

FARMING & WATER SCOTLAND



Slurry and Manure Storage

Slurry and manures are a valuable source of nutrients on the farm but need to be handled and managed carefully to ensure no pollution occurs.

Farms which produce slurry **must** have adequate facilities and management in place to collect, store and manage the slurry. Dairy farms **must** ensure that dairy washings and parlour drainage are collected and contained within the farm slurry storage system.

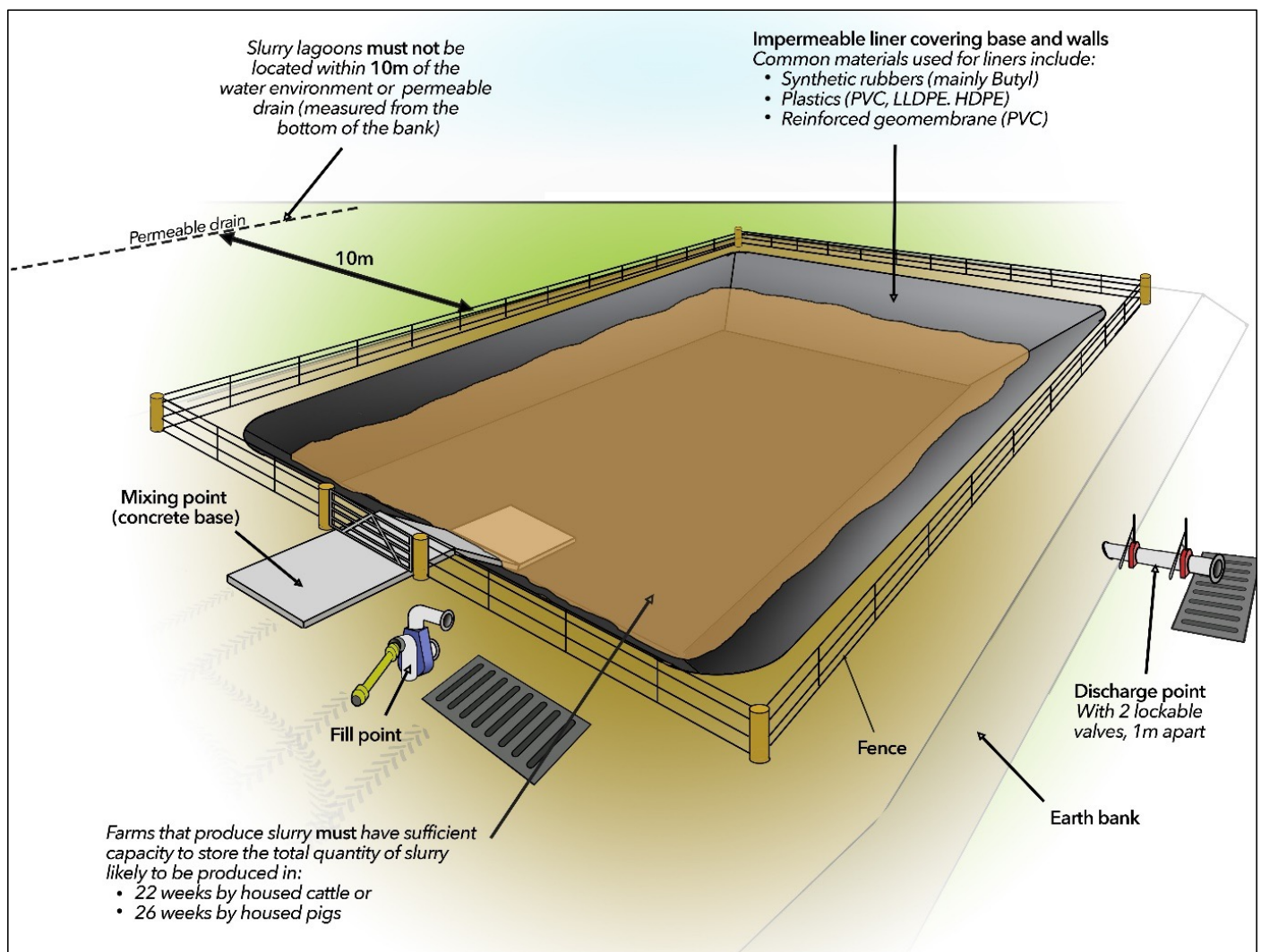


Figure 1.1 Slurry storage lagoon.

Slurry Storage Capacity

Farms which produce slurry **must** have sufficient capacity to store the total quantity of slurry likely to be produced in:

- 22 weeks by housed cattle, or
- 26 weeks by housed pigs.

This calculation **must** also include any rainfall entering the system, including from middens, dirty yards or silage pits, any dairy or parlour washings and any imports or exports of slurry during the 22- or 26-week housing period (Table 1.1).

All farms located outside the NVZ areas must comply with the minimum storage capacity requirement by 1 January 2026.

Certain types of slurry, which consist mainly of rainwater and washings can be conveyed to a constructed farm wetland (CFW) for treatment.

The Constructed Farm Wetland Know the Rules Factsheet 5 gives details of types of run-off, which may be conveyed to a CFW.

*Table 1.1 – How to calculate your storage capacity requirements
(22 weeks housed cattle / 26 weeks pigs).*

<div>Minimum storage capacity</div> <div>=</div> <div>Slurry produced directly from housed livestock</div> <div>+</div> <div>Rainfall entering system</div> <div>+</div> <div>Run-off from dirty yards, middens, silage pits etc</div> <div>+</div> <div>Washings from livestock yards or buildings</div> <div>+</div> <div>Any imports of slurry</div> <div>-</div> <div>Any exports of slurry</div>	<div>Use standard figures for slurry production per animal (see NVZ guidance Section 5 Manure Planning Part 2: Livestock Manure Storage)</div> <div>Scottish Rainfall Data – select closest location on map and use monthly mean data from line graph.</div>
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Slurry Storage Systems

All structures and slurry storage systems used to store slurry **must**:

- be maintained to ensure they are kept free from any structural defects.
- be fit for purpose and meet a minimum level of structural integrity such that;
 - the base and walls of any channel, reception pit, the walls of any pipe and the base of any tank are impermeable.
 - the walls of any tank are impermeable unless the base of the tank extends beyond its walls and has channels to collect and transfer any escaped slurry to a slurry storage system.
 - where slurry flows into a channel before discharging into a reception pit and is controlled by a sluice or valve, the reception pit has adequate capacity to contain the maximum slurry that can be released by opening the sluice or valve.
 - the capacity of any facility used to temporarily store slurry before transferring to the slurry tank the equivalent of at least 1.5% of the minimum farm storage capacity.
 - where the slurry storage tank is fitted with a drainage pipe, there are 2 valves fitted in series that are to be kept locked shut when not in use.
 - earth bank lined lagoons maintain a minimum freeboard of 750 mm and all other slurry tanks maintain a minimum freeboard of 300 mm (Figure 1.2).

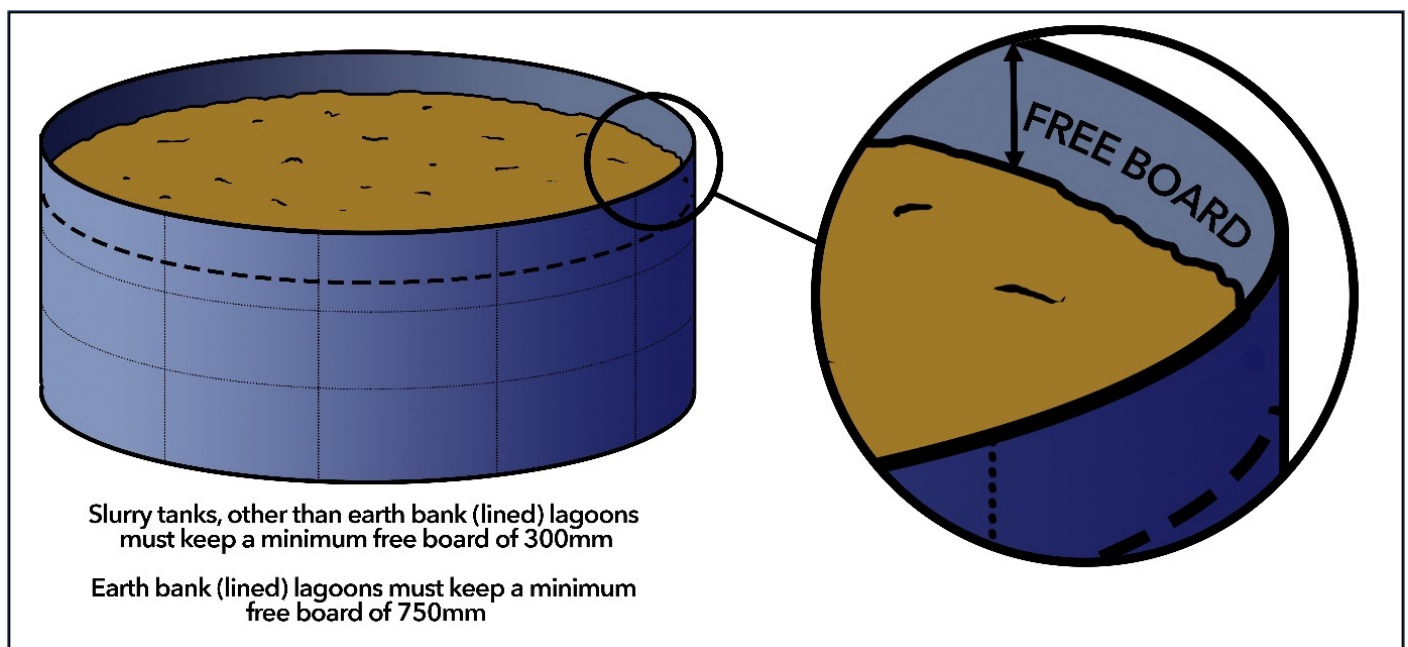


Figure 1.2. Slurry storage freeboard requirement.

Existing slurry storage systems constructed prior to September 1991 **must** meet the above requirements by January 2026.

Existing slurry storage systems constructed or altered after September 1991 **must** meet the above requirements and the relevant British Construction Standards by January 2024 (Table 1.2).

New/altered slurry storage systems

If you are planning to install a new slurry storage system or substantially reconstruct or enlarge any existing system you **must**:

- consult with a suitably qualified engineer and have an engineering plan available for the proposed works.
- notify and provide SEPA with the engineering plan at least 30 days prior to any work starting.
- retain the engineers final sign-off certificate for the works for the life of the structure.

Any slurry storage system constructed or substantially reconstructed or enlarged after 1 January 2022 must:

- have a life expectancy of at least 20 years with proper maintenance, and
- where the walls are made of earth be lined with an impermeable sheet material with a design life of 20 years with proper maintenance.
- be situated at least 10 metres from any surface water or surface water drain.

Slurry bags

Where slurry is stored in a slurry bag it **must** be constructed of impermeable material of sufficient strength and integrity to ensure it does not burst or leak.

The slurry bag **must** be situated within a bund that:

- has a capacity of at least equivalent to that of the slurry bag.
- is lined with an impermeable sheet material with a life expectancy of 20 years with maintenance.
- has a mechanism to remove rainwater from the bund.
- is not penetrated by any valve pipe or other opening other than as necessary to remove rainwater.

Field heaps

Where field heap middens are used, they **must not** be located on land that is:

- within 10 m of any surface water, wetland or shoreline.
- within 50 m of any spring that supplies water for human consumption or any uncapped well or borehole.
- waterlogged.
- sloped, unless a sufficient buffer zone is provided to prevent any contaminated run-off entering nearby surface waters, or
- has an average soil depth of less than 40 cm over gravel or fissured rock.

Table 1.2. Transitional periods for slurry storage systems – what you have to do by when.

Activity	Key Date
SEPA must be notified 30 days before work starts on any new, reconstructed, or substantially enlarged slurry storage facility.	1 January 2022
Slurry stores with planning permission granted prior to 1st January 2022 but not yet constructed must be fully compliant by 2024.	1 January 2024
Slurry stores built after 1991 (or that were substantially reconstructed or enlarged on or after 1st Sept 1991) must make any upgrades to be structurally compliant by 2024.	1 January 2024
Slurry stores built before 1991 (and not substantially enlarged or reconstructed since 1991) must be fully compliant by 2026.	1 January 2026
Farms which produce slurry must have sufficient capacity to store the total quantity of slurry likely to be produced in 22 weeks by housed cattle or 26 weeks by housed pigs.	1 January 2026 (outside NVZ)

Definitions:

Beef Livestock Units – For the purpose of these rules, in calculating beef livestock units, an animal of 2 years and older is 1 unit and an animal under 2 years is 0.5 of a unit. In general, the calculation should be based on the number of beef animals present on the 1 March and declared on the annual IACS form submitted to RPID annually.

Constructed Farm Wetland – A series of ponds for the treatment of lightly contaminated surface water, which have been constructed in such a manner that any discharge from the ponds does not pollute the water environment.

Freeboard – The distance from the level of the slurry to the top of the storage structure.

Impermeable Sheet Material – means:

- synthetic rubbers, EPDM (ethylene propylene diene monomer rubber) and butyl,
- plastics, including polyvinyl chloride, low density polyethylene and high-density polyethylene, and
- reinforced geomembranes

Livestock – Any animal kept for use or profit as part of a commercial enterprise.

RAMS – Risk Assessment for Manure and Slurry map showing no-spread, high, medium and low risk sites for organic fertiliser application.

Slurry – Excreta, including any liquid fraction, produced by livestock whilst in a yard or building. This includes any mixtures of excreta with bedding, feed residues, rainwater and washings from dungsteeds, middens and any buildings or yards used by livestock.

Slurry Storage Systems – A slurry storage tank, any reception pit or effluent tank used in connection with the slurry storage tank and any channels and pipes used in connection with the storage tank, reception pit or effluent tank.

Slurry Storage Tank – A lagoon, pit (other than a reception pit) or tower used for the storage of slurry.

Surface Water – All standing or flowing water on the surface of the land, transitional water and coastal water.

