

Field ENGINEERING AND TECHNOLOGY

Review of *Civil Plant Operation and Management, Civil Works and Services, Infrastructure Works, and Water Industry* unit standards

Subfield	Domain	ID
Civil Plant Operation and Management	Civil Plant Management	6436
Civil Works and Services	Civil Construction Works	23278, 25445
Infrastructure Works	Generic Infrastructure Works	27327, 27501
	Infrastructure Works Supervision	26783
	Infrastructure Works Utilities	28722
Water Industry	Water Reticulation	18458, 19210, 19212, 22102–22106, 22112, 22113, 24918

The Connexis Infrastructure ITO has completed the review of the unit standards listed above.

Date new versions published

October 2018

Planned review date

December 2023

Summary

These unit standards were reviewed as part of a comprehensive review of qualifications, programmes, and unit standards relating to the civil sector of the Infrastructure industry.

The review took place between March 2017 and July 2018, with most of the work completed by a Working Group representing the Pipeline Construction and Maintenance sector of the industry. Working Group meetings were held in June, August, and November 2017 and in January 2018. Drafts were circulated among the Working Group and a wider industry consultation group as well as being made available for comment on the Connexis website between March and July 2018.

Main changes

- Groups of standards containing similar or transferable skills were consolidated into single unit standards to reduce repetition in assessment and recognise the scope of applicable contexts.
- Standards covering similar topics, but developed at different times, were reviewed for consistency with each other and current industry need.
- Standards from expiring domains were reclassified to current domains.
- Standards with inappropriate levels or credits were updated to reflect current industry requirements
- New unit standards were developed to address skills and knowledge currently required by people operating at Level 4 in the Pipeline Construction and Maintenance sector.
- The last date for assessment of superseded versions of Category B unit standards is December 2021.

Category C unit standards will expire at the end of December 2021

Impact on existing organisations with consent to assess

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Subfield	Civil Plant Operation and Management	4-7	Standard	6436	4
Subfield	Civil Works and Services	3-7	Standards	25445, 31517	4
Subfield	Water Industry	6	Standard	31518	4
Domain	Civil Plant Management	4-5	Standard	6436	4
Domain	Civil Construction Works	3-4	Standards	25445, 31517	4
Domain	Generic Infrastructure Works	4	Standard	31523	4
Domain	Water Reticulation	3-5	Standard	31518	4
Standard	27327	4	Standard	31523	4

Detailed list of unit standards – classification, title, level, and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology

ID	Subfield	Domain	Title	Level	Credit	Review Category
6436	Civil Plant Operation and Management	Civil Plant Management	Inspect civil construction plant and equipment	4	5	B
	Infrastructure Works	Infrastructure Works Equipment	Inspect infrastructure works plant and equipment		4	

Engineering and Technology

ID	Subfield	Domain	Title	Level	Credit	Review Category
23278	Civil Works and Services	Civil Construction Works	Demonstrate knowledge of and pre-check infrastructure pipes, fittings and structures	3	5	C
31517	Infrastructure Works	Infrastructure Works Utilities	Demonstrate knowledge of and select pipes and fittings for pipeline construction and maintenance	4	5	

ID	Subfield	Domain	Title	Level	Credit	Review Category
25445	Civil Works and Services	Civil Construction Works	Describe and explain bypass pumping and install, commission, and decommission bypasses for infrastructure pipelaying	3	4	B
	Infrastructure Works	Infrastructure Works Utilities	Demonstrate knowledge of bypass pumping and employ bypasses for pipeline construction or maintenance	4		

Engineering and Technology

ID	Subfield	Domain	Title	Level	Credit	Review Category
22103	Water Industry	Water Reticulation	Describe trenching and demonstrate trench set-out requirements for water reticulation	4	4	C
24918	Water Industry	Water Reticulation	Describe open cut trench excavation, and the physical implications of dewatering	3	3	
31518	Infrastructure Works	Infrastructure Works Utilities	Demonstrate knowledge of and select methods for pipeline construction and maintenance	4	10	

Engineering and Technology > Infrastructure Works > Generic Infrastructure Works

ID	Title	Level	Credit	Review Category
27501	Demonstrate knowledge of protection and support systems for excavation on an infrastructure works site	3	2	B

Engineering and Technology > Infrastructure Works > Infrastructure Works Supervision

ID	Title	Level	Credit	Review Category
26783	Organise the supply and storage of materials for an infrastructure works site	4	4 5	B

Engineering and Technology > Infrastructure Works > Infrastructure Works Utilities

ID	Title	Level	Credit	Review Category
28722	Confirm alignment and reinstate gravity pipes and structures to correct line and level Confirm alignment and reinstate pipes and structures to correct line and level	4	4	B
31515	Carry out pipeline construction or maintenance preparation and service location	4	5	New
31516	Carry out excavation and post-excavation reinstatement work for pipeline construction or maintenance	4	10	New

ID	Title	Level	Credit	Review Category
31519	Demonstrate knowledge of stakeholder engagement for pipeline construction and maintenance projects	4	8	New
31531	Carry out rubber ring jointing on pipes for infrastructure works	4	6	New

Engineering and Technology > Water Industry > Water Reticulation

ID	Title	Level	Credit	Review Category
18458	Describe drinking-water supply reticulation systems	5	8	C
22102	Demonstrate knowledge of pressure zones and backflow prevention in water reticulation	4	4	
31520	Demonstrate knowledge of drinking-water supply networks for pipeline construction and maintenance	4	6	
19210	Service, clean, disinfect, and restore reservoirs or reticulation mains	3	4	C
31522	Service or commission, and disinfect, reticulation mains for drinking-water supply networks	4	6	
19212	Demonstrate knowledge of wastewater collection and treatment systems	3	10	C
22112	Demonstrate knowledge of wastewater composition, corrosion in sewers, odours, and odour control	4	4	
22113	Demonstrate knowledge of flows in wastewater and flow measurement techniques	4	4	
31527	Demonstrate knowledge of wastewater and stormwater networks for pipeline construction and maintenance	4	6	
22104	Demonstrate knowledge of pipe jointing systems for water reticulation	4	4 6	B
22105	Maintain water quality in water supply reticulation systems	4	5	C
22106	Describe water quality monitoring and preventative measures in water supply reticulation systems	4	5	
31521	Demonstrate knowledge of and maintain water quality in drinking-water supply networks	4	6	
31524	Carry out butt fusion jointing on polyethylene pipes for water networks	4	10	New
31525	Carry out electrofusion jointing on polyethylene pipes for water networks	4	10	New
31526	Analyse water loss for a drinking-water reticulation network	4	4	New
31528	Perform work on live wastewater and stormwater networks	4	10	New
31529	Construct a pressure rising main	4	5	New
31530	Operate a vacuum loading vehicle for wastewater or stormwater maintenance	3	5	New
31532	Demonstrate knowledge of fusion jointing of polyethylene pipes for water networks	4	5	New

Engineering and Technology > Infrastructure Works

ID	Domain	Title	Level	Credit	Review Category
27327	Generic Infrastructure Works	Handle and install pipes and fittings for infrastructure pipelaying, and carry out follow-up procedures	4	20	C
31523	Infrastructure Works Utilities	Install pipes for infrastructure pipelaying	4	11	