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## Overview

This standard is about preparing and using sewer and drain high pressure water jetting equipment on sewerage or drainage assets to remove blockages, deposits or materials. Sewerage and drainage assets can be in public networks or privately owned. Jetting equipment can be automated, semiautomated or remote controlled.

It includes selecting components, assembling jetting systems, filling machine water tanks, operating jetting equipment, disposing of waste and dismantling and storing equipment. High pressure water jetting is high risk work and appropriate training should be completed before it is undertaken

This standard is for operatives who use sewer and drain high pressure water jetting equipment on public or private sewerage or drainage assets including those working in sewerage pumping stations.

## Performance criteria

### *You must be able to:*

1. clarify work instructions and relevant associated documents in line with organisational procedures and safe systems of work
2. minimise risk of damage to the network and its surrounding areas in line with organisational procedures
3. protect work zones to maintain a safe working environment in line with legislative requirements for signing, lighting and guarding
4. select machine, nozzles, hoses, hose protectors, ancillary equipment and maintenance chamber lid lifters that are appropriate for the specified work and use them in line with manufacturers' instructions, organisational procedures and safe systems of work
5. carry out manufacturers' pre-start checks in line with organisational procedures and check selection of jetting equipment meets requirements for high pressure tasks and activities being undertaken
6. fill up jetting unit water tanks from appropriate water sources in line with organisational hygiene procedures, national valve operational procedures and national water hygiene standards
7. connect water jetting equipment to an appropriate power source in line with organisational procedures and safe systems of work
8. ensure work areas and safety zones are suitable and remain safe and clear for the duration of jetting work
9. carry out all work and use appropriate PPE in line with organisational health and safety procedures
10. direct and guide water jetting nozzles through system hydraulic, motorised or pneumatic operated reels to remove blockages, deposits or materials as specified in work instructions and in line with organisational procedures and safe systems of work
11. monitor sewers and drains during jetting activity, evaluate any changes and take appropriate action to deal with it in line with organisational procedures and safe systems of work
12. use CCTV equipment when required to check that blockages, deposits or materials have been removed to the expected standard
13. communicate with relevant people in line with organisational requirements, when required to ensure the smooth completion of the work

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14. complete jetting work in line with organisational requirements, communicating requirements for any additional visits or redeployment with responsible person
  15. dispose of waste in line with organisational procedures and environmental standards and regulations
  16. resolve any user serviceable faults or damage to jetting equipment that are within your responsibility, reporting any that you cannot resolve to appropriate people
  17. decontaminate and store jetting equipment in line with organisational procedures for safe transport.
  18. make working area safe in line with organisational procedures and safe systems of work when work is completed

## Knowledge and understanding

### *You need to know and understand:*

1. legislation, codes of practice, operating instructions and manufacturers' information related to the sewerage and drainage maintenance work to be carried out
2. types of sewers, drains and ancillaries including un-powered and electrically isolated ancillaries, foul drainage, surface water drainage, combined drainage, culverted watercourse, land drainage, sustainable urban drainage systems (SUDS), rising mains, pumped systems, septic tanks
3. how to interpret documents associated with work instructions including site layouts, drawings, permits to work, CCTV reports, specifications, schedules, method statements and risk assessments
4. organisational procedures for clarifying instructions and resolving issues with the work including work instructions, deadlines, overall programme of work
5. the risk of disease or injury and associated procedures and control measures for working in confined spaces, at height, in excavations, lone working, on public highways, in dangerous atmospheres, with tidal flows or increasing water levels, with industrial waste or trade effluent, uncontrolled discharges into the system, manual handling, vermin, known diseases
6. risks to health associated with the use of high-pressure jetting equipment and organisational procedures for dealing with them including the use of personal protective equipment (PPE) and health and safety control equipment, accident reports, response to emergencies, asbestos, working in confined spaces or at height
7. relevant waste disposal standards and environmentally responsible work practices
8. requirements for safe work zones to protect the workforce and any members of the public
9. predetermined actions to take in instances of safe zone infringements
10. additional control measures needed for trailing hoses outside of safe work zones in public open spaces including ramps and warning signs
11. the range of jetting system components and their purpose including hydraulic, motorised or pneumatic operated reels, hoses, hose protectors, nozzles, control panels, remote controls, foot pedals, hand lances where appropriate, safety systems and any manufactures specific requirements and related organisational

procedures

12. how to safely assemble, test, operate, close down, dismantle, clean and store components of sewer and drain high pressure water jetting systems
13. selection of jetting system components and adjustments to settings to remove blockages or attached deposits from different sewerage and drainage materials including brick, clay, concrete, plastic, pitch fibre, ferrous and non-ferrous metals
14. how to determine risk of asbestos and organisational procedures and safe systems of work to follow when it is identified
15. appropriate valve sequences to use different water sources including authorised standpipe licences and wholesome water network water hydrants or washouts and when it is appropriate to use them to fill jetting unit water tanks
16. the effect that excessive jetting can have on sewers and drainage systems and how to recognise and deal with any observed damage
17. maintenance requirements of sewer and drain high pressure water jetting system components and how to identify and resolve user serviceable issues and faults safely
18. types and voltages of power sources, including battery and power supply, and when they are appropriate for different types of work including external, internal and specialist
19. types of CCTV equipment, how to operate it and the organisational procedures and safe systems of work that relate to its use
20. the limits of your responsibility and the organisational processes for dealing with issues beyond your responsibility and requirements for additional visits or redeployment
21. security and safety arrangements relating to the use and storage of jetting systems and components
22. communication techniques and organisational procedures and protocols for communicating with people involved in the work or affected by the work

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Prepare and use high pressure jetting equipment for sewerage or drainage maintenance



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