

ENVIRONMENTAL PERMIT APPLICATION

**FOR AN ASPHALT WASTE RECYCLING FACILITY
AT ARMTHORPE QUARRY
HOLME WOOD LANE
ARMTHORPE
DONCASTER
DN3 3EH**

**Prepared for
Tarmac Limited**



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**Project Quality Assurance
Information Sheet**

MANAGEMENT PLAN

Tarmac Limited

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ENVIRONMENTAL PERMIT APPLICATION FORMS

MANAGEMENT PLAN DOCUMENT

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MANAGEMENT PLAN

1.0 INTRODUCTION

1.1 Background

1.1.1 Sirius Environmental Limited (Sirius) has been commissioned by Tarmac Limited to prepare a Bespoke Installation Environmental Permit Application for their Asphalt Waste Recycling Facility located at Armthorpe Quarry near Doncaster.

1.1.2 Tarmac Limited currently operates mobile plant at the site for the recycling of road planings, some of which are Asphalt Wastes Containing Coal Tar (AWCCT). As this was only a temporary arrangement, Tarmac are now seeking to establish the recycling operation on a more permanent basis.

1.1.3 The main focus for the site is that it will act as a processing hub for asphalt waste removed from roads within the region, whereby the material is subsequently processed and recycled for reuse in similar applications. The plant and equipment present on the site includes the asphalt processing plant and storage area, and supporting ancillary infrastructure (weighbridge, welfare unit, offices).

1.1.4 Due to the potential for increase in the production of recycled asphalt materials, this has necessitated the transition from operating under an activity which is covered both by mobile plant permitting and associated Exemptions from Environmental Permitting, (i.e. an S2 (Storage) and T5 (Treatment) Exemption), to that which is covered by an appropriate site based Environmental Permit. Having reviewed the latest available Environmental Permits, it was considered in terms of the most appropriate environmental consent to cover the operation would be a Bespoke Waste Treatment Installation Permit.

1.1.5 This Management Plan has been prepared in accordance with guidance on best practice and Best Available Techniques (BAT) available, and in particular the following specific regulations and guidance contained in:

- Environmental Permitting (England and Wales) Regulations 2016 (as amended);
- Environmental Permitting Core Guidance (DEFRA, Updated March 2013);
- Environment Agency Guidance (Management Systems and Controlling and Monitoring Emissions) <https://www.gov.uk/government/organisations/environment-agency>;
- UK Sector Guidance Note IPPC S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (December 2004); and
- H1 – Environmental Risk Assessment for Permits.

1.1.6 This Management Plan will be subject to continuous review and revision. In all circumstances, revisions will be subject to approval by the Environment Agency (EA).

1.1.7 Management of amenity issues are discussed in this document as well as being supported by the fugitive emissions risk assessment and accident risk assessment which have been completed in accordance with the relevant environmental guidance.

1.2 The Company

1.2.1 Tarmac Limited is a quarrying and construction materials producer and is part of the CRH Group, one of the world's leading diversified building materials group. In the UK, Tarmac is the leading sustainable building and construction solutions business. It provides innovative services and solutions to help deliver the infrastructure needed to grow the economy of today and create a more sustainable built environment for the future generations. Operations in the UK include cement & lime, aggregates, Readymix concrete, asphalt and asphalt surfacing, maintenance services, and waste & recycling services businesses.

- 1.2.2 The Company's principle aim in relation to the Armthorpe Quarry recycling activity is to ensure that its operation is in continued compliance with the required environmental regulations administered by the Environment Agency. The recycling operation at the site will be operated to the highest environmental standards. The Company's incorporation details are included in **Appendix 1**. Tarmac considers their facilities as the gateway to sustainable materials management. Each site is operated in an ethical and responsible manner, engaging with stakeholders and ensuring a safe environment for employees and the local community.
- 1.2.3 The company believes that sustainable materials management does not have to impact on communities in the way historical developments may have done in the past. By making decisions such as developing the facilities sympathetically to the locality and by targeting sustainable employment, their developments can make a positive impact.
- 1.2.4 Within current operations, the company employs an operational management team who share this vision and are qualified to the highest and required industry standards (WAMITAB/COTC).
- 1.2.5 One of the main principles of the development is to integrate the facility into the community it is located within. This focus on community scale and operation brings direct employment benefits to the local area and with the facility itself requiring local third-party company services such as the below, indirect employment opportunities are also a possibility;
- Vehicle and Plant Service & Maintenance Companies;
 - Fuel Supplying Companies;
 - Haulage Companies; and
 - Customers to Tarmac Ltd.
- 1.2.6 The cornerstone of the development will be landfill avoidance. It is anticipated that close to 100% recycling will be achieved via the re-processing of materials into their component parts for the production of a value-added product. The residual percentage to landfill or another final disposal option is expected to be very low to insignificant.
- 1.2.7 The mineral operations at the Armthorpe Quarry are well established and are already home to a number of complementary activities. The continued appropriately consented operations of the site are integral to the vision and future portfolio of Tarmac Limited in delivery of its services in the region both to the public and private sectors. This site will allow the company to demonstrate its commitment to the recovery of materials by diverting waste streams away from direct disposal and into recycling and reuse.

1.3 Non-Technical Summary

- 1.3.1 When undertaking road repair and maintenance works, the old road surface is generally 'planed off' generating road planings. The planings contain good quality aggregate which is suitable for recycling and re-use. The majority of road planings encountered contain bitumen and are therefore classified under the European Waste Catalogue (EWC) Code 170302, which is non-hazardous. These materials are typically recycled at sites holding a T5 Exemption or Standard Rules Permit as appropriate, for the subsequent manufacture of aggregates from waste in accordance with the relevant quality protocols.
- 1.3.2 Certain areas of road identified on the proposed works subject to this application have been identified as containing tar. This changes the classification of the material to EWC Code 170301* which is classified as a hazardous waste and the usual recycling outlets discussed in Paragraph 1.3.1 are not appropriate. Whilst the material still contains the aggregate, the tar used to bind the stone is classified as a hazardous waste.
- 1.3.3 The recycling and recovery operation at Armthorpe will manage and process up to 400,000 tonnes of waste per annum, 200,000 tonnes per annum of which will be Asphalt Wastes Containing Coal Tar (AWCCT) 170301*. The waste will be subjected to a physical treatment processes, where appropriate, in order to turn the material into a useable, marketable product and/or for reuse back into road construction schemes.

- 1.3.4 The waste proposed to be treated is limited to Local Authority roads, consisting namely of asphalt and road planings some of which may contain tar. The operation broadly consists of the storage and subsequent treatment of this material by sorting, separation, screening, crushing and blending of waste for recovery purposes to a secondary aggregate. This secondary aggregate is utilised as a constituent part of foamed asphalt (cold mix) for use on civil engineering schemes.
- 1.3.5 The proposed waste treatment and recycling facility will undertake the inspection, reception, storage, treatment and recovery of construction type waste from the surrounding region.
- 1.3.6 Site activities will take place upon an area of established engineered surfacing (Concrete Bound Granular Material (CBGM)), with sealed drainage to an isolation tank. This will be in an area of the overall Armthorpe Quarry complex located mid-way along the northern boundary, directly adjacent to Holme Wood Lane. The site is accessed from the south west off Junction 4 of the M18. Traffic will then travel in a north easterly direction along Holme Wood Lane before taking a right turn into the site. The site's location within its overall surrounds can be seen on **Drawing Reference TA1041/5/01**.
- 1.3.7 Once on site, the materials arriving will undergo the initial Duty of Care procedure at the site's weighbridge and reception facilities. Vehicles will then be directed towards the incoming materials storage area pending treatment. All access roadways and manoeuvring areas are surfaced with Tarmac/Concrete, with the treatment and processing area also laid to concrete. These surfaces also have integral sealed drainage systems. The recycling site is provided with suitable site offices and welfare facilities for the workforce. A single deck weighbridge will be installed on site as part of the reception facilities for the overall operations. This will ensure that all inputs and outputs to the operation will be accurately recorded, and where required in the instance of waste materials, details captured in accordance with the Duty of Care Regulations.
- 1.3.8 Wastes will be transported to and from the site by road, weighed in and recorded over the weighbridge and then directed to the incoming storage area. The wastes are then transferred to their designated treatment areas for processing via mobile plant, and thereafter to their respective storage areas in readiness for transfer off-site for onward use.
- 1.3.9 Waste storage and treatment will be undertaken within areas of impermeable engineered surfacing consisting of CBGM. Drainage is achieved via general falls in the surface to channel drains. These then fall to a central isolation tank for storage and subsequent tankering off site. General fugitive surface water run-off is directed away from the processing and storage operations towards the wider site infrastructure to the south and west.
- 1.3.10 Briefly, the operational waste activities undertaken on site can be divided into the following categories:
- Asphalt Wastes (Road Planings)
- Waste Receipt;
 - Waste Storage within designated areas;
 - Waste Processing; and
 - Product Storage within designated areas, prior to on or off-site use.
- 1.3.11 It is proposed that Tarmac will undertake their operations on the area of Armthorpe Quarry described in paragraph 1.3.7 above (on the eastern side of the site with access being gained off the northern boundary). The wider Armthorpe Quarry is owned and operated by Yorkshire Aggregates Limited. The site (which was a former sand and gravel quarry), acts as a recycling centre for Yorkshire Aggregates where they process inert waste for the production of secondary aggregates. The Yorkshire Aggregates inert waste operation is situated to the south and west of Tarmac's proposed operation. Tarmac will lease part of the site from Yorkshire Aggregates with their operation being physical separate from the established inert waste recycling activities and also permitted directly by the Environment Agency.
- 1.3.12 The site has full planning permission for the current minerals and waste management use.

1.3.13 In terms of Ecology, the nearest sites of importance are c. 2.7km to the east, namely the Humberhead Peatlands National Nature Reserve, Hatfield Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). It has been designated for the flora and fauna it supports in a lowland peat bod environment. Lowland peat bogs are a nationally rare habitat with none occurring in lowland England in completely unmodified form, most having been cut for peat.

1.3.14 The site sits within a Nitrate Vulnerable Zone as designated by the DEFRA for Surface and Groundwater.

1.4 Scheduled Activity and Specified Waste Management Operations

1.4.1 As the site will be recycling waste that could be classified as hazardous (due to the presence of coal tar), it will be considered an Installation activity and permitted as set out in the Environmental Permitting (England & Wales) Regulations 2016 (as amended) as a Schedule 1 Part 2 Part A(1) regulated activity. This will require consideration against sector guidance, and assessment of the proposed operation against generic Best Available Techniques (BAT). The activity will be classified as follows;

Schedule 1, Part 2 – Activities

- *Section 5.3 – Part A(1)a Disposal or Recovery of Hazardous Waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities;*

(vi) *recycling or reclamation of inorganic materials other than metals or metal compounds.*

- *Section 5.6 – Part A(1)a Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections 5.2, 5.2, 5.3 and paragraph (b) of this Section, except –*

(i) *Temporary storage pending collection on the site where the waste is generated,*
or
 (ii) *Activities falling within Section 5.2.*

1.4.2 The following waste management operations are to be carried out at the facility, including those proposed in Section 1.3.6 (codes taken from Waste Framework Directive 2008/98/EC Annex I and II):

- R5: Recycling or reclamation of other inorganic materials;
- R13: Storage of wastes consisting of materials intended for submission to any operation numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced);
- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced); and
- Storage: Includes storage as inherent part of associated on site delivery and despatch operations.

1.5 Facility Location

1.5.1 The proposed site for the Asphalt Waste Recycling Facility is located on the north eastern side of the wider Armthorpe Quarry site, with access being gained off Holme Wood Lane which bounds the northern boundary. Armthorpe Quarry contains a number of other complimentary operations run by the Stone and Garden Company and Yorkshire Aggregates, including an aggregates supply business and inert waste recycling operations respectively. The general location of Tarmac's Asphalt Waste Recycling Facility is shown in **Drawing Reference TA1041/5/01**. The National Grid Reference for the approximate centre of the site is: NGR 465775, 405227.

- 1.5.2 The area covered by the Environmental Permit Application boundary of the asphalt waste recycling facility is illustrated on **Drawing Reference TA1041/5/02**. This again is delineated against the wider activities that are operational on Armthorpe Quarry. The site boundary is defined as shown on the above drawing and delineated in the appropriate colour (Green – Environmental Permit Boundaries).
- 1.5.3 The proposed environmentally Permitted recycling site is on the north eastern half of the overall Armthorpe Quarry facility. The site will consist of the production and storage of recycled road planings ready for reuse in new road schemes through the county. Land to the immediate north is bound by Holme Wood Lane, whilst to the east, south and west consists of the wider Armthorpe Quarry complex.
- 1.5.4 All waste recycling operations will be undertaken upon a designated area of land access directly off the northern quarry boundary. Storage, Treatment/Recycling and transfer operations will be undertaken within this defined area. As mentioned above, access to and egress from the site will be undertaken from the main access road (Holme Wood Lane) which enters the site on the northern edge. Access to the waste storage and treatment areas is then gained after vehicles have been checked in through the main site weighbridge. The indicative operational layout of the site is illustrated on **Drawing Reference TA1041/5/03**.
- 1.5.5 The wider site is situated upon sand and gravel quarry to the south, east and west. The wider site includes aggregate supplies, and a range of inert waste recycling uses, and infrastructure associated with each includes paved roadways, buildings, fixed and mobile plant, hardstanding areas, and waste materials and product stockpiles.
- 1.5.6 The wider site is bounded to the north by Holme Wood Lane, and to the south, east and west by agricultural fields. Diggin Dyke directly adjoins the southern boundary running south west to north east. Further distant to the north, east and south is the continuation of agricultural land, whereas to the west (over the M18 motorway which runs from the M1 in the south west to the M62 to the north east) is the urbanised area associated with Doncaster.
- 1.5.7 Due to its rural setting, residential properties are generally sparse. The closest existing residential properties to the proposed permitted site are on Holme Wood lane, circa 50 metres to the north east corner.
- 1.5.8 The predominant land use surrounding the wider area, as discussed above, is a rural setting. The operation of a quarry at the site has been undertaken for a number of years having previously been worked by RMC prior to Yorkshire Aggregates.

1.6 Permitted Waste Quantities

- 1.6.1 A table of Permitted waste types for treatment is included at **Appendix 3**. This is limited to a single waste type, namely Asphalt/Road Planings. The maximum tonnage of permitted wastes to be processed by the facility during any one year shall not exceed 400,000 tonnes. Details of this waste type are summarised in **Table 1** below.

Table 1 – Permitted Waste Types and Quantities

Waste Code	Description	Tonnage
17	Construction and Demolition Wastes (including excavated soil from contaminated sites)	
1703	Bituminous Mixtures, Coal Tar and Tarred Products	
170301*	Asphalt and Road Planings Containing Tar	
170302	Asphalt and Road Planings other than mentioned in 17 03 01	
Annual Tonnage		400,000 tonnes

- 1.6.2 The maximum treatment capacity of the facility per day shall not exceed 2000 tonnes.

1.6.3 The maximum amount of waste stored at the site at any one time shall not exceed 50,000 tonnes.

1.7 Permitted Waste Types

1.7.1 A schedule of waste tonnages and a list of proposed waste types to be accepted at the facility for treatment, by EWC code, are included in **Appendix 3**.

1.8 Hours of Operation

1.8.1 The site is open for the receipt, storage, treatment/recycling and export of materials as per the hours stipulated below;

Monday to Friday:	06:00 – 18:00;
Saturday:	06:00 – 13.00; and
Sunday/ Bank Holidays:	Closed

1.8.2 Maintenance of plant and equipment will be undertaken during operational hours only.

1.8.3 The operator will not operate outside of the hours stated in 1.8.1 above, unless in an emergency, in which case the EA will be notified within 24 hours and the details/activities recorded in the site diary.

1.9 Cessation of Operations

1.9.1 In the event of cessation of all waste management operations on-site, either permanently or for a period in excess of 3 months, then no later than 5 working days following the cessation of waste management activities, the Operator will inform the Environment Agency (EA) in writing, detailing the date of cessation and in the case of temporary cessation, the date planned when operations are due to resume. In the event that the Site resumes waste management operations sooner than the notified date, the operator advises the EA in writing at least 5 working days in advance of the resumption date.

1.10 Operational Management Plan

1.10.1 The following part of the document sets out broadly how the operation will be managed in terms of an overall process, and how this complies with the relevant sector guidance, namely Sector Guidance Note IPPC SGN5.06 'Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste. This will include an assessment against the indicative Best Available Technique (BAT) for the sector.

2.0 IN PROCESS CONTROLS

2.1 Pre-Acceptance

2.1.1 Tarmac Limited will obtain the following information from the waste producer, where appropriate, to enable consideration of the waste load prior to acceptance for treatment. This information is required for all new waste enquiries:

- Waste description, including European Waste Catalogue (EWC) code;
- Description of the process producing the waste;
- Method of transport/delivery; and
- The typical waste composition.

2.1.2 Where required, sufficient data will be gathered for each waste stream to be assessed prior to acceptance for treatment. A tracking system will be employed at the pre-acceptance stage to ensure that incoming waste can be verified during acceptance. The tracking of loads allows the schedule of work activities to be rigorously maintained. In addition, each load will possess a unique identifying number, which will be provided to the waste producer.

2.2 Waste Acceptance

2.2.1 The intention of on-site acceptance procedures is to verify and characterise the waste as it arrives at the waste facility.

2.2.2 Wastes will not be accepted at the waste facility unless an assessment has been made of the suitability for treatment and recovery.

2.2.3 The asphalt and tar bound road planing materials will be delivered to the site in Heavy Goods Vehicles (likely to be rigid six or eight wheeled tippers). All loads delivered will have the requisite Duty of Care paperwork as discussed above.

2.2.4 In terms of receiving the material, delivery drivers will arrive on the weighbridge where the ticket is checked, and load weighed. The driver will pass on the relevant paperwork, e.g. Waste Transfer Note (WTN) for Non-Hazardous materials, and Hazardous Waste Consignment Note for tar bound materials, with the weighbridge operator completing the relevant sections of the note.

2.2.5 Waste deliveries and dispatches will be via Holme Wood Lane to the north of the site, and south west to junction 4 of the M18. On entering the site access road, signs will direct vehicles to the site de-sheeting bay and site weighbridge. The weighbridge deck is monitored directly from the weighbridge office. Waste is only accepted at the site if it is in accordance with the provisions laid down in The Environmental Protection (Duty of Care) Regulations 1991 (and subsequent amendment in 2003), and in accordance with the sites Environmental Permit (EP) and associated Schedule of Tonnages and EWC codes (**Appendix 3**).

2.2.6 A record is kept of the date and time of waste deliveries, quantities and the nature of the waste deposited at the site, the name of the company and their representative delivering (if applicable) each load of waste and the vehicle registration number. Wherever practicable, each load is inspected visually at the weighbridge office via a CCTV system, by the trained, nominated person to determine the basic characteristics of the waste. Subject to verification that the waste is suitable for treatment at the site and the accompanying waste transfer documentation is correct, the waste is accepted into the site. If the load does not hold the required paperwork, an attempt shall be made to verify the delivery. The vehicle will be told to park up in the waste quarantine area, until such time as the paperwork is confirmed or otherwise and the load approved or rejected. If the waste is unsuitable, the load remains on the vehicle for immediate off-site transfer. Such events will be recorded in the register of rejected loads which is available on site for Environment Agency (EA) inspection.

2.2.7 Should a load be deposited and found to be non-compliant, and the producer/carrier has left the site, this load will be re-containerised, and placed in the load quarantine area awaiting collection

for delivery to a suitably permitted facility. Such events will be recorded in the register of rejected loads which is available on site for EA inspection.

2.2.8 The waste pre-acceptance and acceptance procedures comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for waste pre- acceptance and acceptance	To be undertaken at the Installation	Comments
Pre-acceptance information from producer.	✓	
Technical assessment made of incoming waste loads.	✓	
All waste loads pre-booked for delivery.	✓	Using standard working procedures
Record keeping.	✓	Records kept for a minimum of 3 years.
Onsite verification.	✓	Duty of Care checks made upon delivery, visual checking of all loads.
Testing of wastes.	✓	Conducted by suitable lab service & chemist.
Waste rejection procedures.	✓	Quarantine arrangements and procedure for contacting the EA.
Dedicated storage area.	✓	Dedicated storage area pending analysis.
Indicative BAT requirements for hazardous waste management	To be undertaken at the Installation	Comments
Waste characterisation prior to acceptance.	✓	Pre-acceptance procedure.
Checks on waste documentation and sampling of wastes where appropriate.	✓	Onsite checking and verification. Sampling and testing requested where necessary.

2.3 Waste Storage

2.3.1 When Duty of Care checks are satisfactorily completed at the weighbridge, vehicles are directed to the designated reception area for the storage of specific waste types prior to treatment. All asphalt and road planing waste materials accepted at the waste facility are stored broadly in accordance with **Drawing Reference TA1041/5/03**.

2.3.2 The main site office building, welfare facilities, weighbridges, de-sheeting and sheeting bays are located at the western end of the operational area.

2.3.3 Outside of the construction material processing operations areas that occur on the wider quarry site, a designated locality has been set aside to carry out the operation subject to this Bespoke Environmental Permit Application. This area will be sub-divided as required, to provide the necessary areas of operation, i.e. unloading and storage of inputs, processing and treatment of wastes and End Product Storage, as shown on the indicative layout in **Drawing Reference TA1041/5/03**.

2.3.4 Tar bound materials will be placed into the 'Unprocessed Tar Bound Planing' stockpile (which will be clearly signposted). Materials which do not contain any tar (clean planings), will be

checked with a Polycyclic Aromatic Hydrocarbon detection or PAK Spray, and stored in a separate, clearly identified location away from the tar bound planing stockpiles.

- 2.3.5 During delivery, storage and subsequent processing, the operator will ensure that any fugitive emissions to air, land or water (dust, noise, liquids) are minimised and managed in accordance with the required environmental legislation and guidance.
- 2.3.6 The proposed operation will take place within the confines of the wider Armthorpe Quarry site. There are no formal specific point source emissions to surface water or groundwater arising from the area of operations.
- 2.3.7 The total storage capacity for incoming wastes and recycled product will not exceed 50,000 tonnes at any one time. Further details on the Schedule of Tonnages are attached in **Appendix 3**.
- 2.3.8 Whilst it is not as critical for the waste types under consideration, first in, first out principles are employed at the waste facility reception areas to ensure good management of waste and to prevent excessive storage times in so far as is possible. The typical waste storage times of the different waste types are shown in **Table 2**;

Table 2 - Typical Waste Storage Times

Waste Type	Period
Asphalt Waste Containing Coal Tar AWCCT (170301*)	24 months
Road Planings not Containing Coal Tar (170302)	24 months
Processed and Recycled Planings	24 months

Quarantined Wastes

- 2.3.9 In the unlikely event that wastes that are unsuitable for processing, any loads that are contaminated (physically or chemically) or if further Duty of Care checks are required prior to acceptance, these loads will be quarantined accordingly. Acceptance of the wastes will then be confirmed or otherwise with the load still in place, or if the carrier has left site after deposit (if applicable), wastes will be reloaded for immediate offsite transfer.
- 2.3.10 The load quarantine area will be located where deemed appropriate by operational requirements but will at all times comply with Health & Safety and Environmental legislation and guidance.
- 2.3.11 Such events will be recorded in the register of rejected loads which is available on site for Environment Agency (EA) inspection.
- 2.3.12 The waste storage arrangements comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for waste storage arrangements	To be undertaken at the Installation	Comments
Maximum storage time.	✓	
Adequate storage area.	✓	
Delivery and storage area engineered surfacing consisting of impermeable concrete and sealed drainage system. Bunding provided.	✓	

Indicative BAT requirements for waste storage arrangements	To be undertaken at the Installation	Comments
Record keeping.	✓	Records kept for a minimum of 3 years.
All stored materials to be appropriately labelled.	✓	

2.4 Waste Treatment

2.4.1 The waste facility allows for the receipt, storage, treatment and recycling of asphalt waste materials, and the storage of product in readiness for transfer off-site, resulting in outputs of secondary materials that are ready for further re-use in other applications as value added products, e.g. road planings in asphalt production.

2.4.2 The facility will be processing a single waste stream in terms of general type (road planings), which are broadly subdivided into whether they contain coal tar or not. The presence of coal tar will by its very nature will dictate whether the waste is classified as hazardous or non-hazardous. The main operational activities that occur at the facility can be broadly categorised into the following process stages:

All Wastes

- Waste Receipt;
- Waste Storage within designated areas;
- Waste Processing or Stocking for Transfer; and
- Product Storage within designated areas, prior to off-site or intra-site use.

2.4.3 Tarmac Limited employ plant and handling equipment based upon the longstanding and accepted waste recycling processes. In conjunction with this, Tarmac have developed a unique cold mix foamed asphalt process when it comes to reutilising the recovered material back into a new road resurfacing scheme, helping recycle existing materials and avoid the generation of new asphalt from primary aggregate, therefore helping to reduce the burden on finite resources.

2.4.4 A broad description of the treatment and recycling process is outlined below and would involve;

- Receipt of Waste Materials (including road planings containing tar) and following Duty of Care acceptance checks, discharge into appropriately identified secure waste storage areas in readiness for treatment.
- Transfer of materials from storage area into feed hopper of plant typically utilising wheeled loading shovels.
- The mobile plant will allow for the sorting, separation, screening, crushing and blending of waste for recovery as a secondary aggregate.
- The recovered aggregates are then out-loaded for delivery back to the local highways improvement scheme and incorporated into the subsequent manufacture of foamed asphalt (cold mix process) being used in the works.

2.4.5 A product description of the FoamMaster Recycled Asphalt is included at **Appendix 9**.

2.4.6 It also has machinery available for use, from other areas of their operation within the region relating to primary and secondary aggregate processing and construction material production if this is required to assist operations.

2.4.7 The waste facility accommodates the following waste process and treatment equipment:

- Wheeled Bucket / Loading shovels, 360° Tracked Excavators, Articulated Dumpers, Mobile Crusher and Screening Units, to process the materials into appropriate sized fractions and remove foreign objects. Other equipment ranges from miscellaneous hand tools to task specific PPE such as for manually removing foreign materials from the plant belts.

- 2.4.8 Once in the waste recycling storage and processing area, the material is offloaded and stored as received, in the designated area ready for processing or stocking for transfer if not deemed suitable for treatment.
- 2.4.9 In terms of the asphalt material containing coal tar, this will be crushed and screened into two fractions, namely 0-10mm and 10-20mm. These will be stockpiled on the 'TAR 0-10mm' and 'TAR 10-20mm' stocks and clearly signed. This material is then made into Cold Recycled Bound Material (CRBM) with the addition of products 100% Cement (CEM1), PFA, bitumen and water, then outloaded off site for delivery to use in a new road scheme within the local area. Appropriate paperwork will be provided for outgoing materials.
- 2.4.10 Clean 'uncontaminated' planings will undergo the same treatment process.
- 2.4.11 Materials are processed either on an ongoing or 'campaign' basis depending upon input rates, which are dictated by activity within the construction market. Whilst Tarmac utilise their own equipment during the processing of materials, sub-contract machinery will also be used which will be directly controlled by the EP Holder.
- 2.4.12 Prior to mechanical treatment, any visible foreign objects such as machined timber/wood, plastic, glass or metals, are manually removed from the stock piles and containerised in readiness for further off-site recycling at another suitable permitted facility.
- 2.4.13 Dependant on the nature of the incoming loads, the waste is either transferred from the storage area by loading shovel or excavator to the crusher whereby the material is broken down. Where applicable following crushing, the material is fed through a screener, where it is separated into selected size fractions. The screened material is then moved using the loading shovel and stored in the appropriate stock piles, before transfer offsite. Materials blending can take place during this final stage to ensure the outbound recovered material meets the required specification for use as a feedstock to the cold mix foamed bitumen production.
- 2.4.14 Once materials have been treated and are ready for export from site, they will be weighed at the weighbridge and Duty of Care checks will be undertaken to ensure that the requisite paperwork is in place prior to onward transport. All loads will be sheeted at the sheeting bay, as necessary, prior to removal from site.
- 2.4.15 It is possible that a small fraction of residual / foreign waste, would have by-passed the initial checks and may be present within the loads during the treatment process. These materials will be segregated from the operation and placed in appropriate containers, once a full load is reached, these are sent back to the weighbridge for measurement and either sent to an appropriate facility, for further recycling or disposal, if considered non-recyclable.
- 2.4.16 Due to the nature of the waste and pre-acceptance procedures being adhered to, there should be no biodegradable waste from the process. However unsuitable waste materials received onsite will be recorded on the register of rejected loads which is available for review at any time to the visiting Environment Agency (EA) officer, and the waste will be kept un-disturbed, as appropriate, in the quarantine area until removed from site.
- 2.4.17 The waste storage arrangements comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for waste treatment techniques	To be undertaken at the Installation	Comments
Suitability for testing conducted pre-treatment.	✓	
Staff are provided with the appropriate levels of Personal Protective Equipment (PPE) in the undertaking of their duties.	✓	
Handling of materials will be performed using suitable mechanical means.	✓	Loading shovels and excavators.
Specific procedures for materials with high contaminative source potential.	✓	Included as part of Tarmac's EMS for the asphalt recycling operations
Tar materials are kept encapsulated within the material as there is no heating involved in the recycling process which could give rise to the emission of hydrocarbons.	✓	
Treatment process and specific stages fully understood.	✓	
Treatment and storage to follow established guideline procedures	✓	Suitable levels of containment provided for each part of the treatment process

2.5 Raw Materials

- 2.5.1 An indicative list of the raw and auxiliary materials used in the Installation along with the relevant Material Safety Data Sheets (MSDS) is provided in **Appendix 8**. The FoamMaster Cold Recycled Bound Material (CRBM) product datasheet is included in **Appendix 9**.
- 2.5.2 The addition of raw materials to the process are for a number of reasons. The need for PFA to be added to CRBM is threefold. It is used as a filler to help achieve the grading requirement set out in the Specification for Highways Works Clause 948 table 9/25. Secondly, the PFA has a pozzolanic affect, providing additional strength characteristics to the CRBM. Thirdly, when the PFA is pre-blended with the coarse fraction, it helps reduce segregation within the CRBM product.
- 2.5.3 In addition to PFA, 50kN strength CEM1 is used as a binding agent for the production of CRBM.
- 2.5.4 The substances used as raw materials have been selected to be effective in the specific process for which they will be used whilst having minimum environmental impact. Some of the raw materials selected have been recommended by the suppliers of various components of the Installation.
- 2.5.5 The quality and composition of raw materials used will be periodically checked with suppliers to ensure that raw materials conform to the required specifications. All raw materials used at the Installation will be checked annually by reference to manufacturer's data to ensure that raw materials with low environmental impact are being used. Checks will also be carried out whenever a raw materials supplier is changed.
- 2.5.6 Raw materials used will be reviewed on an annual basis. Where suitable alternatives have become available that have a lower environmental impact, these materials will be considered for use, subject to financial and operational constraints.
- 2.5.7 The raw materials selection process complies with indicative BAT requirements for raw materials selection in Sector Guidance Note S5.06 and as shown below.

Indicative BAT requirement for raw materials selection	Undertaken at the Installation	Comments
List of raw materials and properties kept; alternatives have been assessed.	✓	A raw material inventory will be maintained and reviewed on an annual basis.
Regular review of developments in suitable materials with lower environmental impact.	✓	
Checks on impurity content of raw materials.	✓	

2.6 Water Use

2.6.1 Water use onsite is provided via a mains connection.

2.6.2 Water consumption onsite is via the following onsite processing activities:

- General site cleaning;
- Staff welfare facilities;
- Dust management in external areas.

2.6.3 The consumption figures for water use will be reviewed and assessed on an annual basis as part of the EP reporting requirements. It is proposed to conduct a water efficiency audit within 1 year of Permit issue. The audit will inform water reduction techniques to be employed onsite, e.g. via use of collected rainwater for dust suppression activities and site cleansing.

2.7 Waste Handling, Recovery and Disposal

2.7.1 The production of waste materials from the treatment process will be minimal as near enough 100% recycling will be achieved.

2.7.2 Should any recyclable materials be identified that are not a constituent part of the treatment process, these will be segregated and stored temporarily within the Installation boundary prior to onward reprocessing.

2.7.3 Waste materials dispatched from the Installation for onward processing for recovery or disposal will be subject to Duty of Care checks and the production of Duty of Care documentation. Electronic records will be made of the following prior to dispatch for each load:

- Waste type;
- Waste quantity;
- EWC code; and
- Recovery/Disposal site.

2.7.4 Monitoring of waste production levels will be conducted on a monthly basis. Waste returns will be completed and forwarded to the EA on an agreed timescale as stipulated in the Permit.

2.7.5 If necessary, during the operation of the Installation, waste prevention opportunities will be reviewed on an annual basis and reported to the company Directors.

2.7.6 The waste management techniques employed at the site complies with indicative BAT requirements for waste management in Sector Guidance Note S5.06 and as shown below.

Indicative BAT requirement for waste management	Undertaken at the Installation	Comments
Identification of waste streams.	✓	Waste returns produced and forwarded to the EA on an agreed frequency.
Waste minimisation measures considered.	✓	
Record Keeping.	✓	

2.8 Energy

2.8.1 It is proposed to monitor energy consumption for 12 months after permit issue and provide an energy report to the EA subsequent to this.

2.8.2 The site has deployed the use of a solar panel for the powering of the office and welfare facility and site laboratory.

2.8.3 Electrical power for use in the Installation is provided via the mains supply onsite. There is no onsite gas supply.

2.8.4 The primary onsite electricity consumption is via the following plant and equipment:

- Offices, including heating;
- Power tools and hand-held equipment; and
- Power Wash.

2.8.5 The primary onsite liquid fuel consumption is via the following:

- Loading Shovels;
- Crusher and Screen;
- 360° Tracked excavator; and
- Backup Generator.

2.8.6 Where fuel is required for the back-up generator and mobile plant, low sulphur gasoil has been specified to ensure BAT requirements are met. The gas oil to be used at the Installation will comply with the relevant British Standard (BS 2869) which stipulates a maximum sulphur content of 0.1%wt (from January 2008).

2.8.7 An assessment of the energy consumption will be reviewed on a periodic basis as required by the Permit. Further details of the monitoring arrangements are included in the appropriate section to this Management Plan.

2.8.8 With regards to energy management techniques, the Installation will be managed to ensure that basic energy efficiency measures are undertaken during normal operations. Housekeeping and general maintenance procedures will be adopted to ensure that doors are closed unless access is required to the buildings. All equipment will be maintained to ensure efficient operation. The electrical supply for the site provides heating and lighting to the welfare and office areas. Staff will be trained to ensure unnecessary energy losses are minimised by switching off equipment when not in use.

2.8.9 Energy use at the Installation will be monitored and reported in accordance with the updated Permit requirements. An energy efficiency plan will be developed and implemented within 1 year of the issue of the latest version of the Environmental Permit.

2.8.10 The procedures for basic energy requirements comply with indicative BAT requirements for Basic Energy Requirements in Sector Guidance Note S5.01 as shown below.

Indicative BAT requirements for basic energy requirements (1&2).	To be undertaken at the Installation	Comments
Specific Energy Consumption figures calculated.	✓	
Environmental emissions associated with energy flows considered.	✓	
Operating and housekeeping measures to improve energy efficiency.	✓	
Basic low-cost physical techniques to avoid gross inefficiencies.	✓	
Energy efficiency plan.	✓	To be developed
Use of less Polluting fuels	✓	Low sulphur gasoil has been specified for the mobile plant and back-up generator

3.0 EMISSIONS CONTROL

3.1 Point Source Emissions to Air

3.1.1 There are no point source emissions to air from large scale fixed treatment processes.

3.1.2 The only point source emissions relevant to this application are from mobile plant. In this instance, all plant utilised on site will be serviced and maintained in accordance with manufacturers recommendations. This will ensure that the equipment is operated in an optimal condition to ensure emissions are in accordance with quoted specifications.

3.1.3 No control measures, other than those described in section 3.1.2 (above) are proposed.

3.2 Point Source Emissions to Groundwater

3.2.1 There will be no point source emissions to groundwater. It should be noted that due to the acceptance procedures in place and the engineered surfacing and sealed drainage to be provided, any precipitation percolating through the material and into the ground on a fugitive basis will not lead to the deposit of contaminants over a wider area as these will be contained on the impermeable surface or within the sealed drainage system itself.

3.3 Point Source Emissions to Surface Water and Sewer

3.3.1 As noted above, in section 3.2.1, in relation to groundwater, there are no point source emissions from the activity to surface water or sewer in the permitted area of operations. Drainage from the engineered surfaces will be to an underground isolation tank via sealed drainage pipes. Surface water from the surrounding un-engineered areas will be encouraged to shed away from the operational area to prevent unnecessarily contributing to the overall water balance and/or depositing fines on the engineered surface. General indicative site drainage is illustrated in **Drawing Reference TA1041/5/04**.

3.4 Fugitive Emissions to Air

3.4.1 The control of fugitive emissions at the site is achieved largely through the implementation of good management practices and housekeeping. The monitoring of ambient weather conditions will be undertaken on a daily basis (including wind speed, and direction) to ensure the processing of the asphalt wastes, that may be dusty in nature, will not become exacerbated by meteorological conditions. The measurement of wind speed and direction can be performed via the use of a handheld anemometer or site installed weather station, if required.

3.4.2 Dependant on meteorological conditions, some materials may have the potential to generate dust, when being stored, moved, crushed and/or screened. Therefore, the following control measures are employed to reduce the incidence of dust emissions:

- All haul routes will be maintained in good condition and be kept clean and free of debris;
- All loads will be sheeted, or kept in enclosed containers where appropriate, whilst in transit to and from the site. Where inbound sub-contract haulage vehicles are not sheeted, they will be informed of the company requirements accordingly;
- Loading of all vehicles, including internal traffic, will be supervised to ensure containers are not overfilled;
- All loads will be checked prior to dispatch to ensure that vehicles are clean and free from debris;
- Vehicles will be thoroughly washed down as necessary prior to onward movement off site;
- All waste storage will be conducted to the highest of housekeeping standards. This will include specifically constructed bays for materials used in the treatment and production process;
- Processing of road planings with the potential to generate dust will only be undertaken in suitable ambient conditions with the application of control measures as necessary;
- All entry points to the processing area will be kept restricted, except for when access is required;

- Water sprays (bowser and/or fogs) will be utilised where required to dampen surfaces and reduce dust emissions; and
- Any waste spillages will be cleaned in accordance with Section 5.6 of this document.

3.4.3 Although the type of waste to be received are highly unlikely to give rise to litter, the following control measures are employed to reduce the incidence of litter emissions:

- All waste storage will be conducted in accordance with good housekeeping practices. The storage is unlikely to give cause to litter emissions due to the nature of the waste type, i.e. not the windblown fraction, however foreign materials may be present which will be manually picked out;
- All non-compliant residual waste will be stored in an enclosed receptacle/container within a suitable area of the inert waste treatment site; and
- All deleterious material with the potential to be windblown as removed from site will be sheeted or in enclosed containers, whilst in transit.

3.5 Fugitive Emissions to Surface Water and Groundwater

3.5.1 The road planings recycling processes does not pose a risk to surface water and groundwater from fugitive emissions.

3.5.2 A spill procedure is in place, as outlined in Section 5.6 to deal quickly with any spillages and leaks of contaminative materials.

3.5.3 Surface water run off generated by precipitation, will be directed away from the main storage operations and processing localities, and collected within a sealed network of pipes to an underground isolation tank which will be emptied via road tanker at an appropriate frequency. This trade effluent will be disposed of in a suitable treatment facility.

3.5.4 Drainage within the un-surfaced parts of the site outside the permit holder's area of operations will be away from the operational areas as discussed above. This will enable reduction in the overall surface water contribution, whilst also lowering the risk of suspended solids being deposited on the engineered surface. General site drainage is illustrated in **Drawing Reference TA1041/5/04**.

3.6 Control of Odours

3.6.1 The operational facility at Armthorpe Quarry will consist of (in addition to the existing mineral and waste recycling operations undertaken by Yorkshire Aggregates) receipt, storage, processing (crushing and screening) and storage/transfer of asphalt waste. The likelihood of odours arising as a result of the permitted operations is minimal to non-existent due to the material consisting mainly of road planings being inherently non-odourous. There is also no heat involved in any of the treatment processes that could result in the production of an odour.

3.6.2 Waste acceptance criteria, as defined in Section 2.2 of this document, will be strictly adhered to. Only those waste types listed in **Appendix 3** will only be accepted to the site and all non-compliant wastes with the potential to be odourous will be stored in an appropriate container or sealed skip in order to reduce the likelihood of an odour emission.

3.6.3 Storage times, as defined in **Table 1** of this document, will be complied with. Materials will be introduced to the recycling process on a first-in, first out principle to ensure continual turnaround of waste materials. Good housekeeping of the waste storage and processing areas will also be undertaken to maintain appropriate standards.

3.7 Control of Noise

3.7.1 Operations at the permitted facility generally do not have the potential to cause a detriment to the amenity of the locality given the general site location and surroundings, and that the hours of operation (deliveries, treatment/transfer and export) are restricted to sociable hours (see Section 1.7). All machinery used will be fitted with silencing equipment and regularly maintained in accordance with manufacturers' instructions.

- 3.7.2 This proposed operation will take place amongst an ongoing heavily worked quarry environment (aggregate supplies and inert waste recycling site) and so any noise emitted from the processing will not change the general noise environment of the local area.
- 3.7.3 As noted in Section 1.5, the site is situated within the confines of Armthorpe Quarry which has been in existence at this location at varying scales for around 50 years. Minerals and waste operations have therefore been established at the quarry for an appreciable length of time. Notwithstanding the above, direct line of sight between operations and sensitive receptors is generally absent; therefore, the transmission of noise at levels which could cause nuisance is limited due to the boundary and landscaping treatment applied at the site and the intervening distances.
- 3.7.4 Unloading, processing and loading the materials will be undertaken within strict operational parameters, to ensure that noise and vibration from this activity is mitigated as necessary. These include maximum loading/processing amounts and placement of materials being loaded.
- 3.7.5 Should unacceptable emissions of noise or vibration occur, the incident will be noted, and a record made. An attempt will be made to identify the source of the noise or vibration and ensure it is removed or otherwise ameliorated. A record will be made of such incidents within the Site Diary and the corrective actions taken.

3.8 Control of Scavengers, Insects and Other Pests

- 3.8.1 It should be noted that the types of waste proposed to be accepted for processing at the facility are not of the nature that could typically attract pests, i.e. non-putrescible. However, measures shall be implemented to ensure the highest standards of operational practices are undertaken to mitigate any residual potential that exists.
- 3.8.2 The operational areas will be kept in a good state of repair where the road planing recycling/transfer activities take place. No food shall be consumed onsite within the operational area, only within the sites welfare facilities.
- 3.8.3 Although unlikely due to the proposed limited list of wastes to be accepted, should waste be received at the site that is already infested it will be consigned off site as a matter of priority. The waste producer will be contacted and the EA informed and any such events will be recorded in the Site Diary.
- 3.8.4 Waste storage areas will be inspected throughout the working day by site personnel as instructed by the Site Operations Manager. A record of formal inspections and any pests/scavengers noted will be made, along with corrective actions if required.
- 3.8.5 Insecticides and rodenticides will be used as necessary to eliminate or discourage pests. A suitably qualified pest control contractor will be appointed should specialist services be required.

3.9 Control of Litter

- 3.9.1 It is not envisaged that litter will be a problem within this operation, due to the nature of waste types accepted, and their lack of 'windblown' content. However foreign waste materials amongst the incoming and processing waste may have the potential to become mobile, as soon as their identified, they shall be manually picked out and containerised in the appropriate external storage area. Daily inspections and general visual monitoring will be undertaken to ensure that the facility and its associated operations are not generating unacceptable quantities of litter.

3.10 Control of Mud and Debris

- 3.10.1 In order to limit the formation of mud and debris at the facility the following procedures are in place;

- Entrance way and main site access roads are surfaced (tarmac or concrete), with the recycling site also surfaced in concrete, which will prevent the general and subsequent tracking of mud and debris;
- No wastes are permitted to be deposited outside of the designated waste storage areas (i.e. on soft ground where mud could be trafficked);
- All vehicles hauling waste and recycled products will be sheeted (or instructed to do so) or fully enclosed where appropriate to avoid the loss of waste/materials during transport;
- All vehicles will be supervised during loading to ensure that vehicles are not overfilled; and
- A mechanical roadsweeper will be deployed to the wider facility once a week or as necessary.

3.10.2 In the event that unacceptable amounts of mud or debris arising from the facility operations is spread either on to the wider area of the site or onto private and public highways outside the site, any available manual or mechanical means, over and above the measures listed, shall be employed to remove any deposits and thus maintain the cleanliness of the site and the adjacent public road.

3.10.3 The emissions control arrangements comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for emissions control and abatement	To be undertaken at the Installation	Comments
Engineered surfacing.	✓	
Bunding provided for 110% of the largest tanks.	✓	
Control measures for fugitive emissions to air.	✓	
Amenity management measures employed.	✓	

4.0 MANAGEMENT SYSTEMS

4.1 Environment, Health, Safety and Quality System

4.1.1 The Facility will operate under the effective system of management procedures already developed on a national basis by the operator, Tarmac Limited. Tarmac operates in accordance with the following externally accredited standards;

- ISO9001 – Quality Management System Certification
- EN ISO14001 – Environmental Standard Certification

4.1.2 Audits and inspections will be conducted to the suitably accredited standard to meet the requirements of the management system and performance will be reported annually to the Environment Agency as per the requirements of the Environmental Permit.

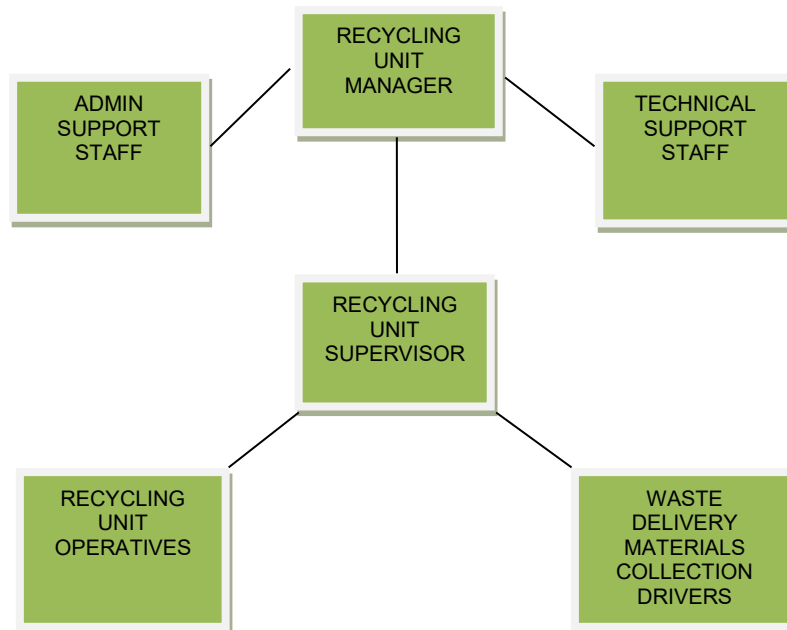
4.1.3 Environmental issues will be considered when purchasing items of plant and when design changes are being undertaken at the facility. These considerations will be documented.

4.1.4 Records will be kept of all items required by the Environmental Permit, other legislation and operating procedures.

4.2 Management Structure

4.2.1 **Figure 1** detailed below, illustrates the typical management structure that is utilised in relation to the waste recycling operations on site.

Figure 1 –Management Structure for Inert Waste Recycling Operations



4.3 Environmental Permit and Management Plan

4.3.1 The original Environmental Permit, Environmental Permit Application and associated Management Plan and supporting documents will be kept within the main offices at the waste recycling facility situated at Armthorpe Quarry, Holme Wood Lane, Armthorpe, Doncaster, DN3 3EH.

4.3.2 Copies of the Environmental Permit, Management Plan and supporting documents are to be kept in the TCM office and the weighbridge office at the Site addressed in section 4.3.1.

4.4 Technical Competence

- 4.4.1 Technical competence for the waste facility will be provided via the CIWM/WAMITAB Operators Competence Scheme (OCS). The current Technically Qualified Management (TCM) staff employed by Tarmac Limited has the necessary NVQ/VRQ qualifications. General Training and development for operational staff will be undertaken in accordance with Tarmac's general policy on staff training and development and investment in people. Full time employees are selected based upon relevant experience within the minerals, waste management and recycling industry.
- 4.4.2 In order to comply with the regulatory requirements as stated in the Environmental Permitting Regulations, Tarmac Limited has the requisitely qualified and experienced person with the appropriate technical competence qualifications to manage the ongoing operations at the facility.
- 4.4.3 At the current time, the required TCM qualified staff for the operation under consideration is Kevin Marshall and Mark Foley who each hold a WAMITAB Certificate of Technical Competence (CoTC) for the treatment of hazardous wastes. These were gained on 03/04/2014 and 24/06/2015 respectively. Both TCM have undertaken the necessary Continuing Competency (CC) tests to keep their awards valid. Copies of the CoTC and CC certificates are included within **Appendix 2**.
- 4.4.4 The Environment Agency (EA) will be informed within 24 hours of any proposed changes to the technical competence arrangements.

4.5 Staffing

- 4.5.1 The staffing arrangements are outlined in the relevant organogram as shown in **Figure 1** above.
- 4.5.2 **Appendix 4** outlines the general roles and responsibilities of staff employed within the organisation.

4.6 Training

- 4.6.1 All new employees are given full induction training by the Site Operations Manager or other appropriately qualified person(s) as appointed by the Site Operations Manager.
- 4.6.2 The assessment of competences of staff will be made by the Site Operations Manager or other appropriately qualified person(s) on an ongoing basis and will be recorded in the Site Diary. All staff will be trained to ensure that they are competent to undertake their respective duties. Particular attention will be given to familiarisation of staff with the Environmental Permit for the site, the potential emissions from the site and the prevention of accidental emissions. Training will be tailored to individual requirements.
- 4.6.3 An induction and personal training plan will be developed for each individual and will be regularly updated to reflect staff needs and skills.

4.7 Operating Procedures

- 4.7.1 A number of operating procedures have been developed and documented for onsite activities. Where procedures do not already exist, it is anticipated to create a full draft of working procedures for all activities within one year of receiving the Environmental Permit.

4.8 Maintenance Procedures

- 4.8.1 A documented maintenance schedule is already developed in accordance with manufacturer's recommendations. The maintenance plan will identify individual items of process equipment and specify maintenance requirements. An inspection regime will also be developed for each piece of plant in order to visually inspect condition and immediate repair requirements. Maintenance procedures will be included in the Site Management System.

4.8.2 A stock of spare parts will be maintained on site for vital equipment to reduce potential down time. Maintenance procedures will be developed in conjunction with the company Management System.

4.9 Records

4.9.1 A record of the types and quantities (in tonnes) of asphalt wastes received and removed from the facility will be maintained within the site office. A summary of the types and quantities of wastes deposited at the site and removed from the site will be provided to the EA quarterly in an agreed format. All Duty of Care documentation in relation to waste movements will be kept for 2 years, prior to archiving.

4.9.2 The following significant events at the facility will be recorded, as detailed below:

- The start and finish of any construction/engineering works undertaken at the facility;
- Maintenance;
- Breakdowns;
- Emergencies;
- Problems with waste received and action taken;
- Facility inspections;
- Attendance of technically competent management at the facility;
- Despatch of records to the Agency;
- Severe weather conditions;
- Complaints received;
- Visitors to the facility;
- Pest or vermin incidents; and
- Rejected loads and the reason for rejecting the load.

4.9.3 The Site Operations Manager or nominated person will maintain a record of all the above information in the site log or on inspection forms, as appropriate. Records relating to significant events will be kept for up to 6 years, or where involving off site environmental effects or pollution of land or groundwater until permit surrender.

4.9.4 All records and copies of inspection forms will be kept at the facility at all times and will be available for inspection at all reasonable times by any authorised officer of the Environment Agency.

4.9.5 The facility records may be kept either as:

- Hand generated log;
- Computer generated hard copies; or
- Computer permanent storage media.

4.9.6 To ensure the security of records they will be housed in either locked containers or kept in offices that shall be locked when not attended.

4.9.7 Records will be disposed of in accordance with company policy, which shall ensure an appropriately secure method e.g., shredding and recycling, where feasible.

4.10 Visitors

4.10.1 Persons visiting the facility will be required to report to the main site office. A record of the time and reason for their visit will be logged in the signing-in book. Visitors entering the working areas will be briefed and inducted with respect to facility safety, and accompanied where necessary.

4.10.2 All visitors will be made aware of the requirement for Personal Protective Equipment (PPE). No person will be allowed entry to the facility without the correct protective equipment. The facility employees are responsible for the Health and Safety of all visitors and will ensure that they are

given sight of a copy of the Health and Safety Plan, and are made aware of any potential threats to their safety or welfare.

- 4.10.3 There will be additional induction requirements for contractors visiting site that are providing a service or undertaking works such as maintenance. A permit to work system will be employed for more hazardous maintenance activities to ensure compliance with company health and safety requirements.

4.11 Site Inspections and Audit

- 4.11.1 Daily site inspections will be conducted of the inert waste treatment operation and associated boundary. A copy of an example of the Operations and Maintenance Daily Sheet is included in **Appendix 5**. The facility shall be inspected daily by the Site Operations Manager or other nominated representatives of the Environmental Permit holder for defects in plant, equipment or structure or in any working practice that may affect satisfactory compliance with the Environmental Permit. Inspections shall be undertaken by staff suitably qualified and/or experienced in the day-to-day operation of the facility. The main points of inspection shall include:

- Waste storage levels;
- Waste type storage area separation;
- Cleanliness;
- Site emissions;
- Leakages/Spillages;
- Monitoring data (where relevant);
- Plant condition; and
- Integrity of wider associated buildings, site surfacing, drainage systems and security provisions, where applicable.

Should a problem be identified, the Site Operations Manager will arrange immediate repair or other appropriate remedial action.

- 4.11.2 Records shall be kept of daily inspections and shall be made available for inspection as reasonably required by authorised officers of the EA. Any defects shall be rectified promptly.
- 4.11.3 In addition, an annual audit of working procedures will be conducted internally. The audits will be used to identify non-compliance and monitor progress of corrective action. The Company Director will review details of the audits. Copies of the audits will be kept in the site office.

4.12 Site Security

- 4.12.1 All reasonable precautions are taken to prevent unauthorised access to the site. The permitted site has only one access point, from Holme Wood Lane, which is shared by other quarry traffic and local residents. As it's a no through road, traffic use by members of the public is generally limited.
- 4.12.2 The permitted site will be bounded by a defined perimeter in addition to that which surrounds the wider quarry facility. The main access gates are kept secure out of hours. During operational hours, the main access gates to the north of the site is kept open for Quarry staff, Soils and Aggregates sales staff from 'The Stone and Garden Company', Tarmac staff, customers and visitors.
- 4.12.3 In addition to the defined site boundary, the site will be illuminated as necessary when in use. The lighting columns are situated and directed in such a way that illumination is towards the confines of the site infrastructure area, and not directed in a position where the transmission of light off site would be an issue.
- 4.12.4 The integrity of the wider site boundary, entrance gateway and perimeter structures are inspected on a weekly basis. Any damage to the integrity of the boundary, gates or any other security structure, where practicable, will be repaired by the end of the working day. If it is not possible to make repairs within a working day, temporary repair measures will be implemented.

Final repairs are carried out within 7 days of the damage being detected or any other such period as agreed in writing with the EA. All damage and repairs (temporary or permanent) are recorded in the Site Diary.

4.13 Site Identification Board

4.13.1 A site identification board is attached to the frontage of the site detailing the following information:

- The permit holder's name (company name) and permit number;
- An emergency contact name and the permit holder's telephone number;
- A statement that the site is permitted by the Environment Agency; and
- Environment Agency national numbers 03708 506 506 and 0800 80 70 60 (incident hotline)*

*or any other numbers subsequently notified in writing by the Environment Agency.

4.13.2 The site identification board will be inspected on a weekly basis and any damage repaired within 3 working days. Details of any damage and repairs undertaken are recorded in the Site Diary.

4.14 Complaints

4.14.1 Any complaints relating to the facility will be managed as follows:

- Details of the complaint and the complainant will be logged in the Site Diary;
- The complaint will be investigated. Corrective actions and preventative actions will be undertaken where the source of the complaint can be identified and is attributable to activities undertaken at the facility;
- The details of the action taken will be reported back to the complainant. This will include cases where the complaint is unsubstantiated, i.e. the complaint fails to be linked to any activity occurring at the facility. All investigative works and compliant outcomes will be recorded in the Site Diary.

4.15 Staff Welfare Facilities

4.15.1 Staff rest and wash facilities are situated within the main infrastructure area located at the southern boundary of the applicant's landholding. Toilets and showers are also provided at this location.

4.16 Non-Compliances

4.16.1 Any non-compliances identified onsite will be reported to the EA within 24 hours. Details of the non-compliance and corrective actions will be recorded on appropriate recording forms and held within the site office for a period no less than two years. Any records of non-compliances will be archived until Environmental Permit surrender.

4.17 Health and Safety

4.17.1 The company recognises the importance of Health and Safety for both its staff and visitors to its facility. The company will therefore continue to monitor Health and Safety in accordance with its ISO9001 procedures and internal Health and Safety systems to ensure the well-being of all who visit the site. The procedures outline the Health and Safety policies and practices to be adopted on site at all times.

4.7.2 The management system arrangements comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for Management Systems	To be undertaken at the Installation	Comments
Effective Operational and Maintenance systems should be employed on all aspects of the process whose failure could impact upon the environment.	✓	Tarmac operates to an externally accredited and audited QEMS
Training systems should be in place for all staff to include background on environmental protection and the requirements of the permit.	✓	
Where the requirement of industry codes of practice exists, these should be complied with.	✓	Adherence to TCM and WAMITAB COTC
An Accident Plan should be developed for the site during the initial course of operations and updated as necessary	✓	Accident and Emergencies Risk Assessment included as part of this application.
The company should adopt an environmental policy and programme which seeks to limit their impacts on the environment.	✓	Company certified to a recognised environmental standard
The company should have clearly set out policies and procedures to ensure their operations are undertaken to a definable standard.	✓	Company is certified to a recognised environmental quality standard

5.0 ACCIDENTS AND THEIR CONSEQUENCES

5.1 Emergency Planning

5.1.1 An Accidents Risk Assessment matrix has been prepared in accordance with H1 guidance and is presented in **Appendix 6**. The matrix identifies potential hazards at the facility, the likelihood and consequence of an accident or emergency relating to hazards, and the risk management measures that will be put in place to ensure that risks are acceptable.

5.2 Emergency Contact

5.2.1 In the event of any significant environmental emergency/incident, a representative of Tarmac Limited will notify the Environment Agency (EA) by telephone immediately, but first having due regard for the incident at hand and any remediation actions required to ensure the safety of site personnel and the immediate environment.

5.2.2 Details of any environmental incident will be confirmed to the EA in writing by first class post or fax, on the next working day after identification of the incident. This confirmation will include: the time and duration of the incident, the receiving environmental medium or media where there has been any emission as a result of the incident, an initial estimate of the quantity and composition of any emission, the measures taken to prevent or minimise any further emission and a preliminary assessment of the cause of the incident.

5.2.3 Any incident notified to the EA will be investigated, and a report of the investigation sent to the EA. The report will detail, as a minimum, the circumstances of the incident, an assessment of any harm to the environment and the steps taken to bring the incident to an end. The report will also set out proposals for remediation and for preventing a repetition of the incident.

5.3 Control of Fires

5.3.1 As part of the on-going operations, arrangements will be made, as necessary, with the local fire liaison officer to visit the site and discuss the relevant operations with the client. Any specific advice given by the fire liaison officer can then be incorporated into the site's management plan as appropriate.

5.3.2 No waste will be burned within the confines of the site boundary. Due to the nature of waste stored in other areas of the site, all fires within the facility will be treated as a potential emergency and dealt with accordingly. Fires may occur in relation to:

- Plant failure – fixed or mobile plant fires; and
- Within non-conforming waste containers awaiting removal from the facility.

5.3.3 In the event that a fire occurs at the facility, the following actions would be undertaken:

- Person(s) discovering a fire will raise the alarm;
- Report the incident to the Site Operations Manager / nominated personnel;
- All site personnel and visitors will be accounted for and evacuated to a safe location;
- Contact the emergency services and state the nature of the incident;
- Follow all instructions given by the emergency services;
- If the fire can be controlled without endangering operatives, appropriate actions will be undertaken using available firefighting equipment. Fires will be tackled by a minimum of two facility operatives;
- Ensure access is clear for the emergency services but prevent access to the facility from anyone else until the emergency is over; and
- The EA will be informed forthwith of any fires that occur at the facility.

5.3.4 Firefighting equipment will be available at the facility and will be clearly marked and tested, at appropriate intervals, to confirm their suitability and functionality. Site personnel will be made aware of the locations of all firefighting equipment and will be trained in their correct use.

5.3.5 A record of the occurrence of a fire will be maintained in the site log, along with any actions taken. An Incident and Accident Report will be completed by the Site Operations Manager.

5.3.6 Following approval by the fire services and/or facility manager the residues from the fire will be disposed of accordingly at a suitable permitted waste management facility.

5.4 Explosions

5.4.1 Due to the nature of the wastes accepted at the facility, the likelihood of the materials containing explosive elements is highly unlikely. However awareness and caution will be practised with all staff and to ensure no other waste is accepted that has explosive properties, the waste acceptance procedures identified in Section 2.2 will ensure that unauthorised waste types are prevented from entering the facility.

5.4.2 In the unlikely event that materials with explosive elements are discovered within a waste delivery that has already been accepted, the following action would be taken:

- Contact the Site Operations Manager or in his absence the Site Supervisor;
- Check that all site personnel and visitors are accounted for and are moved to a safe location;
- Contact the emergency services and state the nature of the incident (including whether any fires have occurred);
- Follow all instructions given by the emergency services;
- If injuries have occurred medical assistance will be called;
- No further wastes will be accepted at the facility until the Site Operations Manager has given authority; and
- The EA will be informed forthwith of any arisings of explosive materials or any explosions that occur.

5.4.3 Once the emergency is over and the emergency services have declared that the area is made safe, an incident/accident report shall be completed. A written account of the incident will also be forwarded to the EA no later than 14 days after the incident.

5.5 Flooding

5.5.1 Following a review of the Environment Agency flood risk maps, the site is not located in an area which runs the risk of becoming flooded. Notwithstanding the lack of risk from flooding, the nature of materials being handled at the proposed recycling site means that the pollution risk due to possible interaction with floodwater is negligible.

5.6 Control of Leaks and Spillages

5.6.1 Daily visual inspections of the operational and processing surfaces will be conducted. In the event of a spillage, facility operatives will inform the Site Operations Manager or Supervisor who is responsible for assessing the situation and deciding on the most appropriate actions to be undertaken.

5.6.2 All necessary measures will be taken to contain any spillage or discharge by means of suitable material and equipment. The actions undertaken will depend on the size of the spillage, the location of the spillage in relation to sensitive receptors and the nature of the spilled material.

5.6.3 Where spillages of dry wastes occur, these will be cleared by either manual or mechanical means, for example handpicking, sweeping or shovelling, dependant on the size and location of the spillage.

5.6.4 Minor spillages of liquid will be contained using spillage kits or any suitable readily available absorbent material. This material will be disposed of in a manner appropriate to the type of material absorbed.

5.6.5 If a major spillage of liquid occurs, such as heavy plant oil/fuel, the following actions will be undertaken, where appropriate;

- Ensure no risk of off-site transfer;
- Report the occurrence to the Site Operations Manager/Supervisor immediately;
- Trained facility operatives will take immediate action to try and contain the leak where it is safe to do so;
- If it is safe to do so, the cause of the spill or leak will be isolated and/or moved to a bunded area;
- If the liquid spillage is large, inert low permeability material such as clay will be used to make a temporary containment bund to prevent further transfer of the spillage. The Site Operations Manager or designated person will contact the EA to discuss best practicable disposal options;
- Access to the immediate area should be restricted until a disposal/clean up solution is implemented;
- If the spillage cannot be contained using approved methods, senior management will be contacted immediately and specialist advice and help will be sought; and
- If a vehicle or item of plant is identified as leaking, wherever practicable, it will be stored on an impermeable pavement (at the site offices/garages) / highly compacted made ground within a bunded area, where the spillage can be contained until such time as a repair is affected.

5.6.6 The Environment Agency will also be informed immediately of major spillages, having due regard to first take appropriate measures to deal with any emergency in hand.

5.6.7 The locations of spillage kits and other emergency equipment will be detailed within an appropriate plan.

5.7 Investigation of Accidents and Incidents

5.7.1 For any accident, incident or dangerous occurrence, an incident and Accident Report will be completed by the Site Operations Manager. All relevant details of the accident, incident or dangerous occurrence will be recorded, together with any additional statement, photographs, logs or records that may assist in the full investigation of the accident, incident or dangerous occurrence.

5.7.2 After an Environmental Incident and Emergency has been made safe, an investigation will be conducted, if necessary, by the Site Operations Manager and other Company Personnel as appropriate.

5.7.3 The accidents and abnormal operating arrangements comply with indicative BAT as outlined in Sector Guidance Note S5.06 as shown below:

Indicative BAT requirements for Accidents and Abnormal Operation	To be undertaken at the Installation	Comments
A formal structured Accident Management Plan should be developed which includes the identification of Hazards	✓	Operations with accord with the requirements of SGN5.06
A formal structured Accident Management Plan should be developed which includes the assessment of risks.	✓	
An identification of mitigation techniques should be developed to ensure that any risks identified are controlled accordingly.	✓	

6.0 EMISSIONS MONITORING

6.1 Introduction

- 6.1.1 A Fugitive Emission Risk Assessment matrix has been prepared in accordance with H1 guidance and is presented in **Appendix 7**. The matrix identifies potential hazards at the facility, the likelihood and consequence of a fugitive emissions release relating to hazards, and the risk management measures that will be put in place to ensure that risks are acceptable.
- 6.1.2 The undertaken of general environmental monitoring, where required will be performed to a defined written procedure in accordance with the appropriate Environment Agency guidance document to ensure consistency of monitoring and sampling for laboratory testing.
- 6.1.3 Monitoring of emissions and subsequent analysis if applicable from the facility shall be undertaken in accordance with the necessary accreditation considerations. Where deemed as required, certified instruments and equipment will be employed for monitoring at the site.
- 6.1.4 Records of monitoring data shall be kept securely within the site office and maintained until such time as Environmental Permit surrender. Records will be forwarded to the EA as required by the conditions of the Environmental Permit and shall be made available upon request.

6.2 Point Source Emissions to Air

- 6.2.1 The proposed operations of a Bespoke Asphalt Waste Recycling and Transfer Facility do not give rise to any substantial point source emissions to air. The only point source emissions as a result of the recycling operations will be from mobile materials handling plant and static materials processing plant.
- 6.2.2 All plant items will be subject to regular maintenance schedules to ensure that the items operate in accordance with manufacturer's instructions, and that subsequent exhaust emissions to air are minimised and in any event within published limits. The relevant mobile plant is already regulated by the relevant Local Authority Part B permits in relation to their emissions.
- 6.2.3 The wind speed and direction will be monitored at an appropriate location at the facility. This may assist in investigation of complaints should they arise.

6.3 Fugitive Emissions to Air

- 6.3.1 It is anticipated that part of the potential emissions to air from the facility will comprise fugitive emissions resulting from the transfer and treatment of wastes. As stated in Section 6.1 above, a Fugitive Emission Risk Assessment has been conducted and is included in **Appendix 9**. It is proposed to conduct monitoring for the following parameters by:
- Dusts- Visual inspections of the site (external storage and treatment processing areas and access routes) and boundary on a daily basis to ensure that significant dust emissions are not emitted from the on-site waste recycling activities. Any dust emissions noted will result in the actions described in Section 3.4.2 being taken. The resultant actions will be recorded in the Site Diary.
 - Litter - Visual inspections of the site and boundary on a daily basis to ensure that significant litter emissions are not emitted from the on-site activities. Any litter emissions noted will result in the actions described in Section 3.4.3 being taken. The resultant actions will be recorded in the Site Diary.

6.4 Emissions to Water

- 6.4.1 There will be no point source emissions to surface or ground water within the permitted area of operations. Surface water will be directed away from the area of treatment and storage activities and will be collected within a sealed tank, fed by a network of drainage pipework. This tank will be emptied at the appropriate frequencies with the trade effluent treated at an appropriate facility as may be required.

6.4.2 No specific monitoring other than the general daily site inspection is deemed as being necessary.

6.4.3 As discussed earlier in Section 3.5, more formal surface water drainage measures are employed in areas of impermeable surfacing, i.e. concrete and tarmac surfacing (associated with the site infrastructure and the storage, processing and treatment operations). Outside the engineered surfacing, (peripheral non-operational areas) water is encouraged to shed away from storage and processing areas.

6.5 Emissions to Sewer

6.5.1 There will be no emissions to sewer from the permitted facility area both in terms of welfare sewage or process effluents. These are removed off site via a suitable road going tanker.

6.6 Noise

6.6.1 There are approximately four residential properties, to the North and North West of the facility, which have been present for a number of years, during previous longstanding and ongoing mineral extraction operations at the Armthorpe Quarry site. These properties are all within c. 250m of the nearest permit boundary. One of these properties also runs a business as a dog boarding kennels. No additional human receptors are within circa 2 kilometres of the operational site, which is effectively the eastern part of Doncaster (Armthorpe).

6.6.2 All machinery and plant used will be fitted with silencing equipment and/or noise screens and will be regularly maintained, to reduce noise levels. All operations at the site, including those covered by this Environmental Permit Application, will have to comply with noise limits set out within the planning permission document.

6.6.3 Vibration will be mitigated via the applicable of suitable operational management measures via engineered solutions or changes in working procedures. Vibration is unlikely to be an issue due to dissipation close to source. Due to the proposed operating procedures and its distance from the nearest sensitive receptor, vibration is unlikely to become a problem in this instance.

6.6.4 Noise that is likely to lead to unacceptable emissions off site will be noted and a record made. Noise monitoring will be undertaken as part of any unacceptable emissions to determine levels against the planning consent. An attempt will be made to identify the source of the noise and ensure it is ameliorated or otherwise removed off site. A record will be made of such incidents and the corrective actions taken.

6.7 Odour

6.7.1 Odour is not expected to be an emission that is likely to give a cause for concern, due mainly to the types of waste proposed to be processed and stored at the waste recycling facility and the treatment techniques employed.

6.7.2 Notwithstanding section 6.7.1 above, odour will be assessed by olfactory monitoring at the site boundary at a suitable downwind location as part of the daily site checks. Any odour that is likely to lead to an unacceptable impact off site, in the opinion of the person undertaking the survey, will be noted and a record made. An attempt will be made to identify the source of the odour and ensure it is removed or otherwise ameliorated. A record will be made of such incidents and the corrective actions taken.

6.8 Mud and Debris

6.8.1 The deposit of mud and debris is not expected to be a major issue that will arise as part of the proposed operation. This is due to the operations being undertaken on concrete, tarmac or well developed hardcore hardstanding areas. Therefore the opportunity for the tracking of mud and the housekeeping and materials transit measures proposed to be implemented will reduce the potential for debris.

6.8.2 Notwithstanding the low likelihood in the general of mud and debris, in order to ensure the road cleaning methods, as stated in Section 3.10 are adequate, a daily inspection of the private and public highway will be undertaken by the Site Operations Manager or other trained personnel as directed by the Site Operations Manager at times when the facility is open to receiving or despatching wastes. Details of the inspections and any remedial measures taken will be recorded.

6.8.3 The procedures for environmental surveillance and amenity monitoring comply with indicative BAT requirements for environmental monitoring (within and beyond the Installation) in Sector Guidance Note IPPC S5.06 as shown below.

Indicative BAT requirements for environmental monitoring (within and beyond the installation)	To be undertaken at the Installation	Comments
Environmental monitoring conducted.	✓	
Periodic visual and olfactory assessment.	✓	
Olfactory and visual monitoring conducted.	✓	
Daily and weekly inspection programme.	✓	

6.9 Process Variables

6.9.1 The procedures for monitoring process variables comply with indicative BAT requirements for monitoring of process variables in Sector Guidance Note IPPC S5.06 as shown below.

Indicative BAT requirements for monitoring of process variables	To be undertaken at the Installation	Comments
Monitoring of resource use i.e. water.	✓	Will be assessed on a quarterly basis
Monitoring of energy use i.e. electricity, fuel	✓	Will be assessed on an annual basis

6.10 Waste Emissions

6.10.1 Wastes will be monitored for the following parameters prior to offsite disposal;

- Physical and chemical composition of waste (Waste Acceptance Criteria Testing);
- The hazardous characteristics, to allow for characterisation using WM2 Guidance; and
- Handling precautions.

6.10.2 The procedures for monitoring emissions of waste comply with indicative BAT requirements for emissions monitoring (monitoring and reporting of waste emissions) in Sector Guidance Note IPPC S5.06 as shown below.

Indicative BAT requirements for emissions monitoring	To be undertaken at the Installation	Comments
Duty of Care testing undertaken where required for all outgoing waste materials.	✓	
An assessment made of hazardous characteristics.	✓	
Regular waste audits undertaken.	✓	

6.11 Relevant Objectives of the Waste Management Licensing Regulations

6.11.1 In relation to Installation activities involving the disposal or recovery of waste, the operator is required to demonstrate how the relevant objectives as set out in Schedule 4 of the Waste Management Licensing Regulations 1994 have been addressed.

6.11.2 The 'relevant objectives', contained in paragraph 4, Schedule 4 of the Waste Management Licensing Regulations 1994 (SI 1994/1056), are as follows:

- Ensuring the waste is recovered or disposed of without endangering human health and without using processes or methods which could harm the environment and in particular without:
 - risk to water, air, soil, plants or animals, or
 - causing nuisance through noise or odours, or
 - adversely affecting the countryside or places of special interest;
- Implementing, so far as material, any plan made under the plan-making provisions.

Risks to human health and air

6.11.3 Emissions to air are not considered to be of major significance in relation to the potential to adversely affect human health. The proposed management techniques and mitigation measures employed as detailed within this document and relevant risk assessments indicates that fugitive emissions to air do not present a risk to human health.

Risks to water

6.11.4 There is no point source or significant fugitive emissions to groundwater or soil from the Installation.

6.11.5 The environmental Fugitive Emissions Risk Assessment contained in **Appendix 7** indicates that the potential environmental impact of aqueous releases from the Installation is likely to be low.

Risks to plants and animals

6.11.6 The comments in the sections above indicate that potential impacts of releases from the Installation on plants and animals are likely to be low.

Nuisance from noise and odours

6.11.7 Potential emissions of noise and proposed mitigation are addressed in the fugitive emissions risk assessment. The assessment concluded that noise levels are below the measured background noise levels for the sensitive receptors surrounding the site.

6.11.8 Odour has also been considered within the fugitive emissions risk assessment, Appendix 6, this identified the wastes stored awaiting processing are not of the type/composition that could lead to them being a source of odour emissions arising from the Facility. The proposed treatment techniques are also of a nature that are unlikely to lead to the release of odourous emissions from the material that is being treated, namely crushing and screening. Operational and management procedures that will control the emission of odours are described in the original Environmental Permit application and in the above Supporting Statement.

Effects on the countryside or places of special interest

6.11.9 A desk study of the site identified that there was one area of local nature importance. These are c. 2.7km to the east, namely the Humberhead Peatlands National Nature Reserve, Hatfield Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). It has been designated for the flora and fauna it supports in a lowland peat bog environment. Lowland peat bogs are a nationally rare habitat with none occurring in lowland England in completely unmodified form, most having been cut for peat.

6.11.10 There are no other statutory designated sites of note within 3km of the facility. From review, the nature and rate of any potential emissions associated with the operation are not considered to present a risk to the Humberhead Peatlands NNR or Hatfield Moors statutory designated site. Procedures currently in place as part of the existing Management Plan or those further developed in this Supporting Statement will ensure environmental protection is achieved.

Implementation of Plans

The Waste Management Plan for England

6.11.11 The Waste Management Plan for England 2013 (WMP 2013) builds on the principles set out in the Waste Strategy for England 2007 but introduces additional steps, aiming to address key challenges for the future of waste management in England.

6.11.12 The Plan supersedes the previous waste management plan for England set out in 2007. It meets the requirements in Article 28 of the revised WFD which are broader than the requirements of Article 7 in the preceding WFD. The Plan provides an overview of waste management in England and fulfils the revised WFD Article 28 mandatory requirements, and other required content as set out in Schedule 1 to the Waste (England and Wales) Regulations 2011.

6.11.13 The mandatory requirements of Article 28 of the revised WFD specify that the Plan should contain the following information:

- An analysis of the current waste management situation in the geographical entity concerned, as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the objectives and provisions of the revised WFD;
- The type, quantity and source of waste generated within the territory, the waste likely to be shipped from or to the national territory, and an evaluation of the development of waste streams in the future;
- Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or waste streams addressed by specific Community legislation;
- An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure in accordance with Article 16 (on the proximity principle), and, if necessary, the investments related thereto;
- Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary; and
- General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.

6.11.14 In addition, Schedule 1 to the Waste (England and Wales) Regulations 2011 sets out other obligations for the Plan which have been transposed from the revised WFD. These other obligations include:

- In pursuance of the objectives and measures in Directive 94/62/EC (on packaging and packaging waste), a chapter on the management of packaging and packaging waste, including measures taken pursuant to Articles 4 and 5 of that Directive.
- Measures to promote high quality recycling including the setting up of separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors.
- As appropriate, measures to encourage the separate collection of bio-waste with a view to the composting and digestion of bio-waste.
- As appropriate, measures to be taken to promote the re-use of products and preparing for re-use activities, in particular -
 - a) measures to encourage the establishment and support of re-use and repair networks;
 - b) the use of economic instruments;
 - c) the use of procurement criteria; and
 - d) the setting of quantitative objectives.
- Measures to be taken to ensure that by 2020 -
 - a) at least 50% by weight of waste from households is prepared for re-use or recycled.
 - b) at least 70% by weight of construction and demolition waste is subjected to material recovery.

6.11.15 The proposal for Asphalt recycling at Armthorpe Quarry will provide a recycling solution to a bespoke waste stream, and also help towards the materials recovery targets of the Waste (England and Wales) Regulations 2011 as outlined above.

South Yorkshire Waste Strategy

6.11.16 The need for the South Yorkshire Waste Strategy (SYWS) has been established as a result of collaboration between the local councils of Barnsley, Doncaster, Rotherham and Sheffield. Whilst all these authorities all have individual waste management strategies, opportunities for collaborative working was recognised.

6.11.17 An important part of waste management is the continuous reviewing of existing practices. By working together, this ensures that the councils are compliant with developments in EU, national and local legislation and policy. Closer working between local authorities across the Sheffield City Region will be a key part of the emerging Northern Powerhouse, the Government's proposal to link Northern cities and their surrounding areas to boost economic growth in the North of England. Regeneration developments will include improved transport links and additional investment in infrastructure, innovation and skills. At the heart of this strategy is a vision that the four councils will work with you to reduce, re-use, recycle, recover energy from 95% of South Yorkshire's waste.

6.11.18 The South Yorkshire Waste Strategy has been created to reflect a number of key council priorities and will:

- Protect our health and the environment now and in the future
- Help to meet the regions resource demands and conserve materials
- Reduce emissions from waste
- Generate jobs

6.11.19 The proposed recycling facility at Armthorpe Quarry will ensure all key aims of the SYWS are met, include those key council priorities outlined above.

Barnsley, Doncaster and Rotherham Joint Waste Plan

- 6.11.20 The Barnsley, Doncaster and Rotherham Joint Waste Plan (BDR JWP) adopted in 2012 sets out the relevant authority’s strategies for dealing with waste arisings, including the provision of sites up until the end of the plan period in 2026.
- 6.11.21 The Joint Waste Plan identifies sites to accommodate major waste facilities and safeguards a range of existing facilities to meet our current and future needs across the three boroughs that will maximise recycling, support green jobs and divert waste from landfill. The Joint Waste Plan forms part of Doncaster’s Local Development Framework and replaces the policies relating to waste management in the Doncaster Unitary Development Plan.
- 6.11.22 The Joint Waste Plan is a key means of delivering a number of the government’s planning objectives aimed at reducing carbon dioxide emissions, conserving energy, enhancing employment and training opportunities, protecting people’s health, improving the quality of the built and natural environment and promoting alternatives to road transport.
- 6.11.23 The key messages from the government’s waste planning agenda are as follows:
 - Waste should be managed at its nearest appropriate location, preferably where it arises, using it as a resource where possible without endangering human health and the overall quality of the environment (except where landfill represents the only realistic available option).
 - Local authorities and their partners should work closely together to deliver more innovative waste solutions over the long term.
 - Plans and strategies should provide a framework in which communities should take greater responsibility to manage their own waste and the concerns and interests of communities and the needs of business are addressed.
 - Plans must set aside sufficient land in appropriate locations (including a range of suitable sites) to manage different waste streams in line with future capacity requirements over the next 15 years.
 - All new development should minimise waste production, maximise the use of recycled materials and facilitate the provision of adequate storage space.
- 6.11.24 The proposal for the recycling of asphalt wastes at Armthorpe Quarry and for its reuse in regional road schemes meets the key requirements of the JWP and therefore in turn the message from the governments waste planning agenda as set out above.
- 6.11.25 The operations that will be undertaken at the proposed development will be in accordance with the relevant objectives of the Waste Management Licencing Regulations and therefore in accordance with BAT as set out in Sector Guidance Note IPPC S5.06 as summarised below.

Indicative BAT requirements for the Waste Management Licencing Regulations	To be undertaken at the Installation	Comments
Ensuring waste is recovered without endangering human health	✓	
Ensuring waste is recovered without endangering the environment	✓	
Operators should identify the relevant development plans made by the LPA ensuring adherence to the principal of said plans wherever possible.	✓	

7.0 CLOSURE

7.1 Design Measures

- 7.1.1 The position of the operation is currently proposed to occupy an area of long established made ground within the wider Armthorpe Quarry complex. Engineered surfacing will be installed (reinforced concrete) along with a sealed drainage system as part of the protection measures employed prior to the commencement of operations.
- 7.1.2 The area subject to the proposed operations will still require eventual restoration and landscaping after recycling and recovery operations cease. The design of this proposed activity (e.g. the provision of engineered surfacing and integral drainage) and operational procedures are intended to prevent any deterioration of the site during the operational period. Records of any incidents or spillages will be examined upon end of life/closure to identify and focus any requirements for site investigation, before the site is prepared for final restoration and landscaping on closure of the wider quarry site.
- 7.1.3 The operation nature and design will aid the decommissioning/relocation process. All waste storage and processing areas are undertaken on a substantial engineered surface, which can be removed and treated if/as required. All remaining raw and waste materials at the site will be removed and disposed of or relocated to another designated site within the locality, in the event of the process of permit surrender being initiated.
- 7.1.4 Items of plant will be removed and reused, reconditioned or recycled as appropriate.
- 7.1.5 The procedures for the closure of the operational site comply with indicative BAT requirements for Closure as set out in Sector Guidance Note IPPC S5.06 as shown below.

Indicative BAT requirements for Closure	To be undertaken at the Installation	Comments
Operations during the course of the Environmental Permit will not lead to any deterioration of the site condition	✓	
Care and consideration should be given at the design and build stage of the development to ensure the risks from decommissioning are minimised	✓	
A site closure plan should be maintained to demonstrate that, in its current state, the installation can be decommissioned to avoid any pollution risk and return the site of operation to a satisfactory state.	✓	