

Pembrokeshire Good Practice Guidance: Slurry Stores



Asiantaeth yr
Amgylchedd Cymru
Environment
Agency Wales



Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

Parc Cenedlaethol Arfordir Penfro
Pembrokeshire Coast National Park



This guidance has been produced with the support of ADAS, Countryside Council for Wales, Farmers Union of Wales, National Farmers Union, Pembrokeshire Coast National Park Authority and Pembrokeshire County Council with particular thanks to Mr Chris James and Mr David James.

Authors :Ged Davies and Brian Klass
Environment Agency Wales
January 2013 version 1.0

1 Introduction

This document represents a collaboration between organisations and people who live and work in Pembrokeshire.

It provides a consensus of what can be done to help larger numbers of farmers improve their slurry management practices. This is important so that farming practices support the needs of Pembrokeshire as a whole. Critical to achieving this aim is collaborative working with the agricultural and land management sectors to maximise the opportunities offered by sustainable agriculture in helping deliver improved farm business, environmental and social outcomes.

It is a model for working together.

We want the economy of Pembrokeshire to thrive. Agriculture supports over 10% of all full time employees in Wales. The sustainability of rural communities is very dependent on the agricultural and forestry sectors. We value our landscape, farmed land, protected habitats and the amenities that we and the visitors to our County enjoy.

It is through the willingness to seek shared solutions that we can resolve potentially conflicting activities. By the right people coming together to work through a challenge we can ensure our economy prospers in an environment that is valued and rich, now and in the future.

John Hogg

Environment Manager.

Environment Agency Wales

2 Purpose of this guidance

This guidance is designed to help Pembrokeshire farmers make good quality planning applications and help planners and their statutory consultees make informed and timely decisions.

3 Farming Pressures

The economics of modern farming encourages increasing herd sizes requiring additional or improved slurry and manure stores.

There is a legal obligation for Pembrokeshire's rivers and streams to achieve Good Ecological Status. Farming contributes 60% of the Nitrates, 25% of the Phosphates and 70% of the sediments to the waters in Wales. Turning to Pembrokeshire, without improvements to reduce nutrient loss into our water environment, it is likely that additional statutory Nitrate Vulnerable Zones will be introduced. This would force many farms to invest in new, larger slurry stores.

Nutrient enrichment of many of Pembrokeshire's rivers and streams puts additional pressure on dairy and beef farmers to reduce their impact on the environment through better management of slurry production, storage and spreading.

Improvements fall into three categories:

- Increased storage to comply with a minimum 4 months requirement, (under the Silage, Slurry and Agricultural Fuel Oil Regulations 2010) where there is no increase in slurry production.
- Increased storage to comply with a minimum 5 months requirement, (under the Nitrate Pollution Prevention (Wales) Regulations 2008) in Nitrate Vulnerable Zones where there is no increase in slurry production.
- Where a herd size increases or where the quantity of slurry produced is increased beyond the current storage available.

4 Benefits of New or Improved Slurry Storage

4.1 Slurry and manure are a source of valuable nutrients essential for crop needs. A well designed slurry system can help maximise these benefits.

4.2 New larger stores can bring significant benefits to the farmer and better protect the environment. Slurry can be stored safely until conditions are right for spreading. These would include times of crop need and avoidance of wet weather and sensitive times to neighbours.

4.3 New stores are often larger than existing ones simply to reflect the legal requirements for freeboards which help protect against risk of catastrophic collapse, or overflow. In the case of earth-banked stores an additional freeboard of 750mm must be provided and not compromised on any occasion.

4.4 Good slurry management greatly assists in properly utilising the fertiliser value of the slurry, so reducing the dependency on man-made fertilisers (usually fossil fuel based) and encouraging safer spreading practices, to the benefit of local communities. It can also reduce the loss of micro organisms prevalent in slurry, into water, particularly helping safeguard local bathing waters, water supplies, shellfish beds or recreational waters, which are extremely valuable to local economies.

5 The Planning System

5.1 The planning process exists to make sure that proposed development is suitable in terms of land use, scale and impact of development.

5.2 Slurry stores can be large civil engineering projects, covering large areas, visible in the landscape and generating significant volumes of traffic. Slurry by its nature can be a pollutant causing damage to streams and rivers, and nuisance to neighbours. Ammonia emissions can impact on sensitive lichen communities or any nearby Sites of Special Scientific Interest or Special Areas of Conservation and can give rise to odour concerns.

5.3 All planning applications require some basic information on land use, location, and type of development, scale and appearance. Your Local Planning Authority will have general guidance on completing a planning application. The Planning Portal (planningportal.gov.uk) also contains useful guidance.

6 Making Your Application

- 6.1 Pre- application advice will be available from your Local Planning Authority, Environment Agency Wales and Countryside Council for Wales. We encourage early pre-application discussions.**
- 6.2 It is important that your application makes clear whether you are increasing the amount of slurry produced or whether you are improving existing facilities.
- 6.3 In all cases the siting of the store is critical. Practical consideration should be given to issues such as gradients and distances to fields, distance from neighbours, watercourses, ecologically sensitive sites as well as potential impact on landscape.
- 6.4 If the proposed development is over 200 metres from a neighbouring residential property or protected building the need for a lagoon cover or other management intervention to deal with flies and odours is less likely; within 200 metres, a specific Odour Management plan may be required. Your local Environmental Health Officer will be able to provide site specific advice.
- 6.5 Advice is available on the Countryside Council for Wales website on locations of any designated protected areas. These will detail the management actions required to keep the sites in favourable conservation status and may be relevant to your application. These can include aerial emissions such as ammonia.
- 6.6 Slurry store construction is also subject to the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010, enforced by the Environment Agency. The regulations set minimum design and construction standards for slurry stores. Stores must not be sited within 10m of a watercourse and require written notification to the Environment Agency before systems are used. Details of the design and construction of lagoons and any requirement for leak detection systems will be addressed by the Agency.
- 6.7 When making an application involving an increase in slurry production it is recommended that additional information in the form of a whole farm plan is included in the design and access statement to address particular issues identified from pre-application discussions. This additional information would include how manure and dirty water is to be managed.

- 6.8 The balance between the amount of manure produced and the bank of land available on farm or off farm to you, must demonstrate the requirement for manure/slurry as a fertilizer. Any plan able to show the application of less than 250 kilogrammes of Nitrogen per hectare of organic manure would be evidence of good practice and show the operation to be one of agricultural beneficial use of manure/slurry and not waste disposal.



Earth bank lined slurry lagoon

- 6.9 The whole farm plan should deal with the production of slurry, demonstrating how the separation of clean and dirty water and reduction of dirty yard surface areas will attempt to minimise ammonia releases and slurry volumes.
- 6.10 Surface areas may need to be calculated to demonstrate the source of ammonia emissions, including the store, and any control measures such as encouraging crusting and avoiding stirring, need to be described.

- 6.11 The plan should reference best practice methods of slurry application demonstrating in sensitive areas how odour and run off will be avoided.



Slurry injector

- 6.12 You may be able to highlight environmental benefits from your scheme by for example restricted hedge trimming around the vicinity of the lagoon to not only screen the development but to aid ammonia dispersion. The creation of wetland areas to intercept clean roof drainage would be an example of a net environmental benefit of a scheme.
- 6.13 Development of an Environmental and Accident Emergency Plan, see 7.4, may provide further confidence in the management of the proposed development and any potential impact. This could be required by condition of planning consent in particularly sensitive areas.

7. Useful Information:

7.1. Whole Farm Plan

A Whole Farm Plan should include the following information:

- Farm stocking density and cropping including any proposed increase in livestock numbers associated with the planning application.
- The quantity of farm effluents and manures along with any imported farm or industrial organic manures, or sewage sludge.
- The land area available for spreading manures with associated risk map showing the risks of run off from spreading. These are maps already produced as part of Manure Management Plans for Farm Assurance purposes, or milk buyers. This should include all areas of land within the main holding and any additional rented land.
- Present farm effluent management system and slurry application methods.
- Present winter storage capacity (in months) and proposed increase in slurry storage capacity to comply with or exceed the 4 months winter storage as required by the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010 or the 5 months storage required under the Nitrate Pollution Prevention (Wales) Regulations 2008.
- Areas exposed to slurry such as open yards where ammonia can be generated and any reductions resulting from the proposed farm improvements.

7.2. Best practice methods

An Inventory of Mitigation Methods and Guide to their effects on Diffuse Water Pollution, greenhouse Gas Emissions and Ammonia Emissions from Agriculture. DEFRA project WQ0106



Slatted Floor System



With Under Floor Storage

7.3. Odour Management Plan

An Odour Impact Assessment may be necessary to establish the potential implication of odour generated from the storage of slurry and manure upon neighbouring residential or protected properties. The assessment would detail the following;

- a. Level of odour generated by a slurry and manure storage facility as the odour emission rate of OUE $\text{m}^{-2}\text{s}^{-1}$ (odour units per square metre per second).
- b. Local meteorological data with particular reference to wind direction.
- c. Distance and orientation to neighbouring amenity areas.
- d. Production of modelled odour levels at neighbouring amenity areas at the 98th percentile odour level (OUE m^{-3}) in relation to an odour assessment criterion of 3 OUE m^{-3} .

7.4. Environmental and Accident Emergency Plan

The Welsh Government Code of Good Agricultural Practice identifies the requirements of a plan for dealing with any incidents. Such a plan should include a contact list, including emergency services, regulators, water company, contractors and any downstream abstractors and users.

There should be a site plan showing layout, access and drainage arrangements for the farm including the location of any streams, ditches, springs, wells and boreholes.

The location of holding facilities that can be used during an emergency along with identification of points where drains and ditches could be plugged or blocked temporarily and any low risk land.

The Code of Good Agricultural Practice for the Protection of Water, Soil and Air

The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010

Nitrate Pollution Prevention (Wales) Regulations 2008

Useful contacts

Pembrokeshire Coast National Parks Authority
National Parks Offices
Llanion Park
Pembroke Dock
Pembrokeshire
SA72 6DY

Telephone 0845 345 7275
Email: info@pembrokeshirecoast.org.uk
Website: www.pembrokeshirecoast.org.uk

Pembrokeshire County Council
County Hall,
Haverfordwest,
Pembrokeshire,
SA61 1TP.

Telephone: 01437 764551
Email: enquiries@pembrokeshire.gov.uk

Countryside Council for Wales
Llanion House
Llanion Park
Pembroke Dock
Dyfed
SA72 6DY

Telephone: 01646 624000

Environment Agency Wales
Llys Afon
Hawthorn Rise
Haverfordwest
Pembrokeshire
SA62 2BQ

Telephone 01437 783033 or 783037

From 01 April 2013, Natural Resources Wales (NRW) will take over the functions currently carried out by the Countryside Council for Wales, Forestry Commission Wales and the devolved functions of Environment Agency Wales. We will let you know before that time if your point of contact will change.

Farmer Union of Wales
3 North Street,
Haverfordwest,
Pembrokeshire,
SA61 2JE.

Telephone 01437 762913

National Farmers Union
Winch Lane
Haverfordwest
Pembrokeshire
SA61 1RW

Telephone 01437 763379

ADAS
Cefn Llan
Science Park
Aberystwyth
Ceredigion
SY23 3AH

Telephone 01974 847000 or 01437 532280

From April 1 2013

Date for revision January 2015

Pembrokeshire Good Practice Guidance: Slurry Stores January 2013