CPD-accredited lecture:

Filtration and Drainage using Geosynthetics

The use of integrated drainage solutions using geosynthetics is a globally accepted practise. However, poor installation techniques can result in less than satisfactory results. This talk presents quality information, based on both theory and practical experience on how subsoil and structural drainage should be designed and constructed.

This illustrated introduction is intended as a follow-on lecture to the initial "***Introduction to Geosynthetics***" lecture (which we recommend should precede this lecture) and concentrates on basic design concepts around how geosynthetics behave in filtration and drainage applications. These **SAICE** CPD-accredited lectures are presented free of charge to professionals in the engineering and architectural fields.

Category 1 CPD Credits 0.2 (two hours) apply for ECSA & SACAP registered persons.
An attendance certificate will be issued to each delegate. This can be used to claim CPD Points and also to motivate corporate Skills Development Levy (SDL) Refund Claims.

PROGRAMME

± 2 hours (including discussion) with one mid-point break

1. **What is a *Geotextile*?** – Different types available locally.
2. **Properties and Implications** of using different polymers and constructions, e.g. polypropylene / polyester, & wovens and nonwovens.
3. **How geotextiles work in filtration** and when they don't (mechanisms of piping, blocking, blinding & clogging), including biochemical clogging – ferric hydroxide (ochre) problems and possible ameliorating measures.
4. **Stone-filled drains vs. fin or panel drains:** Performance, cost savings, installation issues.
5. **Area Drainage:** Sportsfield drainage, permeable paving, Panel drains.
6. **Structural Drainage**: Geonet & Cuspated sheet systems, Roof Gardens, Parking Areas.
7. **Septic Tank and Stormwater Attenuation systems:** A new approach using HDPE tunnel formers instead of stone leachfields and soakpits.
8. **Gabion Structures:** The need for filters and what can happen when they are not used.
9. **Discussion**

The lecture(s) can be presented at your premises or Kaytech's in Johannesburg (Isandovale), Cape Town (Stikland), East London, Port Elizabeth, & Durban (Pinetown).

Course Presenter

Peter Davies

MIGS · MGIGSA · SFIWMSA · MSANCOLD · MIAIAsa

Peter works for the Kaymac Group (founded 1945) and is based at Kaytech's head office in Pinetown, Kwazulu-Natal, in South Africa. Here, he serves as Senior Consultant: Geosynthetic Applications. He has been involved in geotechnical engineering and geosynthetics for over 50 years.

- In 2014 he was appointed honorary *Technical Advisor* to the South African Institute of Waste Management (IWMSA).

- He is a Senior Fellow of, and has served two-year terms each, as National Secretary, Vice President and President of the South African Institute of Waste Management (IWMSA). Here, he has represented the Institute on a number of waste-related initiatives, including the steering committee for all editions of the *Minimum Requirements for Waste Management Facilities* document. He has served on the Project Steering Committee and the Specialist Working Group engaged in landfill design requirements, in particular in updating the section on Geosynthetic Clay Liners. He is a committee member of the IWMSA KZ-N Branch Landfill Interest Group (LIG) and has served as its Vice Chairman and Chairman.

- He is an honorary life member, and has been the Vice-President and newsletter editor of GIGSA, the Geosynthetics Interest Group of South Africa, which is affiliated to the South African Institution of Civil Engineers and is the local chapter of the International Geosynthetics Society (IGS). He was the Technical Chair of the IGS/GIGSA GeoAfrica 2009 conference held in Cape Town over 2 – 5 September 2009. This was the first IGS Regional conference to be held in Africa.

Peter has authored, and co-authored, numerous peer-reviewed technical papers on a wide range of geosynthetics topics, presented at a number of South African and international conferences.

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