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& Awards
2023



KELSO RACES
A WARM BORDERS WELCOME

The Racing Foundation Green Award Rainwater / Drain-water Harvesting at Kelso Racecourse

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RACING POST



Rainwater & Land-drain Water Harvesting at Kelso Racecourse

Providing optimum Going for our equine participants is a key objective for all racecourses.

Aside from good turf husbandry, the two key tools at our disposal are drainage and irrigation – both of which require a significant investment in infrastructure. This project combined investment in both our drainage and irrigation systems in order to increase Kelso's capacity for water storage, improve the efficiency of irrigation, and reduce reliance on less sustainable sources of water from the mains supply.

Historically, Kelso has relied upon a mains water supply to top-up water from two boreholes to fill an irrigation pond - a situation which was both vulnerable to statutory closure and environmentally unsustainable.

Reports of environmental studies suggest that extreme weather events, including prolonged dry spells and periods of heavy rain, are becoming become more common. This project was designed to ameliorate the impact of such events by reducing the volume of run-off water entering the local river system (and downstream flood zone) during periods of high rainfall, and by providing a sustainable source of water for irrigation during dry weather – creating a circular system for water in the racecourse environment.

A key requirement of any changes to the landscape at the racecourse was that they should also add to the aesthetic appeal of the area, while creating fresh opportunities to diversify the habitat for wildlife.



Delivery

Having conceived the idea of excavating an additional water storage pond, a topographical survey identified the lowest point of the racecourse and its position in relation to the land drainage system. The mineral content of water from existing land drainage systems, including that from nearby agricultural land, was tested for suitability.

Walker Groundworks, a local contractor, designed the pond to hold 1,700 cubic metres, more than doubling the track's water storage capacity when used in conjunction with the pre-existing bunded pond. Plans for the proposed pond, located on the 10th fairway of the golf course, were submitted to the committee of Kelso Golf Course, Scottish Borders Council and SEPA (Scottish Environmental Protection Authority).



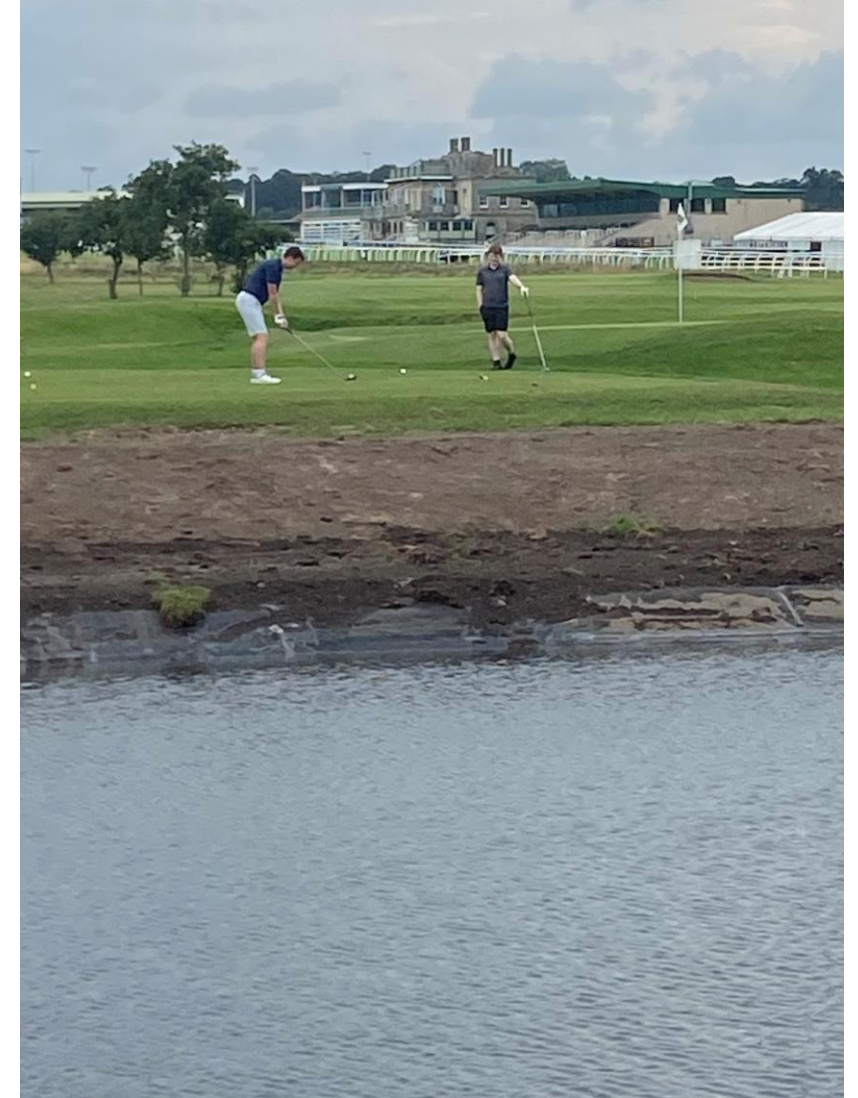
Having attained approval from all stakeholders, the pond was excavated during Kelso's Summer break from racing and completed by August 2023. The design included a shallow shelf to the edges of the pond, intended to support the growth of aquatic / marginal plants, and associated wildlife. The shallow slope enables easy access / egress from the water for wildlife.

The two largest land-drains serving the racecourse and surrounding land were diverted into the pond, with a single outflow pipe allowing excess water to return to the established drainage system. Additional drainage was carried out to link parts of the track drainage system to the pond, improving drainage of the track and effectively creating a circular system by which irrigation water is returned to the pond for re-use.

The irrigation ring-main was extended to the new pond and equipment purchased including a new irrigation pump and a refurbished (second-hand) irrigation reel and boom. Though two furlongs apart, water can be transferred through the ring-main between the two ponds, enabling both ponds to be filled flexibly - from either the land-drainage system or existing bore holes. 3

Results

- The racecourse is no longer reliant on mains water to top up our irrigation pond – as water is recycled through the land drainage.
- The pond is aesthetically pleasing and creates an interesting feature of on the golf course in the centre of the track.
- The area around the pond has been seeded and aquatic plants will be introduced shortly. The pond is already attracting wildfowl and we anticipate that the new environment will prove popular with the Oystercatchers, in particular, which have frequented the racecourse in greater numbers in each of the last few years.
- The water quality, using water from the drains, is ideal for the track and testing indicated that it will occasionally include residual minerals from agricultural feeds – beneficial to the track and at the same time preventing release into the wider watercourses downstream where it could have had a negative impact on wildlife.
- Following a dry spell in August / September, the Grounds Team used water from the pond to irrigate, the new equipment enabling the entirety of both tracks to be watered within one day - for the first time ever. The track was described by one jockey as “the quicker side of perfect”.



The Financial Bit...

The total budget for the project was £150k and the approximate costs will be just under (final invoices still to be received) at:

- Excavation and formation of the pond - £90,000
- New Pump - £30,000
- Refurbished irrigation equipment - £17,000
- Professional fees, planning fees & testing - £6,000

Payback for the project will come as a result of improved ground and hopefully more runners (the negative impact of staging racing on Good to Firm ground accounting for a deficit of circa 20 – 25 runners per meeting, equating to maybe £20k - £25k in lost revenue each time). By preventing Good to Firm ground 2 or 3 times each year, we anticipate payback in 2-3 years.

Payback in terms of sustainability is difficult to put a price on – but the team gets great satisfaction from knowing that we are creating a better environment.

Our plans don't stop here:

In the event that Kelso's nomination is successful, we would apply for funding to further improve our ability to recycle water including grey water from the buildings, roofs and tarmac in the public areas. We have developed a scheme and hope to bring forward within one to two years...