

COMPETENCY FRAMEWORK

ENGINEERING ENDORSEMENT

Surveyors Act 2003 s39

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Document References

Ref	Title	Document ID	Version	Owner
[1]	Surveyors Act 2003			State of Qld
[2]	Competency Frameworks (Overview)	SBQ-CF-0100	V1.00	SBQ
[3]	Competency Frameworks (Surveying Associate)	SBQ-CF-0101	V4.00	SBQ
[4]	Competency Frameworks (Surveying Graduate)	SBQ-CF-0102	V4.10	SBQ
[5]	Competency Frameworks (Surveyor)	SBQ-CF-0103	V5.00	SBQ
[6]	Competency Frameworks (Consulting Endorsement)	SBQ-CF-0104	V1.00	SBQ
[7]	Competency Frameworks (Engineering Endorsement)	SBQ-CF-0105	V4.00	SBQ
[8]	Competency Frameworks (Cadastral Endorsement)	SBQ-CF-0106	V4.00	SBQ
[9]	Competency Frameworks (Hydrographic Endorsement)	SBQ-CF-0107 Superseded	V1.00	SBQ
[10]	Competency Frameworks (Mining Endorsement)	SBQ-CF-0108 Superseded	V3.00	SBQ
[11]	Competency Frameworks (Associate Degree Mapping)	SBQ-CF-0109 Superseded	V1.00	SBQ
[12]	Competency Frameworks (Graduate Degree Mapping)	SBQ-CF-0110 Superseded	V1.00	SBQ
[13]	Competency Frameworks (Surveyor Degree Mapping)	SBQ-CF-0111 Superseded	V1.00	SBQ
[14]	Competency Frameworks (Mining O Endorsement)	SBQ-CF-0112	V1.00	SBQ
[15]	Competency Frameworks (Mining UC Endorsement)	SBQ-CF-0113	V1.00	SBQ
[16]	Competency Frameworks (Mining UM Endorsement)	SBQ-CF-0114	V1.00	SBQ

Introduction

This document describes the Competency Framework for endorsement as an Engineering Surveyor as prescribed under section 39 of the Surveyors Act 2003.

The competency framework describes the competency Units, Elements and Descriptors that are required to be met for endorsement as an Engineering Surveyor. The competency framework describes the performance that the candidate is required to display. Competency is developed through the appropriate combination of qualifications, skills, knowledge, and experience.

Definitions

Unit of Competency (Unit): A major segment of the overall competency of a profession, typically representing a major function, role or field of activity.

Element of Competency (Element): A subdivision of a unit of competency into an observable function or activity.

Performance Criteria (Descriptors): An indicative list of the aspects of professional performance that would be regarded as evidence of competent professional performance in the work place in an element of competency.

Notes: The notes within framework are for guidance only and are not an official part of the framework. The notes are an aid to assist in the understanding of the requirement of a Unit, Element or Descriptor.

Competency Requirements for Engineering Endorsement

Applicants will need to have displayed their competency at the Surveyor level, as well as their competency in this discipline of surveying before being granted an Engineering Endorsement.

An Applicant seeking the issue of an Engineering Endorsement will need to demonstrate competency in the following document.

Competency Table for Engineering Endorsement

Application of the framework

This competency framework reflects the competencies required for persons to obtain initial registration. In applying the framework throughout a registered person's career, it is recognised that it is not necessary to maintain the detailed technical competencies prescribed in parts of the framework. Where registered persons are not required to apply these technical competencies as part of their work duties, it is acceptable for them to be able to demonstrate that they have an understanding of the application of, and any limitations that may apply to the use of, these techniques.

The notes to the framework are for guidance only and are not an official part of the framework. The Board can add to, amend or delete notes at their discretion.

Element	Descriptors	Notes
E.1 Understand and apply relevant law.	<p>Applicants will need to demonstrate that they are able to:</p> <ul style="list-style-type: none"> i. Operate in accordance with government Acts, Regulations or instructions ii. Explain the operation the survey components of civil contracts 	<p>The legislation referred to in descriptor (i) includes but is not limited to the appropriate parts of:</p> <p>Surveyors Act 2003 Survey and Mapping Infrastructure Act 2003 Vegetation Management Act 1999 Native Title (Queensland) Act 1993 Acts Interpretation Act 1954 Transport Operations(Road Use management) Act 1995 (this Act refers to the Manual of Uniform traffic Control Devices which is the key document that is used when setting out any traffic control devices Transport Infrastructure Act 1994 (used for Notice of Entry onto freehold land) and their associated regulations.</p>
E.2 Work in interdisciplinary teams	<p>Applicants will need to demonstrate that they are able to:</p> <ul style="list-style-type: none"> i. Explain the roles and interactions with other professionals, technicians and trades persons 	<p>Engineers (civil, structural, geotechnical, pavements), designers, valuers, land owners, land developers, town planners, project managers, environmentalist, native title, experts, etc.</p>
E.3 Plan, organise, direct and control tasks, people and other resources	<p>Applicants will need to demonstrate that they are able to:</p> <ul style="list-style-type: none"> i. Set work objectives and prioritise activities ii. Determine work methods, procedures and quality control iii. Estimate times, costs and resources iv. Compile work schedules and allocating resources v. Establish project recording systems for surveying records and design changes 	

E.4 Set out complex engineering works	<p>Applicants will need to demonstrate that they are able to:</p> <ol style="list-style-type: none"> i. Read and correctly interpret design and construction plans ii. Construct or validate electronic design models based on hardcopy plans iii. Determine the appropriate survey specification and requirements from contract documents iv. Place construction control being aware of the site limitations including sequencing of phased construction v. Set out works in accordance with the contract specifications and tolerances vi. Use adequate redundant measurements to validate setout locations vii. Communicate results clearly to client, construction staff and other consultants viii. Undertake compliance check, audit and as-constructed surveys as per contractual requirements 	<p>Applicants should demonstrate that they have exposure to a variety of large civil and or building projects in a responsible position. This can include projects involving structures, tunnels, complex volume calculations, batter staking, machine guidance and conformance reports.</p>
E.5 Implement projects	<p>Applicants will need to demonstrate that they are able to:</p> <ol style="list-style-type: none"> i. Prepare survey specifications and contracts ii. Assess survey tenders and let contracts iii. Supervise survey contracts 	<p>This could include any number of surveying projects types including those that involve photogrammetry, mobile and static laser scanning, cadastral, engineering, hydrographic, construction, auditing, survey control, etc.</p>
E.6 Make precise observations	<p>Applicants will need to demonstrate that they are able to:</p> <ol style="list-style-type: none"> i. Identify the sources of errors in precise angle observations and the techniques used to minimise their effects 	

<p>E.7 Establish, measure and adjust extensive survey control networks</p>	<p>Applicants will need to demonstrate that they are able to:</p> <ol style="list-style-type: none"> i. Establish project control networks using GNSS or terrestrial measurements ii. Re-establish and validate existing control networks iii. Evaluate and adjust measurements by appropriate adjustment methods iv. Use adequate redundant measurements to validate data v. Analyse and critically evaluate the adjustment vi. Report on the status of existing survey networks and marks 	<p>The element requires evidence that the applicant has completed control surveys that involve:</p> <ul style="list-style-type: none"> • Networks of an enduring nature • Multiple interconnections between stations • Networks of substantial scale and complexity <p>This could include the maintenance/monitoring component of a large construction survey control network (ie disturbance, movement, destruction, replacement, etc)</p>
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