AN APPLICATION FOR AN ENVIRONMENTAL PERMIT TO AUTHORISE THE DEPOSITION OF WASTE ON LAND AS A RECOVERY ACTIVITY TO STABILISE QUARRY FACES AT SKIPTON ROCK QUARRY, SKIPTON, NORTH YORKSHIRE

APPENDIX D

ENVIRONMENTAL SETTING AND SITE DESIGN REPORT

Report reference: TAR/SK/AW/5562/01/ESSD
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APPENDICES

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Appendix ESSD B Heritage and Nature Conservation pre-application screen

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1. Introduction

Report context

1.1 MJCA is commissioned by Tarmac Trading Limited (Tarmac) to prepare an application for a bespoke Environmental Permit (EP) for the deposition of waste on land as a recovery activity to stabilise quarry faces by the importation of waste at Skipton Rock Quarry, Skipton, North Yorkshire. This document comprises an Environmental Setting and Site Design (ESSD) report prepared in support of the EP application. The structure of this ESSD report is based generally on a template produced by the Environment Agency (EA) entitled "Conceptual Site Model, Environmental Setting and Site Design Report" Version 1 dated 14 October 2016.

1.2 Planning permission reference C5/63/2010/10941 was granted by North Yorkshire County Council (NYCC) in May 2011 for "*earthworks to stabilise quarry faces consisting of the regrading of existing quarry faces and formation of batters through the importation of granular fill*" at the site. A copy of the planning permission is provided in the WRP presented at Appendix B to the application report. In the period from when the planning permission was granted in May 2011 to May 2017 approximately 68,700 tonnes of non-waste granular fill material was imported to the site and the wider quarry area as part of the consented works. A topographical survey of the site and the wider quarry area dated May 2017 is presented at Appendix ESSD A.

1.3 A Waste Recovery Plan (WRP) presenting justification that the activity comprises recovery is presented at Appendix B to the application report. Following review of the WRP the EA confirmed in a Recovery v Disposal (RvD) Advice Form received on 14 September 2017 that the activity comprises recovery. The RvD Advice Form is presented at Appendix C to the application report.

Site details

1.4 The boundary of the site[1] the subject of the EP application is shown in green on Figure ESSD1 and Figure ESSD2. The site is located at National Grid Reference (NGR) SE

[1] References to "the site" in the EP application refer to the area within the boundary marked in green on Figure ESSD1 and Figure ESSD2.

0177 5322 approximately 1.6km north east of the town of Skipton and approximately 500m to the south east of the village of Embsay as shown on Figure ESSD1 and Figure ESSD2. The A59 runs in an east west direction approximately 200m to the south of the site. The junction of the A65 with the A59 is located to the south west of the site. The site is accessed from the A65 to the west south west of the site. The haul road from the site access with the A65 to the western site boundary is approximately 1.5km long and generally has a paved surface. The site is located in a generally rural setting. The Bolton Abbey Steam Railway runs in an east west direction to the north of the site. The residential property located closest to the site is Holywell House which is an isolated dwelling located approximately 240m south east of the site boundary.

1.5 Based on information viewed on the EA What's In Your Backyard (WIYBY)[2] on-line geographical information tool, Skibeden Quarry Landfill Site operated by Yorwaste Ltd under Environmental Permit Reference Number EPR/PP3990ZP is located adjacent to and south of the site and north of the A59. The information available through WIYBY identifies Skibeden Quarry Landfill Site as an authorised landfill site licensed to accept household, commercial and industrial wastes.

1.6 A heritage and nature conservation pre-application screen was obtained from the EA for the site as part of the pre-application process. A copy of the pre-application screen is presented at Appendix ESSD B. The site setting including the land use in the surrounding area is shown on Figure ESSD2 and on the plans provided with the Envirocheck report presented at Appendix ESSD C.

1.7 Based on information reviewed on Defra's MAGIC website[3] and information presented in the heritage and nature conservation pre-application screen the closest Site of Special Scientific Interest (SSSI) is Holy Well Bridge SSSI which is located approximately 0.4 km to the east of the site. There are no Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, Local Nature Reserves (LNRs) or National Nature Reserves (NNRs) located within 1.5 km of the site.

[2] http://apps.environment-agency.gov.uk/wiyby/
[3] http://www.natureonthemap.naturalengland.org.uk/

2. Source

Historical development

2.1 Historical maps for the period 1853 to 2017 are provided with the Envirocheck report presented at Appendix ESSD C. The historical maps up to 1938 show the area of the site as fields containing orchards. Since 1956 the site is shown on the historical maps as a quarry. The current land use at the site is a limestone quarry.

2.2 Based on information presented on the Environment Agency website no Category 1[4] pollution incidents have been recorded within the site, within Skipton Rock Quarry or within approximately 3km of the site. No Category 2[5] pollution incidents have been recorded within the site boundary and one incident is recorded on the southern boundary of Skipton Rock Quarry, which is recorded as an incident to land comprising 'Specific Waste Materials' on 20 February 2005.

2.3 The Envirocheck report identifies no recorded pollution incidents to controlled waters within the site or within Skipton Rock Quarry. There are seven incidents recorded off site associated with animal and slurry waste and unknown pollutants at farms and sewage pollution by a water company.

Proposed development

2.4 Tarmac commissioned Johnson Poole and Bloomer (JPB) to undertake an assessment of the stability of the soil and rock faces in Skipton Rock Quarry and to propose options for stabilisation of the faces. A copy of JPB report reference JG494-01/MAK/APB (the JPB report) dated 14 December 2009 is provided in the WRP presented at Appendix B to the application. The JPB report identifies that the most feasible option for stabilisation of the faces is "*Placement of material at the toe of the slope to reduce overall face heights and to potentially act as a buttress support to minimise potential failures*". The earthworks required to complete the most feasible option recommended by JPB will necessitate the deposit of granular fill material and

4 Category 1 – major, serious, persistent and/or extensive impact or effect on the environment, people and/or property. Document reference Environment Agency 'Incidents and their classification: the Common Incident Classification Scheme (CICS)' Operational Instruction 04_01 Issued 30/09/2011

5 Category 2 – significant impact or effect on the environment, people and/or property. Document reference Environment Agency 'Incidents and their classification: the Common Incident Classification Scheme (CICS)' Operational Instruction 04_01 Issued 30/09/2011

soils in Area E of the site shown on the aerial photograph (drawing reference JG494-01/R/F/02[6]) presented at Appendix ESSD D) and the deposit of waste soils in Area D shown on the aerial photograph at Appendix ESSD D. The earthworks needed in Area D and Area E are summarised below and further details are included in the WRP and in the JPB report.

Area D

2.5 Existing tipped materials will be regraded within Area D to provide a suitable surface on which to place a thickness of up to 2m of imported waste soils to restore Area D to the contours shown on Drawing SRFS 4/1 (Appendix ESSD E). The regrading area is identified in yellow on Drawing SRFS 3/1 (Appendix ESSD F). As the regrading works do not involve the use of waste materials this part of the consented earthworks will not form part of the operations regulated under the EP the subject of this application. Cross section 2 on Drawing SRFS 3/3 (Appendix ESSD G) which runs from north to south through the regrading area shows in red and yellow the cut and fill areas respectively associated with the regrading works. It is understood from Tarmac that regrading works have not yet commenced in Area D.

2.6 Following completion of the regrading works, it is proposed that approximately 33,200m^3 of waste soils will be imported to the site under the EP for placement to a depth of up to 2m to complete the restoration of Area D. The restoration of Area D was previously the subject of Environmental Permit Number EPR/DB3830RV (the permit) issued to Tarmac Limited on 20 January 2012. The permit which comprised a standard permit subject to Standard Rules SR2010 No10_100Kte 'Use of waste for reclamation, restoration or improvement of land' was surrendered by Tarmac during the transitional provision period associated with the consultation on changes to Standard Rules for the deposition of waste for recovery. No waste was received at the site under the permit. The issue of the permit in January 2012 demonstrates that the restoration of Area D using imported waste soils up to a depth of 2m was considered by the EA to comprise a recovery operation.

6 Note that the aerial photograph in Appendix ESSD D is not oriented with north at the top. For the purpose of orientation and comparison with the other Figures included in the application the railway line in the bottom right corner the aerial photograph is located to the north of Skipton Quarry.

Area E

2.7 Area E comprises the principal development the subject of the EP application and will require the importation of approximately 350,000m^3 of waste material to provide stabilisation of the faces in parts of Areas A and B[7]. Area E is shaded in green on Drawing SRFS 3/1 (Appendix ESSD F) and labelled "Stabilisation Area". Cross sections 1 and 3 presented on Drawing SRFS 3/3 (Appendix ESSD G) show the fill areas relevant to the Stabilisation Area.

2.8 It is proposed that the infilling will take place in 5m thick layers working from west to east. Material will be end tipped from vehicles delivering the waste to the site and pushed over the tip edge into place using plant as shown in the schematic drawing presented in the JPB report. The final top 2m thickness of material in Area E will comprise approximately 72,000m^3 of imported waste soils to achieve the approved contours and facilitate the restoration planting shown on Drawing SRFS 4/1 (Appendix ESSD E). Restoration soils will be placed by loose tipping and grading with a back actor or low ground pressure plant.

2.9 The total quantity of waste that will need to be deposited to complete the earthworks and restoration scheme is limited by the final levels shown on the restoration plan presented on Drawing SRFS 4/1 (Appendix ESSD E) that has been approved by NYCC. Drawing SRFS 4/1 comprises the relevant contour plan for the scheme specified in the EP.

2.10 The waste types that will be accepted at the site the subject of the EP are presented in Table 1 of the approved WRP provided at Appendix B of the application. The waste types in Table 1 of the WRP are consistent with those specified in the "Guidance on waste acceptance procedures for waste recovery on land" published by the EA on GOV.UK on 18 October 2016[8] as the types of waste a producer may not need to test. Detailed waste acceptance procedures will be in place to minimise the risk that unacceptable waste materials are accepted at the site and procedures will be in place for the rejection of non-conforming loads. The receipt, handling and storage of

[7] As shown on the aerial photograph presented at Appendix ESSD D, Area A and Area B comprise cliff faces.
[8] https://www.gov.uk/guidance/waste-acceptance-procedures-for-waste-recovery-on-land

materials are the subject of procedures in the company management system which is the subject of the Tarmac ISO 14001 Environmental Management System (EMS).

2.11 The procedures to be implemented to control the waste types that are imported to the site include consideration of the physical condition of the materials so that the materials deposited are suitable to provide a stable mass. Consideration will be given to the placement of materials delivered to the site including regular spreading of the materials in order to minimise the creation of voids and to develop as homogeneous a waste mass as practicable to minimise the potential for differential settlement.

2.12 Details of the approved restoration concept for the site including woodland planting, seeding and post restoration aftercare of the site are described on drawing SRFS 4/1 (Appendix ESSD E). The restored site will comprise a mix of woodland, meadow, scrubland and scree slopes.

3. Pathway and receptor

Geology

3.1 The geology at and in the vicinity of Skipton Rock Quarry is taken from the geological map viewer presented on the British Geological Survey (BGS) website, together with information from the JPB report. Based on the information shown on the geological map viewer there are no superficial deposits generally at the site as the superficial deposits at and around the site have been removed during quarrying activity. The superficial deposits in the wider area and which are likely to have once been present at the site comprise Diamicton. The Diamicton superficial deposits recorded overlying bedrock to the north of the site comprise Till sedimentary deposits which are glaciogenic in origin.

3.2 Skipton Rock Quarry including the site is excavated into limestone of the Carboniferous Chatburn Limestone Formation (formerly recorded as the Haw Bank Limestone). The Chatburn Limestone Formation includes thin beds of shaley calcareous mudstone and siltstone. The Chatburn Limestone Formation forms the central area of a geological structural anticline aligned along a west south west to east north east axis of a major fold in the Carboniferous rock, which is known as the Skipton Anticline. The southern limb of the anticline is reported to have minor folds and faults. There are a number of north west to south east trending geological faults with downthrows to the south west shown on the geological map viewer and which pass through the site. Skipton Quarry is excavated along the Skipton Anticline. The Carboniferous Clitheroe Limestone Formation, a calcareous mudstone deposit, lies to the north and south of the Chatburn Limestone Formation, and the Carboniferous Hodder Mudstone Formation which comprises a mudstone deposit lies to the north and south of the Carboniferous Clitheroe Limestone Formation.

3.3 There are a number of boreholes located in Skipton Rock Quarry shown on the BGS map viewer, which were drilled in 1937 for the Skipton Rock Company. The boreholes exceed 200m in depth and record interbedded limestone and mudstone deposits.

3.4 As explained earlier Tarmac commissioned JPB to undertake an assessment of the stability of the soil and rock faces at Skipton Rock Quarry. A copy of the report (the

JPB report) is presented in the WRP at Appendix B to the application report. The JPB report records that Skipton Rock Quarry is underlain by bedrock at or near the surface comprising the Haw Bank Limestone (now termed the Chatburn Limestone Formation) and Skipton Castle Limestone. No details are provided on the BGS website to confirm the geological formation to which the Skipton Castle Limestone is grouped. It is stated in the JPB report that the Lower Carboniferous Haw Bank rocks comprise a lower silty unit, which is overlain by an upper non-silty unit. The lower unit comprises calcareous micaceous siltstones with rare bands of pure limestone and is considered the base of deposit. The upper unit comprises a dark grey fine-grained micritic limestone. It is reported to be well bedded with beds of varying thickness and containing a few, thin mudstone partings. The Haw Bank Limestone is reported in the JPB report to be overlain by the Skipton Castle Limestone which is recorded as approximately 25m thick. The Skipton Castle Limestone is reported to comprise a sparite which, being crystalline, is coarser grained than the Haw Bank Limestone.

3.5 The JBP report records observations of the geology from visits to Skipton Rock Quarry. The limestone was described as a very strong, fresh to slightly weathered, tabular, dark grey fine grained, micritic limestone with occasional calcite and quartz veins and bands of shale. The limestone was noted to have generally wide blocky joint sets the surface of which were mainly clean and not infilled. The limestone was noted to dip at between 50º and 65º generally toward the northwest and the joint sets were noted to be reasonably persistent.

Hydrology

3.6 The hydrology at and in the vicinity of Skipton Rock Quarry is based generally on a review of published Ordnance Survey maps, information from an environmental database provided by a third party provider presented at Appendix ESSD C (the Envirocheck report), information presented on the Environment Agency website and a site visit.

3.7 The top of the southern slope of the quarry at the central and eastern part of the site is at approximately 210m above Ordnance Datum (AOD). The quarry floor at the eastern side of the quarry is at approximately 150m AOD and the northern slope at the eastern side of the site rises to approximately 160m. The topography to the north

of the eastern side of the site continues to rise to approximately 170m AOD approximately 35m north of the eastern part of the site and, after this point, falls northerly to Haw Beck approximately 90m north of the site where the level of Haw Beck is slightly lower than the 155m AOD contour. In the western part of the site the current level of the quarry floor is approximately 180m AOD and the ground falls to the north to Haw Beck approximately 90m north of the site boundary at a level of approximately 150m AOD. There is a reed bed adjacent to Haw Beck approximately 500m west north west of the site. Surface water run off from Skipton Rock Quarry runs to the reed bed and then to Haw Beck.

3.8 The nearest water body to the site is a lagoon located adjacent to the eastern boundary of the application site in the floor of the quarry. A water level in the lagoon of 153.96m AOD is recorded on a drawing reference SRFS 3/1 dated June 2010 (Appendix ESSD F). It is understood from Tarmac site personnel that the water in the lagoon comprises groundwater together with surface water run off and that the lagoon has previously been dewatered to facilitate mineral extraction. Based on the approximate level of Haw Beck at between less than 155m AOD to the north of the eastern part of the site and at less than 150m AOD to the north of the western part of the site, it is likely that groundwater is in hydraulic continuity with the Haw Beck.

3.9 Skibeden Beck is located approximately 710m south of the site. Both Haw Beck and Skibeden Beck flow westerly generally toward the River Aire. The River Aire is located approximately 4.3km south west of Skipton Rock Quarry. According to the Environment Agency Catchment data website, the site is located in the Upper Aire Operational Catchment Area.

3.10 It is understood from Tarmac site personnel that surface water run off from the site and groundwater pumped from the site is discharged to the reed beds approximately 500m to the west north west of the site and that water passes through the reed beds prior to discharging to Haw Beck.

3.11 Based on information presented on the Environment Agency website and the information presented at Appendix ESSD C (the Envirocheck report) all of the site and most of Skipton Rock Quarry are located in Flood Zone 1 which is defined in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance (PPG) as land assessed as having a less than a 1 in 1,000 year annual

probability of river flooding (<0.1%). Either side of Haw Beck are areas assessed as Flood Zone 3 and Flood Zone 2. Flood Zone 3 is defined in the NPPF and PPG as land having greater than a 1 in 100 year annual probability of flooding from rivers. Flood Zone 2 is defined in the NPPF and PPG as land having between a 1 in 100 year and 1 in 1000 year annual probability of flooding from rivers. These areas of Flood Zone 2 and 3 do not encroach onto the site. A plan showing the flood zones in the vicinity of the site is presented at Appendix ESSD C. The site is not located in a Flood Warning Area or a Flood Alert Area. The nearest flood alert and warning areas are in the flood zones along the Haw Beck approximately 90m north of the site.

3.12 The nearest surface water abstraction is from Haw Beck approximately 110m north west of the site. The operator is Tarmac Trading and the water is used for processing. The next nearest surface water abstraction is approximately 875m south of the site. The operator is Hargreaves Quarries Limited and the abstraction is licensed for general industrial use. The locations of the licensed surface water abstractions are shown on Figure ESSD 1.

Hydrogeology

3.13 Information about the hydrogeology of the area is taken from the BGS website and information presented on the Environment Agency 'What's in your backyard' website (WIYBY).

3.14 Based on information presented on WIYBY the bedrock at the site is classified as a Secondary A aquifer which comprises permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. The superficial deposits in the vicinity of the site where present are classified as a Secondary undifferentiated aquifer. Based on information on the BGS website the limestone bedrock is a moderately productive aquifer, multi-layered with the potential for small local yields of groundwater.

3.15 The site is not located in a groundwater source protection zone (SPZ). The nearest SPZs are approximately 2.5km north west and 3.0km north east. The site is not located in a Groundwater Safeguard Zone.

3.16 The groundwater abstractions recorded in the Envirocheck database (Appendix ESSD C) include a licence operator named as Tarmac (Northern) Limited (previously

Tilcon (North) Limited), licence number 2/27/15/241 for the purpose of 'Household Water Supply: Drinking; Cooking; Sanitary; Washing' at a rate of 5m^3/day and 1659m^3/year approximately 150m south of the site. A groundwater abstraction is shown located in the north west of the quarry with the licence operator recorded as Hargreaves Quarries Limited, licence number 2/27/15/250 for general industrial use of 109m^3/day and 39820m^3/year. A groundwater abstraction is located further to the north west of Skipton Rock Quarry, the licence operator is recorded as Tarmac Trading Limited (previously Tilcon (North) Limited) licence number 2/27/15/293 for gravel washing and processing at an abstraction rate of 227m^3/day and 15900m^3/year. It is understood from Tarmac site personnel that none of the groundwater abstractions are used. The location of the abstractions taken from the grid references in the Envirocheck database (Appendix ESSD C) are shown on Figure ESSD 1.

3.17 There are two licenced groundwater abstractions outside the quarry but within 2km of the site. The closest abstraction is adjacent to the south of Skipton Rock Quarry, the licence operator is recorded as Skipton Properties licence number 2/27/15/334 and the use is for general construction of 10m^3/day and 3650m^3/year (recorded on the older licence). The other abstraction is approximately 500m south of the site, the licence operator is recorded as K Stapleton at High Skibeden Farm licence number 2/27/15/010 and the use is for general farming and domestic use of 16m^3/day and 5310m^3/year.

3.18 Based on a review of the borehole logs on the BGS website there is no recorded data on the depth to groundwater. A topographical survey plan provided by Tarmac dated 19 May 2017 presented at Appendix A of the application report records the water level in the lagoon in the east of the site at 152.5m above Ordnance Datum. According to Tarmac the water in the lagoon is groundwater and surface water runoff. Based on the approximate topographical level of Haw Beck, the level of the quarry floor in the east of the site and the level of water recorded in the lagoon in the east of the site, it is considered that the direction of groundwater flow beneath the site is north north westerly and towards Haw Beck. The River Aire is located approximately 4.3km south west of the quarry and a spot height level of the ground near the River Aire at this location is 94m AOD. It is likely that there is a regional component of groundwater flow to the west and beyond the quarry to the south west towards the

River Aire. Groundwater flow in limestone is through fissures which are enlarged joints and minor faults.

3.19 There are no groundwater monitoring boreholes at the site and no groundwater quality data is available for the groundwater abstractions.

4. Pollution control measures and monitoring

Basal and side slope engineering

4.1 The works comprise deposition of waste on land as a recovery activity to stabilise quarry faces by the importation of waste to the site located in part of Skipton Rock Quarry. The restoration works will include the deposit of waste in two specific areas of the site shown on drawing reference JG494-01/R/F/02 (Appendix ESSD D) referred to as Area D and Area E.

4.2 Existing tipped quarry materials will be regraded within Area D to provide a suitable surface on which imported waste soil will be placed to a depth of up to 2m to complete the restoration of Area D. As the preparation works comprising regrading works do not involve the use of waste materials this part of the consented earthworks does not form part of the WRP and will not be regulated under the Environmental Permit.

4.3 Area E comprises the principal development the subject of the EP application and will require the importation of granular fill material to provide stabilisation of the faces in parts of Area A and B[9]. It is proposed that the granular fill material is imported as waste under the Environmental Permit for the deposition of waste as a recovery activity which is the subject of this application.

4.4 Prior to the placement of the granular fill waste in Area E the lagoon located in the east of the site will be dewatered such that waste materials will not be deposited directly into water. The waste materials imported to the site will comprise a limited range of inert wastes only. Inert waste is defined in the EU Landfill Directive (Council Directive 1999/31/EC) as:

> *'…waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the eco*

[9] As shown on the aerial photograph presented at Appendix ESSD D, Area A and Area B comprise cliff faces.

toxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater'.

4.5 It is considered that the waste does not comprise a contaminant source with the potential to have a significant detrimental effect on groundwater quality. On this basis it is considered that the placement of an attenuation layer or an engineered barrier is not necessary in order to protect groundwater quality.

4.6 The material present currently in Area D of the site includes scalpings and quarry reject materials which will be regraded to provide a surface on which imported waste soil will be placed. Assuming that the base of the quarry floor in Area D is at a level similar to the lower level of the base of the quarry floor recorded in Area E, the existing materials in Area D are approximately 10m to 15m thick and the imported waste soil will be placed on top of these materials.

4.7 The stabilisation and restoration of the site comprising the importation of waste granular fill and soil will be carried out progressively. Given that no engineered barriers will be constructed it is not necessary to prepare a site engineering plan or a stability risk assessment. The imported granular fill materials are themselves being placed in order to stabilise the quarry faces as explained in the WRP presented at Appendix B to the application report. The placement of the materials under Construction Quality Assurance (CQA) to an engineering specification is not necessary.

Capping

4.8 As the materials imported to the site will comprise inert waste materials only it is not necessary to construct a cap or to provide cap protection soils. The granular fill will be covered with waste soils to form the restoration material prior to landscaping.

4.9 As the site will not be capped rainfall incident to the site will either be lost through evapotranspiration, infiltrate to the ground or will run off to the wider surface water management system. It is not necessary to install a drainage layer at the site. Inert waste only will be deposited at the site hence the site will present a negligible risk to controlled waters.

Restoration

4.10 Pursuant to the conditions of planning permission reference C5/63/2010/10941, upon completion the site will be restored to a mix of woodland, meadow, scrubland and scree slopes. The approved restoration scheme including details of the restoration concept including woodland planting, seeding and post restoration aftercare of the site and the contours of the landscape profile are shown on drawing reference SRFS 4/1 dated June 2010 presented at Appendix ESSD E.

4.11 The imported waste soil materials in Area D will be placed on existing materials comprising scalpings and quarry rejects and in Area E the imported granular fill waste materials will be placed on top of existing scalpings and quarry reject materials and bedrock. The materials currently present in the site will have consolidated and are not compressible generally. Most of the imported waste will comprise granular fill. Accordingly settlement of the placed materials will be negligible. Notwithstanding this the restoration design for the quarry is not sensitive to settlement and there are no elements such as a capping layer or drainage system which might be affected by differential settlement.

Surface water management

4.12 Currently surface water at the Skipton Rock Quarry including the site discharges to a reed bed lagoon located approximately 500m to the west north west of the site prior to discharge to Haw Beck. A Flood Risk Assessment (FRA) was submitted in support of the application for planning permission. It is stated in the FRA that the restoration works will not change the extent of the catchment area or increase the impermeable area. Given the topographical profile for the restored site two catchment areas have been assessed for surface water run off in the FRA. The surface water run off from the eastern area (Area E) catchment will drain to a lagoon adjacent to the east of the site. It is stated in the FRA that there will be suitable attenuation capacity in this lagoon to ameliorate flows of run off in storm events.

4.13 It is stated in the FRA that the surface water run off from the western catchment area (Area D) will drain to the existing quarry surface water drainage management system which discharges to the reed bed lagoon approximately 500m to the west north west of the site.

Post closure controls (aftercare)

4.14 The aftercare of the site is the subject of Condition 18 of planning permission reference C5/63/2010/10941 which states.

> *"The site shall be restored in progressive phases in accordance with the scheme submitted to and approved as part of the planning application details. Following completion of each phase of restoration, a five-year aftercare scheme and management of the restored land shall be carried out in accordance with the submitted and approved scheme."*

4.15 As only inert waste materials will be deposited at the site no leachate, groundwater or gas management systems will be necessary. Under the Environmental Permitting (England and Wales) Regulations 2016 the EP may be surrendered only when it is concluded that the facility no longer presents a risk to the environment. As only inert waste will be deposited at the site an application will be submitted following the completion of the works at the site to surrender the EP. The surrender application will be supported by the records of the waste materials accepted at the site which will confirm the inert nature of the wastes deposited.

Gas monitoring

4.16 As no biodegradable waste materials will be deposited at the site which are likely to result in the generation of significant quantities of gas, a source of gaseous contamination will not be present hence there is no exposure pathway and no significant risk from gas. As the gas generating potential of the waste will be negligible there will be no requirement for containment, gas collection, gas treatment systems or gas monitoring. As the management and monitoring of landfill gas is not necessary, no site meteorological monitoring is necessary.

Groundwater monitoring

4.17 No biodegradable waste materials will be deposited at the site which could result in the generation of leachate. Only inert wastes will be deposited at the site which have a limited potential for leaching of contaminants. Accordingly, no groundwater quality

monitoring is necessary. No groundwater monitoring boreholes will be installed at the site.

Surface water monitoring

4.18 Groundwater at the site may be in hydraulic continuity with the surface water in the Haw Beck. However, as only inert waste and no biodegradable waste materials will be deposited at the site which could result in the generation of contaminative leachate to groundwater, no surface water quality monitoring is necessary.

4.19 Surface water run off from Area E will drain to a lagoon adjacent to the east of the site generally and the surface water run off from Area D will drain to an existing surface water management system and to the reed beds. As the surface water run off will be from inert waste materials only, no surface water quality monitoring is necessary.

5. Site Condition Report

5.1 The application is necessary to authorise the permanent deposit of waste on land to stabilise quarry faces by the importation of waste at Skipton Rock Quarry. The section of the ESSD guidance[10] relevant to preparation of a Site Condition Report states:

> *"A site condition report (SCR) is not necessary for parts of a permitted activity where you permanently deposit waste. An SCR is necessary for areas of the permitted site where you have not deposited any waste (eg site access areas, site offices, weigh bridge, wheel wash etc)"*

5.2 As the Environmental Permit boundary shown in green on Figure ESSD1 and Figure ESSD2 comprises the extent of the area in which waste will be deposited permanently there are no areas of the site in which waste will not be deposited hence accordingly it is unnecessary to provide an SCR with the application.

[10] Conceptual Site Model, Environmental Setting and Site Design Report" Version 1 dated 14 October 2016

APPENDIX ESSD A

TARMAC DRAWING NUMBER S137 SP 2017-05-19_A1 DATED MAY 2017 AND ENTITLED 'S137 SKIPTON ROCK – STOCK SURVEY 19 MAY 2017'

APPENDIX ESSD B

HERITAGE AND NATURE CONSERVATION PRE-APPLICATION SCREEN

APPENDIX ESSD C

ENVIROCHECK REPORT ORDER NUMBER 141669538_1_1 DATED 4 OCTOBER 2017

APPENDIX ESSD D

DRAWING REFERENCE JG494-01/R/F/02 DATED DECEMBER 2009 AND ENTITLED 'TARMAC SUPPLIED AIR PHOTO AND PROPOSED AREAS OF INFILL'

APPENDIX ESSD E

DRAWING REFERENCE SRFS 4/1 DATED JUNE 2010 AND ENTITLED 'RESTORATION PROPOSALS'

APPENDIX ESSD F

DRAWING REFERENCE SRFS 3/1 DATED JUNE 2010 AND ENTITLED 'PROPOSED FACE STABILISATION AREA/REGRADE AREA'

APPENDIX ESSD G

DRAWING REFERENCE SRFS 3/3 DATED JUNE 2010 AND ENTITLED 'CROSS SECTIONS THROUGH POST STABILISATION DESIGN'