

SECTION 2 QUALITY LEVELS

2.1 SCOPE OF SECTION

This Section sets out the characteristics and requirements of each quality level. Each quality level is determined in terms of attribute information and metadata.

2.2 GENERAL

A quality level describes the amount and accuracy of information that is collected or held on a subsurface utility. There are four quality levels—D, C, B and A.

NOTE: Further detail on quality levels, their application and their limitations is contained in Appendix A.

Quality level A is considered to be the highest quality level. The higher the quality level, the more information is known about the subsurface utility and the more accurate that information is.

The quality level of a subsurface utility may vary along its length depending on the associated attribute information and metadata available.

The amount of attribute information and metadata required by this Section depends on the quality level. For example, the attribute location information varies from a simple approximation (quality level D) to an absolute location in three dimensions within specified tolerances (quality level A).

NOTE: Appendix B provides additional guidance on how to present attribute information and metadata.

2.3 UTILITY INFORMATION WITHOUT AN INDICATION OF QUALITY LEVELS

By default, if the metadata does not indicate a quality level, then the utility information shall be assumed to be at quality level D.

2.4 QUALITY LEVEL D

2.4.1 General

Quality level D is the lowest of the four quality levels. The attribute information and metadata of a subsurface utility can be compiled from any, or a combination of, the following:

- (a) Existing records.
- (b) Cursory site inspection.
- (c) Anecdotal evidence.

2.4.2 Attribute information

Quality level D attribute information shall include—

- (a) utility owner;
- (b) an indication of the utility type;
- (c) the date of installation (if known); and
- (d) an indicative location of the surface and subsurface features of the utility.

Tolerance does not apply to an indicative location that is attributed to quality level D.

2.4.3 Metadata

Quality level D metadata should include the quality level D acronym, conveyed as QL-D.

Quality level D metadata shall include—

- (a) the date that the data was captured; and
- (b) the source of the information.

2.5 QUALITY LEVEL C

2.5.1 General

Quality level C is described as a surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records (and/or anecdotal evidence) and a site survey of visible evidence. The minimum requirement for quality level C is relative spatial position.

2.5.2 Attribute information

Quality level C attribute information shall include—

- (a) utility owner;
- (b) an indication of the utility type;
- (c) the date of installation (if known);
- (d) an interpolation of the location and direction of the subsurface utility using surface features as points of reference;
- (e) feature codes of surface features, including but not limited to pits, access chambers, poles, valves and hydrants; and
- (f) the location of surface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of ± 300 mm.

2.5.3 Metadata

Quality level C metadata shall include—

- (a) the quality level C acronym, conveyed as QL-C;
- (b) the date that the data was captured; and
- (c) the source of the information.

2.6 QUALITY LEVEL B

2.6.1 General

Quality level B provides relative subsurface feature location in three dimensions. The minimum requirement for quality level B is relative spatial position.

2.6.2 Attribute information

Quality level B attribute information shall include—

- (a) utility owner;
- (b) an indication of the utility type;
- (c) the date of installation (if known);
- (d) the location of surface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of ± 300 mm; and
- (e) the location of subsurface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of ± 300 mm and maximum vertical tolerance of ± 500 mm.

2.6.3 Metadata

Quality level B metadata shall include—

- (a) the quality level B acronym, conveyed as QL-B;
- (b) the date that the data was captured;
- (c) the source of the information; and
- (d) the locating method(s) used to obtain the attribute information.

2.7 QUALITY LEVEL A

2.7.1 General

Quality level A is the highest quality level and consists of the positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as ‘validated’.

Where the whole line segment cannot be verified by line of sight, quality level A shall not be attributed to the line segment between validated points.

2.7.2 Attribute information

Quality level A attribute information shall include—

- (a) utility owner;
- (b) the utility—
 - (i) type;
 - (ii) status;
 - (iii) material;
 - (iv) size; and
 - (v) configuration;
- (c) the date of installation (if known);
- (d) feature codes of surface and subsurface features including but not limited to pits, access chambers, poles, valves, hydrants; and
- (e) the location of points surveyed on surface and subsurface features measured in terms of absolute spatial positioning with a maximum horizontal and vertical tolerance of ± 50 mm.

2.7.3 Metadata

Quality level A metadata shall include—

- (a) the quality level A acronym conveyed as QL-A;
- (b) the date that the data was captured;
- (c) the source of the information;
- (d) the survey and locating methods used to obtain the attribute information; and
- (e) survey control information used to determine the absolute spatial position of the utility.