

# Flooding & Drainage

## Polytunnels

### STANDING ADVICE



#### *Introduction*

This guidance note has been produced to assist those wishing to submit planning applications for the use of polytunnels on agricultural land. The introduction of polytunnels to a greenfield location can have implications which could lead to an increase in flood risk elsewhere without incorporation of basic controls.

The objective of this standing advice is to inform applicants about required drainage and flooding information to support planning applications, to ensure adequate consideration is provided of surface water management and reduce the amount of consultation required.

If flood risks are appropriately managed it is anticipated that this type of development will be considered low risk in relation to flooding and drainage and that assessment may be undertaken solely by the Local Planning Authority.

It is usual that planning permission for domestic purposes and within certain constraints do not require planning permission. This advice is therefore applicable to commercial operations though the advice provided is also relevant to domestic installations.

#### *Surface water flow routes*

Polytunnels may be substantial in size and have the potential to interrupt overland flow routes across a development site. Siting of polytunnels should account for any potential flow routes or highly impermeable soils which may require an additional allowance.

#### *Flood Risks associated with Polytunnels*

The main flood risk issues to consider when undertaking a development of polytunnels principally relate to the rate and volume of run-off flowing off-site.

Polytunnels may be substantial in size and create large 'impermeable' areas. This means that less rainfall is absorbed by the ground compared to natural undeveloped conditions, potentially leading to a greater volume of run-off entering watercourses or flowing overland to adjacent areas compared to the greenfield site.

Rainfall upon polytunnels are generally shed between rows and allowed to run onto the ground. This concentration of water flow can create channelised flows which can erode the soil and allow a greater volume to enter watercourses or flow to adjacent areas at a greater rate than would otherwise occur in greenfield conditions.

## *Mitigating the impact of the development upon flood risk*

Kent County Council would encourage the inclusion of measures within the development to reduce the impact of channelised flows and promote the infiltration of water by:

- Siting polytunnels along ground contours (wherever possible) such that water flow between rows is dispersed evenly beneath them
- Incorporating bunds, filter drains or other measures to interrupt flows of water between rows of polytunnels to disperse water flows over the surface and promote infiltration into the soils.
- Incorporate wide grassed filter strips at the downstream side of blocks of polytunnels and maintain the grass at a long length to interrupt water flows and promote infiltration.
- Incorporate gravel filled filter drains or swales at the downstream side of blocks of polytunnels to help infiltrate run-off (where ground conditions allow).
- Incorporate rainwater harvesting into polytunnel developments to intercept, store and re-use surface water run-off for the irrigation of the crop.

Where parts of the site area are developed with impermeable surfaces, e.g. asphalt and concrete access roads, flows should be collected within a formalised drainage system, which may require attenuation with a controlled outflow before discharge to an identified discharge location or soakaway (where ground conditions allow). Alternatively, access roads could be constructed using permeable surfacing techniques (e.g. a proprietary grass paving system) which would not require formal drainage. And other areas accessed by machinery should be maintained to ensure rutting of the surface is managed and repaired where necessary as these ruts in themselves can collect water into channelised flow paths.

It will generally be acceptable to secure drainage arrangements for a polytunnel development with appropriate planning conditions unless detail is provided at the outset that removes the need for conditions to be required. Kent County Council will review applications to ensure that adequate attenuation has been provided on site, that the ground conditions are conducive for infiltration if being utilised and that an appropriate discharge outfall has been identified.

Additional information on rainwater harvesting can be found on Kent County Council's website, including a 'Design Guide for Irrigation Reservoirs' and a 'Rainwater Harvesting Design Tool' and user manual. Further support may also be available at <https://www.holisticwaterforhorticulture.org/>

### *Ordinary Watercourses*

Any formal drainage on a site may utilise connections to a local ditches or streams and may need formal land drainage consent from Kent County Council or the appropriate Internal Drainage Board.

We strongly recommend that ditches for which the landowner is the riparian owner are maintained appropriately and enhanced where possible (e.g. through relaxing of side slopes) to ensure effective drainage of the site.