

Title	Demonstrate knowledge of positioning and install and configure a GNSS receiver for hydrographic surveying operations		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – demonstrate knowledge of positioning; and – install and configure a GNSS receiver for hydrographic surveying operations.
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Classification	Surveying > Hydrography
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant legislative and industry requirements.
- 2 Legislation and references relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - HYSPEC Contract Specification for Hydrographic Surveys Version 2.0, Land Information New Zealand (LINZ), available at <https://www.linz.govt.nz>;
 - Standards of Competence For Category “B” Hydrographic Surveyors S-5B, available at <https://iho.int/>.
- 3 Definition
Industry requirements may refer to but are not limited to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer’s requirements, contract specifications, manuals, procedural documents, and guidelines.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of positioning in hydrographic surveying operations.

Performance criteria

1.1 Shape of the earth is explained.

Range ellipsoid, geoid, vertical datums, global reference frames.

- 1.2 Types of map projections and their applications are explained.
- Range three types of map projections, including – vegetation type mapping, Mercator, universal transverse Mercator - constraints from projections.
- 1.3 Grid and geographic reference systems are explained.
- 1.4 Geodetic transformations and ellipsoidal computations are explained.
- 1.5 Positioning measurements, methods and techniques, above and below water to determine a position, are explained including the errors associated with determinations.
- Range positioning fundamentals, satellite positioning, positioning systems, historical survey, survey control, height systems, elevation measurement and computation, acoustic positioning concepts, inertial navigation units.

Outcome 2

Install and configure a Global Navigation Satellite System (GNSS) receiver for hydrographic survey operations.

Performance criteria

- 2.1 GNSS receiver is installed and configured to output positions required for the type of survey and installation method.
- Range baud rates, pulse per second, internet protocol addresses.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 November 2015	31 December 2022
Review	2	27 May 2021	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.