Site Specific Odour Management Plan – Login Farm

STEPSIDE AGRI CONTRACTORS
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Applicant: Stepside Agricultural Contractors
Permit: SR2010 No4: mobile plant for land-spreading
Permit number: EPR/AB3891CX

Farm address:
Login Farm, Ferwig, Cardigan, Ceredigion, SA43 1RU - Holding No. 55/226/0011

Wastes to be applied:

Waste Code	Waste Description	Physical Form	Waste Producer
02 05 02	Waste from the dairy products industry – sludges from on-site effluent treatment	Liquid sludge	Volac, Felinfach
19 09 02	Sludges from water clarification	Liquid sludge	Dwr Cymru Welsh Water Bolton Hill WTW, Haverfordwest

Aim:

To identity potential sensitive receptors to odour near the spreading areas, sources of potential odour generation, factors affecting odour, measures to reduce odour generation, odour monitoring & actions should any odour complaints be received.

Operations will be overseen by the technically competent manager / nominated competent person and all personnel will receive training relevant to their role prior to commencing operations.

Operation description:

The liquid wastes are delivered by HGV road tankers which are then discharged into a temporary field nurse tank ('holding tank') at the deployment site. The wastes aren't mixed and are spread on separate fields. Each liquid waste is spread from a nurse tank onto the deployed fields at the required timings as stated in the deployment agricultural benefit statement. This is done by either umbilical method with the liquid delivered to tractor in deployed fields pumped through hose and spread by trailing hose applicator ('dribble bar'), or a shallow slot injector mounted onto the back of the tractor, or a tractor and vacuum tanker with trailing hose applicator ('dribble bar') or shallow slot injector. The trailing hose applicator (dribble bar) places the liquid in bands onto the surface of the ground whereas the shallow slot injector places the liquid under the surface. Both spread methods are effective in limiting odour generation & nutrient losses associated with higher trajectory spread methods such as splash plate. Application rates are stated in the agricultural benefit statement. Spreading is undertaken with the use of flow meters to ensure correct rates are applied.

Odour potential of waste being applied:

The Volac, Felinfach liquid sludge from dairy waste treatment has moderately offensive odour and the potential to cause odour generation.

The Dwr Cymru Welsh Water Bolton Hill WTW, Haverfordwest liquid water clarification sludge has little detectable odour and is highly unlikely to cause any odour generation as a result.

Potential sensitive receptors to odour near the spreading areas:

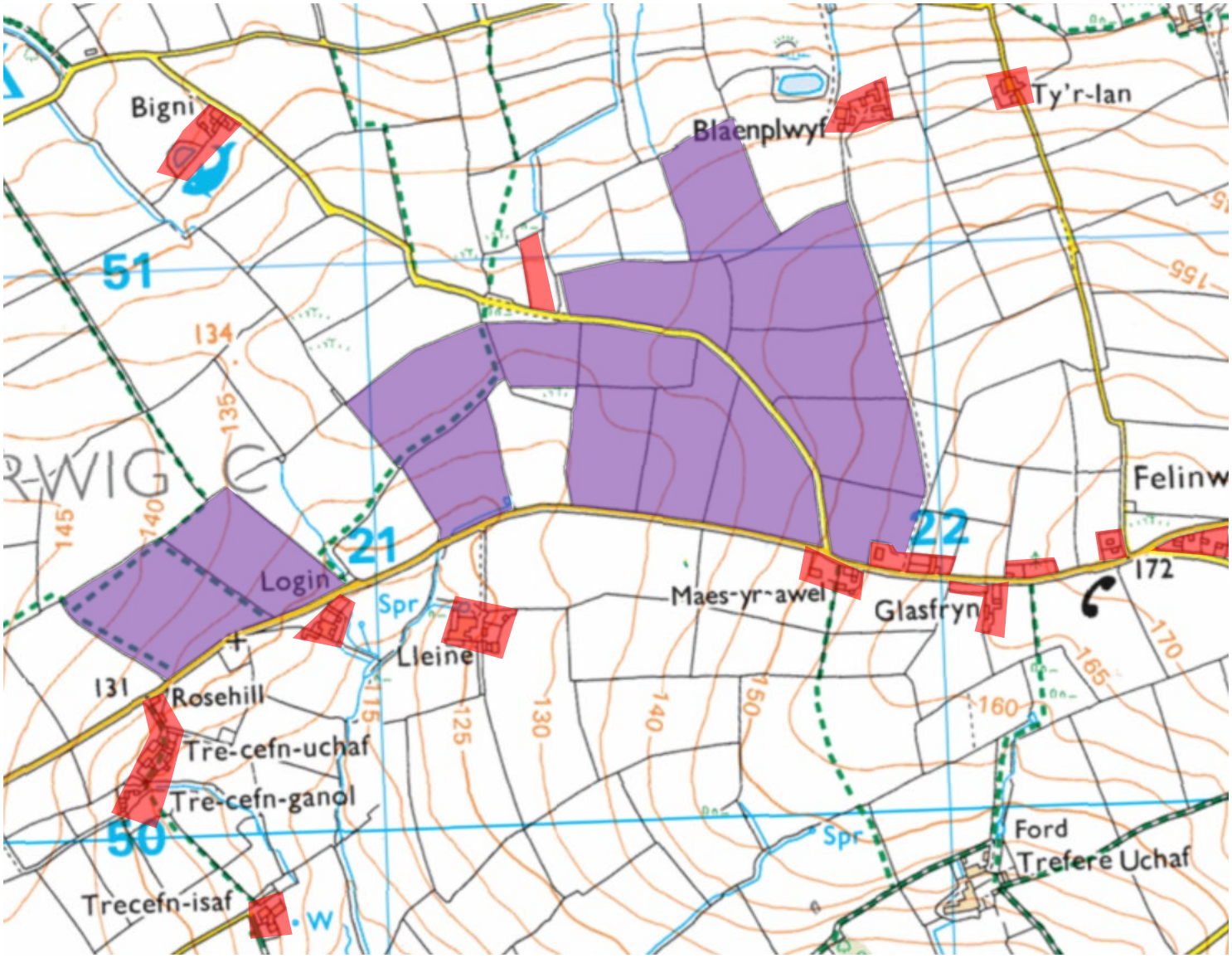
Deliveries to site are made in sealed articulated tankers so there is very little potential for any off site odour during delivery until the wastes reach the deployment area to be spread or are placed into temporary storage awaiting spreading. Temporary storage is in sealed, vented nurse tank locations at the spreading area. There are a number of dwellings & a recreation site (fishery) within 500 metres of the spreading area, public footpaths through some fields and nearby to the spreading area. The locations of these potential sensitive receptors have been identified on the below map.

Map Key

	Location of Fields
	Potential Sensitive Receptors to Odour Within 500 Metres of Fields – Dwellings, Places of Work, Recreation Sites
	Public Foot Paths

Farmer: Alistair Sibley
Map Grid Ref: SN 21217 50714
Farm ID: Login Farm
Farm Post Code: SA43 1RU

Login Farm – Potential Sensitive Receptors – Odour – Map



Sources of potential odour generation & control measures:

Delivery

Any odour issues generated by the delivery operation will be of a transient nature as the vehicles will be passing sensitive receptors. Deliveries to site are made in sealed articulated road tankers which is very effective to control any odour. As a result there is very little potential for any off site odour during delivery until the wastes reach the deployment area to be spread or are placed into temporary storage awaiting spreading.

Unloading / Storage / Loading

There is potential for odours to be generated during the transfer of Volac liquid waste from the HGV road tankers into a nurse tank. These odours are generally short lived as once the actual operation involving the transfer of the materials has been completed it is unusual for the temporary storage in the nurse tank to generate odours as the tank is sealed and the waste is usually in the tank only for very short period before being spread. Transfer of liquid waste is carried using suction pipe connected between the HGV road tanker and the outlet valve on the nurse tank ensuring loading remains a sealed transfer reducing potential odour. During decoupling there is the potential for odour release although this is only for a very short time and is likely to dissipate very quickly.

Control of odour from the temporary nurse tank storage can be achieved by ensuring that the wind during filling or emptying is away from the nearest identified sensitive receptors. The rate of odour transmission falls by almost an inverse square with distance i.e. doubling the distance from a receptor decreases the odour impact by almost a factor of four. Temporary storage periods and quantities will also be kept to as short as possible to reduce any potential for odour.

Loading of the temporary stored liquid waste prior to the material being spread will potentially increase the amount of odour generated. Although the loading operation is of a limited duration, odour emissions may increase compared to an undisturbed store. Where spreading is carried out with umbilical method, the liquid is delivered to tractor in deployed fields pumped through hose ensuring a closed transfer system to control any odour from transfer. If spreading is carried out by tractors and vacuum tankers, suction pipe is connected between the vacuum tanker and the outlet valve on the nurse tank ensuring loading remains a sealed transfer reducing potential odour. During decoupling there is the potential for odour release although this is only for a very short time and is likely to dissipate very quickly.

Where possible, and especially in sensitive locations, unloading, temporary storage and spreading operations should be avoided on hot summer days. Odours are more noted on these days as the heat increases the rate of evaporation and volatilisation of odorous compounds increases and therefore the transmission of odoriferous compounds through the air also increases. In addition, warm days encourage people to be more likely to be outside or have windows open and therefore be more likely to be impacted by any odours.

Spreading

This part of the operation has the greatest potential to lead to odour generation and any odour derived complaints. The method of operation, itself dictated by cropping, crop nutrient requirements & soil type and ground conditions can have the most direct effect on control of odour emissions. Spreading method for both wastes is by either umbilical method with the liquid delivered to tractor in deployed fields pumped through hose and spread by trailing hose applicator (‘dribble bar’) mounted onto the back of the tractor, or a tractor and vacuum tanker with trailing hose applicator (‘dribble bar’). A shallow slot injector may be used instead for the grass fields if grass growth dictates it’s a more suitable spread method at specific timing and ground conditions are suitable for use. The trailing hose applicator (dribble bar) places the liquid in bands onto the surface of the ground whereas the shallow slot injector places the liquid under the surface. Both spread methods are effective in limiting odour generation & nutrient losses associated with higher trajectory spread methods such as splash plate. Applied liquid waste should be soil incorporated as soon as practicable following spreading and within 24 hours where cultivation is to follow spreading. A complete or near complete covering or inversion is achieved which provides good coverage of soil thus preventing any continuing emission of odour from the spread liquid waste.

Spreading of the Volac liquid waste should take place when the wind is blowing away from the nearest sensitive receptors and particularly hot days should be avoided whilst spreading. The application of waste is co-ordinated with local weather forecasts and in line with guidance from the Code of Good Agricultural Practice.

High work rates enable the liquid waste (particularly the more potentially odorous Volac liquid waste) to be applied when the 'weather window' is favourable i.e. the wind is blowing away from nearby sensitive receptors. Depending on operational factors, liquid waste can be spread at rates more than 1000 tonnes per machine per day.

Factors affecting odour:

Several factors can impact the risk of odour. These include the distance of sensitive receptors from the spreading area, time of spreading, wind direction, topography, temperature and weather conditions, duration of operation, size of area spread & quantity spread.

The distance of the sensitive receptors from the area being spread has one of the greatest potentials for the risk of odour with odour risk reduced the further the sensitive receptors are from the area being spread. Ensuring spreading is only undertaken near any sensitive receptors when conditions are suitable, and when the wind direction is away from the sensitive receptors will reduce odour risk.

Daily and weekly weather forecasts will be used to help reduce the impact of odours to sensitive receptors and ensure spreading is undertaken under suitable conditions. Should wind direction alter and pose greater risk of odour to nearby sensitive receptors spreading may have to stop until conditions and wind direction alter if odour is offensive.

The size of the surface area spread can lead to greater risk of odour due to larger surface area for potentially odour emitting waste. Odour emissions are reduced by controlling the area of material exposed to the atmosphere during spreading through spread methods used – placement in bands on the surface of the ground by trailing hose applicator (dribble bar), sub surface injection with shallow slot injector, or by post application soil incorporation where fields are to be cultivated. The duration of the operation will be reduced as much as possible through high work rates & the low trajectory spread methods implemented will control and reduce odour emissions compared with other methods. Where cultivation is to follow spreading, soil incorporation of applied liquid waste as soon as practicable following spreading and within 24 hours will prevent any continuing omission of odour. Spreading on weekends and bank holidays will be avoided where possible and avoiding periods of warmer weather as there is likely to be greater risk with more people at home or outdoors.

Odour Monitoring:

Stepside Agricultural Contractors will also carry out monitoring of odours in the area around the site to help detect any off-site odours and identify the causes and any suitable action that needs to be taken. This monitoring will be based on the 'sniff test' at various locations around the site following format as in the Stepside Agricultural Contractors land- spreading environmental management system. Odour monitoring will be carried out by a person or persons who has not been working on site within the preceding 2-hour period to avoid undue influence from odour 'habituation'.

There will be three possible evaluations:

1. No odour perceptible. No action required.

2. Slight odour perceptible. Check the area to determine the potential source. This is followed by a second odour estimation and a log of the odour incident and if any remedial action is required.

3. Perceptible odour. Immediate notification to TCM followed by site & boundary checks to determine whether the odour is from spreading area or an external source. An odour report form will be completed and appropriate remedial action will be undertaken and reported.

A full upwind and downwind assessment will be carried out as soon as practicable at any time when local residents, other receptors or NRW telephone or make contact about off-site odours. An odour complaint form is also completed.

Further Actions:

Deliveries and spreading will be stopped if the measures in place do not control off-site odours satisfactorily and are causing odour nuisance to sensitive receptors. Stepside Agricultural Contractors will endeavour to update residents or relevant persons at the sensitive receptor location as soon as possible. Spreading operations will not start again until the cause of the odour issue has been mitigated or the weather conditions giving rise to the odour issue have altered.

This site-specific odour management plan will be implemented in conjunction with the Stepside Agricultural Contractors land-spreading environmental management system.