFRA) Sequential Test²⁵ concluded that the site would 'Pass', sand and gravel extraction is considered water compatible, though workers on site would need emergency planning in place for severe flood events. A site specific flood risk assessment should further consider groundwater flooding and how SuDS can be used to drain the site. Drainage of site should not increase flooding elsewhere. In the longer term, should the site be restored to a water use in the floodplain this may be beneficial in terms of reducing flood risk elsewhere in the catchment.</p> <p>Plan level / regional / wider effects. None noted.</p> | | | | | | | |
| 17. To address the needs of a changing population in a sustainable and inclusive manner | <p>Proximity to factors relevant to the needs of a changing population. The site does not conflict with any known allocations in other plans.</p> <p>Local Effects. The site would make a significant contribution to self-sufficiency in the supply of sand and gravel.</p> <p>Plan level / regional / wider effects. Output from this site may also support markets outside of the plan area.</p> | | ✓ | ✓ | | ++ | ++ | 0 |
| Limitations / data gaps | No significant data gaps. More detailed assessment would be required to fully evaluate a number of effects however. This should be addressed at any subsequent planning application stage. | | | | | | | |

²⁴ In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.

²⁵ The Sequential Test approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high flood risk areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible.

| Cumulative / Synergistic effects ²⁶ | |
|--|---|
| Planning context | <p>Well is about 450m west of the site while Nosterfield is about 600m south. North Stainley is about 3.5km south, Kirklington is about 3.5km east. Snape is about 2.5 km north, Carthorpe is about 2.5 km north-east and Burneston is more distant. Snape is a 'Service Village' and 'Well' is 'Secondary Village' in the adopted Hambleton Core Strategy. These settlements lie in the Bedale sub area (which will take 15% of Hambleton's housing between 2016 and 2021). In each sub area two thirds of new housing development will be concentrated in the service centres, while in designated service villages <i>'new housing will be supported in the designated Service Villages...at a level appropriate to the needs of local communities and within defined Development Limits'</i>. 20% of employment land will be focussed in the Bedale sub area. No housing or employment allocations are located within 200m of the site.</p> <p>North Stainley is in Harrogate. It is a Group C settlement which will accommodate only very limited growth mainly in the form of sustainable development within their existing built up areas (Policy SG2). There are no predicted cumulative effects arising out of the analysis of district local plans.</p> |
| Other Minerals and Waste Joint Plan Sites | There are four other potential minerals and waste plan sites lie within 5km, MJP06 adjacent to the east, MJP14 Ripon Quarry 4.6km south, MJP11 Gebdykes Quarry 3.4km west, MJP10 Potgate Quarry 4.6km south. |
| Historic minerals and waste sites | <p>In terms of active and dormant sites, 3 active quarries lie within 5km, Nosterfield sand and gravel quarry is 0.5km south, Ripon sand and gravel quarry is 4km south, and Gebdykes Magnesian limestone quarry is 3.5km west. In addition Haw Wood dormant sand and gravel site lies 4.5km S.</p> <p>Traffic from this site may combine with other active / future sites en route to the A1 which could raise dust, noise, pollution and accident levels either side of the road without mitigation. This would affect a very limited number of receptors however.</p> |
| Landscape Impacts | Cumulative landscape impact is also an issue in this area and combined with other nearby development a major negative cumulative landscape impact is anticipated in the short and early medium term. Impacts in the long term are uncertain depending on restoration. |
| Biodiversity Impacts | Cumulative impacts were noted under SA objective 1 resulting from existing quarrying at Ladybridge Farm, previous quarrying at Nosterfield Quarry and potential future quarrying. This could cause impacts upon protected species resulting from disturbance to habitats (in particular Ings Goit and its associated species) and operational impacts such as noise and dust. There is also potential for positive cumulative impacts resulting from habitat restoration schemes that collectively are creating priority habitats and therefore improving the local area in terms of |

²⁶ Cumulative effects have been factored into the scoring of each SA objective in the assessment framework.

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| | habitat connectivity. |
| Water Environment | MJP07 and the adjacent MJP06 could lead to cumulative hydrological impacts, particularly relating to Ings Goit watercourse which passes through both sites. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere. |
| Limitations / data gaps | |
| No significant data gaps. More detailed assessment would be required to fully evaluate a number of effects however. This should be addressed at any subsequent planning application stage. | |
| Mitigation requirements identified through Site Assessment process | |
| <ul style="list-style-type: none"> • Design to mitigate impact on ecological issues, in particular with regard to avoiding impacts on Moor Lane SINC, Ings Goit beck and protected species and including measures to address and control of invasive species • Design to mitigate impact and the irreversible loss of best and most versatile agricultural land and to protect high quality soil resources • Design to include landscaping to mitigate impact on heritage assets (Scheduled Monuments including Thornborough Henges, other potential archaeological remains, Listed Buildings in Nosterfield, Well and Kirklington Conservation areas) and their settings and the impact on villages and local landscape features • Design to include suitable flood risk assessment; for an FRA to be satisfactory, it will need to include necessary mitigation, such as compensatory storage, attenuation and SuDS as appropriate (and in this case, appropriate mitigation for the impact of relocating Ings Goit beck) as appropriate • A suitable traffic assessment to ensure suitable arrangements for access and local roads, including an appropriate a traffic management plan regarding the B6267 and Moor Lane • Appropriate arrangements for control of the effects of noise and dust, etc. • Appropriate restoration scheme using opportunities for habitat creation, but which is also appropriate to location within a birdstrike safeguarding zone. | |

MJP33 – Home Farm, Kirkby Fleetham – ALLOCATED SITE

| | |
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| Site Name | MJP33 Home Farm, Kirkby Fleetham (XY: 428103 495992) |
| Current Use | Agriculture and woodland |
| Nature of Planning Proposal | Extraction of sand and gravel |
| Size | 114.7ha |
| Proposed life of site | 12 years |
| Notes | <p>The site is allocated on the basis that access to the highway for heavy good vehicles will be obtained via the Killerby site allocation MJP21 and associated access point to the local access road west of site MJP21</p> <p>Proposed new quarry. Mix of restoration after uses may include:</p> <ul style="list-style-type: none"> • Agricultural Land • Wetland areas – shallow lakes, ponds, marshland • Woodland – framework and structure planting • Recreation – fishing and permissive walkways • Hedgerows and copses |

SA FINDINGS SUMMARISE SIGNIFICANT EFFECTS ONLY. A WIDER RANGE OF CONSTRAINTS AND OPPORTUNITIES WERE INITIALLY ANALYSED AND DISTILLED DOWN TO ONLY THOSE WITH THE POTENTIAL TO BE SIGNIFICANT (SEE ALSO SITE ASSESSMENT METHODOLOGY SUMMARY REPORT FOR A FULL LIST OF CONSTRAINTS AND OPPORTUNITIES).

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| 1. To protect and enhance biodiversity and geo-diversity and improve habitat connectivity | <p><u>Proximity of international / national and local designations and key features.</u> Natura 2000: 10.5km north-west – North Pennine Dales Meadows SAC; SSSI: 2.7km from nearest SSSI (Swale Lakes); SINC: Great Langton Pond SINC contained within and partly adjacent to site; River Swale, Great Langton to Kiplin (immediately adjacent and a new bridge would cross this watercourse); Park Plantation (within site); Winewall Wood 900m; Kirkby Wood 340m; Poole's Waste 1.8km.</p> <p>UK Priority Habitats: Patch of deciduous woodland on site. Also immediately adjacent (including very slight overlap) and up to 20m from northern boundary. Deciduous woodland also adjacent to parts of the southern</p> | ✓ | ✓ | ✓ | ✓ | m- | - | + |
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| | <p>boundary. A traditional orchard is located approximately 45m from the edge of the site.</p> <p>Ancient woodland: Thin strip of ancient woodland touching southern boundary of site, with 3 further patches within 200m of the southern boundary. Site visit noted the following features on site: watercourses, grassland / pasture, arable, woodland /copse, hedgerows, standalone trees. Ecological Networks: circa 20% of site in NY08 Swale Washlands Living Landscape. GI: Regional GI Corridor 'Swale' (R13).</p> <p>Local effects. There are potential impacts upon SINC – in particular Park Plantation SINC within the site and River Swale and Great Langton Pond SINC which are adjacent. Park plantation SINC woodland is un-surveyed SINC and would need to be further assessed.</p> <p>The site is likely to support otter, bats, badger, farmland birds, and other breeding birds and may possibly support water vole and great crested newt. Both Ancient Semi-Natural Woodland (ASNW) and Plantations on Ancient Woodland Sites (PAWS) exist within close proximity to the site and could be affected by the development (e.g. through dust). Mature trees will need to be assessed.</p> <p>Through restoration there is an opportunity to improve habitat networks through the creation of high quality priority habitats (although the loss of certain species/habitats at the site may be difficult to compensate for). However, this will require careful design and long term management. As with other minerals sites, extraction has the potential to result in the creation of deep lakes with limited ecological potential and MoD restrictions limiting the types of restoration that could be implemented.</p> <p>Wet woodland along the river corridor and habitats within the SINC have the potential to be affected by changes in hydrology. Invasive species, including Japanese knotweed and Himalayan balsam are known from this stretch of the river. The proposed development has the potential to increase the spread of these species.</p> <p>There is also the potential for cumulative negative impacts resulting from further mineral extraction (previous extraction in the area includes Ellerton Quarry, Killerby (currently seeking planning permission – allocated site MJP21), Scorton Quarry and Kiplin Hall Quarry). Loss of farmland and disturbance to the river corridor will affect certain species. Upgrade of the A1 (M) will add to this disturbance. There is also potential</p> | | | | | | | |

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| | <p>for a cumulative impact on nearby Swale Lakes SSSI which should be considered further. There are potential cumulative benefits for certain habitats and species resulting from this site and others in close proximity, provided that an appropriate high quality and well integrated restoration scheme is secured. If wetland habitat were to be proposed, there would be a need for such proposals to consider whether the appropriateness and genuineness of the potential benefits of such habitats whilst considering, for example, the nearby surrounding ecology, biodiversity action plan objectives and aerodrome safeguarding zones.</p> <p>In summary, in the short term there are potential adverse impacts to habitats and species – including designated sites – Park Plantation SINC within the site and River Swale and Great Langton Pond SINCs which are adjacent. This disturbance continues into the medium term. Impacts in the long term depend on the ability to secure a high quality restoration and necessary long term management.</p> <p>Plan level / regional / wider effects. No significant effect expected on Natura 2000 or SSSI sites</p> | | | | | | | |
| 2. To enhance or maintain water quality and improve efficiency of water use | <p>Proximity of water quality / quantity receptors. Site is not in a Nitrate Vulnerable Zone. About 75% (eastern end) is in Source Protection Zone 3. In Humber RBMP SUNO catchment. Nearest water body is 'Swale from Muker Beck to Bedale Beck', which abuts the northern and southern boundaries. Current ecological status is moderate, with overall potential moderate. Objective is good by 2027. No RBMP lakes. Groundwater: Site falls between SUNO Sherwood Sandstone (current overall status poor / good by 2027) and SUNO Magnesian Limestone (overall status: good / objective: good by 2015) groundwater bodies.</p> <p>CAMS: surface water resources available at least 50% of time for most of site. At low flows new extraction licenses may be more restricted.</p> <p>Local effects. The Swale could be a receptor for pollutants (such as fuel or soil / silt particles) during flood events though this is a large watercourse so, given the sorts of pollutants that could be generated and the ability of the river to flush and dilute, risk is seen as relatively minor and mitigatable by good site management. A more significant risk is the presence of the quarry in Source Protection Zone 3, which could remove the protection that soils currently offer the aquifer from pollution or physically alter groundwater flow if the site is wet worked. While the Environment Agency would generally object in Source Protection Zone 1</p> | | ✓ | ✓ | | - | - | - |
| | | | | | | ? | ? | ? |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>for development that may disturb an aquifer, in Zone 3 the situation is less clear, as the Environment Agency require that '<i>Developers proposing schemes that present a hazard to groundwater resources, quality or abstractions must provide an acceptable hydrogeological risk assessment (HRA) to us and the planning authority. Any activities that can adversely affect groundwater must be considered, including physical disturbance of the aquifer. If the HRA identifies unacceptable risks then the developer must provide appropriate mitigation. If this is not done or is not possible we will recommend that the planning permission is conditioned or object to the proposal</i>'²⁷. Such assessment would also need to consider any effects from restoration.</p> <p>Potential impacts are considered minor negative as it is assumed a hydrogeological risk assessment would be required and appropriate mitigation would be provided to mitigate any unacceptable risks identified within the hydrogeological risk assessment.</p> <p>Plan level / regional / wider effects: None noted.</p> | | | | | | | |
| 3. To reduce transport miles and associated emissions from transport and encourage the use of sustainable modes of transportation | <p>Proximity of transport receptors. Site lies 1.8km east of the A1 giving reasonably good access to York, Leeds and Teesside. Access: via a new bridge over the River Swale and on to the B6271. HGVs would then route west on B6271 to strategic network at a new Catterick junction and improved Scotch Corner. Access towards Northallerton confirmed to be likely to be via B6271 and A1 (M) to A684, rather than direct via the B6271; Light Vehicles: 21 daily two-way movements; HGV Vehicles: 128 two-way daily movements.</p> <p>Net change in daily two-way trip generations: Light vehicles: 21; HGVs: 128, Traffic assessment rating: yellow – '<i>HGV distribution modelling for MJP33 has shown that the routing to Northallerton and onwards to Teesside could be quicker by turning right out of the site and using the A6271 via Northallerton, the route from the site would take vehicles past small communities and a school along the B6271. It is therefore</i></p> | | ✓ | | ✓ | m- | m- | m- ? |

²⁷ Environment Agency, 2013, Groundwater Protection: Principles and Practice. [URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297347/LIT_7660_9a3742.pdf]

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| | <p><i>suggested that a routing agreement is put in place as part of any future planning permission for the site so that all HGV traffic is required to turn left out of the site with the exception of local deliveries.</i>²⁸</p> <p>PROW: This site is affected by a registered public right of way which must be kept clear of any obstruction until such time as an alternate route has been provided and confirmed by order.</p> <p>Rail: 5.7km east (nearest station Northallerton 7.6km south east); Strategic Road: A1 lies 1.8km west of the site; Canal / Freight waterway: Tees Navigation 16km north east.</p> <p>Local effects. The site would generate fairly significant amount of additional traffic (HGV movements:128 two-way movements per day, light vehicles 21 two-way movements). The site is allocated on the basis that access to the highway for HGVs will be obtained via the Killerby site allocation MJP21 and associated access point to the local access road west of site MJP21. The traffic assessment found that HGV movements onto the B6171 would be acceptable. Alternative routes via the minor highway network would not be suitable for HGV movement.</p> <p>The traffic assessment also identified potential safety implications in smaller settlements on the traffic route (see SA objective 15).</p> <p>Cumulative effects around the mid Catterick and Leeming Bar junctions with the A1 have also been modelled for this site together with other local sites (MJP17, MJP21, and MJP43). This modelling did not find cumulative effects to be significant.</p> <p>The allocated site is unlikely to contribute to sustainable transport modes.</p> <p>Plan level / regional / wider effects. None noted</p> | | | | | | | |

²⁸ Jacobs (2015); Minerals and Waste Joint Traffic Assessment – Final Traffic Assessment.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 4. To protect and improve air quality | <p>Proximity of air quality receptors. Site is not within a Hazardous Substances Consent Zone or within 2km of an AQMA.</p> <p>Local effects. There are several receptors close to the allocation that could be at risk of dust, particularly during the construction and restoration phases, though less so during the operational phase if this site is wet worked (uncertain). Settlements such as Kirkby Fleetham Hall (40m south) and Great Langton (150m north) are particularly close. The removal of an estimated 300,000 tonnes of mineral reserves per annum will generate additional traffic to and from the site (HGV movements:128 two-way movements per day, light vehicles 21 two-way movements), with potential air quality impacts related to vehicle emissions.</p> <p>A dust assessment would be required to establish the significance of impacts. Restoration could ultimately improve air quality by habitats absorbing pollutants such as from the A1, though this is not expected to be at a significant level.</p> <p>Plan level / regional / wider effects. None noted.</p> | | ✓ | ✓ | | m- ? | -- ? | m- ? |
| 5. To use soil and land efficiently and safeguard or enhance their quality | <p>Proximity of soil and land receptors. Agricultural Land Classification: 80% Grade 2 (very good quality). 10% (along northern and south western boundaries) Grade 3 (good to moderate quality). Circa 10% is Grade 4 (poor quality). Greenfield site – no known risk factors for contaminated land. No known mining subsidence risks.</p> <p>Local effects. There is the potential for up to 103ha²⁹ of best and most versatile agriculture land (Grade 2 and 3) will be lost. Restoration to wetlands may permanently remove the productive potential of some of this land.</p> <p>Plan level / regional / wider effects. Loss of best and most versatile land cumulatively could have an effect on regional / national food production capacity. At this scale of loss effects are considered to be of</p> | ✓ | | ✓ | | -- | -- | -- ? |

²⁹ 103ha across the 12 year life of the site would be an annual 8.6ha loss. 2365ha of agricultural land was lost to development in 2014/15 in England. 2365ha of agricultural land was 2014/15 in England. Loss due to this site would represent a 0.4% contribution to this category of soil loss across England for each year of the site. [Source: Gov.uk, 2016. Land Use Change Statistics – Live Tables]. 2014 to 2015 [URL: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-land-use-change-statistics>].

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>relatively high significance.</p> <p>The overall level of effect on the SA objective is considered to be high negative, largely due to locally significant effects.</p> | | | | | | | |
| 6. Reduce the causes of climate change | <p>Proximity of factors relevant to exacerbating climate change. Patch of deciduous woodland on site. Also immediately adjacent (including very slight overlap) and up to 20m from northern boundary. Site visit noted the following features on site: grassland / pasture, woodland /copse, hedgerows, standalone trees.</p> <p>Local effects. As climate change is a global issue effects are reported in wider effects below.</p> <p>Plan level / regional / wider effects. Although there is the potential for the loss of some small amounts of habitats with carbon storage potential this impact is considered insignificant. However, the additional traffic using the site would have a minor negative impact on the SA objective, albeit lessened by this site's excellent proximity to the A1 and northern markets in particular. Restoration is likely to have some potential as a carbon sink. A large amount of energy will be required for machinery to extract the sand and gravel from the site, with associated emissions and use of natural resources. Overall the site would have a moderate negative effect.</p> | ✓ | ✓ | | ✓ | m- | m- | m- ? |
| 7. To respond and adapt to the effects of climate change | <p>Proximity of factors relevant to the adaptive capacity³⁰ of a site. This site is almost entirely within Flood Zone 3 (approximately 90%). The remainder of the site (about 10%) is either Flood Zone 2 (<10%) or Flood Zone 1 (<5%). Flood defences along the north western boundary of the site may offer some protection (though the standard of protection is not known).</p> <p>Surface water flooding affects small areas (<10%) of the site, with low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) areas of ponding distributed across the site. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses.</p> | ✓ | | ✓ | ✓ | - | - | ++ |

³⁰ Adaptive capacity is defined as the ability of a system to adjust to climate change to moderate potential; damage or take advantage of opportunities (adapted from CARE International, 2015. Adaptive Capacity [URL: http://www.careclimatechange.org/tk/integration/en/key_concepts/adaptive_capacity.html]

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| | <p>The Ouse CFMP / Unit: Swale Washlands / Policy 6. Circa 20% of site in NY08 Swale Washlands Living Landscape.</p> <p>Local effects. Although site is water compatible, the high risk of flooding to this site mandates the need for emergency planning. In the longer term there is the potential for this site offer flood storage to the wider catchment. The element of standoff from the river corridor at this site means it is not likely to hinder species movement as a consequence of climate change.</p> <p>Plan level / regional / wider effects. Not applicable to this site.</p> | | | | | | | |
| 8. To minimise the use of resources and encourage their re-use and safeguarding | <p>Proximity of factors relevant to the resource usage of a site. No spatial factors identified.</p> <p>Local effects. This site will extract virgin sand and gravel which will be unavailable for future use (unless recycled). This is considered to have a high negative effect on the SA objective.</p> <p>Plan level / regional / wider effects. None noted.</p> | ✓ | | ✓ | | - | -- | -- |
| 9. To minimise waste generation and prioritise management of waste as high up the waste hierarchy as practicable | <p>Proximity of factors relevant to managing waste higher up the waste hierarchy. No spatial factors identified.</p> <p>Local effects. None noted.</p> <p>Plan level / regional / wider effects. The site may have an indirect negative impact on the prioritising the management of waste up the waste hierarchy as a result of providing virgin sand and gravel and reducing the need to recycle sand and gravel from other locations.</p> | | ✓ | | ✓ | - | - | - |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 10. To conserve or enhance the historic environment and its setting, cultural heritage and character | <p>Proximity of historic environment receptors. Conservation areas: Kirkby Fleetham 750m south; Registered Parks and Gardens: None within 5km; Registered Battlefields: none within 5km; World Heritage Sites: None within 5km; Scheduled Monument 1.7km south. “Motte and bailey castle and medieval settlement earthworks within Hall Garth” (1021103). Scheduled Monument 1.7km north. “Castle Hills medieval motte and bailey castle, and 20th century airfield defences, 700m north east of Oran House” (1020991)</p> <p>Listed buildings: 16 Listed Buildings within 1km (1 Grade I, 13 Grade 2 and 2 Grade 2*). Grade II Listed Building 560m east “Gate Piers Approximately 500 Metres to South West of Kirkby Fleetham Hall” (1174452). Two Grade II* Listed Buildings 760m east “Kirkby Fleetham Hall, Church of St Mary” (1295737, 1150928). Grade II Listed Building 100m west “Hook Car Hill Farmhouse” (1150927). Grade II Listed Building 330m south-east. “North Lowfield Farmhouse” (1150929). Grade II Listed Building 180m east. “Langton Farmhouse” (1315474). Grade II Listed Building 930m north. “Cow Byre Approximately 400 Metres To West of Kiplin Hall” (1315105). Grade I Listed Building and 5 Grade II Listed Buildings associated with it 1km north “Kiplin Hall, Gates and Railings to East of Kiplin Hall” (1315476, 1294767). Grade II Listed Building 460m north. “Kiplin Farmhouse” (1150209). Grade II Listed Building 460m north. “East Gateway and Lodge to Kiplin Hall” (1150207). Grade II Listed Building 780m south “Friars Garth” (1295739). Scheduled Monument 1.6km north-west. “World War II fighter pens and associated defences at former RAF Catterick, 120m south and 340m north east of Oran House” (1020990).</p> <p>Named designed landscapes: About 20% of the site, mainly in the south, overlaps with Kirkby Fleetham Hall.</p> <p>HLC Broad type – Enclosed land; HLC Type – Modern improved fields. Undesignated archaeology in this area includes evidence from the prehistoric period onwards. Archaeological material has been recovered including a handful of lithic objects, pottery with notable quantities of medieval material, ceramic building material and two medieval lead weights. The distribution of medieval ceramic is coincident either with areas of ridge and furrow cultivation identified in aerial photographs and with linear anomalies resulting from a magnetometer survey or with the position of Kirkby Lane, which may represent the line of an earlier route.</p> | ✓ | ✓ | ✓ | ✓ | m- ? | m- ? | 0 ? |

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| | <p>Local effects. The HLC type of this area is modern improved fields and as the allocated site is a smaller part of a larger area of similar character type, of which the legibility is fragmentary the proposed extraction is unlikely to have a major impact upon the historic landscape character of the immediately surrounding area, although it is acknowledged that within the site the historic landscape character will become invisible as development will replace an earlier field system. This effect is not considered to be significant.</p> <p>A site level assessment of potential impacts to designated heritage assets in the vicinity of the allocated site has been undertaken. A summary of potential impacts and a significance of effect rating is provided below:</p> <ul style="list-style-type: none"> • Two Grade II* Listed Buildings 760m east “Kirkby Fleetham Hall, Church of St Mary” (1295737, 1150928) – removal of the existing agricultural setting and replacing it with an industrial landscape and change to curated views. Cumulative impact with other quarries in the area, increasing the industrialisation and the degree of change along the approach to the building. Considered to have a significance of effect Moderate adverse. • Grade II Listed Building 100m west “Hook Car Hill Farmhouse” (1150927) – removal of the agricultural context and replacement with industrial. Cumulative impact with other quarries in the area, increasing the industrialisation and the degree of change along the approach to the building. Considered to have a significance of effect Moderate adverse. • Grade II Listed Building 560m east “Gate Piers Approximately 500 Metres to South West of Kirkby Fleetham Hall” (1174452) – removal of agricultural setting, replacing it with an industrial landscape and change to curated views. Cumulative impact with other quarries in the area, increasing the industrialisation and the degree of change along the approach to the building. Considered to have a Slight adverse effect. <p>The allocated site is considered to have no effect on significance at other designated assets within the search area.</p> <p>In the long term, following restoration the effect is considered to be neutral to heritage assets if the site is restored to agriculture, with a degree of uncertainty (dependent on the restoration scheme adopted).</p> | | | | | | | |

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| | <p>There is high archaeological potential for the survival of archaeological remains within the site from the later prehistoric period onwards and, although the site has only been partially archaeologically field evaluated, it is assumed that allocating this site would be likely to cause the loss of these archaeological remains if the site is extracted without mitigation. However, it is expected that investigation works required by the Joint Plan Policy D08 (Historic Environment) – ‘mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, adequate provision should be made for excavation and recording before or during development.’ would result in an overall minor negative effect.</p> <p>Archaeological potential is deemed uncertain until such time as an archaeological field evaluation is carried out.</p> <p>Plan level / regional / wider effects. None noted.</p> | | | | | | | |
| 11. To protect and enhance the quality and character of landscapes and townscapes | <p>Proximity of landscape / townscape receptors and summary of character. National Parks: None within 10km; AONBs: None within 10km; Heritage Coast: None within 10km; ITE: None within 5km; Local landscape designations: none (however, the site lies partly within the undesignated historic park of Kirkby Fleetham Hall, and to the north of the River Swale it is close to the undesignated historic park of Kiplin Hall).</p> <p>NCA: The site lies within the Vale of Mowbray; NY&Y LCA: The site lies wholly within Landscape Character Type 24: ‘River Floodplain’; Hambleton LCA: The site extends over landscape type 5b: ‘Intensively Farmed Lowland (simple topography) – intermediate enclosure’; type 3: ‘Isolated Minor Landform’, and type 6d: ‘Linear River Landscapes, River Course with Broad Floodplain (tree-lined)’. Intrusion: Undisturbed³¹. Light pollution: the site ranges from <0.25 to 0.5 NanoWatts/ cm²/ sr³².</p> | ✓ | ✓ | ✓ | ✓ | m- | m- | m- |

³¹ Urban intrusion: the area is currently undisturbed, and the majority of the area is cut off by the river and accessed by minor roads. However the B6271 lies close to the northern part of the site.

³² Light pollution and dark skies are measured on a scale <0.25 (darkest) to >32 (brightest) NanoWatts/ cm²/ sr. CPRE, 2015; England’s Light Pollution and Dark Skies – Interactive Map. Available at <http://www.cpre.org.uk/>. Accessed September 2016.

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| | <p>The site is generally screened, although the flood bank along the River Swale affords a view. It would be overlooked from Kirkby Fleetham Hall.</p> <p>Local effects. No impacts on nationally or locally designated landscapes. However, the site lies partly within the undesignated historic park of Kirkby Fleetham Hall (Kirkby Hall on old maps), and to the north of the River Swale it is close to the undesignated historic park of Kiplin Hall. There is a cluster of historic parklands within this part of the Swale corridor, so group value and contribution to landscape character need to be considered. In 1995 the 18th century landscape of Kirkby Fleetham Hall was recommended for inclusion in the Historic England Register and although it was not ultimately designated it merits further assessment and potentially a high degree of protection³³.</p> <p>The cluster of Kirkby Fleetham Hall and St Mary's Church (both grade II*) and associated buildings and cottages are not included in the Kirkby Fleetham Conservation Area but they were once linked by a drive leading along a wooded ridge to the village, where a pair of lodges near the village green marked the entrance to the grounds³⁴. Park Plantation is still present at the edge of the former park. A track that once continued northwards from the Hall ends at Kirkby Gate, close to the River Swale. Further information is needed and clarification as to whether Kirkby Fleetham Hall could be worthy of designation as a Registered Park and Garden would need to be obtained from Historic England.</p> <p>The site will negatively alter the landscape settings of the cluster of Kirkby Fleetham Hall, St Mary's Church, churchyard and associated cottages, and also the cluster around Kiplin Hall. The site is less than 1km from the current village of Kirkby Fleetham although historically linked, and the village itself is likely to be screened by a wooded ridge. The northern part of the site is close to the small rural village of Great Langton.</p> <p>There would be cumulative effects with the adjoining Killerby site (see MJP21), which also affects</p> | | | | | | | |

³³ The designer was William Aislabie (son of John Aislabie who designed the Studley Royal/Fountains Abbey landscape) who added to the design of Studley Royal and was the designer of Hackfall which has been undergoing restoration and re-evaluation).

³⁴ These appear to have still been present in the 1950s, as was the parkland to the east of the Hall.

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | <p>undesigned historic parkland at Killerby Hall. The Swale Valley, between Brompton on Swale and Scruton is characterised by a concentration of six historic designed landscapes - Killerby Park, Kirkby Fleetham Park, Kiplin Hall Park, Brough Park, Langton Park and Scruton Park. So far, only Kiplin Hall Park is directly affected by quarrying. There would also be cumulative effects with extraction to the north of the River Swale, at Ellerton and Kiplin Hall Quarries. With so many existing or proposed quarries in the area there are concerns that an artificial landscape (of lakes and restored quarries) will emerge around the River Swale corridor.</p> <p>This is still a tranquil area, although threatened by quarrying at Killerby Hall. Vehicle movements may affect tranquillity / character (currently no quarrying in the area to the south of the River Swale).</p> <p>In summary, the proposed site would have an adverse impact on the setting of Kirkby Fleetham Hall and St Mary's Church, the cumulative effects with the potential Killerby Quarry, and also the potential cumulative effects on the landscape of this part of the River Swale corridor would need further evaluation.</p> <p><u>Plan level / regional / wider effects.</u> None noted.</p> | | | | | | | |
| 12. Achieve sustainable economic growth and create and support jobs | <p><u>Proximity of factors relevant to sustainable economic growth.</u> Site is very close to the A1 giving reasonably good access to York, Leeds and Teesside.</p> <p><u>Local effects.</u> The estimated mineral reserve at this site is 3.5 million tonnes of sand and gravel, with this potentially being made available to the market over the lifetime of the site. This would make a significant contribution to the minerals requirement of the building sector by helping to boost supply of a key building material (as well as supporting freight driving jobs). However, the extraction of minerals is not considered a long term industry as the economic boost and jobs provided at the site is limited to the lifetime of mineral extraction. Overall the allocation is considered to have a minor positive effect in the short and medium term, with a neutral effect in the long term following closure of the site.</p> <p>There are opportunities for restoration of the site, combined with that of other nearby sites to create a minor tourist attraction.</p> | ✓ | ✓ | ✓ | ✓ | + | + | 0 |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| | Plan level / regional / wider effects. None noted. | | | | | | | |
| 13. Maintain and enhance the viability and vitality of local communities | <p>Proximity of factors relevant to community vitality / viability. Index of Multiple Deprivation: Leeming Bar – not in most deprived 20%. Nearest settlement is Kirkby Hall to the south (and surrounded by the site on 3 sides). Hookcar Hill is 50m south; Great Langton is also just 100m north-east, while Kiplin is 450m north. Catterick is 2.6km north-west, Scruton is 3.1 km south, Leeming Bar is 4.8km south, Scorton is 3.8km north. Catterick and Bolton on Swale are in Richmondshire. The other settlements are in Hambleton of which only Leeming Bar is listed in the settlement hierarchy: it is a Service Village (5% of housing directed to Service Villages). Catterick is a Primary Service Village in Richmondshire (13% of the housing – 240 houses across this category of settlement).</p> <p>Local effects. This site could support a modest amount of jobs in extraction and freight. It would also supply a useful supply of building materials to support the planned growth housing stock in nearby settlements. Restoration may provide a useful community resource.</p> <p>Plan level / regional / wider effects. None noted.</p> | ✓ | ✓ | ✓ | ✓ | + | + | + |
| 14. To provide opportunities to enable recreation, leisure and learning | <p>Proximity to recreation, leisure and learning receptors. Footpath 10.84/9/2 crosses site. Claimed footpath runs adjacent to southern boundary near Kirkby Fleetham Hall. National Cycle Network Route 71 runs along eastern boundary. No common ground or village greens within 500m.</p> <p>Local effects. This site would be visible from the National Cycle Network (which may also suffer temporary dust and noise impacts) and would result in the loss of a claimed footpath. There is the potential for improved access in the long term as part of the restoration scheme.</p> <p>Plan level / regional / wider effects. None noted.</p> | ✓ | ✓ | ✓ | | - | - | m + ? |

| Sustainability Objective | Key Observations on Significance | | | | | Score | | |
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| 15. To protect and improve the wellbeing, health and safety of local communities | <p>Proximity to population / community receptors / factors relevant to health and wellbeing. No schools or health centres within 1km. Nearest settlement is Kirkby Hall to the south (and surrounded by the site on 3 sides). Hookcar Hill is 50msouth, Great Langton is also just 100m north-east, while Kiplin is 450m north.</p> <p>Local effects. Several receptors are close to this site that are likely receive noise and air quality impacts, particularly during the construction and restoration of the site. Traffic from the site may combine with other quarries in the vicinity to increase danger on the roads, traffic emissions, vibration and dust, depending on routes taken. Depending on restoration schemes, accessible countryside would have a positive effect on wellbeing.</p> <p>A traffic assessment recommends that traffic accesses the site via MJP21 site so no traffic onto the B6271 where there are receptors. It is also recommended that Personal Injury Collision data is reviewed as part of any future planning application for the MJP33 submission site and appropriate mitigation measures put in place.</p> <p>Plan level / regional / wider effects. None noted.</p> | ✓ | ✓ | ✓ | | - | - | m + ? |
| 16. To minimise flood risk and reduce the impact of flooding | <p>Proximity to flood zones. This site is almost entirely within Flood Zone 3 (approximately 90%). The remainder of the site outside of Flood Zone 3 (about 10%) is either Flood Zone 2 (<10%) or Flood Zone 1 (<5%). Flood defences along the north western boundary of the site may offer some protection (though the standard of protection is not known).</p> <p>This site lies across six 1km squares of differing groundwater vulnerability according to the Environment Agency's 'Areas Susceptible to Groundwater Flooding' map. The north-west of the site lies in area where >50% to <75% of the km square has conditions that could support superficial deposits flooding. The south west lies in an area where >25% to <50% of the km square has conditions that could support superficial deposits groundwater flooding. The north east and south east site lies in an area where <25% of the km square has conditions that might support Clearwater flooding.</p> <p>A nearby site (at Kiplin Hall) has shown that 'generally the natural water table appears to lie between the levels of 36 metres and 38 metres above Ordnance Datum and therefore the depth to the water is between</p> | ✓ | | ✓ | | - | - | m + ? |

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| | <p>1 and 2 metres below the flat lying ground". With this in mind it is thought that the site is likely to encounter groundwater during extraction. Ouse CFMP / Unit: Swale Washlands – Policy 6.</p> <p>Local effects. A Strategic Flood Risk Assessment (SFRA) Sequential Test³⁵ undertaken for the site concluded that this site would 'Pass'³⁶. Although the site is water compatible development, the risk of flooding to this site mandates the need for emergency planning. In the longer term there is the potential for this site offer flood storage to the wider catchment.</p> <p>It is recommended that prior to development a site specific flood risk assessment should further consider the standard of protection and purpose of flood defences, groundwater flooding and how SuDS can be used to drain the site.</p> <p>Depending on the restoration approach adopted, the site could contribute to reducing flood risk in the area in the long term.</p> <p>Plan level / regional / wider effects. None noted.</p> | | | | | | | |
| 17. To address the needs of a changing population in a sustainable and inclusive manner | <p>Proximity to factors relevant to the needs of a changing population. The site does not conflict with any known allocations in other plans.</p> <p>Local effects. The site would make a significant contribution to the supply of sand and gravel.</p> <p>Plan level / regional / wider effects. Output from the site may also support markets outside of the plan area.</p> | | ✓ | ✓ | | ++ | ++ | 0 |

³⁵ The Sequential Test approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high flood risk areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible.

³⁶ The Sequential Test noted that this is water compatible development, however, MJP43, followed by MJP17 and MJP21 should be considered before this site from a flood risk point of view.

| Cumulative / Synergistic effects³⁷ | |
|--|--|
| Planning context | <p>The nearest settlement in Hambleton District is Kirkby Hall to the south (and surrounded by the site on 3 sides). Hookcar Hill is 50 metres south, Great Langton is also just 100m north-east, while Kiplin is 450m north. Catterick is 2.6km north-west, Scruton is 3.1km south. Leeming Bar is 4.8km south. Scorton is 3.8km north. Only Leeming Bar is listed in the settlement hierarchy: it is a Service Village (5% of housing directed to Service Villages). No Housing or employment Proposals Map allocations are noted within 200m (site does overlap with a SINC site (see SA objective 1)).</p> <p>Catterick and Bolton on Swale are in Richmondshire. Catterick is a Primary Service Village in Richmondshire (13% of the housing – 240 houses across this category of settlement). Site allocations not yet finalised in Richmondshire.</p> |
| Other Minerals and Waste Joint Plan Sites | Three other MWJP sites lie within 5km: MJP21 adjacent to west, MJP17 2km west, MJP43 3.1km south. |
| Historic minerals and waste sites | The area has high archaeological potential and the cumulative loss of this resource in this area could potentially result in a high negative cumulative impact. There are also a number of historic buildings / areas of parkland in this area and cumulative visual / setting impacts are likely to occur. |
| Landscape Impacts | In combination with other sites, large areas of the landscape are being irreversibly changed from their natural character, a major negative cumulative impact. |
| Biodiversity Impacts | Cumulative impacts may occur due to loss of habitats and disturbance to species. Overall this may equate to the loss of an ecological network. In the longer term there are significant opportunities to provide benefits for biodiversity through the creation of priority habitats and the integration of sites in the area so they work as a coherent ecological network. |
| Water Environment | Several sites are located along the River Swale and it is considered that pollution / sedimentation may have a cumulative impact on this water body without mitigation. Following restoration there is the potential for a major positive impact in relation to the provision of additional flood storage which could have beneficial impacts further down the catchment. |
| Limitations / data gaps | |

³⁷ Cumulative effects have been factored into the scoring of each SA objective in the assessment framework.

No significant data gaps. More detailed assessment would be required to fully evaluate a number of effects however. This should be addressed at any subsequent planning application stage.

Mitigation requirements identified through Site Assessment process

- Design to mitigate impact on ecological issues.
- Design to minimise impacts on best and most versatile agricultural land.
- Design of development and landscaping of site to mitigate impact on: heritage assets (Listed Buildings, Conservation Area, archaeological remains and undesignated designed landscapes), local landscape features, and their respective settings and rights of way
- Design to include suitable FRA; for an FRA to be satisfactory, it will need to include necessary mitigation, such as compensatory storage, attenuation and SuDS as appropriate (and in this case, appropriate mitigation for the impact of relocating the stream).
- Design to ensure protection of the aquifer.
- Design to include suitable arrangements for public rights of way (diversion or retention, and associated mitigation, as appropriate)
- Design to include suitable arrangements for access and local roads
- Appropriate arrangements for control of and mitigation of the effects of noise and dust, etc.
- Appropriate restoration scheme using opportunities for the creation of a coherent habitat network in conjunction with nearby sites and contribution to the parkland setting, with well-informed justification for any wetland creation, considering also the potential adverse impacts of new wetland (as opposed to restoration to agriculture).