

Crownhill Topsoil - Environmental Permit - Site Risk Assessment

Bespoke Facility

Location:

Location of environmentally sensitive sites (km / m):

Risk assessment carried out by:

Date:

Waste Operation: Treatment of waste to produce soil, soilsubstitutes and aggregate
 Crownhill Topsoils - Unit 1009 Army Training Estate, Caerwent, Cardiff.
 Drifham Meadows SSSI - Approximately 10m from the facility
 David Findon - EcoVigour
 10/02/2016

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Low	High	Medium	All of the properties immediately surrounding the site are heavy commercial. Nearest residential property is approximately 550m away to the west. Permitted waste types include non-hazardous material due to the organic matter required for topsoil production. Processing activities such as screening and cutting material will produce particulate matter so a medium magnitude risk has been assigned. The permitted level of throughput and potential size of the site means there is potential for exposure if anyone is living or working close to the site (apart from the operator and employees). There is potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months.	Site roads will be maintained free from site material. Damping down of stockpiles will be undertaken if required, during dry periods using sprinkler systems supplied by hose. The screen is fitted with a damping system which will be used if required.	Low
Local human population	As above	Nuisance - dust on cars, clothing etc. deposition	Air transport then deposition	Medium	Low	Medium	As above. Local residents often sensitive to dust.	As above	Low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Low	Low	Low	Local residents often sensitive to litter, however permitted waste types have low litter potential.	The product produced complies with BS3882:2007 for topsoil. This requires that the topsoil be free from litter. Litter control is therefore important to the process. All litter will be picked from stockpiles and disposed of in accordance with the duty of care for that waste.	Very low
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Low	Medium	Medium	Road safety, local residents often sensitive to mud on roads.	The approach to the site is on private roads, controlled by the MOD. Metalled and hard covered surfaces are maintained within the site for the loading and unloading of materials. These are maintained free from aggregates and soils from prevent materials being dragged onto the access roads.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Low	Low	Low	Local residents often sensitive to odour, however permitted waste types have low odour potential.	Materials to be processed at the site are high quality inert materials and matured compost. There is low odour potential from these materials. All properties immediately surround the site are heavy commercial with the nearest residential property being 350m away. Screening of materials is undertaken within a covered area.	Very low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Medium	Low	Local residents often sensitive to noise and vibration	Properties immediately surrounding the site are heavy commercial, nearest residential property is 550m away. Site is operated during normal working hours only. Vehicles entering and leaving the site, do so through the MOD access which is direct onto an A48.	Low
Local human population	Scavenging animals and scavenging birds	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land	Very low	Medium	Low	Permitted wastes unlikely to attract scavenging animals and birds but may become nesting / breeding sites.	Majority of waste handled is inert. Compost used is matured and does not contain foodstuffs and plant matter which would attract vermin. Food waste from the site workers is removed from site, through the MOD waste collection facility.	Very low
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Low	Medium	Low	Permitted waste types unlikely to attract pests.	As above	Very low
Local human population and local environment	Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Flood waters	Low	Low	Low	Permitted waste types are inert and non hazardous so any waste washed off site will add to the volume of the local post-food clean up workload, rather than the hazard.	Site does not sit within a Flood Risk Area. From NRW Flood Mapping, the nearest flood risk is Castrogli Brook approximately 330m to the West.	Very low
Local human population and / or livestock after gaining unauthorised access to the waste operation	All on-site hazards: wastes, machinery and vehicles.	Body injury	Direct physical contact	Very low	Low	Low	Permitted waste types are inert therefore only a low magnitude risk is estimated	Site is located on MOD controlled land. Area is securely fenced and is patrolled by security. Access is via a manned checkpoint.	Low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence ^a	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population and local environment.	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/Vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated freewater by direct run-off from site and via surface water drains and ditches.	Low	Low	Low	Permitted waste types do not include any flammable materials so a low magnitude risk is estimated.	See above. All wastes are inert, except compost which has low potential for flammability.	Low
Local human population and local environment	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or fire fighters. Pollution of water or land.	As above.	Medium	Low	Low	As above.	As above. Compost has potential to combust due to microbial action within the material but all compost imported is fully matured and is stored on small volumes. Compost stockpiles turned regularly to avoid degradation of the compost. Permitted activities do not include the burning of waste.	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Low	Low	Permitted waste types do not include sludges or liquids so only a medium magnitude risk is estimated. No point source emissions to water are permitted, but there is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain.	The site is approximately 330m to the east of the nearest watercourse (Castrogi Brook) but it is inevitable that surface water from the site will enter controlled waters. Roads up to the site are metalled and runoff from this enters site drainage. These roads are to be maintained free of site material. The majority of the site is hardsurfaced, including the storage areas. The site drainage is channelled into a silt lagoon to the south of the site, before discharging to ground.	Very low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (The residual risk will be controlled by Compliance Assessments).
All surface waters close to and downstream of site.	As above	Chronic effects: deterioration of water quality	As above. Indirect run-off via the soil layer	Low	Low	Low	Waste types are non-hazardous and inert so harm is likely to be temporary and reversible.	As above	Very low
Abstraction from watercourse downstream of facility (for agricultural or potable use).	As above	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Low	Low	Low	Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contaminated run-off.	As above. Also activities are 50 metres from any spring or well, or from any borehole not used to supply water for domestic or food production purposes or 50m from any spring or well or any borehole used for the supply of water for human consumption. This includes private water supplies	Very low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (The residual risk will be controlled by Compliance Assessment).
Groundwater	As above	Chronic effects: contamination of groundwater, requiring treatment of water or closure of	Transport through soil/groundwater then extraction at borehole.	LOW	LOW	LOW	Permitted wastes unlikely to contaminate groundwater.	As above	Very low
Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro-intestinal illness.	Direct contact or ingestion	LOW	Medium	LOW	Unlikely to occur, but might restrict recreational use.	SR - Emissions of substances not controlled by emission limits (excluding odour and noise) shall not cause pollution. The operator shall not be taken to have breached this rule if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions. SR (if required) - emissions management plan.	Very low

Data and Information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
<p>What is at risk? What do I wish to protect?</p>	<p>What is the agent or process with potential to cause harm?</p>	<p>What are the harmful consequences if things go wrong?</p>	<p>How might the receptor come into contact with the source?</p>	<p>How likely is this contact?</p>	<p>How severe will the consequence be if this occurs?</p>	<p>What is the overall magnitude of the risk?</p>	<p>On what did I base my judgement?</p>	<p>How can I best manage the risk to reduce the magnitude?</p>	<p>What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).</p>
<p>Protected sites - European sites and SSSIs</p>	<p>Any</p>	<p>Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.</p>	<p>Any</p>	<p>Medium</p>	<p>Medium</p>	<p>Medium</p>	<p>Waste operations may cause harm to and deterioration of nature conservation sites. The Dinham Meadow SSSI is adjacent to the site to the west. This is part of a cluster of 5 limestone grassland fields which are also designated for dingy skipper, grizzled skipper and hornets robber-fly.</p>	<p>The site is immediately adjacent Dinham Meadows SSSI. The SSSI is designated predominantly for its habitat and invertebrate value and is currently managed as a hay meadow i.e. 1-2 hays cuts taken annually with the disturbance associated with this. The site will not conduct operations which pose a threat to this SSSI, as outlined in the station attached. The site is not within 50 metres of a National Nature Reserve (NNR), Local Nature Reserves (LNR), Local Wildlife Site (LWS) or Scheduled Ancient Monument.</p>	<p>Low</p>
<p>Protected Species Any</p>	<p>Any</p>	<p>Harm to protected species through plant movement, ground disturbance, toxic contamination, nutrient enrichment, predation etc.</p>	<p>Any</p>	<p>Low</p>	<p>Low</p>	<p>Medium</p>	<p>Waste operations may cause harm to protected species in the vicinity of the site. There is historical data which suggests that there is a great crested newt presence within 500m of the site.</p>	<p>Although Great Crested Newts have been found in the greater area, no presence has been noted within the immediate vicinity of the site. As a precaution, a cautionary approach will be adopted for all material movements. Site employees will be briefed on GCN identification during toolbox talks. If any newts are identified during the course of the works, that activity will cease immediately. Consultation will be undertaken with an ecologist holding a Great Crested Newt European Protected Species</p>	<p>Low</p>

Notes: Red triangle indicates comment containing supporting information
 Yellow columns contain drop down menus that allow automatic evaluation of risk in green column