



What are standard specifications?

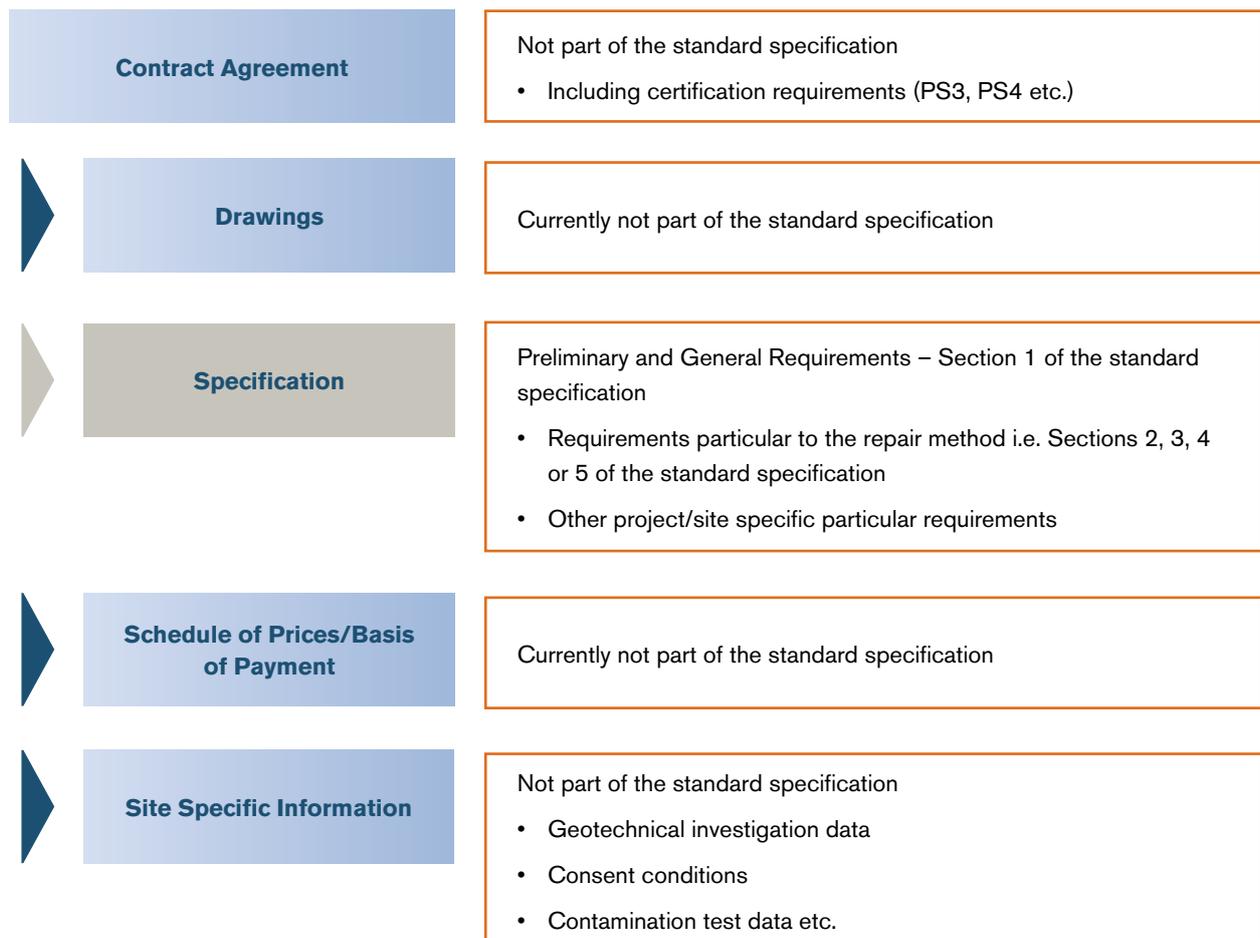
A specification is a document that gives contractors guidance during construction works. During 2014 and 2015, a group of geotechnical specialists prepared some standard specifications for small-scale ground improvement works typically required for single residential properties.

How does a specification fit into the contract agreement?

The flowchart below shows where a standard specification document aligns with other documents required for a contractual agreement before works begin on site. These documents are provided so contractors can estimate a construction cost.

The standard specifications are intended to:

- Provide a guidance document for use by individuals and organisations involved in designing and constructing ground improvement works
- Lower overall industry costs to design works
- Lower overall construction costs as techniques, specifications and materials are standardised
- Standardise and improve consistency in ground improvement design and construction
- Support the MBIE guidance document on *Repairing and rebuilding houses affected by the Canterbury earthquakes*.



Use of the Standard Specification within a contractual agreement



The standard specifications cover several sections of a tender document for proposed ground improvement works. These include the preliminary and general requirements, particular repair methodology and other project or site-specific requirements.

This may be used throughout the Canterbury region during reconstruction and in the future. Although the document is being written for the Canterbury recovery, it was recognised that it may also be a useful guide for other residential areas within New Zealand that are vulnerable to liquefaction.

Who was involved in developing the standard specifications?

Specialists from the following companies/organisations were involved in developing the standard specifications:

- Tonkin + Taylor
- Beca
- Coffey Geotechnics
- Golder Associates
- Aurecon
- Brian Perry Civil
- Hiway Geotechnical
- Betterground
- Canterbury Earthquake Recovery Authority
- Earthquake Commission
- Ministry of Business, Innovation and Employment.

What ground improvement methods have standard specifications?

Standard specifications are available for the following shallow ground improvement methods:

- Densified crusts
- Stabilised crusts (ex-situ / rotovated or in-situ mixed)
- Stone columns
- Driven timber poles.

Where can I find the standard specifications?

The standard specifications are expected to be available from the New Zealand Geotechnical Society in late 2015.

Are there any limitations?

It is intended that the standard specifications are used as general guidance for technical specification for the four ground improvement methods. Specifications can be varied by a project engineer as appropriate. Such variation would depend on the type, size, quality and performance requirements of any particular project.

Other general engineering considerations, such as ground surface subsidence, slope stability, lateral spreading and flooding, still need to be taken into account where appropriate. This may require additional site-specific geotechnical investigations and additional ground improvement not covered by the MBIE guidance document or the standard specifications.