

# Ground Water Dynamics Edgbaston Cricket Club Case Study



## Edgbaston Cricket Club passes test after test



BEFORE (4pm 10.2.14)



AFTER (9am 11.2.14)

### The Problem

Edgbaston Cricket Club was experiencing a significant drainage problem. The practice playing surface itself is made up of meadow grass with a clay loam profile with no existing drainage in place. The area is heavily thatched and in April 2013 before our install was draining between 0.5mm and 1.0mm per hour.

### Our Solution

Groundwater Dynamics installed its Energy Passive Groundwater Recharge Pump (EGRP) vertically along 4 lines as details below varying in depths from 1.5m, 3m, 6.1m and 12.2m with 313 holes drilled in total, with the system taking up to 12 weeks to acclimate and begin to work.

### The Results

Immediately after GWD install was completed in May 2013, Edgbaston was one of the venues chosen to stage the ICC Champions Trophy including the final itself on the 23rd June. The area treated had to be returned to its original condition in order that international teams could practice during the competition. In this period the practice ground maintained playable despite periods of intensive rain fall enabling outdoor training to continue when previously such rain fall would have rendered the ground unplayable. Duncan Fletcher, the India head coach praised Edgbaston as having some of the best practice facilities in the world.

## PROJECT FACTS

Client



Location

Edgbaston, Birmingham, UK

Timescale

After the site survey and recommendation had been submitted and approved the work was completed over a 3 week period.

Client Testimonial

**“I backed the EGRP system and I am very happy with both the installation and the performance”**

Gary Barwell

Head Groundsman, Edgbaston



## In Detail

Ground Water Dynamics installed Energy-Passive Groundwater Recharge Pumps (EGRP) vertically, along the four red rows below, varying in depths of 1.5m, 3m, 6.1m and 12.2m into 313 bores.

Post installation the system takes 12 weeks to acclimate and become active.

## STRI Analysis

Ground Water Dynamics commissioned the Sports Turf Research Institute to survey the area in February 2014 to provide independent data including infiltration rates.

The results of the 30 infiltration tests are shown alongside.

During the tests STRI were unaware of where EGRPs had been installed.

It is interesting to see that where water historically collects along the right hand side, that infiltration rates are highest.

The average for the right hand line is 17.67mm per hour versus the overall average infiltraKon rate of 8.51mm per hour.

Ground Water Dynamics is in discussion with Edgbaston to implement basic pitch maintenance – removing the heavy thatch and verti-draining as would happen on a normal sports surface and then repeat the tests.



## What are the benefits of EGRP?

- The EGRP System increases the rate at which surface water soaks into the ground. Vertical bore holes are drilled less than one metre apart, in a "diamond" pattern, and then the EGRPs are capped and inserted at varying lengths from 1.5m to 12m as per the design drawings.
- There is little or no disruption to playing surfaces and the ground remains in use during the install. Each EGRP is installed circa 20cm below ground level and once inserted the top 20cm of the bore hole is refilled with free draining top soil and/or the turf which was removed before drilling.
- There is an immediate localised improvement in percolation rates following the install of the system which is due to the physical drilling of the bore holes. It takes twelve weeks for the ground to resettle back around each EGRP which we refer to as the "acclimation process", after which the system begins to work.
- EGRP deals with rainwater at source by accelerating the infiltration rate of normally poor draining soil types and negating the risk of overloading natural water ways and/or municipal drainage systems.
- During hot dry spells the EGRP system enables moisture in the ground to return to the surface layers rehydrating the root zone and assisting the grass sward during the summer months.
- No maintenance of EGRP is required as the system is self-cleaning as it discharges into fissures which form over time around each device. Optimal performance for sports surfaces is achieved by ensuring that natural surfaces are well maintained i.e. aerated, free from thatch and organic matter.

## The match is never off with Ground Water Dynamics EGRP solutions



Whatever type of sporting activity, efficient and effective drainage is essential in maintaining a good quality playing surface.

Loss of use due to water logging or damage to the grass can result in cancellation of games, lost fixtures, dissatisfied sports people and supporters and potentially financial losses.

An efficient drainage system which is capable of eliminating standing groundwater and which maintains steady moisture content within the ground even after the heaviest downpour, will vastly improve both the quality of the playing surface and the experience of those playing upon it.

Improved drainage also enables grounds people to deliver easier and more effective maintenance on time and on schedule.

Groundwater Dynamics fully understand the needs and pressure on sports clubs and local authorities to provide high quality, high yielding playing surfaces all year round. Our philosophy is to give honest and practical advice at all levels. We use our experience and technical knowledge to provide our clients solutions with their specific needs in mind. We investigate and evaluate each proposed project and produce site-specific recommendations.

**Our EGRP technology is ideal for the use of the following sports: Football, Golf, Cricket, Rugby, Race Courses, Equestrian Events, Motor sports and Sports Training Facilities.**



Rigby Taylor Ltd

Freephone 0800 424919 Web site: [www.rigbytaylor.com](http://www.rigbytaylor.com) e-mail: [sales@rigbytaylor.com](mailto:sales@rigbytaylor.com)