



RUDDING LANE PITCH IMPROVEMENT PLANS

Background

We seem to be in a vicious circle which needs unlocking.

Our four pitches at the rugby club all have various drainage problems due to the clay base (they used to be farmers' fields) – the result is with the increased rainfall this year, the pitches are waterlogged, matches are cancelled, there is less enjoyment for all, there is no footfall or income coming into the club, the costs for 'all weather' pitch alternatives, the club losing money and as a result impacting on our community spirit.

We need to break this vicious cycle, with global warming rainfall is predicted to increase year on year, and so we need a strategy to ensure the rugby club is sustainable over the longer term. The club committee are working hard and are committed to this aim. Despite limited funding available we are implementing the initial stages as set out below and we welcome everyone's support.

Way forward

The most important tasks are to:

- Improve the drainage to the pitches (with the first team promotion this is now even more critical as this drives revenue from sponsorship and use of the club on matchdays)
- To generate more third-party revenue throughout the year and summer (Dragos Avram is the new General Manager working with Aled Jones and Mike Cowling)

Drainage

We have employed a professional specialist called Stri who have been advising the grounds team on what we need to do: [Global design, engineering and management consultancy - STRI \(strigroup.com\)](http://www.strigroup.com)

Zeynu, Dave Oswin and myself have had a number of meetings with Stri – as a result on the 10th April they dug some trial pits and are currently providing a specification - their initial observations are set out in Schedule 1 overleaf. We are starting some remedial works at the end of May on the Pitch 1 which will be out of action for a few months. The plan is then to move onto Pitches 2,3 and 4 in sequence albeit this will depend on funding we can raise.

Funding, Sponsorship and Crowd Funding

As the charity now owns the freehold of the land at Rudding, we have managed to organise a revolving £50,000 'ringfenced facility' specifically to undertake drainage improvements at the club but we need to push to top-up this facility as we are spending and then eventually pay back down.

Aled has set up an initial crowd funding link with a target of £15,000 over the next month as the means to achieve 'top-up' the facility and we are appealing to all members and sponsors to give generously.

<https://www.crowdfunder.co.uk/p/rudding-lane-pitch-improvements>

As we are now a charity this means we can gain gift aid for individuals which adds another 25% to the totals.

I will update the members as we progress the works but any other fund-raising events and ideas are welcome.

Martin Corbett

Director – Grounds and Facilities – 12th April 2024

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SCHEDULE 1 - STRI INITIAL OBSERVATIONS ON PITCH 1 (PITCH 2,3 AND 4 TO FOLLOW)

Stri carried out a series of trial holes across the pitch to try and establish the state of the existing drains.

We managed to find the slit drains running across the pitch, but these were found to be severely capped and clearly not functioning as originally intended. The clean gravel at the base of the slits was found at a depth of around 130-150 mm below the surface and this extended to a depth of 180-200 mm below ground level (see attached Photo 1). Above the gravel, there was a layer of topsoil with no sign of the gravel or sand backfill remaining from the original installation.



It is clear that significant capping of the slits has occurred in recent years with topsoil being smeared over the tops of them owing to the action of player's boots and passing maintenance machinery. Another contributory factor will have been the intense activity of casting earthworms across the pitch, these producing casts which spread across the surface causing further capping of the slits. Below the surface, the burrowing action of the worms will also lead to a churning of the upper soil profile and mixing of the sand/gravel backfill within the tops of the slits, thereby destroying their integrity and function. The absence /shortage of sand topdressings on the pitch in recent years will have also exacerbated the situation.

Whilst the slits were severely capped, it was noted that water could be seen weeping out of the exposed sections of gravel which indicated that they were still receiving some water within the lower part of the profile and having some limited drainage function.



The lateral drain lines were more difficult to locate, but we did manage to expose two separate sections across the pitch. A slightly coarser grade of gravel had been used to backfill the lateral drain trenches the upper portion of which had become contaminated with topsoil, although this became cleaner at depth. Where exposed, the depth of the gravel below the surface varied between 250- 300 mm (see attached Photo).

Another feature of the trial holes was that the upper 50-75 mm of the soil profile was extremely soft and saturated and beneath this the topsoil, whilst moist, was in a relatively dry and well-structured state. This emphasised that the deterioration of the playing surface has been largely due to the restricted movement of water off the surface following rainfall, thus resulting in the persistent soft and waterlogged conditions experienced on the pitch this season.

With regard to carrying the proposed improvement works, it is clear from the investigation works that the connection of the playing surface to the porous backfill within the underlying pipe drains needs to be restored with the introduction of a new interconnecting network of slit drains and sand bands into the upper pitch profile. The original pipe drains are still functioning, as evidenced by the high volume of water which discharges from the drainage outfall following periods of intensive rainfall.

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As discussed, our recommendation would now be to supplement what is left of the original slit drainage system by installing a series of new gravel/sand filled slit drains running across the width of the pitch at 1 m centres, parallel to and in between the existing slits. The slit drains would need to be cut to a depth of 300-350 mm to ensure a clean connection with the gravel above the lateral pipe drains. These would be supplemented by the introduction of sand bands running along the length of the pitch at 0.5 m centres using a machine called the Koro Topdrain or alternatively the GKB Drainmaster (see image below).

These machines excavate narrow excavated trenches 40 mm wide to a depth of 200 mm which are immediately backfilled with sand to the surface. The bands would connect with the gravel backfill in the new slit drains and what remains in the old slits. In addition, with the sand bands running along the length of the pitch, these will be more effective at intercepting surface water run off as it flows with the main fall across the pitch towards Ridding Lane.



Follow the installation of the secondary drains, a sand top dressing in the region of 100 tonnes would need to be applied to the whole pitch, this being repeated in subsequent years as part of the end of season renovation works.

The excavation of the various slits will generate a volume of spoil which will need to be disposed of either off site which will be relatively expensive, or this could be tipped on site at a suitable location in the form of a landscaped mound.

The installation of the new slits and bands will involve intensive vehicular movements with the required trenchers and tractors and trailers and therefore, these should not commence until ground conditions are sufficiently firm and dry in the late spring period to avoid causing any undue damage to surface levels on the pitch.

With regard to the additional cut off drains running along each edge of the pitch, I feel that these may be of benefit following particularly heavy rain showers, although this may be limited. I would suggest that the priority should be for installing the secondary drains and the need for the cut off drains could perhaps be reviewed once the effectiveness of the slits/bands has been assessed.

If acceptable to the club, we could prepare a short specification of works based on the above proposals for pricing purposes and we could also provide the names of additional specialist contractors who could tender for the work.

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