

Jim Crabbe explains how taking care of drainage issues can reduce course closures when the rains come...

Drain power

Hands-up all those clubs who have tried to hire a drainage contractor this summer, only to be told that somebody beat them to the top of the list. After the wettest autumn and winter since records began at the Met Office, there can be little surprise that drainage has suddenly become a hot topic and a priority for many clubs around the country.

We will all have witnessed the adverse effects that the very wet weather has had on sports turf facilities, many clubs through last winter were forced to close, with surfaces lying under pools of water, causing damage to the sward that would take many months to recover, in fact some establishments are still suffering, and

no doubt are now having to placate some very unhappy members, not to mention the revenue that has been lost.

Yet some sporting facilities did remain open and courses and pitches were played upon. How? Because of efficient drainage, and unless you are fortunate to have a naturally free draining facility then a drainage scheme should be a priority.

Effective drainage is vital to all Sportsturf whether an existing facility or a new construction. A system, which has been carefully designed and installed by skilled contractors, will have enabled many courses and pitches to provide a service to its members and attract valuable revenue to the club despite the appalling weather conditions.

In 1998/1999 St Mellion in Cornwall installed an intensive piped drainage system, when the club records began in 1995 1100mm rain fell, since then the club has seen a significant increase in the rainfall, last year an overwhelming 1600mm fell. Despite this huge increase the course was only closed for a handful of days. Simon Marsh, the Course Superintendent explained that had the work not been undertaken it would have meant the closure of the club for some four to five months. The loss of revenue for any

business having to 'close shop' for such a period would be catastrophic, according to Simon "the drainage installation has made the world of difference to St Mellion".

So a clear example of the benefits for undertaking the work, but what does it actually involve? Firstly, the design. A site investigation will be undertaken to assess the actual problem and the needs. The designer will work closely with the client to decide upon the intensity of the actual scheme as the selection of drain spacing is often based on experience and soil type as well as the site location and the underlying soils, the sporting activity, frequency of use, and the rainfall. For example the club that relies solely on membership will have to consider the overall value it provides for its members and therefore what proportion of its spending may be allocated to a specific area, where as the course that has to open its doors at set times for set events cannot afford not to take all the necessary actions to ensure that the course will be available at the required time and not closed due to water logging.

The scheme should be suitable for machine installation; pipe junctions should be kept to a minimum in order to avoid blockages and breakdown, and where possible main drains





should be located outside the playing areas. The location and condition of any existing land drains should also be determined during the planning and design stage, as they may be incorporated into the new design.

The depth of the surface drains depends on their function as well as soil type. For example where the drains alone are used, the soil type is an important consideration, where other secondary treatments are used subsurface drains act mainly as carriers and the soil type has less importance. In free draining soils, deeper drains may allow wider drain spacings. In heavy clays with poor filtration, drains should be shallower and closer together.

The appointment of a well-established consultant/design and build contractor will ensure that the client receives a comprehensive design service and that a suitable system is installed, providing the necessary infrastructure for any subsequent secondary drainage operations.

Once the design has been agreed and the costs approved its time to get the job underway. It is worth making the effort to find a specialist Sportsturf Drainage Contractor, as it is important that those who undertake the project are properly trained, equipped and fully experienced. Contacting associations like The

Land Drainage Contractors Association is a good starting point. Their members include companies such as, White Horse Contractors Limited, with over 43 years experience in the industry. These specialist contractors will have invested in the most up-to-date equipment and plant specifically adapted for working on sportsturf and as members of the association their workmanship has already been assessed and won the approval of many bodies within the industry.

On an existing site there may be some surface disruption. However, this must be kept to a minimum, the trenching machines should be fitted with elevators and conveyors in order that the trench spoil can be conveyed to suitable trailers to avoid contamination or damage to the playing surfaces. On new constructions before topsoil placement it may be possible to spread the excavated soil on either side of the trench line. Trench spoil may also be used to create a landscape feature, but all unsuitable spoil must be removed.

This year the ground conditions for trenching are as near perfect as they could be on many sites, the damp subsoil layer mixed with the dry top layer creates a crumb effect which helps to provide smooth sides and bottom which allows the pipe to sit

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Drain power



level in the trench. Today's modern trenching machines are fitted with lasers, which take away the guesswork in levelling and ensure that a true fall is achieved.

Once the primary system has been installed secondary drainage may also be a consideration. These range from sand slitting and banding, which consists of an intensive matrix of narrow sand or gravel bands running at right angles to the under drainage. The trenches some 250mm

deep are normally filled with suitable coarse sand or with 5-10mm washed gravel topped with sand. Sand grooving may be used in areas of high usage.

If the drainage system is to be efficient a certain amount of maintenance will be required. For an intensive piped drainage system to work efficiently, it is important to try to maintain an 'open' surface to all drain lines; regular applications of approved sand top dressing in conjunction with vertidressing can help to delay the natural capping process. This should be carried out twice a

year for a minimum of three years then reviewed. It should be noted that on heavy clay soils, settlement of the trench lines might occur during dry periods. This may lead to future requirement to top up these trench lines and must be budgeted for.

Funds invested in quality schemes will from the outset provide value for money and produce lasting improvements to the facility, allowing greater use throughout the year.

Most new builds will benefit from the installation of a comprehensive piped drainage system. This must be of prime importance and should be given due consideration at initial design stage.

Is it too late to get help? The answer of course is: - it is never too late to take action to maintain and renovate the surface. However funds invested in preventative measures are always more cost effective in the long term. The only difficulty you may have now is trying to find the right contractor to do the job, as many are inundated with enquiries and requests for work.

Everyone has a budget and as stated earlier you might be tempted to cut costs, but if you already have a problem, why add to it. Face the problem now and with the help of an experienced drainage contractor your facilities will be enhanced and leaving you content in the knowledge that whatever the weather you are prepared.

The many clubs and facilities that have invested in primary and secondary drainage schemes are reaping the benefits now and will continue to do so in the future.



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