

# NZMPTA Qualifications Pathway

## On-Farm Water Diagnostics Specialist



### NZMPTA On-Farm Water Diagnostics Specialist

Qualification: Registered On-Farm Water Diagnostics Specialist Certificate



#### Details:

This qualification requires the completion of each of the courses detailed below. Those who have successfully completed all of these requirements shall have an in-depth understanding of on-farm water function and requirements and will be able design, install, maintain and troubleshoot systems relating to pumping requirements, water quality, water reticulation and farm dairy effluent. Their hard work and commitment to training will culminate with the distinguished title of a NZMPTA On-Farm Water Diagnostics Specialist.

#### Selecting the Right Pump

2 days

Unit Standard 29163

#### Details:

- Pump selection and pumping principles
- Basic hydraulics and terminology needed to size piping systems and Calculate head and flow requirements
- Cavitation - what it does to pumps and how to avoid it
- Pumps working in series and parallel
- Frequency drives – why they are used and how they can be used to advantage
- How electrical motors work in relation to pumps
- A post-course assignment is required to be completed

#### Farm Dairy Effluent Hydraulic Design

3 days

Unit Standards 29161 & 29162

#### Details:

- Basic hydraulic theory
- Using EXCEL calculators to find headloss and flow velocity in pipes
- Pipe selection procedures
- Theory of design and operation of sprinklers and irrigators
- Distribution uniformity and it's assessment
- Procedures for carrying out a hydraulic design
- Pump theory and pump selection procedures
- High head pump systems
- Commissioning procedures
- Complete system design
- A post-course assignment is required to be completed

#### Farm Water Reticulation Design

3 days

Unit Standards 29159 & 29160

#### Details:

- Water Quality and Safety
- Assessment of Farm Water Requirements for stock, dairy sheds and other farm uses
- Water Treatment and Backflow Prevention
- Hydraulic Theory and Pipe Selection
- Parallel Pipe Systems
- Ringmain Design
- Pump Selection Procedures
- Design Options and Complete System Design
- A post-course assignment is required to be completed

## Small Drinking Water Supplies

2 days

Unit Standards 29965 & 29996

### Details:

- Capabilities and limitations of water treatment processes
- How to select water treatment processes
- Multibarrier systems for public health protection
- Drinking water reticulation components from source to taps
- Monitoring and recording requirements
- How to prepare a Water Safety Plan
- Two post-course assignments are required to be completed

## Backflow Prevention

3 days

Unit Standards 23847 & 23848

Note: This course is provided by an external provider such as Opus

### Details:

- Acts, Legislation and Codes relating to Backflow Prevention Health (Drinking Water) Amendment Act 2007
- Local Government Act 2002
- Resource Management Act 1991
- Building Act 2004
- Backflow Prevention for Drinking Water Suppliers
- Code of Practice 2006
- Health & Safety in Employment Act 1992
- Plumbers, Gasfitters and Drainlayers Act 2006.
- Air gap
- Reduced pressure zone devices
- Double check valves
- Pressure vacuum breaker
- Spill resistant vacuum breaker
- Atmospheric vacuum breaker
- Detector checks
- Non testable devices
- Pipe design e.g. Dedicated lines



**All of the courses offered in this Qualifications Pathway also form part of the NZMPTA Industry Apprenticeship titled New Zealand Certificate in Dairy Systems (Engineering) – Pumping**

**For more information about the apprenticeship contact NZMPTA or visit [www.nzmpta.co.nz](http://www.nzmpta.co.nz)**