

An application for an Environmental Permit to authorise the deposition of waste on land as a recovery activity for the restoration of the Southern Extension of Swarkestone Quarry, Barrow upon Trent, Derbyshire

Non-technical Summary

- 1.1** MJCA is commissioned by Tarmac Trading Limited (Tarmac) to prepare an application for a bespoke Environmental Permit for the deposition of waste on land as a recovery activity in order to restore Phases 1 and 2 and parts of Phases 3 and 4 of the Southern Extension to Swarkestone Quarry, Twyford Road, Barrow upon Trent, Derbyshire. Throughout this application Phases 1 and 2 and those parts of Phases 3 and 4 in which waste will be deposited together with the area adjacent to the existing Swarkestone Quarry exclusively for the storage and transfer of restoration materials (proposed transfer area) are referred to as the site. The Southern Extension is centred approximately on National Grid Reference (NGR) SK 335 275.
- 1.2** A Waste Recovery Plan (WRP) presenting justification that the activity comprises recovery was submitted to the Environment Agency (EA) on 19 October 2021. Further information in respect of the recovery status of the activity was submitted to the EA on 5 January 2022 and in an email dated 14 January 2022 the EA confirmed that the activity comprises recovery. The email from the EA confirming that the activity comprises recovery is presented at Appendix D of the application report.
- 1.3** Planning permission reference CM9/1215/122 was granted on 29 March 2019 by the Derbyshire County Council (DCC) for '*...a 61 hectares extension to existing sand and gravel quarry including use of existing processing plant with restoration to a mixture of agriculture and nature conservation at Swarkestone Quarry, Twyford Road, Barrow-on Trent*'. Planning permission reference CM9/1215/122 (referred to as the planning permission) in effect comprises the extant planning permission for Swarkestone Quarry.
- 1.4** The Swarkestone Quarry complex is located approximately 475m west-south west of the village of Barrow upon Trent in a predominantly rural area. The villages of

Foremark, Ingleby and Twyford are located approximately 500m south, 850m east-south east and 850m north west of the site respectively. The Southern Extension to Swarkestone Quarry is located in the south west of the Swarkestone Quarry complex to the south and west of the River Trent. The proposed transfer area is within the Swarkestone Quarry complex and to the north east of the Southern Extension. The main access to the site is from the existing entrance to the Swarkestone Quarry complex off the A5132 Twyford Road to the proposed transfer area and Phases 1 to 4 are accessible via a new haul road and proposed bailey bridge over the River Trent adjacent to the south eastern corner of the Southern Extension.

- 1.5** There are five phases of mineral extraction in the Southern Extension to Swarkestone Quarry which will be worked over a period of approximately 8 years. Mineral extraction operations have commenced in Phase 1. Only Phases 1 and 2 and those parts of Phases 3 and 4 in which waste will be deposited together with the proposed transfer area which are referred to collectively as the site are included in the Environmental Permit application boundary.
- 1.6** With the exception of the eastern and northern boundaries which boarder the River Trent the Southern Extension to Swarkestone Quarry is bounded by hedgerows or woodland. The closest properties to the site are the buildings associated with Foremark Hall located approximately 415m south-south east of the site.
- 1.7** Based on information from the Defra MAGIC website there are no Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA), Special Areas of Conservation (SACs), National Nature Reserves (NNRs) or Local Nature Reserves (LNR) located within 2km of the site. Anchor Church and Anchor Church Rocks West are the only Local Wildlife Sites (LWS) located within 1km of the site and as explained above are located approximately 150m to the east-south east of the site. Sinfin Moor Local Nature Reserve is located approximately 2.6km north-north east of the site and Ticknall Quarries SSSI is located approximately 3.4km to the south east of the site.
- 1.8** The site will be restored to agriculture and nature conservation interest by the importation of inert restoration materials. It is anticipated that it will take an additional 2 years to complete the restoration works following the completion of mineral

extraction operations. To provide for the restoration of the Southern Extension to Swarkestone Quarry it will be necessary to import approximately 808,000m³ of inert restoration materials which will be transferred and temporarily stored in the proposed transfer area prior to being deposited in Phases 1 and 2, the south western part of Phase 3 and the south eastern part of Phase 4.

- 1.9** Based on the BGS geological mapping the superficial deposits in the Southern Extension comprise a variable thickness of overburden overlying Quaternary river channel and floodplain silt, sand and gravel beds of the Hemington Member of the Trent Valley Formation which is overlain near the northern boundary by silty clay alluvium. Based on the records of the boreholes drilled at and in the vicinity of the Southern Extension the thickness of superficial deposits is generally between 4.2m and 7.8m and comprise clay and sandy or gravelly clay and rare peat over varying quantities of silts, sands and gravels. The thickness recorded as workable sand and gravel ranges between 0.6m and 6.0m with an average thickness of approximately 3.7m. The superficial Quaternary deposits overlie bedrock comprising the Mercia Mudstone Group beneath the northern part of the Southern Extension and the Sherwood Sandstone Group in the southern part of the Southern Extension.
- 1.10** It is likely that the Quaternary alluvium has a low to moderate permeability depending on the proportion of clay present and that the sand and gravel has a moderate to high intergranular permeability. The Mercia Mudstone Group comprises predominantly low permeability mudstone strata. The Sherwood Sandstone Group is likely to exhibit a low to moderate intergranular permeability and a moderate to high secondary permeability due to the presence of fractures. In the southern part of the Southern Extension where Quaternary sands and gravels overlie the Sherwood Sandstone Group it is considered that the superficial deposits and the bedrock are in hydraulic continuity and form a single aquifer unit. The Quaternary alluvium and Hemington Member are classified by the Environment Agency as Secondary A aquifers. The Mercia Mudstone Group bedrock is classified by the Environment Agency as a Secondary B aquifer. The Sherwood Sandstone Group is classified by the Environment Agency as a Principal Aquifer. The site is located within a Nitrate Vulnerable Zone for groundwater.

- 1.11** The Southern Extension is located adjacent to the River Trent approximately 70m east at its closest point and within a meander loop such that to the north of the Southern Extension the River Trent flows generally towards the north east, east and south east before turning south to flow along the eastern boundary of the Southern Extension then east to flow generally eastwards near to the south east corner of the Southern Extension. Milton Brook flows from west to east along the southern boundary of the Southern Extension and discharges to the River Trent adjacent to the south east corner of the Southern Extension. Two small waterbodies are located in the north eastern and south eastern parts of the Southern Extension.
- 1.12** Based on the information provided on the GOV.UK Flood map for planning website (<https://flood-map-for-planning.service.gov.uk/>) the site is located within Flood Zone 3b (functional floodplain), which is defined in the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance: (PPG) as land where water has to flow or be stored in times of flood. The South Derbyshire Strategic Flood Risk Assessment (SDSFRA) defines Flood Zone 3b as 'land falling within the 1 in 20 year floodplain (or 1 in 25 year agreed in conjunction with the EA and local area authority) or land that is designed to flood within an extreme event'.
- 1.13** Based on information provided by the Environment Agency there are three licensed surface water abstractions from the River Trent from seven locations and one deregulated surface water abstraction within 2km of the Southern Extension. The closest surface water abstraction to the Southern Extension comprises a licensed abstraction from the River Trent adjacent to the Southern Extension and is for spray irrigation. South Derbyshire District Council (SDDC) have confirmed that they do not hold any records of private surface water supplies within 2km of the Southern Extension.
- 1.14** Based on information provided by the Environment Agency there are five Environmental Permits for discharge to surface water within 1km of the area in which waste will be deposited. The discharges are to the River Trent or Milton Brook or their tributaries. During the operational phase of the site the discharge of water from the water management system to the River Trent is the subject of consented discharge to the River Trent (T/36/460734/T).

- 1.15** Based on information provided by the Environment Agency there is one licensed groundwater abstractions and eight deregulated groundwater abstractions within approximately 2km radius of a point located centrally at the Southern Extension. The licensed groundwater abstraction is for public water supply (PWS) at Milton Water Works. It is understood that groundwater is abstracted from the Sherwood Sandstone Group from three locations the closest of which is approximately 1km south west of the Southern Extension. The site is not located within a groundwater Source Protection Zone (SPZ).
- 1.16** In the Environmental Risk Assessment (ERA) included with this application consideration is given to the potential for accidents, odour, noise and fugitive emissions having regard to the proposed site operations and the presence and location of sensitive receptors in the vicinity of the site. Operations at the site will be undertaken in accordance with the control measures described in the ERA. It is concluded in the ERA that the operation of the facility has a low or very low risk of adverse impact on the surrounding environment including sites of heritage or nature conservation interest. A programme of environmental monitoring will be carried out to confirm the results of the ERA. The results of the monitoring will be reported to the EA on a regular basis.
- 1.17** Based on the results of the Hydrogeological Risk Assessment (HRA) included with the application it is considered that there is no significant risk from the proposed deposition of inert waste to groundwater quality in the vicinity of the site. Based on the environmental setting and the inert nature of the materials that will be deposited at the site active long-term site management will not be necessary in order to prevent long term groundwater pollution. A programme of environmental monitoring will be carried out to confirm the results of the HRA. The results of the monitoring will be reported to the EA on a regular basis.
- 1.18** The inert waste types that will be accepted at the site the subject of the Environmental Permit are presented in the Environmental Permit application. Waste acceptance procedures will be in place to minimise the risk that unacceptable waste materials will be accepted at the site including procedures for the rejection of non-conforming

loads. A summary of the EMS is included with the Environmental Permit application at Appendix K.

- 1.19** Tarmac is committed to ensuring that members of its staff are technically competent to undertake waste operations and uses the Chartered Institution of Wastes Management/Waste Management Industry Training and Advisory Board (CIWM/WAMITAB) scheme for these purposes. The training standards set out in the CIWM/WAMITAB scheme, as relevant to the operation of a facility for the deposit of waste on land and waste operations in general, are adopted for training purposes.