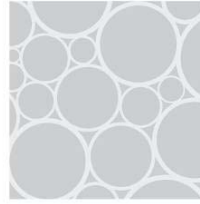




ENVIRONMENTAL



FLOOD RISK



DRAINAGE



ECOLOGY

Polytunnels, Staffordshire FRA

Littywood Farm Ltd



Project Aims

Polytunnels are used extensively by soft fruit growers to extend the growing season and maximise the home production of a range of soft fruit crops. The use of polytunnels is seasonal and the impermeable coverings are typically erected for 3 to 6 months per annum. Furthermore, due to crop rotation practices, the polytunnels are usually removed and relocated every three years.

Recent High Court judgement has made it clear that the large scale use of polytunnels now requires planning permission.

Key aspects of polytunnel development are the large increase in impermeable area created by the covering and the potential impact on surface water runoff and flooding.

Project Summary

As part of this project, five individual farm sites across Staffordshire were investigated to prepare flood risk assessments and drainage assessments to be use as

part of the planning applications for these polytunnel sites. The sites ranged from 12ha to 22ha in the area of polytunnels.

Each site was considered with respect to potential flooding risks from fluvial sources. However, the primary flood risks were related to the management of surface water runoff and potential overland flood routes.

Runoff rates and volumes were calculated for a range of design scenarios. Mitigation measures included the storage up to the 1 in 100 year event within open pond storage within the Client's fields. The stored water would then be re-used for irrigation of the crops and would effectively become a rainwater harvesting system.

Preliminary drainage layouts were prepared to demonstrate how land drainage should be sized and routed to serve each development.

