

Getting Acquainted with Water Reticulation Design

A two-day course that will help attendees understand the fundamentals of water reticulation design.



Attend this course and learn about:

- The components of a complete water supply system
- Legislation governing the provision of water supply in South Africa
- Water treatment overview
- Planning of water reticulation systems
- Water storage, water demand and hydraulic design
- Water reticulation pipe network analysis
- Methods of water distribution and selection of appropriate method for a community
- Water conservation and demand management
- Water reticulation design specifications and construction considerations

Benefits include:

- Participation in an interactive workshop
- Worked examples and exercises to equip attendees to handle projects effectively in the workplace
- A comprehensive document that will serve as a reference manual
- CPD Credits (ECSA)

Presenter:

Andrew Brodie, Pr Eng

COURSE DATES & VENUES

Scheduled courses are offered online and face-to-face around the country based on demand.

Please contact Lizéle du Preez for more information on upcoming courses: Lizelle@saicepdp.org / 011 476 4100

TIMES: 08:00 for 08:30 to 16:30

REGISTRATION

To register, visit www.candidateacademy.co.za
OR email Academy@saicepdp.org

WHO SHOULD ATTEND

The course helps delegates to apply their theoretical training in practice. It is therefore recommended for:

- Staff involved in water reticulation design
- Staff employed in local government and involved in water reticulation design, or about to become involved in the field
- Candidate engineers, technologists and technicians
- Experienced personnel looking for a refresher in water reticulation design aspects

COURSE CONTENT

DAY 1

- Introduction to water supply system
- Current legislation and by laws relevant to water supply
- Objectives of a water supply
- Components of a water distribution network
- Planning of water supply and distribution systems
 - Outlining the planning process and stakeholder engagement
 - Levels of service and methods of water supply
 - Investigation inputs for water supply projects
 - Overview of water treatment processes
- Water treatment overview
 - Typical water treatment processes
- Water storage
 - Balancing storage, reserve storage & fire water storage
 - Ground reservoirs and elevated reservoirs
 - Positioning of reservoirs
- Methods of water supply, selection of appropriate method and types of distribution networks
- Design of water reticulation systems
 - Water demand and peak factors
 - Fire-fighting water demand
 - Hydraulic integrity
 - Hydraulic analysis, including headloss calculations
 - Head balance method (Hardy cross)
 - Quantity balance method
 - Modelling software

DAY 2

- Design of water reticulation systems (*continued*)
- Water conservation and demand management
 - Introduction to water conservation and demand management
 - Water network schematics
 - Sectorising into district metered areas
 - Methods of water loss reduction
- Water reticulation specifications and construction considerations
 - Position of water pipelines
 - Pipe materials, class and sizes
 - Pipe laying
 - Hydrants, valves and chambers
 - Construction, filling, testing and sterilization
 - Design documentation
- Thrust block design and detailing

ABOUT YOUR FACILITATOR

Andrew Brodie graduated with a National Higher Diploma in Civil Engineering in 1993 and a Bachelor of Science Degree in Civil Engineering in 1998. He has over 20 years of experience in design, project management and supervision of civil, structural and geotechnical projects. He has worked in both the municipal and private engineering sectors and has significant experience in the design and implementation of urban and rural engineering services.

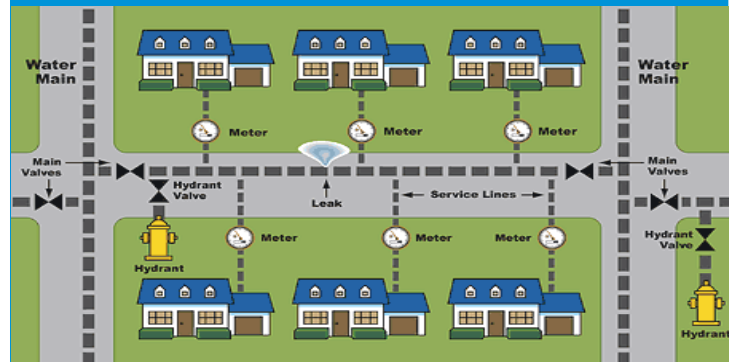
Andrew is a registered Professional Engineer and a member of SAICE.

WHAT TO BRING TO THE COURSE

- Scale ruler
- Pencil and eraser
- Scientific calculator

In-house courses can be arranged.

Contact Lizelle at lizelle@saicepdp.org for more information.



The Candidate Academy's philosophy is to support candidates on their road to registration with ECSA, by helping them through the transition from theoretical training to the 'how' of engineering projects and processes. The Academy offers practical, hands-on training relevant to experiences in the workplace.

**candidate
academy**
the road to registration – tower above the rest