



Stabilisation used for Winchester's Olympic standard stadium



The new stadium that will be used as a pre-Olympic games training camp for 2012

Introduction

Following invited competition, the University of Winchester appointed Britpave members Smith Construction to design and build their new sports facility for a 9-acre site on what was formerly known as King Alfred's Sportsfield.

The setting by the South Downs required a sensitive approach, and the superb new facility fits into the landscape as if it had grown there!

Design

The development work began in September 2007 for an Olympic standard arena, providing facilities for a 400m eight-lane athletics track, long and triple jumps, high jump, pole vault, shot putt and discus, plus a full-sized all-weather hockey and general sports field.

Smith's design team ensured that a proven drainage and storm attenuation system was incorporated with drainage swales. The site required a fairly extensive cut and fill operation in order to achieve the correct levels on which to build the track.

The company has pioneered the stabilisation process within the sports construction industry. Many sports facilities are constructed on natural grass sports fields which are sometimes on made up grounds. The area is made up with the original spoil from building the school or club house, and so stabilisation enables sports surfaces to be installed in areas that otherwise might be problematic, as the levels of the finished sports surface are required to remain true throughout the life of the facility.

Construction

When the site is on a slope, generally cut and fill methods of construction are considered not suitable for track developments due to the risk of differential compaction affecting the strict surface regularity requirements of the sports governing bodies.



Winchester Athletics Track at stabilisation stage of construction

However, stabilisation of the ground has alleviated this problem for Winchester University. The finished bitmac surface tolerance of the track has to be ± 1 mm before installation of the final polymeric surface to ensure the ± 3 mm tolerance required for IAAF certification. A comprehensive drainage system was incorporated to ensure the surface is not put out of action during wet weather conditions.

The hockey pitch on the site is designed for national games and also has markings for small sided soccer and multi-use games. It provides a very high standard of play, with performance characteristics similar to an international standard hockey, water-based synthetic grass surface. The facilities will be kept in pristine condition, and will be cared for by Smith's specialist maintenance division. The facility will be used as a pre-games training camp for the 2012 Olympics.

Benefits

The project benefited from:

- Confidence that the International Association of Athletics Federations' exacting standards would be met.
- Speed of construction through being able to utilise suitable site materials.

The environment benefited from:

- A reduction of 50 – 60 lorry movements to and from the site.
- The special drainage system and swales to reduce localised flooding.

The benefits of stabilisation

LOWER COSTS

- Significant savings compared with conventional treatments
- Less expenditure on imported materials
- Reduced disposal costs

ECO-FRIENDLY

- Recycling existing soils conserves natural resources
- Fewer lorry movements save fuel and reduce emissions and impact on the local community
- Re-use of on-site soils reduces disposal to landfill

REDUCED CONTRACT TIME

- Significantly quicker than other site preparation operations
- Stabilisation brings your project back on schedule

For more information visit
www.soilstabilisation.org.uk



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Project details

Client:	University of Winchester
Project duration:	22 weeks
Main contractor:	Smith Construction
Soil stabilisation contractor:	Smith Construction
Area stabilised:	7,000 m ²
Soil type:	Very heavy clay
Blend:	Cement and lime
Specialist plant:	Full range of stabilisation plant

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