



Hawes Associates

11 Church Walk, Aldeburgh, Suffolk, IP15 5DU



January 9, 2015

Langmead Farms Ltd.

Ham Farm

Bosham

Chichester

West Sussex PO18 8EH

Attn: Emma Randall.

Dear Emma,

Bilsham Reservoir, West Sussex – Planting schemes.

Thank you for providing the reservoir landscape proposals detailed in Drawings No. LLD 249/01 dated 08.09. I have set out below my concerns with regard to the proposed planting at the reservoir, we discussed these briefly over the telephone.

1975 Reservoirs Act.

The Bilsham reservoir falls within the Ambit of the above 1975 Reservoirs Act, as such it is subject to statutory annual inspections and regular re Certification. The Act deals exclusively with reservoir safety. Amendments to the Act will shortly result in all recommendations made by both the Supervising Engineer and the Inspecting Engineer becoming mandatory.

Reservoir embankments.

The reservoir embankments are an essential structural element, ensuring the water can be safely retained above the surrounding land. It is of paramount importance that the reservoir banks are stable and that they can be easily inspected for signs of leakage, instability and burrowing animals.

A reservoir embankment may also be required to “overtop” in extreme situations, this will result in water running down the outer embankment slopes (ref. CIRIA report 116).

Recommendations for reservoir bank planting.

This particular reservoir has a welded plastic liner so it is important that burrowing animals and indeed gnawing animals are kept away from the reservoir banks to avoid puncturing the membrane which would soon result in serious leakage as the water retained has the ability to dissolve the chalk fill embankments resulting in internal erosion.

Any tree or shrub growth can obscure the embankment which makes effective inspection impossible. Trees and shrubs also prevent the development of an effective grass sward which is required to prevent erosion in overtopping situations. The grass should be kept as short as is practical to allow slippage and leakage features to be visible.

Andrew Hawes

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FGS CEng MICE Supervising Panel 1975 Reservoirs Act

Long term the damage from trees can be more severe with root damage causing desiccation of the embankment core and should the tree be toppled in high winds a large hole can be removed from the embankment as the root ball is pulled free.

Conclusion.

The reservoir banks, that part of the reservoir constructed from fill material above the natural ground level, should be well grassed, no trees or shrubs should be planted or indeed allowed to self seed.

Adjacent to the reservoir on the natural ground surface trees and shrubs can be planted but thought should be given to vermin control and up keep of the rabbit proof fence surrounding the reservoir banks.

Yours sincerely



Andrew Hawes