



Heidelberg Materials

TYTHERINGTON QUARRY: 6 MILLION TONNES ADDITIONAL RESERVES

Environmental Statement: Chapters 1-5





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TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 62282762

OUR REF. NO. 6MT ES / CHAPTERS 1-5

DATE: MAY 2024

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1 INTRODUCTION

1.1 OVERVIEW OF THE PROPOSED SCHEME

- 1.1.1. Heidelberg Materials¹ plan to secure the continued extraction of all consented limestone reserves, and extraction of further unconsented reserves, within the existing footprint of Tytherington Quarry, near Thornbury, Bristol (hereafter referred to as the 'Proposed Scheme'). To achieve this, Heidelberg Materials is seeking planning permission to change the existing working method at Tytherington Quarry to allow for the deepening of the Woodleaze area of the quarry to release an additional 3 million tonnes as well as enable the extraction of a further 3 million tonnes from the southern part of the quarry, beneath the existing soil store area.
- 1.1.2. As such, the following two planning applications are being made to South Gloucestershire Council (SGC):
- Section 73 planning application to vary conditions 1 (duration of permission)² and 25 (restoration and aftercare) to the extant principal planning consent NA/IDO/002/A (dated February 2006) for Tytherington Quarry; and
 - Section 73 planning application to vary conditions 4 & 5 (approved working scheme) and conditions 17 & 18 (overburden and topsoil storage) to the extant planning consent P93/2645 (dated December 2002) covering the soil store area.
- 1.1.3. The two Section 73 planning applications are accompanied by a single overarching Environmental Impact Assessment (EIA), the results of which are reported in this Environmental Statement (ES) and considers both submissions, as well as a single overarching Planning Supporting Statement.
- 1.1.4. A site location plan is provided as **Figure 1.1** and the extant planning boundaries including the wider Heidelberg Materials land ownership is provided in **Figure 1.2**.

1.2 THE APPLICANT AND THE PROJECT TEAM

- 1.2.1. This Environmental Statement (ES) has been prepared on behalf of the applicant Heidelberg Materials by WSP UK Ltd (hereafter referred to as WSP).
- 1.2.2. WSP is registered under the EIA Quality Mark operated by the Institute of Environmental Management and Assessment (IEMA) which recognises our commitment to excellence in EIA activities. WSP was one of the original eight pilot organisations in the UK that trialled the process in 2011 and developed the EIA Quality Mark scheme from the former Corporate Registered Assessor process. We have continued to maintain our EIA Quality Mark registration, following annual

¹ Formerly known as Hanson UK

² Despite the title of this condition, Heidelberg Materials are **not** seeking to change the duration of the permission but rather to amend the condition to reference the approved documents relevant to the permission.

examination by IEMA in relation to our ongoing products, staff, innovation and promotion of EIA within the industry. WSP has and continues to support and lead nationally recognised guidance for EIA in the UK.



- 1.2.3. WSP has developed and applies an in-house set of processes, procedures and guidance for EIA based on sound project management principles.

1.3 PURPOSE OF THE ENVIRONMENTAL STATEMENT

- 1.3.1. This ES has been prepared as part of an EIA relating to the two Section 73 planning applications for Tytherington Quarry (as detailed in paragraph 1.1.2 above). EIA is required for certain developments under *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 571)* (hereinafter referred to as the EIA Regulations). This ES has been prepared for the purpose of meeting those requirements of the EIA Regulations that pertain to ESs. The ES provides part of the information that will be used by SCC and others to inform the process of determining the two Section 73 planning applications.
- 1.3.2. The development requires EIA (i.e. it is ‘*EIA development*’) because it falls within Schedule 1 of the EIA Regulations (as amended by *The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015*) and is likely to have significant effects. On this basis, EIA has been undertaken.
- 1.3.3. A scoping report (WSP, 2023) was prepared to identify the potentially significant environmental effects of the development that need to be assessed further and to outline the approach to undertaking the assessment of these effects. The scoping report was submitted to SGC in October 2023. The report enabled statutory and non-statutory organisations and others with an interest in the development (‘stakeholders’) to comment on the proposed scope of the assessment.
- 1.3.4. Drawing on the consultation responses and previous and subsequent assessment work, the ES reports the findings of an assessment of potentially significant environmental effects of the development. This reflects the requirement of the EIA Regulations for the ES to discuss in any depth only those effects that are likely to be significant. The EIA Regulations do not define significance; the overall approach that has been taken to defining significance, as well as further information about the approach to preparing the ES is outlined in **Chapter 4**.
- 1.3.5. Schedule 4 of the EIA Regulations specifies what should be included in an ES. This includes “*a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development...*”.
- 1.3.6. Schedule 4 also specifies that the ES should describe those “*aspects of the environment likely to be significantly affected by the development, including, in particular population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.*”
- 1.3.7. In this ES, these topics are dealt with under the headings set out in **Table 1-1**. The ES also contains a number of appendices which are referenced throughout the document.

Table 1-1 - Environmental topics to be addressed in the ES and chapter references

Topics ³ that need to be assessed under the EIA Regulations	Chapter titles in this ES
Population	Visual effects [Chapter 6]; noise [Chapter 7]; traffic and transport [Chapter 11]; recreation and socio-economics [Chapter 12].
Biodiversity	Biodiversity [Chapter 10]
Land	Land quality and soils has been scoped out (as agreed by SGC in their Scoping Opinion (ref. P23/031/SCO, January 2024).
Soil	Land quality and soils has been scoped out (as agreed by SGC in their Scoping Opinion (ref. P23/031/SCO, January 2024).
Water	Water [Chapter 9]
Air	Air quality has been scoped out (as agreed by SGC in their Scoping Opinion (ref. P23/031/SCO, January 2024).
Climate	Climate change climate resilience [Chapter 13]; climate change greenhouse gas emissions [Chapter 14]; Water environment [Chapter 9] and further discussion / assessment in the Planning (Supporting) Statement
Materials assets	The need for the development [Chapter 2]
Cultural heritage	Cultural heritage has been scoped out (as agreed by SGC in their Scoping Opinion (ref. P23/031/SCO, January 2024).
Landscape	Landscape [Chapter 6]
The inter-relationship between the above factors	These are discussed within each Chapter as relevant; Cumulative effects [Chapter 15]

1.4 STRUCTURE OF THIS ENVIRONMENTAL STATEMENT

1.4.1. The ES comprises 4 volumes:

³ In this ES, the word 'topic' is used when referring to the environment that could be affected by the Proposed Scheme. Other words with the same general meaning are used in the EIA Regulations, notably 'factor' and 'aspect', but these are not used in the same context within this ES.

- **Volume 1** is a Non-Technical Summary (NTS), which is also available as a standalone document.
- **Volume 2** (i.e. this volume) is sub-divided into the following chapters:
 - **Chapter 2** explains the need for minerals development, outlines the main alternatives considered for meeting this need and indicates the main reasons for the choice of the preferred alternative.
 - **Chapter 3** provides a description of the minerals development.
 - **Chapter 4** details the approach that has been adopted in preparing the ES.
 - **Chapter 5** provides an overview of the policies that are relevant to the ES and any authorisations required.
 - **Chapters 6 to 14** set out the technical assessments for the environmental topics that need to be assessed in the ES.
 - **Chapter 15** considers the cumulative effects arising from the development and other developments in the locality.
- **Volume 3** contains the figures referred to in the ES.
- **Volume 4** contains the appendices referred to in the aforementioned volumes.

1.4.2. A glossary of technical terms is provided as **Appendix 1A** of the ES in Volume 3.

1.5 OTHER DOCUMENTS

- 1.5.1. The two Section 73 planning applications for Tytherington Quarry are informed by this overarching ES, but are also informed by other documents, the contents of which are of direct relevance to the findings of the ES. These other documents are:
- The Planning (Supporting) Statement; and
 - Flood Risk Assessment (FRA).

1.6 REFERENCES

WSP, Tytherington Quarry: 6 Million Tonnes Additions Reserves – Environmental Impact Assessment (EIA) Scoping Report. 6MTSCOPINGRPTV2, October 2023.

2 DEVELOPMENT NEED AND ALTERNATIVES

2.1 NEED FOR THE PROJECT

- 2.1.1. In planning policy terms, the ‘need’ for the development detailed in the ES requires little, if any, justification. This is because quarrying activities at Tytherington Quarry already have planning consent and the quarry is operational. This ES is simply a mechanism to establish that the extraction of additional mineral by the deepening of the existing quarry floor within the Woodleaze area and the lateral extension in the soil store area, will ensure the site is worked and restored in an environmentally acceptable manner.
- 2.1.2. Notwithstanding this, the need for the extraction of an additional 6 million tonnes of mineral at Tytherington Quarry now, rather than in 10/20 years’ time, is considered in some detail in the Planning Statement. Allied to this however, this chapter of the ES considered the alternatives to the extraction of additional minerals (for which need for the overall scheme is an implicit consideration), how the design of the overall project has evolved, and details of the final scheme.

2.2 CONSIDERATION OF ALTERNATIVES

- 2.2.1. An ES should include details of any alternatives to the development considered by the applicant. In this context, the applicant has looked at alternatives to the scheme proposals.
- 2.2.2. One alternative to the proposals is to continue extraction at Tytherington Quarry in accordance with its extant planning consent. As outlined in **Chapter 3** of this ES, permitted mineral reserves at Tytherington Quarry⁴ total some 29 million tonnes (mt) – 11mt in Grovesend and 18mt in Woodleaze. All 11mt of permitted mineral reserves within Grovesend are constrained by existing operational and processing facilities and/or proposed new plant site and it is envisaged these would be extracted towards the end of the quarry’s life once all other reserves have been exhausted. Similarly, of the permitted mineral reserves within Woodleaze, 10mt are constrained by the working method with mobile plant and proposed new plant requirements. As such, there are only 8mt of unconstrained accessible permitted mineral reserves remaining at Tytherington Quarry, all within Woodleaze. With the quarry currently operating at a capacity of 2 million tonnes per annum (mtpa), it is estimated there are only some 4 years of unconstrained consented limestone reserves left within the quarry (i.e. Woodleaze). This would result in not only the sterilisation of significant limestone reserves at the site – which would be contrary to adopted minerals policy at both national and local level.
- 2.2.3. Further discussion on alternatives is provided in the Planning Statement.

2.3 EVOLUTION OF THE PREFERRED SCHEME

- 2.3.1. Even before the start of the EIA process, many development proposals are informed by environmental considerations. For example, early decisions might be made to avoid direct effects to designated nature conservation or cultural heritage features and there will often be recognition of the

⁴ As of April 2024.

need to implement standard measures to control noise and dust emissions, and to minimise the risk of pollution incidents. Further opportunities to avoid or reduce potential adverse effects, or to deliver environmental enhancements, may be identified whilst preparing the scoping report.

- 2.3.2. A design led approach has at all stages sought to acknowledge and mitigate potential environmental effects as well as incorporate and where possible enhance, environmental features and assets. Measures to minimise potential environmental effects, alongside enhancement measures where possible, are identified within each individual chapter.
- 2.3.3. The submission has been informed by extensive desk study consultations with SGC and statutory consultees including the Environment Agency, Natural England and the relevant environmental health and highway authorities.
- 2.3.4. Further details on the evolution of the preferred design are set out in **Chapter 3: Description of Proposed Scheme** of this ES.

3 DESCRIPTION OF PROPOSED SCHEME

3.1 INTRODUCTION

- 3.1.1. This chapter provides a description of the Proposed Scheme, including a description of how the Proposed Scheme would be constructed, alongside the assumptions used for the basis of assessment where this information is subject to confirmation. This description aligns with what planning consent is sought for, and, together with the supporting plans (as identified in **Section 3.3** below), is what the technical assessments are based upon (**Chapters 6 to 15**).

3.2 THE SITE AND SURROUNDINGS

- 3.2.1. Tytherington Quarry is an operational limestone quarry, located adjacent to the west of the village of Tytherington. Other nearby settlements to Tytherington Quarry include the market town of Thornbury which is located approximately (~) 1.5 kilometres (km) north-west from the quarry; the village of Alveston which is located approximately 2.5km south-west from the quarry; and the village of Cromhall which is located approximately 3km north-east from the quarry. Residential properties are located west of Tytherington Quarry. The nearest residential receptors are located on Itchington Road, circa 20m north of the Woodleaze area of the quarry.
- 3.2.2. The quarry (including the plant area and areas where soils are stored etc.) covers a total area of ~42 hectares (ha). The site is centred on national grid reference ST 65626 88376.
- 3.2.3. The main approach route is from the west via Tytherington Road, which runs in a north-west/south-east direction and is accessed from the A38. The quarry is adjacent to the M5, which forms the eastern site boundary. The Thornbury Branch Line is a dedicated freight rail line which passes the quarry sidings from Grovesend Overbridge. The route is a 12km branch of the Midland Railway and runs from Yate to Thornbury.
- 3.2.4. Tytherington Quarry currently comprises two historic quarries. Grovesend Quarry was the initial quarry to the north of Itchington Road and comprises the main quarry offices, weighbridge, processing plant and quarry railway sidings. Woodleaze Quarry is located to the south of Itchington Road but is only accessible from Grovesend Quarry via a tunnel underneath the railway. All ongoing mineral extraction is currently taking place from within Woodleaze Quarry. Immediately north of Tytherington Quarry, north of Grovesend on the opposite side of Tytherington Road, is North Face Quarry, which is owned by FCC Environment.
- 3.2.5. The Site falls within Green Belt land. Woodleaze Quarry is partially designated as a Regionally Important Geological Site. There are Sites of Nature Conservation Interest located north of Woodleaze Quarry boundary and south of the Site, beyond the M5 motorway. There are four Sites of Special Scientific Interest (SSSI) located within 5km of the site, which are all designated for their geological importance. The Tytherington Quarry SSSI is located immediately to the north of Grovesend Quarry. The Site also falls between two Scheduled Ancient Monuments, the nearest one is located circa 400m east of the Site and beyond the M5 motorway.
- 3.2.6. There is no public access to the Site or Public Rights of Way through the Site.
- 3.2.7. A site location is provided in **Figure 1.1** and the extant planning boundaries including the wider land ownership is provided in **Figure 1.2**.

3.3 DESCRIPTION OF THE MINERAL DEVELOPMENT

BACKGROUND

- 3.3.1. Existing permitted mineral reserves at Tytherington Quarry⁵ total some 29 million tonnes (mt) – 11mt in Grovesend and 18mt in Woodleaze. All 11mt of permitted mineral reserves within Grovesend are constrained by existing operational and processing facilities and/or proposed new plant site and it is envisaged these would be extracted towards the end of the quarry's life once all reserves have been exhausted. Similarly, of the permitted mineral reserves within Woodleaze, 10mt are constrained by the working method with mobile plant and proposed new plant requirements. As such, there are only 8mt of unconstrained accessible permitted mineral reserves remaining at Tytherington Quarry, all within Woodleaze. With the quarry currently operating at a capacity of 2 million tonnes per annum (mtpa), it is estimated there are only some 4 years of unconstrained consented limestone reserves left within the quarry (i.e. Woodleaze).
- 3.3.2. Heidelberg Materials propose to secure the continuation and extraction of all consented limestone reserves, and extraction of further unconsented reserves, within the existing footprint of Tytherington Quarry, near Thornbury, Bristol (hereafter referred to as 'the Proposed Scheme'). It is proposed to deepen the existing Woodleaze area of the quarry to release an additional 3mt as well as enable the extraction of a further 3mt from the southern part of the quarry, beneath the existing and consented soil store area.
- 3.3.3. The Proposed Scheme seeks an amendment to the extraction limits and approved working scheme at Tytherington Quarry to allow for the deepening of the existing Woodleaze area and an extension into the consented soil store area (covered by extant consent P93/2645). The proposed extraction of the additional 6mt of limestone will be over and beyond of that already permitted and will be undertaken prior to the end of 2042 as per extant IDO consent NA/IDO/002/A. **Figure 1.2** illustrates the consented planning boundaries.
- 3.3.4. The main aspects of the Proposed Scheme include:
- The phased extraction, processing, and export of circa 6mt of saleable limestone aggregates (based on available geological information) from the existing Woodleaze and soil store areas.
 - The average output rate of circa 2 million tonnes of limestone aggregates per annum (as per current output rates).
 - Mineral extraction of the proposed areas will last for a period of circa 7.5 years (although this could be longer subject to changes in market demand) and include progressive restoration where achievable. Final restoration of the Site post 2042 will be to a deep waterbody with upper benches and a mix of woodland and grassland habitat as per the extant consent.
 - Permitted extraction techniques and output rates would remain unchanged as per the principal consent NA/IDO/002/A.
 - Mineral would continue to be processed at the site's mobile / fixed processing plant located within Woodleaze / Grovesend.

⁵ As of April 2024.

- Existing access arrangements into and out of the site would remain unchanged.
- Establishment of mineral and overburden stocking areas as well as temporary topsoil and subsoil storage mounds within the confines of the existing quarry (these will be developed in accordance with the phasing of operations and mitigation proposals).

AIMS OF THE PROPOSED SCHEME

- 3.3.5. The consenting of this additional limestone resource will provide continuity of a further 6mt limestone reserve to important rail-based markets in the short to medium term and safeguard the regionally significant quarry operations at Tytherington. Based on current output rates, it is estimated the Proposed Scheme would provide the quarry an additional 3 years of reserve.
- 3.3.6. The Proposed Scheme will increase the site's overall mineral reserve and ensure that principles of sustainable mineral extraction are adhered to thus ensuring that all workable deposits at the permitted site can be extracted.

PLANNING APPLICATION BOUNDARY

- 3.3.7. The proposed extension of the quarry out towards the soil store area falls outside the Red Line Boundary (RLB) of the extant principal planning consent for Tytherington Quarry (NA/IDO/002/A) but falls wholly within the RLB of the extant planning consent P93/2645 which is referenced in the principal consent. Therefore, any reference to the proposed extension of the quarry in this report, implies extension to the existing extraction limits and would be contained within the extant planning application boundary as illustrated in **Figure 1.1: Site location plan**.
- 3.3.8. The EIA is based upon this planning application boundary.

CLIMATE CHANGE RESILIENCE

- 3.3.9. Opportunities to mitigate potential adverse effects have already been incorporated within the existing operations at Tytherington Quarry or are imposed through a number of existing regulatory controls. The Proposed Scheme with these measures and controls in place has been subject to assessment for climate change resilience as detailed in Chapter 13 of the ES. No additional measures are proposed as mitigation in relation to the significant effects as none have been identified.

DEVELOPMENT PHASES

Overview

- 3.3.10. The Proposed Scheme will be undertaken within 3 development phases, which in total will last a period of circa 6 to 7.5 years subject to market conditions, but not extend beyond the extant 2042 end date of the principal planning consent. Restoration of the site will take place in a progressive manner – as extraction progresses to depth, restoration will follow behind. The phasing plans are illustrated in **Figures 3.1 to 3.3**. Extraction of mineral will continue within the existing Woodleaze area working in a south-eastern direction (including the soil store area) towards the eastern quarry edge alongside the M5 motorway.
- 3.3.11. The phased approach comprises:
- Phase 1 – Up to the end of Year 4**
- 3.3.12. The first phase of the Proposed Scheme would see the continued extraction of permitted mineral reserves in the southern area of the existing Woodleaze area of the quarry. The limestone in this

area would be worked in seven benches in a south-eastly direction, with safe working heights of up to 15m. The top quarry level would remain at 95m AOD and the maximum extraction depth during this phase will be to -10m AOD in accordance with the quarry's existing working plan. A small sump would be installed in the quarry floor.

- 3.3.13. As Woodleaze forms part of the existing operational area of the quarry, no topsoil or subsoil will need to be removed. The deepening of the quarry will continue as per existing permitted arrangements for extraction using the permitted plant and equipment and access arrangements. It is estimated that during this phase approximately 8mt of permitted mineral reserve would be extracted. Use of the existing weighbridge and office area will also continue as per the extant principal IDO consent.
- 3.3.14. During this phase progressive soil stripping of the soil store area would also begin. Stripped soils and other overburden materials would be stored on site and used for progressive restoration as and when required. As preparatory works in advance of Phase 2, the coppicing and translocation of the existing hedgerows along the north-western and north-eastern boundaries of the soil store area and felling of plantation woodland would also begin towards the end of this phase, during the appropriate season.
- 3.3.15. All operations described above are illustrated on **Figure 3.1**.

Phase 2 – Up to the end of Year 7

- 3.3.16. The second phase of extraction will see both the continued extraction of permitted mineral reserves by the continued deepening of Woodleaze and the extraction of additional mineral reserves from the soil store area. The limestone from the soil store area would be worked to minimum 7m wide final benches with safe working heights of up to 15m, continuing the line of benches already established in the Woodleaze area. The continued deepening of Woodleaze would be worked in two additional benches with safe working heights of 15m. The top quarry level would remain at 95m AOD and the maximum extraction depth during this phase will be to -40m AOD, taking the deepening of Woodleaze quarry void to its maximum depth.
- 3.3.17. The extraction of the soil store area and surroundings areas will require the removal of approximately 60,000m³ of overburden and topsoil which will be used and recovered to assist with the progressive restoration of the site. Until required, the majority of this overburden and topsoil will temporarily be used to create a perimeter screening bund around the soil store area, in the southwestern and southeastern corner of the quarry. The overburden and topsoil will also be used to extend the existing screening bund alongside the M5 to an approximate elevation of 110m AOD, which is between 5-7.5m higher than the crest of the existing screening bund to the south.
- 3.3.18. Extraction of the soil store area will be accessed via an internal access haul road which excavators, other equipment and HGVs will use to work the area. All other operations including use of the weighbridges and office will continue to be used as per consented arrangements. It is estimated that during this phase approximately 6.2mt of combined permitted and new mineral reserve would be extracted.
- 3.3.19. All operations described above are illustrated on **Figure 3.2**.

Phase 3 – Up to end of Year 9

- 3.3.20. The third and final phase of the Proposed Scheme will see the extraction of the soil store area complete and restoration in situ. This phase also focuses on the deepening and extraction of the

Woodleaze quarry floor and requires additional working of all bench levels. The limestone would be worked in a total of nine benches with safe working heights of up to 15m. The top quarry level would remain at 95m AOD, and the maximum extraction depth during this phase will be to -40m AOD, taking the deepening of Woodleaze quarry void to its maximum depth. It is estimated that during this phase up to 4mt of combined permitted and new mineral reserves would be extracted. As appropriate, progressive restoration of the site would be undertaken.

- 3.3.21. All operations described above are illustrated on **Figure 3.3**.

OPERATIONAL ACCESS AND MOVEMENT

Access

- 3.3.22. The deepening of the existing Woodleaze area of Tytherington Quarry will be accessed as per extant consented arrangements. This is via Tytherington Road located west of the site and which is accessed via the A38. No changes are proposed to the access in and out of the quarry. Access to the soil store area will be via the Woodleaze area using the existing internal haul road and any required changes thereof.

Weighbridge, wheel wash and site office

- 3.3.23. The Tytherington Quarry weighbridge, wheel wash and site office will remain unchanged and as per the extant principal IDO consent.

Movement

- 3.3.24. No changes are proposed to the extant consented vehicle and train movements.
- 3.3.25. Staff and visitors will continue to access and park at the quarry as per existing arrangements.

SITE SECURITY AND LIGHTING

- 3.3.26. The site is an existing operational quarry and is secured with high quality fencing. The perimeter of the entire quarry including the proposed application boundary is fenced with a mix of palisade and post and wire fencing. The site is also secured with CCTV infrastructure.
- 3.3.27. Access to the site is gated and all plant and equipment is safely secured within the site boundary.
- 3.3.28. Existing lighting arrangement will be retained and remain unchanged as a result of the Proposed Scheme.

OPERATIONAL HOURS

- 3.3.29. The opening hours in the extant permission for Tytherington Quarry (NA/IDO/002/A – Condition 3) will remain unaltered, as follows:

“No mineral extraction, crushing and screening of stone or any other ancillary operations involving aggregate processing (other than the production of coated roadstone, water pumping, servicing, environmental monitoring, maintenance and testing of plant or other similar work) shall be carried out on the site except between the following times:

6.00am to 9.00pm Mondays to Fridays; and

7.00am to 1.00pm on Saturdays

No servicing, maintenance and testing of plant shall be carried out between 10.00pm and 4.30am;

Operations for the stripping of soils and removal of overburden and the formation and subsequent removal of material from any environmental bank or soil storage are shall not be carried out except between the following times unless otherwise agreed in writing by the Local Planning Authority:

8.00am to 6.00pm Mondays to Fridays; and

8.00am to 1.00pm on Saturdays

No operations or activities (other than the produce of coated roadstone and environmental monitoring and water pumping) shall take place on Sundays, Bank Holidays and National Holidays.”

MINERAL EXTRACTION AND PROCESSING

- 3.3.30. The total extent of mineral extraction covers an area of circa 25 hectares (ha) in size, compared to the overall site area of ~42ha. The maximum extraction depth will be deepened to -40m AOD, which is expected to be reached during Phase 2 of the Proposed Scheme.
- 3.3.31. All material will be extracted and moved using the permitted mobile plant equipment, including long-arm and 360-degree excavators, loading shovel or front-end loaders (FEL) and HGVs.

EMPLOYMENT

- 3.3.32. Heidelberg Materials is a well-established company who currently employ over 4,000 people across the UK. The company's existing operations at Tytherington Quarry mean that Heidelberg Materials is already an important local employer, currently directly supporting some 40 full time equivalents (this includes Heidelberg Materials staff and contractors) and many more in the supply chain.
- 3.3.33. The Proposed Scheme will support the existing operations at Tytherington Quarry and thereby secure development and long-term job retention.
- 3.3.34. A detailed assessment of the socio-economic effects of the Proposed Scheme is set out in **Chapter 12** of this ES.

SITE CLEARANCE

- 3.3.35. Site clearance of the soil store area will require removal of vegetation and shrubs. An ash tree considered to be suitable for bats will remain; where clearance of the site and extraction of material will apply a stand-off to ensure there is no harm to the Ash tree. Where appropriate, any existing hedgerows which require removal will be translocated to an area immediate to the south of Woodleaze but within the landownership of Heidelberg Materials.

3.4 RESTORATION AND AFTERCARE SCHEME

- 3.4.1. The proposed restoration masterplan is illustrated in **Figure 3.4**.

PROGRESSIVE RESTORATION

- 3.4.2. Progressive restoration would take place across the site with opportunities concentrated across the following areas:
 - Upper benches above final water levels (i.e. above 68-70m AOD) would be restored through the placement of quarry waste and soils as soon as upper faces have been taken back to final face positions. These upper benches would feature a combination of calcareous grassland on areas of

shallow soils with clumps of trees and shrubs across corresponding areas of deeper soils. Natural regeneration of scrub may also occur on any inaccessible areas of bench. Rock trap bunds will be installed on wide benches as indicated in **Figures 3.1 to 3.3**.

- This restoration principle would also be applied to the lower benches which would receive soils and overburden and be seeded to grassland. This would serve as interim habitat until the water level rebounds at the end of quarry operations.
- Trial over-tipping of the steep and inaccessible dip-slope within Woodleaze would be undertaken to allow substrate to collect on rough ledges and provide for varied natural regeneration of both wildflowers and scrub.
- A new hedgerow with trees would extend along the northern edge of the existing soil store area (south of the proposed southern limit of extraction) to provide connectivity between the lengths of remaining hedgerow along the access track and the existing woodland belt along the western perimeter of the site.

FINAL RESTORATION

- 3.4.3. The proposed final restoration of the site is illustrated in **Figure 3.4** and demonstrates that the quarry would continue to be restored to a deep-water body with dry upper benches and a mix of woodland and grassland habitat. The proposals allow for the total re-use of indigenous soils and quarry waste on-site and consequently, no material import is required for restoration.
- 3.4.4. The restoration scheme has been developed to take account of the proposed extension and amendments to the soil store bunds. These amendments do not depart from the overall approved restoration scheme (as detailed in planning consent NA/IDO/002/A dated 7 February 2006). A copy of the approved composite restoration scheme (Drawing No. T6m/86b dated March 2011) is enclosed in **Appendix 3A**.
- 3.4.5. In addition to the bench and dip-slope measures detailed as part of the progressive restoration, the key restoration principles are as follows:
- The restoration plan assumes that water would rebound at 68-70m AOD in line with current best available knowledge of likely rebound levels and the permitted restoration scheme.
 - The screenbank adjacent to the current soil store and modified to accommodate the storage of additional overburden and soils in Phases 2 and 3, would be returned to a landform which is similar to baseline conditions. Where trees have been removed from the internal face of the screenbank during the operational phases, native trees and shrubs would be re-planted as part of the restoration to recreate the woodland belt. The proposed species list is set out in **Chapter 6: Landscape and Visual Impact Assessment**.
 - The remainder of the soil store area would be restored to deliver habitat gain. Species-rich grassland (calcareous or neutral depending on the soil chemistry beneath the soil store) will extend across the area alongside a mosaic of small ponds/scrapes and bare ground for the benefit of invertebrates, reptiles and amphibians.

3.5 EMBEDDED ENVIRONMENTAL MEASURES

- 3.5.1. The EIA Regulations require an assessment to be undertaken of 'the development' – not of the development with and without mitigation; such a division typically results in assessment that are longer than need be, rather than proportionate, as advocated by IEMA. To meet this requirement, the development is presented as a single entity. This means that it includes the 'environmental measures' that have been identified for adoption during the scheme design process "...to avoid,

prevent, reduce or offset any identified significant adverse effects on the environment” (see Schedule 4(7)). The development should also incorporate, where possible, relevant good practice and enhancement measures.

- 3.5.2. The term ‘environmental measures’ is used to describe those measures that are incorporated or ‘embedded’ into the development proposals. In this ES, these differ from mitigation measures, which are treated as being over and above what constitutes the scheme. Consequently, our approach to preparing an ES is to undertake a single assessment embedding into the scheme all the environmental measures, measures which Heidelberg Materials, as a leading member of the aggregates industry and at the forefront of implementing industry best practice techniques, are fully committed to implementing.

IMPLEMENTATION OF ENVIRONMENTAL MEASURES

- 3.5.3. **Table 3-1** describes the environmental measures embedded within the development and the means by which they will be implemented.

Table 3-1 – Summary of environmental measures to be implemented

Environmental measures	Compliance mechanism	ES section reference
Progressive Restoration undertaken during Phases 1 to 3 of the development	By Planning Condition drafted and monitored by South Gloucestershire Council.	6.7
Implementation of the final restoration scheme	By Planning Condition drafted and monitored by South Gloucestershire Council.	6.7
Implementation of landscape planting and management during the aftercare period (5 years)	By Planning Condition drafted and monitored by South Gloucestershire Council.	6.7
Noise Management Plan	By Planning Condition drafted and monitored by South Gloucestershire Council.	7.7
Vibration mitigation and control measures	Compliance with extant Planning Condition and monitored by South Gloucestershire Council.	8.7
Quarry water management	Compliance with appropriate planning conditions and the terms of any Environment Agency abstraction licence and discharge consent.	9.7
Pollution prevention and accident response	Compliance with appropriate planning conditions.	9.7
Monitoring (including groundwater, surface water level monitoring, and water supply monitoring)	Compliance with appropriate planning conditions.	9.7
Retention of ash tree with the potential to support roosting bats.	Not applicable.	10.7.1 and Table 10-5

Environmental measures	Compliance mechanism	ES section reference
Implementation of a LBEP*. This will include creation and management of hedgerow with trees, woodland, and semi-improved grassland.	Not applicable.	10.7.1 and Table 10-5
EMS covering pre-vegetation clearance checks for protected and notable species (including but not limited to badger setts, nesting birds, reptiles and other priority species).	Not applicable	10.8.7 and Table 10-8

* LBEP – Landscape and Biodiversity Enhancement Plan

4 APPROACH TO THE ENVIRONMENTAL STATEMENT

4.1 THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

- 4.1.1. The preparation of the ES is one of the key stages in the EIA process, as it brings together information about any significant environmental effects, which SGC will use to inform its decision on the Tytherington Quarry S73 planning applications.

4.2 EIA TERMINOLOGY

IMPACTS AND EFFECTS

- 4.2.1. In some ESs, the terms 'impacts' and 'effects' are used interchangeably, whilst in others the terms are given different meanings. Some use 'impact' to mean the cause of an 'effect', whilst others use the converse meaning. This variety of definitions has led to a great deal of confusion over the terms, both among the authors and the readers of ESs.
- 4.2.2. The convention used in this ES is to use 'impacts' only within the context of the term EIA, which describes the process from scoping through ES preparation to subsequent monitoring and other work. Otherwise, this document uses the word 'effects' when describing the environmental consequences of the Proposed Scheme. For example, such effects may come about as a result of the following:
- Physical activities that would take place if the development were to proceed (e.g. vehicle movements during construction operations).
 - Environmental changes that are predicted to occur as a result of these activities (e.g. loss of vegetation prior to the start of construction work or an increase in noise levels). In some cases, one change causes another change, which in turn results in an environmental effect.
- 4.2.3. The predicted environmental effects are the consequences of the environmental changes for specific environmental receptors. For example, with respect to bats, the loss of roosting sites or foraging areas could affect the bats' population size; with regard to people, an increase in noise levels could affect people's amenity.
- 4.2.4. This ES is concerned with assessing the significance of the environmental effects of the Proposed Scheme, rather than the activities or changes that cause them. However, this requires these activities to be understood and the resultant changes identified and quantified, often based on predictive assessment work.

SPATIAL AND TEMPORAL SCOPE

- 4.2.5. Spatial scope is the area over which changes to the environment are predicted to occur as a consequence of a Proposed Scheme. In practice, an EIA should focus on those areas where these effects are likely to be significant.
- 4.2.6. In this ES, the spatial scope varies between environmental topics and is therefore described in each of the topic chapters. For example, the spatial effects of a development on landscape and visual amenity will probably cover a much greater area to that affected by noise.
- 4.2.7. The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.

4.3 EIA SCOPING

4.3.1. Scoping involves identifying the following:

- The people and environmental resources (collectively known as 'receptors') that could be significantly affected by the Proposed Scheme; and
- The work required to take forward the assessment of these potential likely significant effects.

4.3.2. WSP's approach involves scoping being started at the outset of our work on the EIA, with the initial conclusions about the potential likely significant effects of the development being set out in a scoping report. The preparation of the scoping report is informed by information about the legislative and policy context to the scheme. It is also informed by the simple rule that, to be significant, an effect must be of sufficient importance that it should influence the process of decision-making about whether or not consent should be granted for the Proposed Scheme or an element of it. In this ES, this is referred to as the 'significance test'.

4.3.3. At the scoping report stage, the conclusion that is made using the significance test is based upon professional judgement, with reference to the project description, and available information about:

- The magnitude and other characteristics of the potential changes that are expected to be caused by the Proposed Scheme;
- The sensitivity of receptors to these changes;
- The effects of these changes on relevant receptors; and
- The value of receptors.

4.3.4. If the information that is available at the scoping report stage does not enable a robust conclusion to be reached that a potential effect is not likely to be significant, the effect is then taken forward for further assessment.

4.3.5. The scoping report for the proposed extraction of an additional 6mt of mineral at Tytherington Quarry was submitted for comment to South Gloucestershire Council (SGC) on 30 October 2023.

4.3.6. Subsequent to the issuing of the scoping report, the scope of the assessment has been progressively refined in response to comments from SGC and from consultees (see **Section 4.4**), together with environmental information that has been obtained from survey or assessment work carried out as part of the EIA.

4.3.7. The ES environmental topic Chapters 6 to 15 detail the final scope of the assessment in relation to potential effects that were subject to more detailed assessment. In some cases, effects that would normally be scoped-out (because they are not likely to be significant) have been scoped-in on the basis that, in the absence of an explanation being provided, readers of the ES may feel that it is deficient. All other effects (i.e. that are not referred to in the technical chapters) are not likely to be significant.

4.4 CONSULTATION

4.4.1. As noted above, a scoping report was submitted in October 2023 by WSP and issued to SGC for comment on the proposed scope of the assessment. As well as the internal SGC technical teams, the report was also circulated to the consultees listed below:

- Environment Agency; and
- National Highways.

- 4.4.2. A pre-application request was also submitted to SGC in November 2023 however, no formal response to this request has been received to date. In an email from the Council's case officer dated 2 May 2024, they confirmed that the requested pre-application advice had been addressed by means of the Council's scoping opinion.
- 4.4.3. Following receipt of the scoping opinion from SGC in January 2024, a virtual pre-application meeting was held with the Environment Agency on 7 March 2024.

4.5 OVERVIEW OF ASSESSMENT METHODOLOGY

- 4.5.1. All the topic assessments presented in the ES have been undertaken on the basis of a common understanding of the nature of the project, as described in **Chapter 3**.
- 4.5.2. For each topic, the assessment of likely significant effects has been undertaken by competent experts with relevant specialist skills, drawing on their experience of working on other development projects, good practice in EIA and on relevant published information. For some topics, use has been made of modelling or other methodologies, as appropriate.
- 4.5.3. With a few exceptions, each topic chapter follows a common format, as outlined below:
- Introduction.
 - Limitations and assumptions.
 - Policy and legislative context.
 - Data gathering methodology.
 - Overall baseline (where appropriate), with the detailed baseline being set out under Sub section 9 below.
 - Consultation.
 - Environmental measures incorporated into the proposed scheme.
 - Scope of the assessment.
 - Assessment methodology.
 - Assessment of effects – this sub-section excludes cumulative effects and deals separately with each receptor or category of receptors that could be significantly affected. The assessment is made against the predicted future baseline (see Section 4.6 below).
 - Assessment of cumulative effects.
 - Assessment of in-combination climate impacts.
 - Mitigation and enhancement measures.
 - Conclusions of significance evaluation.
 - Implementation of environmental measures.
 - References.

4.6 IDENTIFICATION OF BASELINE CONDITIONS

- 4.6.1. The assessment of potentially significant effects requires a comparison to be made between the likely environmental conditions in the presence of the Proposed Scheme and in its absence (i.e. the 'baseline'). As Tytherington Quarry is an established operational site, the baseline conditions in the absence of the Proposed Scheme, would see the continuation of the quarrying as per the approved scheme up to 2042. Thereafter the baseline would be the approved restoration plan (see **Appendix 3A**).
- 4.6.2. It is necessary to undertake the assessment in relation to the baseline conditions that are likely to occur in the years that are selected for assessment. It is assumed that the extraction of the

additional 6mt of limestone at Tytherington Quarry would begin in 2025. Where it is concluded in the ES that aspects of the current conditions are likely to represent the future baseline, the predicted future baseline reflects current conditions. Where this is not the case, the future baseline has been extrapolated or otherwise predicted using:

- Information about existing environmental conditions;
- Modelling outputs;
- Information about other developments that are under construction or that are likely to occur and could affect relevant aspects of the environment; and
- Information about any other likely changes that could affect environmental conditions.

4.6.3. In combination, this information has been used to predict the likely baseline conditions when the proposed quarrying operations are undertaken. It is against these predicted baseline conditions that the assessment has been carried out.

4.7 OVERVIEW TO APPROACH TO SIGNIFICANCE EVALUATION METHODOLOGY

4.7.1. One of the requirements of an ES is to set out the conclusions that have been reached about the likely significant environmental effects that it is predicted will result from the Proposed Scheme. Reaching a conclusion about which effects, if any, are likely to be significant is the culmination of an iterative process that involves the following stages:

- Identifying those effects that could be likely to be significant (see **Section 4.3** on scoping);
- Assessing the effects of the Proposed Scheme against the baseline (current or future, as appropriate); and
- Concluding whether these resultant effects are likely to be significant.

4.7.2. **Chapters 6 to 15** describe the approaches that have been used, in relation to the stages outlined in the bullet points above, for each of the environmental topics that are considered in this ES.

IDENTIFICATION OF LIKELY SIGNIFICANT EFFECTS

4.7.3. To inform the identification of likely significant effects, all of those involved in the preparation of the ES were supplied, at an early stage of the assessment process, with information about the proposals for Tytherington Quarry.

4.7.4. As the proposals evolved, more detail became available about construction and operational activities. This enabled a progressively more refined understanding to be developed about the environmental changes that could be caused by the project, including information about their spatial extent and other characteristics (e.g. their magnitude, frequency etc.).

4.7.5. The identification of receptors that need to be considered draws on available information about environmental changes, which in some cases can be translated into Zones of Influence (Zols) outside of which the environmental changes are predicted to be sufficiently small that receptors are not likely to be significantly affected. In addition, for some environmental topics (e.g. biodiversity and historic environment), a valuation is undertaken to define those receptors that are of sufficient importance or value that they could be significantly affected. Only those receptors that are of sufficient importance or value and that are located within the defined Zols where effects could be significant, are taken forward for further assessment.

- 4.7.6. The technical assessments, undertaken in **Chapters 6 to 15** of this ES, describe how environmental changes and resulting effects for different environmental topics are assessed, together with the topic specific approaches that have been used to identify the receptors that could be significantly affected by the Proposed Scheme.

TYPES OF EFFECTS

- 4.7.7. Paragraph 5 of Schedule 4 of the EIA Regulations states that *“The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.”* Where appropriate, this ES considers all these types of effects where they are relevant to different environmental topic chapters, with the exception of cumulative effects, which are dealt with separately in **Section 4.8**.

Direct effects

- 4.7.8. Direct effects are those that result directly from a Proposed Scheme. For example, where a machine disturbs an area of habitat; the associated physical activity could result in a change to the receptor.

Indirect and secondary effects

- 4.7.9. Indirect and secondary effects are those that result from consequential change caused by the development. As such they would normally occur later in time or at locations farther away than direct effects. An example would be where water or gas pipes are damaged as a result of the development, and the consequences of that damage is fire or flood risk to other receptors.

Transboundary effects

- 4.7.10. Transboundary effects are those that would affect the environment in another state within the European Economic Area (EEA).

Temporal effects

- 4.7.11. As discussed in **Section 4.3**, temporal effects are typically defined as being permanent or temporary as follows:
- Permanent – these are effects that will remain even when the Proposed Scheme is complete, although these effects may be caused by environmental changes that are permanent or temporary. For example, an excavator that is temporarily driven over an area of valuable habitat could cause so much damage that the effect on this vegetation would be permanent.
 - Temporary – these are effects that are related to environmental changes associated with a particular activity and that will cease when that activity finishes.

SIGNIFICANCE EVALUATION

Overview

- 4.7.12. The receptors that could be significantly affected are identified within each topic chapter. The approach that is adopted to determine whether the effects on these receptors are significant is to apply a combination of professional judgement and a topic-specific significance evaluation methodology that draws on the results of the assessment work that has been carried out.
- 4.7.13. In applying this approach to significance evaluation, it is necessary to ensure that there is consistency between each environmental topic in the level at which effects are considered to be

significant. Therefore, it is inappropriate for the assessment of one topic to conclude that minor effects are significant, when, for another topic, only comparatively major effects are significant.

- 4.7.14. In order to achieve the desired level of consistency, each environmental topic lead has been guided in their decision-making about likely significance by the ‘significance test’ that informed the preparation of the scoping report (see **Section 4.3** above), as well as the relevant topic-specific significance evaluation methodology.
- 4.7.15. The conclusion about significance is arrived at using professional judgement, with reference to the project description, and available information about the magnitude and other characteristics of the potential changes that are expected to be caused by the Proposed Scheme, receptors’ sensitivity to these changes and the effects of these changes on relevant receptors.
- 4.7.16. In some cases, use of the ‘significance test’ alone will enable a conclusion to be reached in the ‘Scope of the assessment’ section of the topic chapter (Sub-section 6 in paragraph 4.5.3), without the need for more detailed assessment, that a potential effect is not likely to be significant. However, in other cases, effects identified in the ‘Scope of the assessment’ section are taken forward for further assessment in the subsequent section(s) of each topic chapter.
- 4.7.17. For some of these effects, relatively little assessment work may be required to reach a conclusion that an effect is not significant. But, in other cases, more extensive assessment work is required. Sometimes the application of the ‘significance test’ is sufficient to support this conclusion but, in other cases, the relevant topic-specific significance evaluation methodology is used to inform the evaluation of significance (to determine whether an effect is or is not significant).
- 4.7.18. Having applied the relevant topic-specific significance evaluation methodology, the topic specialists check the conclusions against the significance test. If this test results in a different conclusion to that reached using the significance evaluation methodology, a detailed justification is provided as to why this different conclusion is valid.
- 4.7.19. For some of the topics that are assessed in the ES, there is published guidance available about significance evaluation. Where such guidance exists, even if in draft, it has been used to inform the development of the significance evaluation methodologies that are used in this ES. For other topics, it has been necessary to develop methodologies without the benefit of guidance. This has involved technical specialists drawing on their previous experience of significance evaluation in EIA.

Evaluation matrices

- 4.7.20. Significance evaluation involves combining information about the sensitivity, importance or value of a receptor, and the magnitude and other characteristics of the changes that affect the receptor. The approach to using this information for significance evaluation is outlined below.

Receptor sensitivity, importance, or value

- 4.7.21. The sensitivity or value of a receptor is largely a product of the importance of an asset, as informed by legislation and policy, and as qualified by professional judgement. For example, receptors for landscape, biodiversity or the historic environment may be defined as being of international or national importance. Lower value resources may be defined as being sensitive or important at a county or district level. For each environmental topic, it is necessary to provide a detailed rationale that explains how the categories of sensitivity/importance/value have been used.

- 4.7.22. The use of a location or physical element that may be representative of receptors, e.g. human beings, would also play a part in its classification in terms of sensitivity, importance, or value. For example, when considering effects on the amenity of a human population, a location used for recreational purposes may be valued more than a place of work.

Magnitude of change

- 4.7.23. The magnitude of change affecting a receptor that would be affected by the Proposed Scheme would be identified on a scale from very low to very high. As with receptor sensitivity and value, a rationale is provided in each topic chapter that explains how the categories of environmental change are defined. For certain topics, the magnitude of change would be related to guidance on what levels of change are acceptable (e.g. for air quality or noise), and be based on numerical parameters. For other changes, it will be a matter of professional judgement to determine the magnitude of change, using descriptive terms.

Determination of significance

- 4.7.24. The significance of effects is determined with reference to information about the nature of the development, the receptors that could be significantly affected and their sensitivity, importance or value, together with the magnitudes of environmental change that are likely to occur.
- 4.7.25. Other than for environmental topics for which significance evaluation does not involve the use of matrices, sensitivity/value and the characteristics of environmental changes can be combined using a matrix (see **Table 4-1**). In addition, professional judgement is applied because, for certain environmental topics, the lines between the sensitivities or magnitudes of change may not be clearly defined and the resulting assessment conclusions may need clarifying.
- 4.7.26. Variations to this approach, which may be applicable to specific environmental topics, will be detailed in the relevant 'Significance evaluation methodology' sub-section contained in each environmental topic chapter.
- 4.7.27. Definitions of how the categories that are used in the matrix are derived for each topic are also set out in each environmental topic chapter, along with the relevant explanation and descriptions of receptor sensitivity, magnitude of change and levels of effect that are considered significant under the EIA Regulations.
- 4.7.28. Within the matrix that is used in most significance evaluation exercises, reference is made to:
- Major effects, which will always be determined as being significant in EIA terms.
 - Moderate effects are likely to be significant, although there may be circumstances where such effects are considered not significant on the basis of professional judgement.
 - Minor or negligible effects, which will always be determined as not significant.
- 4.7.29. **Table 4-1** is an example of a four by four matrix and has been used here to offer maximum flexibility. However, individual topic chapters may wish to use reduced versions (e.g. four by four, four by three etc.) as appropriate.

Table 4-1 – Matrix for determining Significance of Effect

		Sensitivity (Value / Importance)			
		High	Medium	Low	Negligible
Magnitude of Change	Large	Major	Moderate – Major	Minor – Moderate	Negligible
	Medium	Moderate – Major	Moderate	Minor	Negligible
	Small	Minor – Moderate	Minor	Negligible – Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Note: Significant effects are those identified as ‘Major’. ‘Moderate’ effects would normally be deemed to be significant. However, there may be some exceptions, depending on the environmental topic and the application of professional judgment.

4.8 ASSESSMENT OF CUMULATIVE EFFECTS

INTRODUCTION

4.8.1. In accordance with the EIA Regulations, the assessment has considered cumulative effects with other developments which are likely to be significant. It has been agreed (via scoping) that the following similar sites are included in the assessment:

- Chipping Sodbury Quarry;
- Wickwar Quarry; and
- Cromhall Quarry.

4.8.2. There are two types of Cumulative Effects Assessment (CEA) used in this ES, as set out below.

INTER-PROJECT EFFECTS

4.8.3. For each environmental topic that is dealt with in this ES, an assessment is undertaken of how the environmental effects resulting from the Proposed Scheme, could combine with the same topic-related effects generated by other developments to affect a common receptor.

INTER-RELATED EFFECTS

4.8.4. The second type of CEA involves assessing whether any of the individual environmental topic effects resulting from the Proposed Scheme, which are not significant in their own right, could combine to create effects that are significant.

4.8.5. The first step is to identify the environmental topics that have common receptors, and then to consider whether the topic effects on any common receptors are likely to combine. The most likely types of receptors that could fall into this category are those pertaining to the amenity of the relevant human population. For example, the occupants of a residential property in close proximity to the Proposed Scheme might be subject to adverse effects in terms of noise, vibration, air quality, traffic, as well as with regard to visual amenity, or any combination thereof, each of which, when assessed individually, is not significant in EIA terms, but when assessed cumulatively, the effects are judged to be significant.

4.8.6. Because this cumulative assessment involves different environmental topic assessments that cannot robustly be combined, the outcome of this CEA will be reliant on the application of professional judgement from, potentially, several different technical specialists. Further details on the specific approach to this Tytherington Quarry development are given in **Chapter 15**.

5 PLANNING POLICY REVIEW

5.1 INTRODUCTION

- 5.1.1. This chapter sets out the planning framework that is relevant to the S73 planning applications for the extraction of an additional 6mt of minerals at Tytherington Quarry.
- 5.1.2. The planning framework for Tytherington Quarry is set out in a number of documents from a national level down to the local level. The sections below detail the various policy documents and then the policies themselves which are of relevance for the S73 planning applications for Tytherington Quarry.

5.2 NATIONAL PLANNING POLICY CONTEXT

- 5.2.1. This section of the ES sets out the national planning policy context against which the environmental effects of the development will be assessed. An assessment of the extent to which the development accords with these policies is contained within the separate Planning Statement.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

- 5.2.2. The Government published its National Planning Policy Framework (NPPF)⁶ on 24 July 2018, and it was last updated in December 2023. This document forms a key part of the Government's reforms to make the planning system less complex and more accessible, and to promote sustainable growth. Following the adoption of the first draft of the NPPF in April 2012, many Planning Policy Statements (PPSs), Planning Policy Guidance Notes (PPGs), Minerals Policy Statements (MPSs), and Minerals Planning Guidance Notes (MPGs) have been superseded.
- 5.2.3. Planning law requires that applications for planning permission must be determined in accordance with the development plan unless material considerations indicate otherwise. The NPPF is a material consideration in planning decisions.
- 5.2.4. In relation to minerals, Section 17 '*Facilitating the Sustainable Use of Minerals*' of the NPPF covers minerals. Specifically, paragraph 217 relates to the issues local planning authorities should consider when determining planning applications. These include:
 - *"... great weight should be given to the benefits of the mineral extraction, including to the economy ... ;*
 - *As far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage Sites, Scheduled Monuments and Conservation Areas;*
 - *Ensure [in granting planning permission for mineral development] that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality;*

⁶ [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/698607/nppf-2018.pdf)

- *Ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive receptors; ... and*
- *Provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances...”.*

NATIONAL PLANNING PRACTICE GUIDANCE (NPPG)

- 5.2.5. To accompany the NPPF, the Government launched National Planning Practice Guidance (NPPG) on 6 March 2014 (most recently updated on 20 November 2023). It brings together many areas of English planning guidance into a new single format that is broken down into sub-sections covering different policy areas. The guidance supports the NPPF, providing non-statutory good practice advice that can be considered for new development. The guidance replaces numerous planning circulars and documents dating from 1978 that are no longer to be considered. Instead, everything is provided within this new single set of guidance, which is all available online.
- 5.2.6. This guidance is a material consideration in planning decisions and replaces guidance previously contained in MPG14 on periodic reviews. The most relevant NPPG paragraphs are 178-220 of the guidance published in relation to minerals.
- 5.2.7. In relation to EIA, paragraph 011 states that significant environmental impacts are best addressed through an Environmental Statement, which will need to accompany nearly all planning applications for new minerals working. Paragraph 013, lists the ‘principal’ issues that a Minerals Planning Authority should address, bearing in mind not all issues will be relevant at every site to the same degree.
- 5.2.8. The NPPG also provides specific guidance in relation to noise and dust emissions. In relation to the cumulative impact of mineral development, paragraph 017 states that *“The cumulative impact of mineral development is also capable of being a material consideration when determining individual planning applications”*.

5.3 LOCAL PLANNING POLICY CONTEXT

- 5.3.1. This section of the ES sets out the local planning policy context against which the environmental effects of the development will be assessed.
- 5.3.2. The extant Development Plan for Tytherington Quarry comprises:
- South Gloucestershire Local Plan: Core Strategy 2006-2027 (adopted December 2013);
 - South Gloucestershire Local Plan: Policies, Sites and Places Plan (adopted November 2017); and
 - West of England Joint Waste Core Strategy (adopted March 2011).
- 5.3.3. A new Local Plan for South Gloucestershire is being developed. This will include a new strategy and policies to guide and manage growth and change in the area over the next 15 years at least. The consultation for Phase 3 of the Local Plan ran from 6 December 2023 to 7 February 2024.
- 5.3.4. Section 9 of the consultation document relates specifically to minerals and advises that a new strategic policy to guide the working/extraction of minerals is being progressed. It also provides

further information in relation to the areas proposed for allocation for mineral working. This includes three extensions to the existing Tytherington Quarry, one being the subject of these applications.

5.3.5. The most recently published Local Plan Delivery Programme (December 2023) advises that the next stage of the Local Plan process (Regulation 19) is currently anticipated to take place in July 2024, with formal adoption in September 2025.

5.3.6. **Table 5-1** seeks to summarise the provisions of the key **extant** policies.

Table 5-1 – Summary of relevant extant development plan policies

Policy Ref.	Summary of Policy Provisions
South Gloucestershire Local Plan: Core Strategy 2006-2027 (December 2013)	
Policy CS1 – High Quality Design	This policy sets out criteria for the assessment of high quality design in new development. Of particular relevance is that development proposals will be required to demonstrate that existing features of landscape, nature conservation, heritage or amenity value and public rights of way are safeguarded and enhanced through incorporation into development.
Policy CS2 – Green Infrastructure	This policy seeks to ensure that existing and new GI is planned, delivered and managed. In order to do so, it advises that species and habitats, along with landscape character, historical, natural, built and cultural heritage features will be protected and enhanced.
Policy CS4a – Presumption in Favour of Sustainable Development	This policy advises that there is a presumption in favour of sustainable development. It goes on to state that planning applications that accord with the policies in the Plan will be approved without delay unless material considerations indicate otherwise.
Policy CS5 – Location of Development	This policy sets out the framework for the location and scale of development. It advises that in the open countryside, new development will be strictly limited. In the Green Belt, proposals will need to comply with the provisions in the NPPF or relevant local plan policies in the Core Strategy.
Policy CS8 – Improving Accessibility	This policy seeks to ensure that development schemes have regard to the need to improve transport infrastructure. It advises that all but the smallest householder applications will be expected to consider, provide information on and a strategy for the minimisation of private car based travel. Financial or in kind contributions towards strategic transport infrastructure and sustainable travel measures may also be required.
Policy CS9 – Managing the Environment and Heritage	This policy sets out the general approach to environmental resources and heritage assets in South Gloucestershire. It sets out a number of expectations for new development, in order to protect and manage South Gloucestershire's environment. This includes conserving and enhancing heritage assets, the natural environment and landscape. It also seeks to protect the water environment and ensure that development is located away from areas of flood risk. It seeks to avoid development on unstable land unless appropriate mitigation or remediation measures can be taken.
Policy CS10 – Minerals	This policy makes provision for the extraction of 58 million tonnes of crushed rock between 2008 and 2026 by maintaining a land bank of at least 10 years. It also seeks to safeguard mineral resources from permanent sterilisation.

Policy Ref.	Summary of Policy Provisions
Policy CS34 – Rural Areas	<p>This policy seeks to deliver the vision for rural areas, which is set out in the supporting text. In order to do so, it advises that development proposals will do the following of relevance:</p> <ul style="list-style-type: none"> • Protect, conserve and enhance the rural areas distinctive character, beauty, wildlife, landscape, biodiversity and heritage; • Protect the unique and valuable setting provided by the rural areas to the urban areas and other settlements; • Protect the Green Belt from inappropriate development; • Protect rural employment sites, services and facilities; • Seek contributions to providing GI; • Demonstrate through Flood Risk Assessments, surface water plans and drainage strategies how flood risk will be managed; and • Recognise the role that rural areas can make to projects and initiatives that address and adapt to the challenges of climate change.
South Gloucestershire Local Plan: Policies, Sites and Places Plan (November 2017)	
Policy PSP2 – Landscape Protection and Enhancement	This policy advises that development proposals will be acceptable where they conserve and where appropriate enhance the quality, amenity, distinctiveness and special character of the landscape (as defined by the Landscape Character Assessment). Where there would be harm, it must be demonstrated that the proposal results in benefits that outweigh the harm and any harm to the landscape is minimised and mitigated.
Policy PSP3 – Trees and Woodland	This policy seeks to minimise the loss of existing vegetation on a site, particular where it is of importance in terms of ecological, recreational, historical or landscape value. It also encourages additional tree planting and new planting schemes.
Policy PSP7 – Development in the Green Belt	This policy advises that inappropriate development is harmful to the Green Belt and will not be acceptable, unless very special circumstances can be demonstrated. It also provides additional clarification in relation to two instances detailed within the NPPF; however, these are considered to be of little relevance to the proposals.
Policy PSP8 – Residential Amenity	This policy seeks to protect the residential amenity of occupiers of development or of nearby properties. It states that unacceptable impacts could result from; loss of privacy and overlooking, overbearing and dominant impact, loss of light, noise or disturbance and odours, fumes or vibration.
Policy PSP10 – Active Travel Routes	This policy safeguards existing and proposed Active Travel Routes (ATRs). It advises that development which would reduce, sever or adversely affect ATR's will be acceptable where an alternative ATR of an equal or improved quality can be provided.
Policy PSP11 – Transport Impact Management	This policy sets out a number of criteria for development proposals which generate a demand for travel. Of particular relevance is that appropriate, safe, accessible, convenient and attractive access is required to be provided for all mode trips arising to and from the proposal. There is also a number of criteria included in relation to traffic generated by the development, to ensure that it would

Policy Ref.	Summary of Policy Provisions
	not (i) create or contribute to severe congestion ii) severely impact on the amenities of communities surrounding access routes (iii) have an unacceptable effect on highway and road safety; and (iv) harm environmentally sensitive areas.
Policy PSP17 – Heritage Assets and the Historic Environment	This policy seeks to protect and, where appropriate, enhance or better reveal the significance of heritage assets and their settings. It advises that heritage assets should be conserved in a manner that is appropriate to their significance. It provides a number of general principles in relation to Listed Buildings, Conservation Areas, Archaeology, Lower Severn Vale Levels, Historic Parks and Gardens and Battlefields and Locally important heritage assets.
Policy PSP18 – Statutory Wildlife Sites: European Sites and Sites of Special Scientific Interest (SSSIs)	This policy sets out requirements in relation to development which is likely to impact upon European Sites and SSSIs. In terms of SSSIs, benefits of the development at that location are required to outweigh any impacts on the site and the wider national network of SSSI's. Development proposals will also need to demonstrate that there are no other reasonable and satisfactory alternatives, including that of locating it elsewhere. Where development proceeds, mitigation and/or compensatory measures will be required to reduce any impacts to an acceptable level
Policy PSP19 – Wider Biodiversity	This policy seeks to secure biodiversity gain, where appropriate. It also protects irreplaceable habitats, and resists proposals where they would result in significant harm to sites of value for local biodiversity
Policy PSP20 – Flood Risk, Surface Water and Watercourse Management	This policy sets out a number of requirements for development proposals in respect of flood risk and surface water management, land drainage and water quality, and operation and maintenance. It aims to steer new development toward areas with the lowest probability of flooding and advises that the Sequential Test and the Exception Test will be applied, as appropriate. A site specific FRA will be required for all applications except those in Flood Zone 1, of less than 1 ha in size. A Surface Water Drainage Strategy will also be appropriate.
Policy PSP21 – Environmental Pollution and Impacts	This policy states that development proposals will be acceptable where they clearly demonstrate that development is sited and designed to prevent unacceptable levels of pollution adversely impacting environmental amenity and the health, safety and amenity of users of the site or surrounding area. The policy refers to fumes, dust, noise, vibration, odour, light or other forms of air, land, water pollution and exposure to contaminated land or land instability.
Policy PSP22 – Unstable Land	This policy advises that development proposals on land which may be affected by instability will be acceptable where adequate remedial, mitigation or treatment measures are taken to ensure that the site is safe, stable and suitable for the proposed use and will remain so.
Policy PSP23 – Mineral Working and Restoration	This policy advises that, in order to maintain a landbank of at least 10 years, provision is made for extraction of crushed rock. It sets out preferred areas including 'South West of Tytherington Quarry'. In addition, the policy sets out the environmental considerations for development proposals for new mineral workings, and states that it will need to be demonstrated that there will not be an unacceptable adverse impact on the natural and historic environment, human health or local amenity. Likely considerations include (i) blasting / vibration and (ii) separation and buffer zones. Cumulative effects of multiple impacts from individual / a number of sites should also be considered. Restoration and aftercare proposals for a mineral working site will be conditioned as part of planning permission.

Policy Ref.	Summary of Policy Provisions
Policy PSP28 – Rural Economy	This policy states that sustainable new development which promotes a strong rural economy will be acceptable in rural areas. It advises that development in the Green Belt is inappropriate, other than for the exceptions specified in the NPPF, or where very special circumstances can be demonstrated.
Policy PSP47 – Sites Allocations and Safeguarding	This policy lists the sites / routes that will be developed / safeguarded for the uses identified. Of relevance are 'Active Travel Routes' (transportation) and Preferred Area – South West of Tytherington Quarry (Minerals Site Safeguarding).
West of England Joint Waste Core Strategy (March 2011)	
Policy 1 – Waste Prevention	This policy seeks to reduce the amount of waste generated by new development. It requests information be provided with planning applications on a number of matters, including; the type and volume of waste generated by the development; on-site waste recycling facilities to be provided; the steps taken to minimise the use of raw materials; the steps taken to reduce, reuse and recycle waste; the distance any waste generated will be transported and the steps taken to ensure the maximum diversion of waste from landfill.



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