



GEOSPATIAL ENGINEERING COMPETENCIES – – Buried Services Surveyor Competencies

Buried Services Surveying

The measurement, definition and portrayal, either digitally or graphically in the form of maps, plans or reports, of the characteristics of buried services. The ability to interpret, collate and manage data generated from the propagation of electromagnetic radiation and from visual inspection, and from this provide comprehensive and reliable information to end users.

Range Indicators

Competency will be demonstrated in the application of relevant knowledge, understanding and skills set out in the Buried Services Surveying Competency Requirements. Such knowledge and skills will normally be obtained through a form of structured training and work experience.

This area of specialism includes the following core skills:

- Comprehensive experience of all commonly used classes of instruments/tools which are used to detect buried services
- Comprehensive experience of carrying out buried services surveys at various scales
- Understanding of 2 and 3 dimensional co-ordinate geometry
- Understanding of the basic principles of geodesy and the problems or representing curved surfaces with planar coordinates
- Comprehensive experience of the use of ICT for processing/manipulating geospatial information
- Experience of other aspects of measurement.

Communication, basic computing and Health and Safety skills apply to all specialisms and are elsewhere.

Evidence Guide

Evidence of successful achievement of this competency would be effective and efficient management of the Buried Services Surveying process with the application of appropriate systems for monitoring and reporting of data, at the minimum levels as stated in the competency details and range of elements

GEBS01		Competency	The ability to carry out underground services surveys				
			Date of assessment				
	Optimum Standard		Activity Details	A	K	E	B
ITEM	TECHNICAL MEMBER	MEMBER					
A	A	B	Site reconnaissance				
B	K	B	Use of appropriate survey control stations and measurements				
C	E	B	Obtain, interpret and understand limitations of STATS records, service records and other available data				
D	E	B	1. Visual methods of locating/mapping services/local knowledge 2. surface indications; lifting services covers, overhead services, possible pitfalls, manholes, services pits, conduits, services ducts, trench scars, services risers				

GEBS01 continued		Competency	The ability to carry out underground services surveys			
			Date of assessment			
Optimum Standard			Activity Details			
ITEM	TECHNICAL MEMBER	MEMBER	A	K	E	B
E	E	B				
F	E	B				
G	E	B				
H	E	B				
I	A	K				

GEBS01 continued		Competency	The ability to carry out underground services surveys			
			Date of assessment			
Optimum Standard		Activity Details	A	K	E	B
ITEM	TECHNICAL MEMBER					
J	E	B				
K	E	B				
L	A	K				
M	K	E				
N	E	B				
O	E	B				
P	A	K				

GEBS01 continued		Competency	The ability to carry out underground services surveys			
			Date of assessment			
	Optimum Standard		Activity Details			
ITEM	TECHNICAL MEMBER	MEMBER	A	K	E	B
Q	E	B				
			Understand applicable legislation and how it applies including CDM considerations; HSG47, NRSWA, Traffic Management Act and any other			

GEBS01: The ability to carry out underground services surveys

Name of Supervisor	Name of Applicant
Supervisor's signature	Date

GEBS02		Competency	The ability to use and understanding of surveying instruments				
			Date of assessment				
	Optimum Standard		Activity Details	A	K	E	B
ITEM	TECHNICAL MEMBER	MEMBER					
A	E	B	A variety of methods of buried services surveying				
B	E	B	Use of appropriate equipment				
C	E	B	Levels				
D	K	B	Levels – digital				
E	E	E	Instrument checking				
F	E	E	Instrument calibration				
G	E	E	Instrument adjustment				
H	E	E	Accessories checking and adjustment				

GEBS02: The ability to use and understanding of surveying instruments

Name of Supervisor	Name of Applicant
Supervisor's signature	Date

GEBS03		Competency	Application of geometric principles			
			Date of assessment			
		Optimum Standard	Activity Details			
ITEM	TECHNICAL MEMBER	MEMBER	A	K	E	B
A	E	B				
B	E	B				
C	E	B				
D	E	B				
E	E	B				
F	E	B				
G	E	B				

GEBS03: Application of geometric principles

Name of Supervisor	Name of Applicant
Supervisor's signature	Date

GEBS04		Competency	The ability to use ICT in surveying			
			Date of assessment			
		Optimum Standard	Activity Details			
ITEM	TECHNICAL MEMBER	MEMBER	A	K	E	B
A	E	B				
B	E	B				
C	E	B				
D	E	B				
E	E	B				
F	E	B				

GEBS04: The ability to use ICT in surveying

Name of Supervisor	Name of Applicant
Supervisor's signature	Date