Non-Technical Summary

Document Reference: 173263/NTS

Finningley Quarry Permit Variation Application Hazardous Landfill (Asbestos)

Operator: Tetron Finningley LLP

1. INTRODUCTION

1.1 Scope

Finningley Quarry is located to the south of Finningley Village, circa 6.5 km south east of Doncaster. The site location is shown in drawing 173263/D/001.

The site is owned by Peel Environmental Ltd. Tetron Finningley LLP have permission to re-instate the former quarried landscape. The site has been historically extracted for sand and gravel by others and remains an active quarry within the wider site. The quarrying activities ceased at a base level of -2.5 m AOD.

The extraction has left a damaged landscape, with areas unsafe to access and it is no longer practical to use. There is planning permission to fully restore the site. The proposed landfilling was approved under planning by South Yorkshire Council (now Doncaster Council). The approved design and contours are presented on drawing 1805-03-001. The permit boundary includes areas north, south and east of an old Biffa landfill deposit. This variation relates only to the eastern cell. There will be no works in the northern and southern areas. The northern and southern areas will be subject to follow-on variation applications and will be standalone, defined cells.

The variation application is for a hazardous asbestos waste landfill with inert soils and post-landfilling restoration phase in the eastern cell only, through disposal of inert with/without asbestos waste and restoration materials. The restoration soils will be from inert only and will also act as cover. The asbestos (including asbestos containing materials (ACM)) will include bagged asbestos in bulk, inert soils containing asbestos and/or inert soils only. The inert and asbestos waste will be non-reactive and stable. Furthermore, there is slight change to the permit boundary along the eastern and southern part of the eastern cell to ensure the restoration, void area and borehole infrastructure are within the green line boundary.

The site is currently operated under a closed landfill (waste operation) D1 code. The proposal for the eastern cell falls under Section 5.2 Part A(1)a) of the Environmental Permitting Regulations. The application is for a variation from waste operation to installation in this area.

The disposal of waste will be undertaken in a controlled progressive manner ensuring the environment is protected at all stages and that the beneficial end use is attained. The application is for both landfilling operations (D01) and storage of waste prior to deposit will be undertaken (D15). The landfill restoration will operate under R13, R03 and R05 codes. This varies Schedule 1 operations section of the existing permit including Table S1.2. There will be new operating techniques and the current Monitoring plan (January 2013) will be superseded and not form part of this Permit going forward. There will be an update to all Schedule 3 emissions and monitoring section.

Table 1. Application Data

Site Address	Finningley Landfill Site New Lane Finningley Doncaster DN9 3DF
Site National Grid	SK 66801 97406
Operator	Tetron Finningley LLP
Area	Permit area: 16.9 hectares Eastern cell void area: 5.9 hectares
Placed void volumes	310,970 cu m total void comprising of: • CQA Geological Separation Layer and 2 m asbestos cap: 183,915 m^3; • restoration: 30,652 m^3; • Waste: 96,402 m^3.

Annual importation	100,000 m^3 per annum 200,000 tonnes per annum
Extant Planning Permission	D84/06/548 South Yorkshire County Council

1.2 Environmental Setting

The land and geology

The surrounding land lies between 4-6 m AOD on the eastern flank and 5-6 m AOD on the western side. The quarry has been extracted to circa -2.5 m AOD at its deepest extent.

The site is located on bedrock Chester Formation - Sandstone, Pebbly (gravelly) overlain by River Terrace Deposits (undifferentiated) - Sand and Gravel. The quarried material is both the superficial and underlying sandstone deposit. The site does not contain any features of international or national geological importance.

The site covers an area of approximately 6.7 hectares and immediately west of the site is an existing access track running north to south. On the other side of the track, there is the Biffa Landfill (closed Environmental Permit EPR/VP3497FN/S002). The site is bordered to the east by deciduous woodland and to the north by the motor cross track. EPR/VP3497FN/S002The site is bordered by Bancroft Farm to the south. The site is accessed via the north west from Old Bawtry Road, joining an internal access track which also leads to the motocross track to the north and north west of the site. The site is currently vacant and was left to vegetate post partial quarrying.

Hydrogeology

Aquifer units

The Chester sandstone is a Principal aquifer and the superficial deposit is a Secondary A aquifer. There is an abstraction licence within 1 km to the south. The hydraulic gradient across the site is to the south towards the nearest abstraction.

Groundwater emerges at circa -2.5 m AOD. Monitoring through 2018 shows the groundwater to fluctuate between -2.5 m and -3.1 m AOD between BH1001 (upstream of the site), BH1003 (in line with southern edge and BH2001 (downstream of the site).

Groundwater Source Protection Zones

The EA has classified that the site is located within a total catchment Source Protection Zone (SPZ 3).

Groundwater Abstractions

There are no water abstraction points on or surrounding the site. The nearest is for groundwater abstraction for the purposes of potable use, operated by Yorkshire Water, is circa 1 km south of the site.

Hydrology

The nearest water course is Austerfield Drain, circa 0.4 km east of the site. The main local water course is the River Idle which is located over 1 km to the south and east of the site.

Ecosystems

There are no statutory ecological designations (e.g. SSSI, SPA or SAC) within, covering or immediately surrounding the site. Due to the re-vegetation of the previously worked void, the area is designated as a Priority Habitat for lowland heath. To the east, the site is bounded by Deciduous Woodland priority habitat and there is a small area, likely along the void faces, of Priority Habitat Inventory - No main habitat but additional habitat exists (England).

Human Receptors

The nearest residential property is Bancroft Farm, which is located approximately 72 m south of the boundary of the site. The nearest residential properties to the north of the site are located off Old Bawtry Road circa 690 m. The Doncaster-Sheffield International Airport is circa 425 m west of the site. The nearest receptor to the east is the A614 public highway, hidden by the immediate deciduous woodland.

The prevailing wind direction is from the south west. The nearest residential downwind receptor is more than 500 m away to the north east.

2. WASTE ACTIVITIES

2.1 Landfill Design

The landfill consists of one cell. Prior to the construction of the basal geological separation layer the existing level of the cell will be raised from -2.5 m to -0.5 m AOD using site derived fill from the quarrying process. The cell's will be constructed with a basal liner progressively installed in advance in the infilling. The basal geological separation layer (GSL) is constructed from -0.5 m to 0.5 m AOD. The GSL will be primarily formed using site derived quarry discards made from the silt and clay fraction of the quarried material. Other suitable material may be imported subject to it conforming to the GSL specification and being approved by the Environment Agency. The materials will be tested and demonstrated to compliance. The barrier will be 1 m thick and extend across the site. The barrier will have a permeability of less than 10^{-7} ms^{-1}.

A final cap 2 m thick cap with a with a permeability of less than 10^{-9} ms^{-1}. A further 0.5 m of restoration soils will be placed over the cap. The soils will be compliant to the restoration plan and suitable for parkland.

2.2 Waste Importation

The waste to be imported to site will be a mix of inert and hazardous asbestos wastes. Hazardous wastes will be limited to asbestos containing materials. All asbestos will be imported to site fully contained and/or double bagged.

The restoration soils will conform to the 'The Landfill Tax (Qualifying Material) Order 2011' and will be imported to restore the site. These are low polluting materials and will primarily relate to inert soils and construction spoil.

The Permit holder will only import those materials that can be demonstrated as complying with the Permit. The site will operate strict importation controls requiring pre-assessment to determine suitability prior to importation.

The materials imported to the site will be tested in line with Environment Agency guidance to ensure they comply with the required standards.

2.3 Site management (EMS)

The site will be managed in line with a bespoke EMS which will include the following documents:

- Operational Management Plan;
- Site Infrastructure Plan;
- Site and Equipment Management Plan;
- Particulate Emissions Management Plan;
- Installation Environmental Setting and Installation Design;
- Closure and Aftercare Management Plan;
- Restoration Plan; and
- Accident Prevention and Management Plan.

The site will be operated in accordance with the Plans, which will set out the following:

- Site Operations;
- Drainage;
- Spill Response Plan;
- Fire prevention measures;
- Pollution Control Procedure;
- Daily Inspection Regime;
- Complaints Procedure;

- Non-compliance Procedure; and
- Training and Competency Review Documentation.

The Operator's site team will be present during operational hours and are responsible for ensuring that the required records are made for their own permitted areas. Records may include the following:

- Inspection findings or any other records will be recorded in the site diary;
- All details of any breakdowns or complaints will be recorded on the day that each event occurs and will be investigated; and
- Routine inspections will also be carried out to inspect the quality of the material entering the site, monitor the environmental controls and record the weather conditions.

3. ENVIRONMENTAL ASSESSMENT

3.1 Emissions to Air

Particulates and emissions
Earthworks and the import and placement of waste and restoration soils can give rise to emissions. If not suitably controlled dust can become fugitive causing a loss of amenity to local users of adjacent land and in the worst case can be detrimental to human health.

The Operator will develop a Particulate Emissions Management Plan and this will be implemented throughout the duration of the works. In addition to the controls being deployed emissions at the boundary will be monitored to determine the effectiveness in line with the Planning Permission.

As part of the controls a wheel wash will be used to prevent egress of mud onto the external highway. The internal highway will be cleaned as determined necessary. A water bowser and/or road sweeper can be sourced within 1 operational hour in the event mud on road or dust is identified.

For permanent infrastructure requiring constant power, which are not on main electric power, Tier 4 compliant generators will be used. Permanent fixtures typically include the welfare unit / office. For short term operations, as a minimum, Tier 2 or 3 will be used (where electricity cannot be provided). Any procurement of generators will be aware of the classification and the need for the more suitable Tier 4 standard, where practically possible.

Through the correct implementation of controls dust emissions can be maintained at levels were there is no loss of amenity caused.

Asbestos emissions
The importation and placement of asbestos and ACM's can give rise to emissions which can be detrimental to human health, whether it be site worker's or local users and local residential areas.

The Operator will develop a Particulate Emissions Management Plan which will include mitigation and further actions to control asbestos during transport and placement. As part of the controls, all imported asbestos will be fully sealed and/or double bagged.

Upon placement, the waste will be placed carefully, and suppression sprays will be implemented via mobile water bowser with high pressure hose to dampen the area. All asbestos waste will be placed and covered immediately with inert material to a depth of 250 mm.

Asbestos monitoring will be undertaken in accordance with Environment Agency air monitoring guidance M17 to confirm that airborne asbestos fibre is not present (above background levels) at the site boundary.

Odour
The types of material to be imported have a very low potential for odour. Given the low potential and the environmental setting there is a very limited risk that odour could cause a loss of amenity from this operation.

Ground gas
All landfilled soils have the potential to generate ground gas. The nature of the material to be imported has low organic content and will be placed in an engineered manner, which will reduce void space and the ability for ground gas to be generated. The risk that ground gas will be generated in significant quantities to pose a risk to nearby properties is considered as very low. A landfill gas risk assessment has been developed. In-waste monitoring probes will be installed at a frequency of no less than 2 per hectare, in line with EA guidance, to enable land gas characteristics to be determined. Drilling in asbestos waste will only be undertaken, when suitable control measures and risk assessment have been implemented, in accordance with the Control of Asbestos Regulations 2012 (CAR 2012).

Gas monitoring will be undertaken on perimeter wells during the works and action thresholds agreed. Once the waste has been fully placed and capped in each cell, monitoring of in-waste gas levels will be determined in line with a closure plan.

3.2 Noise

A noise assessment is not anticipated to be necessary given the sensitivity of the surrounding area, control measures to be set out in the Operational Working Plan and adherence to the operating hours.

Operating hours will be strictly observed. These are shown in Table 2:

Table 2. Operating Hours

Days	Hours
Monday to Friday	0700 – 1800 hrs
Saturday	0800 – 1400 hrs
Sunday and Public Holidays	No vehicle movements or operation

3.3 Emissions to Controlled Waters and land

Risk to ground water from imported materials
A site specific hydrogeological risk assessment (HRA) and Environmental Setting and Installation Design (ESID) have been completed to determine the baseline ground and land characteristics and acceptable quality of material that can be imported at the site and the necessary geological barriers required for capping and the basal liner. Only wastes conforming to these standards will be imported to the site. Due to the groundwater sensitivity, the HRA will likely confirm the requirement for Inert waste and asbestos waste only. Asbestos waste, even if it does detach from the waste soil, will not penetrate the liner and has no leachable ability.

The Operator will assess the waste streams quality and suitability at various stages and will undertake the checks in accordance with the Waste Acceptance procedure.

Risk to surface water
During construction of the landfill and active landfilling, surface water management will be undertaken in accordance with best practice techniques to prevent any off site migration of surface water. The proposed surface water management involves perimeter swales and a pond in the south of the site passively soaking away into the underlying geology. There will be no connectivity between the waste deposit and surface water in the final design. The drainage strategy is included in the Operational Working Plan.

Point source discharges
There are no proposed direct discharges to controlled waters during the works.

Unforeseen discharges
Working and emergency controls will be developed and implemented through the EMS to ensure that unforeseen accidental spills of oils do not impact the water resources.

3.4 Stability & Final Restoration

The application will be submitted with a Stability Risk Assessment to assess the stability of the proposed waste types and liner source material in delivering a safe and stable final restoration.

The final contours are within the contours agreed under the final restoration will be in accordance with drawing 1805-03-00-1 (December 2017). The final restoration cannot be achieved without 'piggy-backing' onto the BIFFA Permit's waste deposit. This will form part of the final phase however is not for consideration under this Permit application.

The landscape and visual impact will not change from the existing agreed restoration contour plan. The landscaping will be undertaken in accordance with the landscaping specification agreed under the Planning. It is likely that the western portion of the site will not receive final landscaping until the final restoration contours have been achieved under the final phase of works. In this case, the western portion will be left to naturally vegetate.