LANDSCAPE IRRIGATION ASSOCIATION OF S.A.

LIA Practical Course

This course will provide delegates with the necessary skills to install residential, commercial and sports field irrigation systems.

This course is aligned with the practical aspects of the NQF level 2 National Certificate in Landscape Irrigation. The emphasis is placed on imparting the skills and techniques for the installation of piping, valves and sprinklers. Delegates will be trained to use the correct methods and procedures to install an irrigation system in accordance with the LIA's *Code of Standards*.

Delegates will learn how to strip, clean and repair irrigation components including valves, sprinklers and filters. The procedures for the inspection and maintenance of the components and the sequence of inspection will ensure that delegates will be able to efficiently maintain an irrigation system.

The concepts of pressure and flow are presented at a basic level to equip the delegates with an understanding of the role that these play in ensuring that irrigation systems operate effectively.

Concise study material is provided, which covers both the practical and theory components of the course.

To confirm their competence, delegates will be tested, including orally for those delegates who are illiterate, and successful candidates will receive the LIA's certificate in "Practical Irrigation".

Curriculum

A Trenching and Backfilling

1. Sodding
2. Plant removal and storage
3. Trenching in lawns
4. Trenching in Beds
5. Backfilling and Compaction
6. Re-sodding
7. Replacement of plants and clean-up

B Installation of Piping

1. Units of flow
2. Units of pressure
3. Pressure rating of pipes
4. LDPE piping, fittings and installation techniques
5. HDPE piping, fittings and installation techniques
6. PVC piping, fittings and installation techniques
7. Copper piping, fittings and connection to
8. Polycop piping, fittings and connection to
9. Galvanised piping, fittings and connection to
10. Flushing piping

C Installation of Sprinklers

1. Cone sprinklers - shrub and pop-up
2. Impact sprinklers - shrub and pop-up
3. Geardrive sprinklers - shrub and pop-up
4. Bubblers - flood and stream
5. Drippers - multi-outlet, button and dripper tape
6. Riser pipes for shrub sprinklers
7. Swing joint and flexi joint risers for pop-up sprinklers

D Installation of Valves

1. Ball cocks
2. Gate valves
3. Stopcocks
4. Butterfly valves
5. Non return valves
6. Pressure reducing valves
7. Pressure relief valves
8. Hydraulic NO valves
9. Solenoid NC valves
10. Valve boxes

E Installation of cabelling

1. Danger of 240 volts
2. Role of a transformer
3. Features of 24 volts
4. Armoured cables – use and methods of installation
5. Cabtyre cables – use and methods of installation
6. GP cables – use and methods of installation
7. Conduit piping – use and methods of installation
8. Cable trunking – use and methods of installation
9. Waterproof cable joints for 24v cabelling
10. Use of low amperage batteries for testing solenoids

F Installation and cleaning of filters

1. Reasons for using filters
2. Wye filters
3. Screen filters
4. Disc filters
5. Cleaning filter elements

G Installation of irrigation pumps

1. Reasons for using a pump
2. Mounting a pump
3. Suction piping and valves
4. Delivery piping and valves
5. Pump covers and ventilation

H Installation of storage tanks

1. Types of tanks
2. Surface mounted tanks
3. Buried tanks
4. Float switches **NB** not the wiring up

I Installation of pressure tanks

1. Reasons for using a pressure tank
2. Mounting a pressure tank
3. Pressure switches **NB** not the wiring up
4. Pre – charging a pressure tank

J Installation of controllers

1. Types of controllers – indoor and outdoor
2. Mounting a controller
3. Installation of solenoid cabelling to the controller **NB** not the wiring up
4. Installation of earth spikes

K Servicing a sprinkling system

1. Sequence of servicing
2. Operation of controller
3. Testing and servicing of solenoid valves
4. Testing and servicing of cone sprinklers
5. Testing and servicing of impact sprinklers
6. Testing and servicing of gear drive sprinklers
7. Extending Risers