



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Wastewater Pipe Unblocking and Maintenance

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 254054 · NQF Level 2 · 12 Credits · 9 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills required to safely and effectively unblock and maintain wastewater pipes. It covers the principles of wastewater systems, common blockage causes, and appropriate tools and techniques for unblocking and preventive maintenance. Emphasis is placed on health, safety, and environmental considerations in line with South African regulations.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	254054
Accreditation	SAQA Accredited · NQF Level 2 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate knowledge of wastewater pipe systems and common blockage causes.
- Apply appropriate tools and techniques for unblocking wastewater pipes.
- Implement preventive maintenance measures to reduce blockages.
- Analyze health, safety, and environmental risks associated with wastewater pipe work.
- Evaluate the effectiveness of unblocking and maintenance procedures.
- Comply with relevant legislation, codes, and standards in wastewater pipe maintenance.

WHO SHOULD ATTEND

- This course is intended for plumbers, maintenance workers, and technicians involved in the installation, repair, and maintenance of wastewater systems.
- It is also suitable for supervisors and team leaders seeking to enhance their understanding of wastewater pipe unblocking and maintenance procedures.

COURSE OUTLINE

Day 1: Introduction to Wastewater Systems and Blockages

- Overview of wastewater collection systems (gravity mains, manholes, laterals)
- Common causes of blockages: grease, solids, roots, debris, pipe defects
- Types of blockages: partial, complete, fatbergs, siltation
- Health and environmental hazards of wastewater blockages
- Safety protocols: PPE, confined space awareness, hazard identification
- Introduction to relevant regulations and standards (SAQA, SANS)

Day 2: Pipe Materials and System Design Principles

- Pipe materials: PVC, concrete, HDPE, clay, ductile iron
- Pipe joints, fittings, and connections
- Hydraulic principles: flow rate, velocity, self-cleansing velocity
- Factors affecting blockage formation: gradient, diameter, roughness
- Pipe condition assessment: visual inspection, CCTV basics
- Common defects: cracks, misalignment, infiltration, corrosion

Day 3: Mechanical Blockage Removal Equipment and Techniques

- Types of mechanical cleaners: hand rods, electric snakes, sectional machines
- Cutting and retrieval tools: cutters, augers, grabs
- Equipment setup, operation, and safety checks
- Techniques for different blockages: grease, roots, solids
- Equipment maintenance and troubleshooting
- Limitations of mechanical methods

Day 4: High-Pressure Water Jetting and Hydrodynamic Cleaning

- Principles of water jetting: pressure, flow, nozzle design
- Jetting equipment: truck-mounted units, trailer units, accessories
- Nozzle types: forward, rear, rotating, specialty
- Safety procedures: hose handling, pressure relief, personal protective equipment
- Jetting techniques for blockages, descaling, and flushing
- Environmental considerations: water containment, waste disposal

Day 5: Drainage Network Inspection and CCTV

- CCTV system components: camera, cable, monitor, recording
- Inspection procedures: setup, insertion, retrieval
- Identifying blockages: location, nature, severity
- Identifying pipe defects: cracks, root intrusion, joint displacement
- Reporting and documentation: defect coding, photo logs
- Limitations of CCTV and alternative inspection methods

Day 6: Chemical and Biological Blockage Treatment Methods

- Chemical cleaners: caustics, acids, solvents, oxidizers
- Safety: Material Safety Data Sheets (MSDS), PPE, spill response
- Biological additives: bacteria, enzymes for grease digestion
- Application methods: dosing, foaming, soaking
- Environmental impact and regulations (water quality, discharge)

- Comparison of chemical vs. mechanical methods

Day 7: Preventive Maintenance and Pipeline Rehabilitation

- Preventive maintenance strategies: cleaning frequency, inspection intervals
- Root control: chemical treatment, mechanical cutting, root barriers
- Grease management: traps, interceptors, bio-remediation
- Trenchless rehabilitation: CIPP lining, pipe bursting, slip lining
- Point repairs: robotic patching, grouting
- Asset management and record keeping

Day 8: Emergency Response and Complex Blockage Scenarios

- Emergency response planning: callout procedures, resource allocation
- Incident command and communication protocols
- Complex blockage case studies: fatberg removal, deep blockages
- Advanced techniques: combination jetting and vacuum, bypass pumping
- Safety in emergency situations: traffic control, confined space rescue
- Post-incident reporting and debriefing

Day 9: Integrated Practical Application and Assessment

- Simulated blockage scenario: diagnose using CCTV, select method, clear
- Practical assessment: rodding, jetting, chemical application
- Safety compliance and hazard management
- Reporting: inspection logs, incident reports, maintenance records
- Review of key concepts and Q&A;
- Final assessment (formative/summative)

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **12 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 33,300.00	R 33,300.00
1	In-House	R 43,300.00	R 43,300.00
1	On-Campus (Pretoria)	R 50,000.00	R 50,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	14 Aug 2026	On-Campus	Mauritius
05 Aug 2026	17 Aug 2026	On-Campus	Cape Town, South Africa
06 Aug 2026	18 Aug 2026	On-Campus	Dubai, UAE
07 Aug 2026	19 Aug 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	19 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	20 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	20 Aug 2026	On-Campus	Mauritius
11 Aug 2026	21 Aug 2026	On-Campus	Cape Town, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 254054) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call +27 12 004 8389 or WhatsApp +27 65 077 6310 and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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