APPENDIX 6

INSTALLATION PERMIT APPLICATION

RAW MATERIALS & WASTE MINIMISATION STATEMENT

ROADWAYS WOODSIDE DEPOT

Revision:	1.0	**Approved by:**	James Bailey
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INTRODUCTION

Woodside Depot will receive up to 30,000 tonnes per annum of hazardous wastes (principally comprising asphalt waste containing coal tar (AWCCT)) and up to 45,000 tonnes per annum of non-hazardous highway excavation wastes and road planings.

AWCCT will be imported to the Site and treated using a cold bitumen emulsion process. The bitumen emulsion process incorporates the use of bitumen to bind and fully encapsulate the AWCCT for subsequent reuse in highway maintenance and improvement works.

Non-hazardous excavation wastes will undergo sorting, separation, crushing and screening to produce secondary aggregates for use in highway maintenance / excavation / reinstatement works and supply local markets.

There are no requirements to treat road planings at the Depot, as they can be used in highway maintenance works without prior treatment. They will be stored at the Site in dedicated stockpiles for reuse off site.

Hazardous and non-hazardous wastes will be delivered to the Depot in separate vehicles and stored, processed and dispatched in separate stockpile areas at all times to avoid mixing of the two. Hailsham Roadways are aware that under the Hazardous Waste (England and Wales) Regulations 2005, Regulation 18 prohibits the mixing of hazardous waste with non- hazardous waste.

A detailed description of the process is included in the Process Control Manual.

Other raw materials used at the site will comprise of bitumen emulsion, Ordinary Portland Cement, Lime and lubricants for plant maintenance.

RAW MATERIALS MANAGEMENT

The selection of raw materials at the Depot will take into account the environmental impact associated with their manufacture, use and recovery. Materials from sustainable and renewable sources will be used where technically and financially feasible. Consideration will be given to the recycling and recovery of spent materials after their use and to sourcing products as locally possible to minimise the environmental impact and costs associated with haulage.

Efficient use of raw materials will be maintained at all times, so that only the required quantity of products is used to ensure optimum performance and subsequent waste arisings are minimised.

WASTE MINIMISATION

Waste minimisation will include preventive maintenance in accordance with manufacturers recommendations to ensure plant operates efficiently and any inadvertent leaks of lubricants or fuel are quickly identified and remediated.

Fluid levels will be checked regularly to prevent overfilling and wastage. Spent raw materials will be recovered or recycled, to minimise waste disposal.

A raw materials efficiency audit will be undertaken at the end of the first year and thereafter at intervals not exceeding 5 years.

WATER USE

Water will be required for the treatment of AWCCT, welfare facilities and toilets. Water will be supplied from the Site mains or from treated wash down water.

WATER EFFICIENCY MEASURES

Water efficiency measures will include the following where technically and financially Feasible:

- Use of low flow taps/sprays.
- Treatment and reuse of wash down water
- Hose pipes fitted with activation triggers to prevent use when not required.
- Low flush toilets.
- Consumption monitoring of mains water and reporting to site management

A water efficiency audit will be undertaken at the end of the first year and thereafter at intervals not exceeding 5 years.

RAW MATERIALS INVENTORY

See Table 1.

Table 1: Raw Materials Inventory of Anticipated Storage Requirements and Potential Environmental Impacts

Raw Material	Composition	Annual Consumption	Fate	Environmental Impact	Alternatives with less Environmental Impact	Storage	Control Measures
Bitumen	Hydrocarbon	810 tonnes	Recovery - bitumen product is heated, to treat AWCCT for reuse in highway maintenance and improvement works.	None - AWCCT and bitumen are fully encapsulated by the treatment process.	None identified	Stored in a dedicated bitumen tank.	Specially engineered bitumen tank designed to contain bitumen product.
Ordinary Portland Cement	Calcium oxide CaO, mixed with silica SiO2 and alumina AI2O3	540 tonnes	Recovery - Ordinary Portland cement is used as an additive in the treatment of AWCCT to improve the cohesion and binding process. The treated and encapsulated AWCCT is reused in highway maintenance and improvement works.	None - AWCCT and Ordinary Portland Cement are fully encapsulated by the treatment process.	None identified	Stored in a dedicated silo.	Specially engineered silo.
Lime	Calcium oxide CaO	360 tonnes	Recovery - Lime is used as an additive in the treatment of AWCCT to improve the cohesion and binding process. The treated and encapsulated AWCCT is reused in highway maintenance and improvement works.	None - AWCCT and Lime are fully encapsulated by the treatment process.	None identified	Stored in a dedicated silo.	Specially engineered silo.
GGBS	CaO (30-50%), SiO2 (28-38%), Al2O3 (8-24%), and MgO (1-18%).	460 tonnes	Recovery - GGBS is used as an additive in the treatment of AWCCT to improve the cohesion and binding process. The treated and encapsulated AWCCT is reused in highway maintenance and improvement works.	None - AWCCT and GGBS are fully encapsulated by the treatment process.	None identified	Stored in a dedicated silo.	Specially engineered silo.

Diesel	Hydrocarbon	8400 Litres	Diesel used in a generator to produce electrical power to run plant. Assume plant operates for 600 hours per year at 14 litres per hour = 8,400 litres per annum.	None - Diesel combusted to produce electrical power for use at the Site.	None identified.	Stored in a dedicated tank.	Bund 110% of tank capacity. Spill kits on site.
Water	Water	1,200m3	Up to circa 5% water used added to AWCCT to enhance processing.	None - some water lost through process.	None identified	Water Mains Supplied.	N / A