

Kindling Farm application for water storage tanks for crop irrigation – further information

Agricultural need for the tanks:

This proposal is for 3 water storage tanks, each with the capacity to store 1 million litres of water. The tanks would be 18 metres diameter and 4.5 metres high and would cover a total ground area of 762 metres.

The water storage tanks are for agricultural use and would be essential for our production of vegetables and fruit in an agroforestry system.

The success of this is dependent on our ability to irrigate the crops, which would not be financially possible at this scale using mains water. We had planned to apply for a water abstraction licence for this purpose, but were informed by the environment agency that the aquifer in this area (Halewood Groundwater area) is currently closed to new applications. There is a review taking place, so we may be able to secure a licence in the future, but we have been told that the review is likely to take 2 years and a licence would not be guaranteed at the end of it.

We have explored the possibility of water trading (paying someone with a current water abstraction licence) but the licensees (United Utilities and Everton Football Training ground) are using their licenced amount so this is not possible. Other local farmers we've spoken to haven't needed a licence as they produce animal feed and potatoes for crisps which have minimal irrigation requirements (they are all very supportive of our plans to produce fresh local food and looking forward to being able to eat it!).

We have sought professional advice from experienced fruit and vegetable growers as to the alternatives to having a water abstraction licence.

We have been advised that we need to be prepared for the worst case scenario - which would be no or very little rain at planting time and during the summer months (the advice being from April/May to July/August - 18 weeks) and we need to store enough water to keep the field scale crops lightly irrigated throughout this time to prevent crop failure.

The amount calculated and advised for our irrigation needs in this worst case scenario was 3 million litres. This is to produce vegetables on an initial 12 hectares of our land plus polytunnel growing.

To produce the seedlings for the fieldscale production and to extend the growing season we will need some polytunnel growing, which will need daily irrigation. We will be applying for planning permission for the polytunnels once we know if we have permission for the tanks which will enable irrigation (as there is no point applying for tunnels if we can't irrigate the crops inside).

Without water storage tanks, as we do not have a water abstraction licence, our farming system could not work.

Sensitivity of design in a Green Belt location:

Please see attached three mocked up photos to show what the view of the proposed tanks would look like from different angles. We have carefully considered the impact of the tanks on the environment and community and have chosen the location to reduce the negative impacts:

- It is our own fields and farmyard that look onto the proposed site.
- There is no view from the public highway.
- We are putting in a new hedge across the field to the south of the proposed site that will help shield the view of the tanks from the south.
- The nearest public footpath to the south is half a kilometre and several fields and hedges away and we don't believe the tanks would be visible from there.

The purpose of the farm is to become a flagship of sustainable farming and so design and quality are important elements of this.

We are seeking a DEFRA Water Management Grant (hence the urgency of this application at this stage) to ensure design, engineering and materials best practice.

We have reviewed a number of alternative options to the tanks and ruled out the construction of a lagoon, despite it being cheaper to construct, because of its size and physical impact.

We have sought advice, designs and quotes from a number of consultants and contractors on the location and design of the proposed tanks to ensure good quality design and materials.

Landscaping, a new hedge, additional tree planting, gateway location have all been used to minimise the visual impact of the proposed tanks.

Trees and biodiversity

As part of our extensive biodiversity work we have mapped the majority of the trees and hedgerows on the farm.

The hedgerow running adjacent to the proposed tanks is relatively diverse with crab apple, damsons etc and so the tank location is set away from the hedge to minimise any adverse impact.

We have secured Countryside Stewardship for gapping parts of this hedge.

The biodiversity of the adjacent hedgerow will be enhanced by reinstating the old ditch.

We are in the process of implementing a hedge management plan for the entire farm, with a five year cycle of coppicing, gapping up and eventual hedge laying.

We have just planted a new 160m long hedge across this field helping to further shield the eventual tanks and polytunnels from view.

We will not be removing, cutting back or damaging any trees to install the tanks.

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We have planted a significant number of trees so far, including:

- 160m hedge across the field next to the proposed tank location.
- Gapped up the hedge between the farm and our immediate neighbour (Ash Lea)
- Creation of a 100m new hedge between the farm and our most easterly neighbours (this is the continuation of an existing hedge that stopped halfway down the field which are neighbours are very happy about).
- 800 fruit trees have so far been planted across the farm as part of our agroforestry system.

We will be planting additional trees as part of this proposal, including:

- Gapping up 30m of existing hedge that runs next to the proposed water tanks.
- Planting hedgerow evergreen trees under the 10 large poplars trees planted as part of the farm's last planning application.

The work to create the concrete pad will not result in any significant damage to tree roots due to the shallowness of the work and the distance from large trees.

The concrete base will only be 30-40 cm in depth (the soil excavation for this will be 50 cm maximum). The farming methods of the previous owner involved ploughing to a greater depth than this and was right up to the edge of the field (there was no field margin).

Vehicles will follow a dedicated route, used for decades by the past farmers and so soil compaction and damage to roots will not result.

The large poplar trees that run along the site of the caravan parking area were planted as part of the original requirements for planning permission for caravan storage. However due to the species

and their shape they offer limited shielding. Therefore over the next few winters we plan to strengthen this, keeping the popular trees and planting underneath them evergreen native species like holly, privet, yew, etc.

Risk of flooding:

We have considered this through the proposed location and the creation and reinstatement of an old ditch.

The tanks will be located towards the top of our field and so any flood water would travel south away from the farmyard to the end of our field, where there is a ditch. There are no properties down hill from the tanks for at least a half a mile.

The nearest derelict building is uphill, 60m away in the farm yard. It stands approximately 4m above the base of the proposed tank location.

Some caravans are stored uphill of the tanks, approximately 20m away on hard standing that is 1.5m above the field height. There is a substantial hedge, ditch and 4m raised bank between the tanks and caravan (the caravans are stored only, not residential).

The nearest occupied property is 120m away, uphill of the proposed tank location.

We are in the process of applying for DEFRA Catchment Sensitive funding to implement a farm wide sustainable drainage plan and this includes 40m of new ditch and reinstating the old ditch. This will be the route for excess water and mitigate any flooding concerns.

We have had advice and a farm visit from a DEFRA Catchment Sensitive officer and they have encouraged us to apply for a grant to improve a number of elements near the proposed tank location, this includes culverts for the reinstated ditch to improve water flow.

The urgency of this application is to enable us to secure a DEFRA water management grant to pay for the proposed tanks. The grant will enable a high specification: funding monitoring equipment, expert advice, and quality construction which will help reduce the likelihood of the tanks failing.