

Field Engineering and Technology**Review of *Civil Plant Management, Civil Construction Supervision, Civil Project Management, and Road Construction* unit standards****Existing classification**

Subfield	Domain	ID
Civil Plant Operation and Management	Civil Plant Management	6437, 6441
Civil Works and Services	Civil Construction Supervision	6427, 6435, 6442, 6443, 6450, 6451, 6455, 6456, 17321
	Civil Project Management	6430, 6433, 6434
Highway Construction and Maintenance	Road Construction	12569

InfraTrain New Zealand (InfraTrain) has completed the review of the unit standards listed above.

Date new versions published

March 2011

Planned review date

December 2015

Summary

Feedback from the infrastructure works industry indicated that the National Certificate in Civil Construction Supervision (Level 4) [Ref: 1324] and the National Certificate in Rural Contracting (Management) with strands in Agrichemical Application, and Agricultural Contracting [Ref: 1003] are restrictive for some candidates and are not meeting industry requirements. Research into the qualifications available for supervisors and managers in the industry determined that the National Certificate in Civil Construction Supervision (Level 4) [Ref: 1324] does not reflect the two distinct levels of supervisory authority and responsibility within the industry. Nor does the National Certificate in Civil Plant Management [Ref: 0253] provide appropriate recognition for infrastructure works managers.

In addition, it was noted that the current national qualifications for the infrastructure works industry do not provide clear career paths from entry to management or from one part of the industry to another. In conjunction with a review of the National Certificate in Civil Infrastructure (General Introductory Skills) [Ref: 1125] the infrastructure works industry redefined the industry career pathways and this led to a change of classification titles.

The major changes to subfield and domain names have affected all industry qualifications and standards. InfraTrain is managing the transfer of standards to new subfields and domains in stages over the next few years as the standards are required for qualification reviews. This review is one part of that process.

To ensure that all sectors of the industry participated in the reviews of the industry generic qualifications InfraTrain has been advised by a Joint Industry Advisory Group (JIAG). This group comprised representatives from major stakeholders including: large, medium, and small companies in the industry; trainers; assessors; and InfraTrain regional staff. The JIAG met first in August 2009 to establish the strategic outcomes of the review. Separate writing groups were tasked with reviewing the introductory and supervision qualifications, and the standards in them that were no longer fit for purpose. Each writing group included a representative from the JIAG to coordinate the reviews.

The infrastructure works supervision writing group met in September and October 2009 to determine qualification requirements. Draft qualifications were distributed widely for feedback and approved by the JIAG in December 2009. In February and March 2010 the infrastructure works supervision writing groups met to review the standards proposed for the revised level 4 and new level 5 qualifications. These standards were distributed widely for comment from March to August 2010 and amended as required by the feedback received. The standard classifications were confirmed when the new classifications were published in July 2010.

The outcomes of the supervision qualification review and the standards proposed for them were endorsed by the JIAG in July and August 2010.

Main changes

- All standards were transferred to new Infrastructure Works domains, with the exception of standard 17321, which was designated expiring as it is not fit for purpose.
- All titles were amended to reference the new domains.
- Levels of standards 6427, 6434, 6435, 6437, 6441, 6450, 6456, and 12569 were raised to better reflect the depth of technical knowledge and the responsibility applied to the supervisors' role in the infrastructure industry.
- Credits for standards 6434 and 6450 were decreased, and for standards 6430, 6442, and 6456 were increased, to better reflect learning and assessment requirements.
- Standard 17321 will expire as it is not fit for purpose.
- Seventeen new standards were written to cover knowledge and skills required for supervisors at different levels of responsibility in the infrastructure industry.
- Purpose statements were updated to match outcomes.
- Explanatory notes were updated and amended to remove irrelevant items and assist interpretation of the standard.
- Outcomes were amended to clarify requirements and to remove restrictions so they can be achieved by a wide range of candidates.
- Evidence requirements and range statements were put in logical order and amended to clarify the quality of evidence required.
- Last dates for assessment for superseded versions were added to standards 6427, 6430, 6433-6435, 6437, 6441-6443, 6450, 6451, 6455, 6456, and 12569.

The category D standard will expire at the end of December 2012

Impact on existing accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification	Level	Nature of accreditation	ID	Level
Subfield	Civil Plant Operation and Management	4	Standard	6437, 6441	5
	Civil Works and Services	3	Standard	6435, 6456	5
		4	Standard	6427, 6434, 6450	5
	Highway Construction and Maintenance	4	Standard	12569	5
Domain	Civil Construction Supervision	3	Standard	6435, 6456	5
		4	Standard	6442, 6451, 6455	4
				6427, 6450	5
	5	Standard	6443	5	
	Civil Plant Management	4	Standard	6437, 6441	5
	Civil Project Management	4	Standard	6434	5
		5	Standard	6430, 6433	5
Road Construction	4	Standard	12569	5	

Impact on registered qualifications

Key to type of impact	
Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following InfraTrain qualifications are impacted by the outcome of this Review. The National Diploma in Surveying (Level 6) with an optional strand in Mine Surveying [Ref: 0453] will be revised in 2011 to update the standard details. The remainder will be updated when they are reviewed in 2012. The standards that generated the status *Affected* are listed in **bold**.

Ref	Qualification Title	ID
0253	National Certificate in Civil Plant Management	6437, 6441
0453	National Diploma in Surveying (Level 6) with an optional strand in Mine Surveying	6442, 6450
1001	National Certificate in Civil Works and Services (Road Opening - Site Co-ordination)	6435, 6443, 6455
1178	National Certificate in Civil Infrastructure Health, Safety, and Environment (Operations) (Level 3)	6451
1179	National Certificate in Civil Infrastructure Health, Safety, and Environment (Supervision)	6435, 6451
1302	National Certificate in Roadmarking (Senior Operator) with strands in Long-Life Products; and Paint Marking; and with optional strands in Temporary Traffic Management on Level 2 and 3 Roads; Testing Pavement Marking; Testing Transit New Zealand T/8; and Testing Transit New Zealand T/12	6442

Ref	Qualification Title	ID
1324	National Certificate in Civil Construction Supervision (Level 4)	6427, 6434, 6435, 6437, 6441, 6442, 6443, 6450, 6451, 6455, 6456, 17321
1326	National Certificate in Civil Construction Works with strands in Concrete Kerb and Channel; Concrete Work; Culverts and Drainage Systems; Interlocking Paving; Retaining Structures; Road Construction; Road Maintenance; Road Safety Barrier; Roadside Amenities; and Traffic Signage	12569
1430	National Certificate in Pavement Surfacing (Single Site Supervision) (Level 4) with strands in Asphalt, and Chipseal	6435, 6442

The following table identifies qualifications developed by another SSB that is impacted by the outcome of this Review. The SSBs have been advised that the qualifications require revision. The standards that generated the status *Affected* are listed in **bold**.

Ref	Qualification Title	Classification or ID	SSB Name
0635	National Certificate in Gas Industry (Gas Engineering) with strands in Gas Network Operations, Gas Network Planning and Development, and Gas Utilisation	6430	NZ Extractive Industries Training Organisation
1259	National Certificate in Water Reticulation (Supervisor) (Level 4) with strands in Water, and Wastewater	6427, 6430, 6434, 6435, 6443, 6451, 6456	Agriculture Industry Training Organisation

Transition

Expiring standard 17321 has no direct replacement. Candidates currently in training for this standard are advised to complete the National Certificate in Civil Construction Supervision (Level 4) [Ref:1324] by the end of December 2012 or refer to standards 26787, 26788, and 26797 to determine an alternative. It is proposed that the replacement qualification for this certificate will contain the alternative standards. Please contact InfraTrain for further information on these changes.

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 > Civil Plant Operation and Management

Engineering and Technology > Infrastructure Works

ID	Domain	Title	Level	Credit	Review Category
6437	Civil Plant Management Infrastructure Works Management	Manage the hire of civil construction plant and equipment Manage the hire of infrastructure works plant and equipment	4 5	8	B
6441	Civil Plant Management Infrastructure Works Management	Cost civil plant for purchase, lease or hire for a project Cost and recommend plant, vehicle, or equipment options for infrastructure works	4 5	15	B

Engineering and Technology > Civil Works and Services > Civil Construction Supervision

ID	Title	Level	Credit	Review Category
17321	Supervise subsoil and culvert drainage on civil construction works	4	15	D

Engineering and Technology > Civil Works and Services

Engineering and Technology > Infrastructure Works

ID	Domain	Title	Level	Credit	Review Category
6427	Civil Construction Supervision Infrastructure Works Supervision	Allocate plant, equipment, and vehicles to civil construction projects Select, and allocate resources for infrastructure works projects	4 5	8	B
6430	Civil Project Management Infrastructure Works Management	Demonstrate knowledge of conditions of contract for civil projects Demonstrate knowledge of conditions of contract for infrastructure civil works projects	5	8 10	B
6433	Civil Project Management Infrastructure Works Management	Interpret civil construction contract specifications Interpret contract documents for planning an infrastructure works project	5	10	B

ID	Domain	Title	Level	Credit	Review Category
6434	Civil Project Management Infrastructure Works Supervision	Liaise with client, consultant, and service authority on behalf of civil construction contractor Identify and liaise with stakeholders on infrastructure works projects	4 5	12 10	B
6435	Civil Construction Supervision Infrastructure Works Supervision	Notify members of the public affected by civil construction activities Implement notification requirements for infrastructure works	3 5	3	B
6442	Civil Construction Supervision Infrastructure Works Supervision	Supervise civil construction activities on a single site Supervise daily activities on an infrastructure works site	4	10 16	B
6443	Civil Construction Supervision Infrastructure Works Supervision	Supervise civil construction activities on multiple sites Supervise infrastructure works projects	5	15	B
6450	Civil Construction Supervision Generic Infrastructure Works	Apply plans and specifications to calculate quantities for civil construction projects Apply plans and specifications to calculate quantities for infrastructure works projects	4 5	8 4	B
6451	Civil Construction Supervision Infrastructure Works Supervision	Implement notifiable work and permit requirements on civil construction works Implement notifiable work requirements on an infrastructure works site	4	5	B
6455	Civil Construction Supervision Infrastructure Works Supervision	Supervise civil construction subcontractors Supervise subcontractors on an infrastructure works site	4	8	B

ID	Domain	Title	Level	Credit	Review Category
6456	Civil Construction Supervision Infrastructure Works Supervision	Organise the supply and storage of materials for civil construction Plan the supply and coordinate delivery and storage of material resources for infrastructure works projects	3 5	4 10	B

Engineering and Technology > Highway Construction and Maintenance
Engineering and Technology > Infrastructure Works

ID	Domain	Title	Level	Credit	Review Category
12569	Road Construction Generic Road Works	Demonstrate knowledge of the design, construction, and maintenance of road drainage systems	4 5	15	B

Engineering and Technology > Infrastructure Works > Generic Infrastructure Works

ID	Title	Level	Credit	Review Category
26782	Use measurements for infrastructure works purposes	3	6	New
26786	Describe requirements, and monitor and record quality assurance on an infrastructure works site	4	10	New
26788	Demonstrate knowledge of drainage for infrastructure works	4	15	New
26790	Demonstrate knowledge of infrastructure works audits	5	5	New
26792	Interpret infrastructure works field tests results	5	3	New

Engineering and Technology > Infrastructure Works > Generic Road Works

ID	Title	Level	Credit	Review Category
26787	Demonstrate knowledge of road drainage systems	4	6	New

Engineering and Technology > Infrastructure Works > Infrastructure Works Supervision

ID	Title	Level	Credit	Review Category
26780	Determine, issue, and monitor resources for daily activities on an infrastructure works site	4	8	New
26781	Identify and liaise with people affected by activities at an infrastructure works site	4	3	New
26783	Organise the supply and storage of materials for an infrastructure works site	4	4	New

ID	Title	Level	Credit	Review Category
26784	Maintain daily records for an infrastructure works site	3	5	New
26793	Determine and coordinate notifiable work and permit requirements for infrastructure works	5	5	New
26794	Assess, implement, and monitor infrastructure works subcontracts	5	8	New
26795	Determine, implement, and monitor quality assurance requirements for an infrastructure works project	5	8	New
26796	Prepare and process infrastructure works project documentation	5	8	New
26797	Plan and supervise drainage for infrastructure works	5	10	New
26798	Demonstrate knowledge of infrastructure works contracts	5	6	New

Engineering and Technology > Infrastructure Works > Infrastructure Civil Works

ID	Title	Level	Credit	Review Category
26785	Explain field sampling and collect field samples for infrastructure civil works	4	5	New