

ACL 2 - Non-Technical Summary – ACL Environmental Services Limited - Land/Premises at Griffen Close, Staveley, Chesterfield, Derbyshire, S43 3LJ

1.0 Introduction

ACL Environmental Services Limited, are market leaders for the reception and de-watering of road sweeping and gulley wastes in the Midlands at their established facility in Staveley Derbyshire. The company used to run a fleet of over 30 gulley tankers servicing council gulley maintenance contracts across the country and now allow these vehicles to visit the facility to transfer these wastes.

The company currently operates under an Environmental Permit at Land/Premises at Griffen Close, Staveley, Chesterfield, Derbyshire, S43 3LJ. Environmental Permit number - Permit EAWML – 65557/HB3233RN. The permit was issued in its current guise in 2007.

The company operates under this environmental permit to dewater road sweeping and gulley wastes in dedicated purpose built wedge pits. These wastes are then transferred to other permitted facilities for recycling to recover valuable sands and aggregates, however the permit does allow for these wastes to be screened and crushed as per Schedule 2 within the permit.

The company currently accepts road sweeping wastes from a growing number of local and national contractors that are generate sweepings through the mechanical sweeping process and many earthmoving and construction sites do not offer the option to tip the swept material back on to the site where it was generated.

There are also a very limited number of permitted waste facilities in the midlands that can accept road-sweeping waste European Waste Catalogue (EWC) code 20 03 03 and more importantly as a sludge or a liquid. This is essential as part of the mechanical road sweeping process involves the use of water to loosen and cleanse the road surface and as a result, this water is then sucked back up into the sweeper hopper.

The company wishes to be able to screen and wash this waste stream to remove recoverable aggregates and deal with the water element of the waste stream. In addition, the company wishes to add EWC codes for specific C&D wastes streams.

The company also wishes to utilise the sites infrastructure to accept other waste streams to de-water them or discharge them directly to the foul sewer via the sites existing trade discharge consent.

In addition, the site is permitted to crush and screen wastes and wastes such as concrete, blocks, stones, soils and road planings will be added to allow these waste streams to be recovered.

1.1 Previous washing

The company has previously washed at the site with the Environment Agency being aware and the site was inspected when the previous wash plant (Gritbuster) was operational, a Compliance Assessment Report (CAR) was produced reference 65557/0247531. This is within the application reference ACL 13.

During then operation of the wash plant there were no complaints made in relation to odour, noise or dust. The previous wash-plant was much larger than the proposed one and featured a trommel sat within a bath. The proposed smaller wash plant just relies upon a vibrating screen and high-pressure water jets.

Image from CAR Form - Report ID: 65557/0247531 dated 27/08/2015 which achieved no non-compliance scores.



2.1 Waste Acceptance

All waste will have gone through a pre-acceptance process with all waste being booked in before it can come to the site. All incoming waste must report to the site office; a completed waste transfer note or consignment note must be provided to show the description and origin of the waste.

The vehicle will then be directed to the discharge point or tipping bay.

If there is a variation in the waste compared to its description this must be discussed with the onsite office. If the description requires changing this will be completed if the waste can be accepted under the environmental permit. If not the waste will be rejected and removed from site.

Any rejected loads, quarantined loads or loads where the description has changed from the original waste transfer note will be noted in the site diary. The relevant code will be assigned in line with Guidance on the classification and assessment of waste (1st Edition v1.2.GB) Technical Guidance WM3. All waste movements are recorded on the company's electronic system.

3.0 Waste Types

3.1 Sweeping Process

The process of mechanical road sweeping involves a vehicle equipped with brushes, high pressure water jets and a vacuum system. Water is sprayed onto the surface being cleaned, loosening and saturating debris. Brushes further loosen the debris from the surface and a powerful vacuum system sucks up the resulting solids and liquids and deposits them in the hopper on the back of the sweeper. The resulting waste is mixture of solids and liquids and depending upon the amount of water being used and environmental conditions the amount of water in the hopper can vary greatly and as a result the waste in the hopper can be a liquid or a sludge. Specific tasks such a road planings and road chippings the waste will be a solid.

3.2 Gully Wastes

The process of gully cleansing involves a vehicle equipped with gully pipes and nozzles and high-pressure water jets. Gully's are cleansed by the use of a strong vacuum system that is used to suck out of the contents of the gully pot. If the gully is blocked or solid with debris the use of a high pressure jetting system, again all contents and removed via a vacuum system into the tank of the gully tanker vehicle.

3.3 Sweeper and Gully Wastes

Road sweepers arrive at site, and the driver will report to the site office and provide a description of the waste that has been collected. This should already be on the system as the waste collected would already be booked in as a job including the source and description. Once the load has been booked into the system the waste will be allowed to discharge into the designated sealed sump / wedge pit.

The sweeper drives up to the designated area for tipping which sits on an impermeable surface and part of a sealed drainage system. The sweeper will then reverse to the designated point. At this point, the sweeper body will be raised and then the rear door will be opened. The waste will then be deposited into the sealed sump in the ground.

3.4 Vacuum Excavation Wastes

Vacuum excavation has become the preferred method for unearthing buried utilities without the need for digging using either hand digging or mechanical methods. The process involved the ground being loosed via high pressure water and then sucked up via nozzle. This material is wet by nature and can be solid, sludge or a liquid. As a result correct infrastructure for dewatering is required.

4.0 Waste Treatment Processes

4.1 De-watering

The proposed process of dewatering and recycling wet wastes is a proven method.

The included document - Road Sweeper De-watering and treatment process flow chart, shows the steps taken in the process of receiving the sweeper waste and how the waste is dewatered and the resulting liquid has suspended solids removed from it.

When a sweeper returns to the depot containing waste it tips into a purpose-built sealed bays and wedge pits. The waste is allowed to settle with the heavier grit, stones and sand settling to the bottom. The liquid containing suspended solids, which sit, above the heavier waste. The liquid is then allowed to flow to the foul sewer in a controlled manner, consented through a trade discharge consent.

Existing purpose-built wedge pits for dewatering



4.2 Washing

The remaining solids that within the wedge pits are removed via a loading shovel. The solids are then stacked in a bay to allow even further moisture reductions. Once ready, this material is loaded into a hopper on the first unit of the wash plant. The hopper then feeds a vibrating deck screen where the solids are sprayed with high-pressure jets. The remaining solids are then sized into two grades, a

course sand an aggregate. Oversize and organic fraction are collected separately. The plant then discharges the sand and aggregate at its rear.

The water that is used to wash the aggregates is then pumped to the second unit. The water is treated with a flocculent to aid the removal of suspended solids. The suspended solids are the stored in a sludge tank. These solids are removed and the remaining water is used again within the washing process. The permit already allows for chemical – physical treatment of waste.

The plant then sits upon a sealed drainage system, which is different to the other parts of the permitted area.

Example of proposed plant



4.3 Discharge and Screening process

Treatment via dewatering

The remaining solids that are left within the sump are removed via a clamshell attachment on a 360 excavator. The solids are loaded into a hopper on the first unit. The hopper then feeds a vibrating deck screen where the solids are sprayed with high-pressure jets. The remaining solids are then sized into two grades, a course sand an aggregate. Oversize and organic fraction are collected separately. The plant then discharges the sand and aggregate at its rear.

The water that is used to wash the aggregates is then pumped to the second unit. The water is treated with a flocculent to aid the removal of suspended solids. The suspended solids are then stored in a sludge tank. These solids are removed and the remaining water is used again within the washing process.

The plant then sits upon a sealed drainage system, which is different to the other parts of the permitted area.

4.4 Direct tanker discharge to foul sewer

When the waste is pumped from the tanker via the purpose-built discharge point it will pass over a grid, which acts as a screen. The screening process is there to prevent foreign objects entering the foul sewer. The screen is manually cleared and items that are removed are placed into a bag and stored in a sealed skip on the site. The skip is then collected for recovery at another location.

4.5 Aggregate and Soils Crushing and Screening

The most common process for treating waste soils and inert wastes for recovery to produce soils and recycled aggregates.

The process involves the currently permitted methods of crushing and screening the wastes to produce sized and graded products.

5.0 Waste Storage

5.1 Bays / wedge pits

All dewatering of sludges and liquid wastes will be carried out within the sites existing sealed bays. The bays allow the waste to settle or dewater with the resulting water being allowed to be discharged to the foul sewer.



Purpose built wedge pits for de-watering

The remaining waste remains within the bay until it is stackable.

Stackable Solids



5.2 Sealed Drainage

The whole permitted area is made of an impermeable concrete surface which forms part of a sealed drainage system, which drains to the foul sewer.

5.3 Hard Standing

The storage and processes of crushing and screening inert wastes inert wastes can be carried out on hardstanding as per the existing permit.

6.0 Hazardous waste

The proposed facility will not accept hazardous wastes as highlighted within document ACL 7 – Waste Types and Tonnages.

7.0 Sites and industries serviced

ACL will serve customer that service a variety of industries; however, the industries that provide high levels of waste that requires removing from sites are construction, ground works, muck shifting and house building.

Construction companies will generate soils and materials that generate wastes that can produce recovered soils and aggregates.

The tankering industry that can collect the following will be served –

- Septic tank and portable toilet waste
- Sewage treatment cleansing

7.0 Staveley facility

The existing ACL Environmental Services is well established and helps support dewatering of road sweeping and gulley wastes from across the region.

The Staveley facility is situated on an industrial estate and the site itself is flanked by a number of industrial companies including a commercial joinery and utilities.

8.0 Wastes received and stored

Non-hazardous wastes

The combined tonnages of hazardous and non-hazardous wastes received will not change from that of the existing permit at 75,000 tpa.

9.0 Storage of Waste

The maximum waste storage will not change from the existing permit.

10.0 Drainage

All liquids will be stored and treated within a sealed sump forming parts of an impermeable drainage system.

Discharging of waste liquids to the foul sewer takes place in a controlled manner.

Spillages within sealed drainage system will be dealt with initially identifying the source of the spill or leak. If it is, a leak once identified the leak will be stopped. Then the spill will be cleansed using onsite spill equipment by trained staff. Used spill kit will be placed within designated bins for onwards movement to a relevant permitted facility, the bund will then be cleansed. Spillage on the tanker discharge point will be treated within the same manner, however in the scenario the sites drainage will be locked down whilst the spill or leak is dealt with.

11.0 Emissions and Fire

The waste stream is not flammable and as a result, a Fire Prevention Plan is not required.