Barracks Farm

Environmental Permit Application

Environmental Risk Assessment

Oaks Land Management Limited

July 2021

Prepared on Behalf of Tetra Tech Environment Planning Transport Limited.

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1.0 INTRODUCTION

1.1 REPORT CONTEXT

1.1.1 Tetra Tech has been commissioned to prepare and submit an Environmental Permit Application on behalf of Oaks Land Management Limited (Oaks Land Management) for Barracks Farm.

1.1.2 Barracks Farm is owned by F Conisbee and Son who are an independent family run business who specialise in producing high quality, environmentally sustainable agricultural produce for local consumption. The farm is currently used by the business for the rearing of beef, sheep and turkey.

1.1.3 In July of 2017, a planning permission (reference MO/2017/1198) was granted by Mole Valley District Council to allow the erection of two livestock buildings at Barracks Farm, construction of a bunded manure store and a wetlands drainage scheme comprising of reed beds. In addition, the permission allows the importation of 30,000m^3 of inert materials to raise to ground levels up to the plateau that the that the existing farmyard sits on. Oaks Land Management seek to gain a waste recovery permit on behalf of F Conisbee and Son for the permanent deposit of inert waste to land at Barracks Farm to raise the ground level to the level of the plateau.

1.1.4 Further details of the process are provided in the Operating Techniques (Appendix B of the main application).

1.1.5 This Environmental Risk Assessment (ERA) is limited to a qualitative assessment of the potential risks to the environment and human health specifically related to the proposed activity. This report will identify any significant risk and demonstrate that the risk of pollution will be acceptable by taking the appropriate measures to manage the risk.

2.0 ENVIRONMENTAL RISK ASSESSMENT

2.1 METHODOLOGY

2.1.1 This report has been prepared following the Environment Agency's Risk Assessment guidance. It specifically relates to the potential risks associated with the following risk types:

- Odour;
- Noise and vibration;
- Fugitive emissions and
- Accidents and incidents.

2.1.2 This risk assessment addresses the above, and is based on the following methodology:

- Identification of potential sources of risk;
- Identification of all potential receptors to risk; and
- Risk assessment of each risk type.

2.1.3 The ERA is a tool used to identify the pollutant linkage i.e. source – pathway – receptor. For most risks, the atmosphere is the main pathway and will always exist. Therefore, the ERA deals primarily with the sources and receptors and is provided in Appendix A and summarised below.

2.1.4 A 'Nature and Heritage Conservation Screen' (Reference Number EPR/JB3302KX/A001) was requested from the Environment Agency. The screen determines the presence of any site of nature and heritage conservation, or protected species or habitats that may be impacted by the proposal. A copy of the results is provided in Appendix B. The results of the screening identified the statutory designated site (Bookham Commons (SSSI)) located approximately 735m west of the application site. There is also an area of woodland located approximately 136m south east of the site which is designated as ancient woodland.

2.1.5 The result of the screen also identified that the River Mole is a protected fish migratory route and there are two areas adjacent to the River Mole that are habitats for protected fish species.

2.2 SOURCES

2.2.1 The potential sources of risks have been considered for each risk type, as provided in Appendix A and summarised below:

Odour

- Waste materials.

Noise and Vibration

- Engine noise from vehicles
- Use of reverse vehicle warnings; and
- Use of plant and machinery

Fugitive Emissions

- Particulate matter i.e. dust;
- Scavenging birds, pests and vermin;
- Mud; and
- Litter.

Accidents

- Fire;
- Leaks and spillages;
- Flooding; and
- Unauthorised Access.

2.3 PATHWAYS

2.3.1 The pathways have been identified for each risk type as shown in Table 1:

Table 1: Potential Pathways

Risk Type	Pathway
Odour	Atmosphere
Noise and vibration	Atmosphere
Fugitive emissions	Atmosphere
Accidents	Atmosphere
	Surface water run-off

	Infiltration
	Percolation

2.4 RECEPTORS

2.4.1 Receptors within 1km of the application site, including those identified in the Nature and Heritage Conservation Screen (Appendix B) are listed in Table 2 below and are shown on the Receptor Plan (Drawing Number OLM/A115247/REC/01). The main pathway for the identified sources will be the atmosphere and as such, atmospheric conditions can affect dispersion rates hence potential risk. As a result, the location of each receptor in relation to the site may influence the potential impact of the risk, as summarised in Table 2.

Table 2: Location of potential receptors in relation to the proposed activity

Receptor	Direction from Operational Area	Minimum Distance from the Permit Application Boundary (approx.) (m)
Designated ecological habitats e.g. Ramsar, SAC, SPA, SSSI, SNCI, LNR		
Bookham Commons (SSSI)	W	735
Historic buildings / Listed buildings / Archaeological sites (clusters grouped together)		
Monks Green Farmhouse	S	195
Tea Tree Cottage Yew Tree Cottage	S	600
Orchard Cottage	SE	760
44 and 46, The Street	S	890
Home Farmhouse	S	952
Barn approximately 50m south east of Sheepbell Farmhouse	NW	920
Sheepbell Farmhouse	NW	965
Domestic Dwellings (closest road listed in each direction)		
Residential area of Fetcham	S	430
Residential area to the west of Cobham Road	SW	410
Fixby Cottage	SW	245
Isolated property on Cobham Road	S	155
Commercial and Industrial Premises		
N/A		
Highways, Minor Roads and Public Footpaths		
Cobham Road	S	170
Schools, Hospitals and Other Public Buildings		
N/A		
Habitats		
Priority Habitat Inventory (Deciduous Woodland)	E	140
Priority Habitat Inventory (Deciduous Woodland)	SE	605
Priority Habitat Inventory (Deciduous Woodland)	S	320
Priority Habitat Inventory (Deciduous Woodland)	SW	495
Priority Habitat Inventory (Deciduous Woodland)	SW	595
Priority Habitat Inventory (Deciduous Woodland)	SW	700
Priority Habitat Inventory (Deciduous Woodland)	SW	685

Priority Habitat Inventory (Deciduous Woodland)	NW	430
Priority Habitat Inventory (Deciduous Woodland)	NW	750
Priority Habitat Inventory (Deciduous Woodland)	E	650
Ancient Woodland (as identified from Nature and Heritage Screen)	SE	136
Sensitive Land use (e.g. farmland, allotments, commercial fish farms and public open spaces) (surrounding on all sides, closest in each direction listed)		
Agricultural land	N, S, E, W	Adjacent
Surface Water e.g. rivers and streams		
River Mole	E	380
Areas of Protected Species		
River Mole (Protected Fish Migratory Route)	E	500
Area of Protected Species	NE	490
Area of Protected Species	N	710
Groundwater (sensitivity)		
According to the Multi Agency Geographic Information for the Countryside's (MAGIC) website, the site is situated within a Zone II (Outer Protection) area. There are no aquifers recorded on site.		

2.5 RISK ASSESSMENT

2.5.1 The ERA (Appendix A) looks at each specific hazard identified and assesses the likelihood of those hazards impacting on the receptors. This is achieved by fulfilling the following objectives:-

- Identify the location and nature of each hazard;
- Identify the specific receptors potentially at risk and assess the sensitivity of each receptor;
- Provide a qualitative assessment of the risk posed to each sensitive receptor;
- Identify management and monitoring techniques; and
- Provide recommendations for more detailed assessments where necessary.

2.6 SUMMARY OF ERA

2.6.1 The ERA (Appendix A) indicates that the proposed development will have no significant impacts in terms of odour, noise and fugitive emissions, and the likelihood of accidents is minimal.

DRAWINGS

OLM/A115247/REC/01 – Receptor Plan

APPENDICES

APPENDIX A - AMENITY AND ACCIDENT RISK ASSESSMENT

Table A1 – Odour Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Acceptance of Odourous Waste Types.	Occupiers of domestic dwellings listed in Table 2.	Acceptance of Odourous Waste Types.	In accordance with the approved Waste Recovery Plan (Appendix G of the main application), the operator intends to use inert waste as classified under the Landfill Directive (1999/31/EC) and Council Decision (2003/33/EC) of 19 December 2002 'establishing criteria and procedures for the acceptance of waste landfills'. These waste types are not putrescible and therefore will not biodegrade to produce offensive odours. There will be strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted. Details of these procedures are provided in the Operating Techniques (Appendix B of the main application). All site operatives will be vigilant and report any odour issues to the Site Manager. With reference to the Environment Agency's 'Control and monitor emissions for your environmental permit' guidance, the proposed activity is not listed as an activity that requires a written odour management plan. As such, an odour management plan has not been prepared in support of this application.	Very unlikely due to measures in place.	Odour annoyance.	Not significant due to the inert nature of the proposed waste types and the management techniques employed.

Table A2 – Noise and Vibration Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Vehicle movements to/from the site.	Occupiers of domestic dwellings listed in Table 2. Farmland listed in Table 2.	Atmosphere.	All noise generating activities will be restricted to the day. There will strictly be no activities undertaken in the night. As such, it is considered that the risk of noise to impact receptors beyond the site boundary is low. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements. All equipment and vehicles, when not in regular use will be switched off. The Site Manager is responsible for ensuring the noise mitigation measures are implemented. All noise generating activities will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant due to the management techniques employed.
Noise and vibrations from loading and unloading of waste.	Occupiers of domestic dwellings listed in Table 2. Farmland listed in Table 2.	Atmosphere.	All noise generating activities will be restricted to the day. There will strictly be no activities undertaken in the night. As such, it is considered that the risk of noise to impact receptors beyond the site boundary is low. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements.	Intermittent noise disturbance.	Not significant if managed correctly.	Intermittent noise disturbance.

			The loading/unloading of wastes will be undertaken in a controlled manner to keep noise/vibration to a minimum. Vehicles will be directed by site operatives to minimise the drop height when depositing loads at the site. All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.			
Noises from reverse vehicle warnings.	Occupiers of domestic dwellings listed in Table 2. Farmland listed in Table 2.	Atmosphere	All noise generating activities will be restricted to the day. There will strictly be no activities undertaken in the night. Utilisation of low level warning signals for reversing vehicles. The Site Manager is responsible for ensuring the noise mitigation measures are implemented. All noise generating activities will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant due to the management techniques employed.
Engine noise from mobile plant and machinery.	Occupiers of domestic dwellings listed in Table 2. Farmland listed in Table 2.	Atmosphere.	All noise generating activities will be restricted to the day. There will strictly be no activities undertaken in the night. All equipment, when not in regular use, shall be switched off. The Site Manager is responsible for ensuring the noise mitigation measures are implemented. All noise generating activities will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant due to the management techniques employed.

Table A3 – Fugitive Emissions Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
To Air						
Dust emissions generated from vehicle movements	Occupiers of domestic dwellings listed in Table 2. Protected habitats listed in Table 2. Farmland listed in Table 2.	Atmosphere.	The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager. Wastes being delivered to the site will be covered or sheeted to prevent the generation of dust while the waste is in transit. All equipment and vehicles when not in regular use shall be switched off to minimise the risk of dust emissions that may arise from idling. The use of modern plant and regular maintenance shall be practiced to minimise the risk of mechanical failure which may lead to increased dust emissions. Vehicle speeds will be limited on site and access roads to prevent re-suspension and entrainment of dust. If necessary, a road sweeper will be contracted to clean the site access road where vehicles exit the site.	Unlikely due to measures in place.	Local nuisance. Potential respiratory health risk to public and staff. Smothering of habitats.	Not significant due to the management techniques employed.

			Dust will be managed in accordance with the Dust Management Plan that's provided as Appendix F of the main application.			
Dust emissions generated from the loading/unloading of wastes.	Occupiers of domestic dwellings listed in Table 2. Protected habitats listed in Table 2. Farmland listed in Table 2.	Atmosphere	The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager. The use of modern plant and regular maintenance shall be practiced to minimise the risk of mechanical failure which may lead to increased dust emissions. During periods of prolonged dry weather or high winds, the risk of dust emissions will be elevated, therefore extra care will be taken during the loading/unloading of wastes. Drop heights will be minimised as much as practicable to reduce the generation of dust whilst the waste is being handled. Dust will be managed in accordance with the Dust Management Plan that's provided as Appendix F of the main application.	Unlikely due to measures in place.	Local nuisance. Potential respiratory health risk to public and staff. Smothering of habitats.	Not significant due to the management techniques employed.
To Water						
Contaminated rainwater run-off.	Groundwater. Surface water bodies identified in Table 2. Areas of protected species listed in Table 2 (i.e. fish migratory route)	Direct surface water run-off from site. Percolation.	The proposed waste types are inert and therefore non-hazardous. As such, any run-off that is generated on site will simply be rainwater which has passed through inert soils, and therefore is not likely to be contaminated. An attenuation layer will be constructed to prevent leaching of contaminants into the groundwater.	Very unlikely due to the inert nature of the proposed waste types and measures in place.	Contamination of surface water bodies and groundwater.	Not significant due to the inert nature of the waste types and the management techniques employed.

			There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix B of the main application).			
Pests/Scavenging birds						
Pests/scavenging birds	Occupiers of domestic dwellings listed in Table 2. Areas of protected species listed in Table 2 Protected habitats listed in Table 2. Farmland listed in Table 2.	Air. Ground.	The proposed waste types are not putrescible and will therefore not be attractive to pests or scavenging birds. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix B of the main application). The Site Manager will undertake regular reviews of pests and scavenging birds at the site. All site operatives will be vigilant and report any problems to the Site Manager.	Unlikely due to nature of waste types and measures in place.	Local nuisance. Predation of species within habitats and farmland	Not significant due to the inert nature of the waste and the management techniques employed.
Mud						
Mud on local highways.	Users of local highways.	Tracked on vehicle wheels	The amount of mud on local roads will be monitored. In the event that mud is deposited on the access road and/or highway then a road sweeper will be employed.	Unlikely due to measures in place.	Local nuisance Mud on roads is unsightly and can increase the risk of road traffic incidents.	Not significant due to the management techniques employed.
Litter						
Wind blown litter	Receptors identified in Table 2.	Air the deposition.	Due to the nature of the proposed waste types, litter will not be generated at the site. The proposed waste types are not considered to represent a significant risk of litter.	Very unlikely due to nature of waste types and measures in place.	Local nuisance.	Not significant due to the nature of the waste received and the management

			There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix B of the main application). A vigilant watch for litter will be undertaken by site operatives. In the unlikely event that litter is generated by the activity, the Site Supervisor will implement a litter collection as necessary.			techniques employed.

Table A4 – Accident Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Fire or failure to contain firewater.	Groundwater. Surface water bodies identified in Table 2. Occupiers of domestic dwellings listed in Table 2. Areas of protected species listed in Table 2 Protected habitats listed in Table 2. Farmland listed in Table 2.	Infiltration. Contaminated rainwater runoff.	The risk of fire is considered to be low as the proposed waste types are not flammable. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix B of the main application). The operator will undertake routine maintenance of equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in an increased risk of combustion. Site notices and training will be undertaken regarding fire hazards. Site Manager will be responsible for actions in the event of a fire.	Unlikely due to measures in place.	Local nuisance from smoke. Contamination of local groundwater and/or surface water.	Not significant due to the management techniques employed. Proposed waste types subject the deposit for recovery are not considered combustible in accordance with the Environment Agency's 'Fire Prevention Plans' published November 2016.
Leaks and spillages of oil or fuel.	Groundwater. Surface water bodies identified in Table 2. Areas of protected	Infiltration. Contaminated rainwater runoff	The operator will undertake regular maintenance of plant equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in leaks. All fuel, oil and lubricants will be contained within appropriate 110% bunded tanks. The tanks will be	Unlikely due to measures in place.	Contamination of land and watercourses.	Not significant due to management techniques employed.

	species listed in Table 2 (i.e. fish migratory route)		maintained and inspected in accordance with the manufacturer's recommendations. Daily vehicle / plant checks to ensure any fuel/oil leaks etc. are repaired as soon as possible. The Site Manager will be responsible for ensuring effective remediation and documenting any incident.			
Flooding	Groundwater. Surface water bodies identified in Table 2. Areas of protected species listed in Table 2 (i.e. fish migratory route)	Infiltration. Contaminated surface water runoff.	The site is not located within an area at risk of flooding and the proposed activity will not result in any areas of the site to be concreted. As such, it is considered that the risk of flooding from the proposed activity is low. In the unlikely event of significant flooding, operations may temporarily cease. The waste is unlikely to cause contamination of groundwater through infiltration due to the nature of the proposed waste types. Due to the nature of the waste types which are proposed to be used, in the event that flood or surface water comes into contact with the wastes, significant pollution or contamination of groundwater or surface water is considered unlikely. Site Manager will be responsible for ensuring effective remediation and documenting the incident.	Unlikely due to measures in place.	Contamination of local groundwater and/or surface water.	Not significant due to the inert nature of the waste types and management techniques employed.
Plant failure and breakdown	Groundwater. Surface water bodies identified in Table 2. Occupiers of domestic dwellings listed in Table 2. Areas of protected	Atmosphere Percolation Surface water run-off	A programme of planned preventative maintenance of all plant and equipment is currently employed on site which ensures that all plant and equipment if subject to regular maintenance in accordance with the manufacturer's guidance.	Unlikely due to measures in place.	Pollution of air, Contamination of local groundwater and/or surface water.	Not significant due to measures in place.

	species listed in Table 2 Protected habitats listed in Table 2. Farmland listed in Table 2.					
Vandalism	Groundwater. Surface water bodies identified in Table 2. Occupiers of domestic dwellings listed in Table 2. Areas of protected species listed in Table 2 Protected habitats listed in Table 2. Farmland listed in Table 2.	Unauthorised entry to the site.	The site is surrounded by vegetation. Any identified damage to the site that could compromise security will be recorded and temporarily repaired as necessary before the end of the working day. Permanent repair or replacement will be undertaken as soon as practicable. Procedures are in place which require all visitors to the site to sign in on arrival and sign out on departure.	Unlikely due to measures in place.	Release of polluting materials to air, water or land.	Not significant due to management techniques employed.

APPENDIX B - NATURE AND HERITAGE SCREENING REPORT