ENVIRONMENTAL PERMIT VARIATION APPLICATION
FUGITIVE EMISSIONS RISK ASSESSMENT

NATURAL UK LTD HEALTHCARE MANAGEMENT FACILITY,
UNIT 3,
CAPEL HENDRE INDUSTRIAL ESTATE,
CAPEL HENDRE,
AMMANFORD,
CARMARTHENSHIRE,
SA18 3SJ

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FUGITIVE EMISSIONS RISK ASSESSMENT & MANAGEMENT PLAN
NATURAL UK LIMITED HEALTHCARE MANAGEMENT FACILITY, CAPEL HENDRE INDUSTRIAL ESTATE, AMMANFORD, CARMARTHENSHIRE, SA18 3SJ

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FUGITIVE EMISSIONS RISK ASSESSMENT & MANAGEMENT PLAN

CONTENTS

LIST OF TABLES

LIST OF DRAWINGS

1.0 INTRODUCTION

1.1 Scope and Background

1.1.1 A risk assessment has been undertaken to determine if the fugitive emissions anticipated from the revised operational activities may have an effect on any sensitive receptors located close to Natural UK Limited's Healthcare Management Facility, located on Capel Hendre Industrial Estate.

1.1.2 Although there are existing Management Plans in place which cover the risks and mitigation methods for fugitive emissions, this risk assessment has been prepared to give cognizance to the proposed treatment operations for hazardous clinical waste, as well as the addition of EWC code 19 08 01 for sewage screenings which will be treated at the existing non-hazardous treatment plant. This proposal is detailed in the accompanying Supporting Statement (**Document Reference No.: NU1000/05**).

1.1.3 **Table 1** includes a list of potential receptors within 1000m of the site that have been identified through a desktop assessment of the locality. **Drawing Reference Number: NU1000/06/04** illustrates the site location in relation to the receptors within 1km listed in **Table 1**.

Table 1: Identified potential receptors within 1000m of the facility.

Receptor ID	Receptor	Approximate distance from the operational area	Direction from the facility
R1	Middle Coal Measures Secondary A Designated Aquifer	Underlying	-
R2	Commercial / Industrial Properties (Including Capel Hendre Industrial Estate)	Adjacent up to 750m	All Directions
R3	B4297 Public Highway	53m	E
R4	Residential Properties on Hendre Road	220m	N
R5	Agricultural Land	260m	All Directions
R6	Residential Properties on Lotwen Road	270m	NW
R7	Nant Arw (water course)	280m	NE
R8	Residential Properties on Waterloo Road	280m	NNW
R9	Residential Properties on Saron Road	285m	NNW
R10	Fferrws Brook (water course)	315m	SE
R11	Residential Properties on Heol Cwper	500m	SE
R12	Caeau Capel Hendre SSSI	585m	N
R13	Caeau Mynydd Mawr SAC	780m	W - NW
R14	Caeau Lotwen SSSI	780m	W - NW
R15	Saron Primary School	800m	NNE

1.1.4 The assessment of risks from the facility arising from fugitive emissions have been considered with reference to the following guidance documents:

- H1 Environmental Risk Assessment Part 1: Simple assessment of environmental risk for accidents, odour, noise and fugitive emissions.

1.2 Site Setting

1.2.1 The site to which this application relates is Natural UK Limited's Healthcare Management Facility, located off the B4297, near Capel Hendre, Carmarthenshire. The site is largely surrounded by industrial, commercial and agricultural land. The National Grid Reference (NGR) on which the site is centred is SN 59321 11017. Overall, the site extends to approximately 0.42 hectares (ha) and is rectangular in shape.

1.2.2 Entrance to and exit from the site is undertaken from an un-named road within the Capel Hendre Industrial Estate off Heol Cwper (B4297) which runs c. 53m east of the site boundary. The site is secured by perimeter fencing (comprising steel wire mesh, steel palisade) and thick hedging which is frequently inspected and maintained for the prevention of unauthorised access. Access to the site is gained via two main vehicular gates on the eastern perimeter which are locked shut outside of operational hours. CCTV cameras at the site also provide security.

1.2.3 The geographical site location is depicted on **Drawing No. NU1000/06/01** and the current and proposed Environmental Permit boundaries are shown on drawing **NU1000/06/02**. The site is bounded to the north by Prostone Interiors Ltd and to the east by grass, trees and shrubs, with the B4297 situated beyond. To the south of the site is an un-named road within Capel Hendre Industrial Estate and Aalco metal suppliers lies beyond this. The land to the west of the permit boundary is owned by the operator and beyond this lies Universal Customs motor vehicle dealer and a local café.

1.2.4 The current permit boundary for the site is located approximately 320m south southeast from Capel Hendre village centre and 3.8km south west of Ammanford town centre.

1.2.5 There are a number of residential properties located on Hendre Road that lie approximately 190m to the north of the site. There are also residential properties along Heol Lotwen and Heol Cwper which lie c. 270m north west and 490m south-southeast respectively.

1.2.6 There are seven Sites of Special Scientific Interest (SSSI) (several of which are designated due to the presence of the rare Marsh Fritillary butterfly [*Euphydryas aurinia*]) situated within 2km of the site boundary:

- Caeau Capel Hendre – c. 587m N
- Caeau Lotwen – c.780m NW
- Caeau Blaenau-Mawr – c. 1.1km NNE
- Cae Gwynfryn – c.1.1km W
- Felin Fach Meadows, Cwmgwili – c.1.3km SW
- Broad Oak & Thornhill Meadows – c.1.5 MW
- Caeau Ffos Fach – c.1.8km NW

1.2.7 There is also a Special Area of Conservation (SAC) located within 2km of the site; Caeau Mynydd Mawr, which is notified as three component SSSIs:

- Caeau Lotwen – c.780m NW
- Broad Oak & Thornhill Meadows – c.1.5km NW
- Caeau Ffos Fach – c.1.8km NW

1.2.8 The Caeau Mynydd Mawr SAC covers approximately 25 ha and is designated due to its central position within a wider area that sustains one of Wales' most important populations of the Marsh Fritillary Butterfly *(Euphydryas aurinia)*. Another contributing factor to its designation is the presence of valuable marshy grassland offering a mosaic of habitats including *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) and unimproved neutral grassland[1].

1.2.9 There are no Special Protected Areas (SPA), National Nature Reserves (NNR) or RAMSAR Sites within 2km of the site boundary. The site is not situated within an Air Quality Management Area (AQMA) or a Groundwater Source Protection Zone (SPZ). The site is not located within a Nitrate Vulnerable Zone (NVZ) as designated by DEFRA and Natural Resources Wales.

1.2.10 According to NRW's National Flood Risk Map[2], the site is within Community ID: 4567 and lies within the river basin district of Western Wales. The flood source would be surface water and small watercourses, and there is considered to be low to medium risk.

1.2.11 The bedrock geology underlying the site consists of South Wales Middle Coal Measures Formation. The site overlies a Secondary A bedrock Aquifer which is defined as permeable layers capable of supporting water supplies at a local rather than strategic scale. Generally, these aquifers formerly classified as minor aquifers.

1.2.12 A review of dominant wind directions indicates that the prevailing wind blows in from the West/West-Southwest and towards the East/East to Northeast.

1.2.13 Treatment operations are currently limited to manual and/or mechanical sorting, separation, washing, screening, bailing, shredding, crushing, compaction and pelletisation of permitted wastes for the purposes of recovery or disposal. Mechanical treatment may include the use of bespoke equipment to wash and shred waste to aid physical separation and recovery. It is proposed to add a sterilisation process via heat treatment to the list of operations. It is also proposed to add EWC code 19 08 01 for sewage screenings to the list of permitted wastes which will be treated in the existing non-hazardous treatment plan (currently used to treat AHP's e.g. nappies). The activities are (and will be) carried out within a building with an impermeable surface with a sealed drainage system which discharges to foul sewer via a trade effluent discharge consent with the Statutory Undertaker. The permit does not allow any point source emissions into surface waters or groundwater except clean surface water from roofs or from areas of the site that are not being used in connection with storing and/or treating waste. There are no monitoring or reporting requirements at the site.

[1] Countryside Council for Wales (2008) *Core Management Plan Including Conservation Objectives for Caeau Mynydd Mawr Special Area of Conservation (SAC)* [Version 11, Aug 2012]
[2] *https://maps.cyfoethnaturiolcymru.gov.uk* Natural Resources Wales (NRW) *'Flood Risk Assessment Wales Map'*, Accessed 04/01/2021.

1.2.14 Risks have been considered during the updated operational phases of the treatment activities at Natural UK Limited's Healthcare Management Facility.

2.0 FUGITIVE EMISSIONS RISK ASSESSMENT & MANAGEMENT PLAN

2.1 Risk Assessment Methodology

2.1.1 The scoring methodology employed in the H1 Guidance is used as a framework for assessing the risk from various accident scenarios identified. The scoring system attributes a nominal score to the likelihood and consequence of an identified scenario, and then uses a matrix to identify whether the risk is acceptable. The scoring system is outlined below.

Likelihood categories

Category	Description	Score
Extremely unlikely	Incident occurs between once per 100 years and once every 1000 years	1
Very unlikely	Incident occurs between once per 50 years and once every 100 years	2
Unlikely	Incident occurs between once per 10 years and once every 50 years	3
Somewhat unlikely	Incident occurs between once per 5 years and once every 10 years	4
Fairly probable	Incident occurs between once per year and once every 5 years	5
Probable	Incident occurs at least once per year	6

Consequence categories

Category	Description	Score
Minor	• nuisance on site only (no off-site effects) • no outside complaint	1
Noticeable	• noticeable nuisance off-site e.g. discernible odours • minor breach of Permitted emission limits, but no environmental harm • one or two complaints from the public	2
Significant	• severe and sustained nuisance, e.g. strong offensive odours or noise disturbance • major breach of Permitted emissions limits with possibility of prosecution • numerous public complaints	3
Severe	• hospital treatment required • public warning and off-site emergency plan invoked • hazardous substance releases into water course with ½ mile effect	4
Major	• evacuation of local populace • temporary disabling and hospitalisation • serious toxic effect on beneficial or protected species • widespread but not persistent damage to land • significant fish kill over 5 mile range	5
Catastrophic	• major airborne release with serious offsite effects • site shutdown • serious contamination of groundwater or watercourse with extensive loss of aquatic life	6

Risk assessment matrix

Likelihood	**Consequence**					
	Minor	Noticeable	Significant	Severe	Major	Catastrophic
Extremely unlikely	1	2	3	4	5	6
Very unlikely	2	4	6	8	10	12
Unlikely	3	6	9	12	15	18
Somewhat unlikely	4	8	12	16	20	24
Fairly probable	5	10	15	20	25	30
Probable	6	12	18	24	32	36

Risk scores

Magnitude of risk	**Score**
Acceptable	6 or less
Acceptable if reduced as much as reasonably practical	8 to 12
Unacceptable	15 or more

2.2 Hazard Risk Assessment & Management Plan

2.2.1 **Table 2** and **Table 3** provide an assessment of the potential fugitive emissions and odour emissions arising from site operations respectively and an outline of the management procedures in place to control the risks to an acceptable level.

Table 2: Fugitive Emissions Risk Assessment Matrix

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Dust emissions from vehicle movements around the site; Dust and particulates from waste storage and treatment.	Airborne.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Designated ecological conservation areas within 1000m of the site.	4 (Somewhat unlikely)	2 (Noticeable)	**8**	Acceptable if reduced as much as reasonably practical.	1. All vehicles hauling waste will be sheeted/netted or enclosed. 2. Vehicles will be supervised during loading 3. A site speed limit will be enforced to limit dust suspension by vehicle wheels. 4. Regular sweeping of the hard surfaces will ensure that dust release from the site is minimised. 5. The whole site comprises concrete and hardstanding, preventing tracking of dust from vehicles. Furthermore, the roads to and from the site also comprise tarmac/concrete as it is situated within an industrial estate, therefore, the tracking of mud will not be an issue. 6. Access doors to buildings shall remain closed during processing/transfer operations to ensure containment of any dusty material. 7. Waste storage bays will be periodically emptied to ensure dusty waste residues are removed and the wall and floor surfaces are cleaned. 8. Any new equipment or plant will be risk assessed for potential to generate dust and additional measures may be put in place to mitigate this, should it be deemed necessary. 9. Wastes will arrive on site within packaging and/or sealed containers and will leave the site packaged which will severely reduce the potential for dust emissions. 10. Owing to the waste types, they are unlikely to give rise to fugitive emissions via 'wind whipping'. 11. Daily routine visual dust monitoring will be carried out at the site to identify any dust/mud build up or aerial emissions as part of the management procedures. 12. All machinery and plant on site that has the potential to generate dust e.g. Granulators, pelletisers, driers, are to be fitted with air extraction and filtration systems to minimise the generation of dust particulates at the source. 13. The proposed additional heat treatment process unit will comprise an automated air extractor which will activate when the loading hopper door is opened. This will prevent contaminated dust from escaping the unit when it is being loaded with hazardous clinical waste. 14. Good housekeeping will be employed to ensure that floor surfaces plant, equipment and storage containers are free from any build up of dry or dusty material that may be prone to becoming airborne. This will be achieved primarily via vacuum cleaning.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Mud and debris from vehicle movements.	Tracked by vehicles and washed by rainfall as suspended solids.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Fugitive emissions to surrounding land.	1 (Extremely unlikely)	1 (Minor)	**1**	Acceptable	1. Mud and debris will not affect the site as it is situated within an Industrial Estate with all access roads and open areas comprising of engineered surfacing (Concrete or Tarmac) or hardstanding. The site itself is covered with these surfaces, therefore, there is nowhere for vehicles to pick up and track mud. 2. As outlined above in the measures to control dust emissions from vehicle movements on site, there will be a site speed limit enforced, all delivery and transfer vehicles will be fully enclosed / sheeted, and the waste will arrive and leave site fully contained / packaged. Vehicles will also be supervised during unloading. Waste treatment is also conducted within an enclosed building upon an impermeable concrete surface. Vehicles therefore will not be allowed to enter areas where there may be a risk of mud/debris entrainment.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Scavenging animals and birds.	Airborne and over land.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Designated ecological conservation areas within 1000m of the site.	4 (Somewhat unlikely)	1 (Minor)	**4**	Acceptable	1. Waste accepted to the site will be packaged and therefore, not directly open to the atmosphere. 2. All vehicles hauling waste will be sheeted/netted or fully enclosed. 3. Waste storage and treatment operations take place within an enclosed building and the waste storage duration is kept as short as possible. 4. Strict compliance with waste acceptance procedures will be required at all times. 5. Good housekeeping will be promoted in order to keep the floor surfaces, operational and storage areas as clean as possible. 6. No food will be consumed on site within the operational area, only within the site's welfare facilities. 7. Regular (monthly) visits from a registered pest controller are carried out. This contractor will maintain any vermin traps and provide an updated report on any issues identified. 8. Access doors to buildings shall remain closed during processing / transfer operations. 9. Waste storage bays will continue to be emptied periodically to ensure waste residues are removed and all walls and floor surfaces are cleaned. 10. The loading of output materials from the proposed treatment process for hazardous clinical waste will be bulked, baled and wrapped within the confines of the building. 11. Any windblown litter will be removed from external areas of the site and around the perimeter fencing as soon as possible using specialist equipment or litter pickers to prevent attracting scavenging animals.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Litter from waste transport vehicles; Litter from waste storage area; Litter from site office and welfare facilities	Airborne.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Designated ecological conservation areas within 1000m of the site.	4 (Somewhat unlikely)	1 (Minor)	**4**	Acceptable	1. All vehicles hauling waste will be sheeted/netted or enclosed. 2. The waste storage and processing areas are within enclosed buildings; reducing the risk of 'wind whipping' and litter emissions. 3. Strict compliance with waste acceptance procedures will be required at all times. 4. The site operator will maintain the site to ensure it is clean and tidy by a combination of appropriate site management practices such as inspections with subsequent regular sweeping and litter collection. 5. Good housekeeping will be promoted in order to keep storage areas as clean as possible. 6. Daily inspection of the site for windblown fraction will be performed as part of the management procedures including the site boundary fence (where necessary). 7. If necessary remedial action such as litter picking will be carried out. Should this be required an investigation into the source of the litter will be carried out to avoid a repeat of the littering. Any actions taken will be recorded in the Site Diary. 8. The output materials from the proposed treatment process for hazardous clinical waste will be bulked, baled and wrapped within the confines of the building. Similarly, the proposed EWC code 19 08 01 (sewage screenings) post-treatment will be placed into a sealed container for transfer off site, this will also occur internally. 9. Any windblown litter will be removed from external areas of the site and around the perimeter fencing as soon as possible using specialist equipment or litter pickers.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Noise and vibration.	Noise through the air and vibration through the ground.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Designated ecological conservation areas within 1000m of the site.	4 (Somewhat unlikely)	1 (Minor)	**4**	Acceptable	1. All machinery used on site will be operated and maintained in accordance with manufacturers' recommendations; 2. Site activities will be restricted to sociable hours when background noise levels are appreciably higher; 3. Noise and vibration from machinery and plant will be minimised as far as reasonably practicable by ensuring that the equipment used has designed acoustic insulation and anti-vibration systems. 4. Treatment operations will be carried out internally which will reduce the levels of noise being emitted from the site. 5. Access doors to operational buildings shall remain closed during processing / transfer operations to limit noise and vibration emissions. 6. A noise and vibration survey will be undertaken to establish background noise levels and impact of normal operations. 7. Periodic environmental checks shall be undertaken around the site and documented (weekly environmental inspections). 8. There will be no site activities taking place at night. Site activities will only be carried out during operational hours; 6am – 6pm Monday – Friday and 6am – 2pm on Saturday. 9. The site is located within established industrial area. Noise levels will not be appreciably higher than those currently experienced at the site. 10. The nearest residential receptors are situated c.220m north of the site boundary, beyond established trees and hedgerows and other industrial units including Prostone Interiors and National Cladding Wales; all of which will provide a noise buffer. 11. Further noise mitigation measures can be applied if found to be necessary.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Infestations in incoming waste loads; and Infestations in stored waste.	Airborne and overland.	Residential properties to the NNW, N, NE and SE, as well as commercial & industrial properties within 1000m of the site. Designated ecological conservation areas within 1000m of the site.	4 (Somewhat unlikely)	1 (Minor)	**4**	Acceptable	1. Incoming loads of waste will be visually checked at either the site entrance/weighbridge or during off-loading in the recycling area. Infested wastes will be rejected or stored in enclosed receptacles in the quarantine area. 2. Waste storage and operations take place within an enclosed building and the waste storage duration is kept as short as possible. 3. Good housekeeping will be promoted in order to keep the floor surfaces, operational and storage areas as clean as possible. 4. Waste storage bays and containers will continue to be emptied periodically to ensure waste residues are removed and all walls and floor surfaces are cleaned. 5. Regular (monthly) visits from a registered pest controller are carried out. This contractor will maintain any vermin traps and provide an updated report on any issues identified.

Hazard	Pathway	Receptor	Likelihood	Consequence	Overall score	Acceptability of risk	Justification for acceptability (description of risk management measures)
Contaminated Surface Water	Run off from storage areas.	Infiltration to surrounding land, Groundwater, Nant Arw, Fferrws Brook and other surface water features in the local environment. Designated ecological conservation areas within 1000m of the site.	2 (Very Unlikely)	3 (Significant)	**6**	Acceptable	1. Materials will arrive, be stored and be transferred off-site within packaging and containers. Storage of wastes will be conducted within an enclosed building for as short a time period as possible. The operational building is equipped with impermeable, engineered concrete floors which have a sealed drainage system. 2. The sealed drainage system discharges to foul sewer. 3. Surface water run-off will not be problematic as the waste treatment and storage operations occur within an enclosed building, protected from prevailing weather conditions. 4. All concreted areas will be maintained in a safe condition to provide an impervious surface that facilitates everyday cleaning and adequate storage for materials received. 5. Spill kits, absorbent granules are available for immediate deployment. 6. Surfaces will be inspected and maintained at regular intervals and any defects or damage will be repaired. 7. Good housekeeping will be promoted in order to keep storage areas as clean as possible.

Table 3: Odour Emissions Risk Assessment Matrix

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
Normal Operations (accounting for ambient weather conditions)	Waste during delivery and weighing of incoming wastes (incl. spillages)	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Hazardous clinical waste arriving on site should already be stored within rigid, leak-proof containers. These containers should be unloaded from the delivery vehicle directly into lockable ridged, leak-proof containers, these are also stored internally prior to treatment. This arrangement prevents the release of potential odours from accepted wastes. • The proposed 19 08 01(sewage screenings) waste will arrive in enclosed skips and will be kept within them during storage prior to treatment, internally. This provides a level of containment to ensure fugitive odour emissions do not occur. • Containers / pallets visibly checked for damage; • Incoming waste to be visually checked at either the site entrance/weighbridge or during off-loading. • All vehicles hauling waste will be sheeted or fully enclosed; • Rejected waste to be diverted directly to landfill or further treatment.	3 (Acceptable)	• Damaged containers repackaged or over-drummed immediately; • Rejection of waste from site.	Technically Competent Manager to make initial assessment.
	Spillages of wastes during unloading, handling, and loading activities	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Induction / forklift training provided to technically competent manager / operative; • Unloading and handling of wastes will occur internally which will reduce the risk of fugitive odour emissions. • Containers / pallets visibly checked for damage as part of daily inspections; • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste;	3 (Acceptable)	• Damaged containers repackaged or over-drummed immediately; • Spills to be cleaned immediately in accordance with relevant procedure; • Review housekeeping and handling procedures;	Operator / Technically Competent Manager to ensure unloading, handling, storage and loading procedures are adhered to. Competent Person undertaking the daily Operation and Maintenance Checks.

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
Normal Operations (accounting for ambient weather conditions)	Waste leakages during storage	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Containers / pallets / skips visibly checked for damage as part of daily inspections; • Daily olfactory monitoring for odour to be performed (as appropriate) as part of the management procedures; • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste. • Waste is to be stored internally at the site which will aid in controlling odour emissions. The waste will also be delivered to site and stored within containers which will suppress any potential odour emissions.	3 (Acceptable)	• Damaged containers repackaged or over-drummed immediately; • Spills to be cleaned immediately in accordance with relevant procedure; • Review housekeeping procedures; • Review handling procedures.	Operator / Technically Competent Manager to ensure unloading, handling, storage and loading procedures are adhered to. Competent Person undertaking the daily Operation and Maintenance Checks.
	Spillages during waste sampling	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Containers / pallets visibly checked for damage prior to sampling; • Containers / pallets are only open to air for as long as required to collect required sample; • Training provided to Operator / Technically Competent Manager to ensure correct sampling procedure is adhered to; • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste.	3 (Acceptable)	• Damaged containers repackaged or over-drummed immediately; • Spills to be cleaned immediately in accordance with relevant procedure; • Review housekeeping procedures; • Review handling procedures.	Operator / Technically Competent Manager to ensure unloading, handling, storage and loading procedures are adhered to. Competent Person undertaking the daily Operation and Maintenance Checks.

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
Normal Operations (accounting for ambient weather conditions)	Bulking and baling of wastes following treatment.	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Bulking and baling of wastes will only occur after the treatment process where the hazardous clinical waste has been disinfected. The resulting material will be devoid of water and is unlikely to produce malodours. The treatment unit's holding hopper will only be opened to facilitate bulking activities; remaining sealed at all other times. • Bulking and baling of waste will occur within an enclosed building. Access doors to buildings shall remain closed during processing / transfer operations. • Only wastes passed for bulking to be bulked; • Bulking to be carried out by trained operatives as supervised by the technically competent manager; • Operative to exercise due care when bulking waste; • Operative to remain aware for any chemical reactions during bulking of waste; • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste.	3 (Acceptable)	• Emergency procedures to be followed in the event of an incident; • Review bulking procedures.	Site Operatives under the supervision of the Technically Competent Manager to ensure that all bulking procedures are adhered to.

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
Normal Operations (accounting for ambient weather conditions)	Odour emissions during waste treatment activities.	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• The hazardous clinical waste will be treated via a sealed treatment unit, therefore, there will be very little risk of fugitive odour emissions during the treatment process. • The proposed EWC code 19 08 01 – Sewage screenings will be treated via loading waste into a conveyor, shredding, washing (to be repeated 3 times) and chlorination. The output material will then be granulated and milled to form fibre pellets. This will all be carried out internally with a high level of containment, therefore, the risk of fugitive odour emissions resulting from the treatment process is low.	3 (Acceptable)	• Emergency procedures to be followed in the event of an incident; • Review treatment procedures; • Good housekeeping procedures to ensure the build-up of potentially malodourous residue does not occur in the treatment areas and on plan and equipment. • Any spills to be cleaned up immediately in accordance with relevant procedure.	Site Operatives under the supervision of the Technically Competent Manager to ensure that all bulking procedures are adhered to.
	Spillages during Unpacking/ Repackaging of hazardous clinical waste pre- and post-treatment.	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Waste containers will remain sealed and will only be opened to input waste into the sealed treatment unit. • The sealed treatment unit's loading hopper will only be opened to commence bulking activities. Following which the waste will be baled and wrapped prior to transfer offsite. • Activities to be carried out by trained operatives as supervised by the Technically Competent Manager; • Waste is to be unpackaged /repackaged internally in the waste processing area which will aid in controlling odour emissions. • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste; • Site operative / technically competent manager to ensure that any spills are cleared completely.	3 (Acceptable)	• Emergency procedures to be followed in the event of an incident; • Spills to be cleaned immediately in accordance with relevant procedure; • Review bulking procedures.	Site Operatives under the supervision of the Technically Competent Manager to ensure that all bulking procedures are adhered to.

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
	Spillages during unloading / reloading of non-hazardous waste (including the proposed EWC code 19 08 01 – Sewage screenings) pre- and post-treatment.	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• The waste will be stored in sealed containers / enclosed skips internally. The containers will only be opened to transfer to waste into the conveyor for treatment. • Activities to be carried out by trained operatives as supervised by the Technically Competent Manager; • Waste will be unloaded and reloaded internally which will aid in controlling odour emissions. • Following treatment, the resulting waste will be placed in sealed containers for transfer off site. • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste; • Site operative / technically competent manager to ensure that any spills are cleared completely.	3 (Acceptable)	• Emergency procedures to be followed in the event of an incident; • Spills to be cleaned immediately in accordance with relevant procedure; • Review bulking procedures.	Site Operatives under the supervision of the Technically Competent Manager to ensure that all bulking procedures are adhered to.
	Spillage of residues during washing of contaminated containers	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	5 (Fairly Probable)	2 (Noticeable)	10	• Operative to exercise due care when washing contaminated drums; • Containers will remain sealed until washing commences; • Equipment and storage containers are cleaned and disinfected regularly. All wash waters should be contained within an impermeable surface to prevent run off. Wash waters must be drained to foul sewer or disposed of properly. • Good housekeeping standards (incl. spillage kits) will ensure that the site areas are kept clean to remove and waste spillages waste.	3 (Acceptable)	• Emergency procedures to be followed in the event of an incident; • Spills to be cleaned immediately in accordance with relevant procedure; • Review container washing procedures.	Site Operatives under the supervision of the Technically Competent Manager to ensure that all washing procedures are adhered to.

Operating Status	Odour Source	Most Sensitive Receptors	Probability	Consequence	Risk (without control measures)	Control Measures	Residual Risk	Action if odour causes problem	Responsibility
Abnormal Conditions	Delivery of large volume of incoming waste over a short period of time (accounting for ambient weather conditions)	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	3 (Somewhat Unlikely)	4 (Severe)	12	Natural UK Limited will continue to exercise the following with regards to their waste suppliers: • Defined maximum tonnages that can be accepted daily; • Agree delivery schedule with consideration of public holidays; • Stipulate the remit for the rejection of wastes if the facility is over supplied and daily recording of quantity of waste accepted into facility; • Contingency plan for management of over- supply of waste, including possible diversion to other facilities to accept rejected loads and options to return to supplier.	2 (Acceptable)	• Rejection of incoming wastes.	Management team to negotiate supplier policy and contingency plan. Weighbridge operator to record quantity of waste accepted daily. Competent person to decide if waste should be rejected and whether it should be returned to supplier, sent to another licensed waste facility, or disposed of direct to landfill.
Abnormal Conditions	Plant and equipment malfunction / breakdown	Human Receptors: Commercial / Industrial properties, Residential properties and local school. (R2, R4, R6, R8, R9, R11, R15)	3 (Somewhat Unlikely)	4 (Severe)	12	• Planned preventative maintenance and regular inspections; • Availability of maintenance operatives.	2 (Acceptable)	• Repairs to be undertaken as quickly as possible. • If repair is not possible, a replacement will be procured as quickly as practicable.	Competent person to ensure plant / equipment is repaired as quickly as possible

3.0 CONCLUSION

3.1.1 It is concluded that the proposed additional treatment process for hazardous clinical waste, and the treatment of the proposed additional EWC Code 19 08 01 – Sewage screenings (to be treated at the existing Non-Hazardous treatment plant), are unlikely to have any effect on the receptors within 1km of the proposed waste activity site boundary.

3.1.2 Fugitive emissions, incorporating the control measures stated in the above table, are therefore not considered to be a risk from this site.