



FDG HAS YOUR COMPLETE SEISMIC SOLUTION

FDG's Seismic Design Service follows a holistic approach by understanding all the project components from design to sign-off. This approach ensures the project cost, design, compliance and buildability all align. We have the knowledge, the industry experts and the products to help you minimize risk and ensure seismic compliance.

FDG SEISMIC DESIGN METHODOLOGY

1/ Our Offering

FDG is more than just a supplier of HVAC, Plumbing and Electrical support products. We believe that for successful project delivery it's all about helping our customers to minimise risk and reduce their costs. This is why FDG have combined our current product offering with a seismic design service.

FDG have taken a "Contractor First" approach seismic to simplifying the process and ensuring the design is practical and efficient. This means early engagement with key stakeholders such as the customer and installer to ensure that cost, design, compliance, and buildability align.

2/ The Plan

Ideally, our project consultants get involved at contract tender stage, where we partner with our customers to discuss what the potential journey might look like. We give them a clear scope of the FDG process, not only discussing the design but also options for product and installation. Being involved in the construction industry, we understand how products are used and are able to give insights into what will or won't work once on-site installation begins.

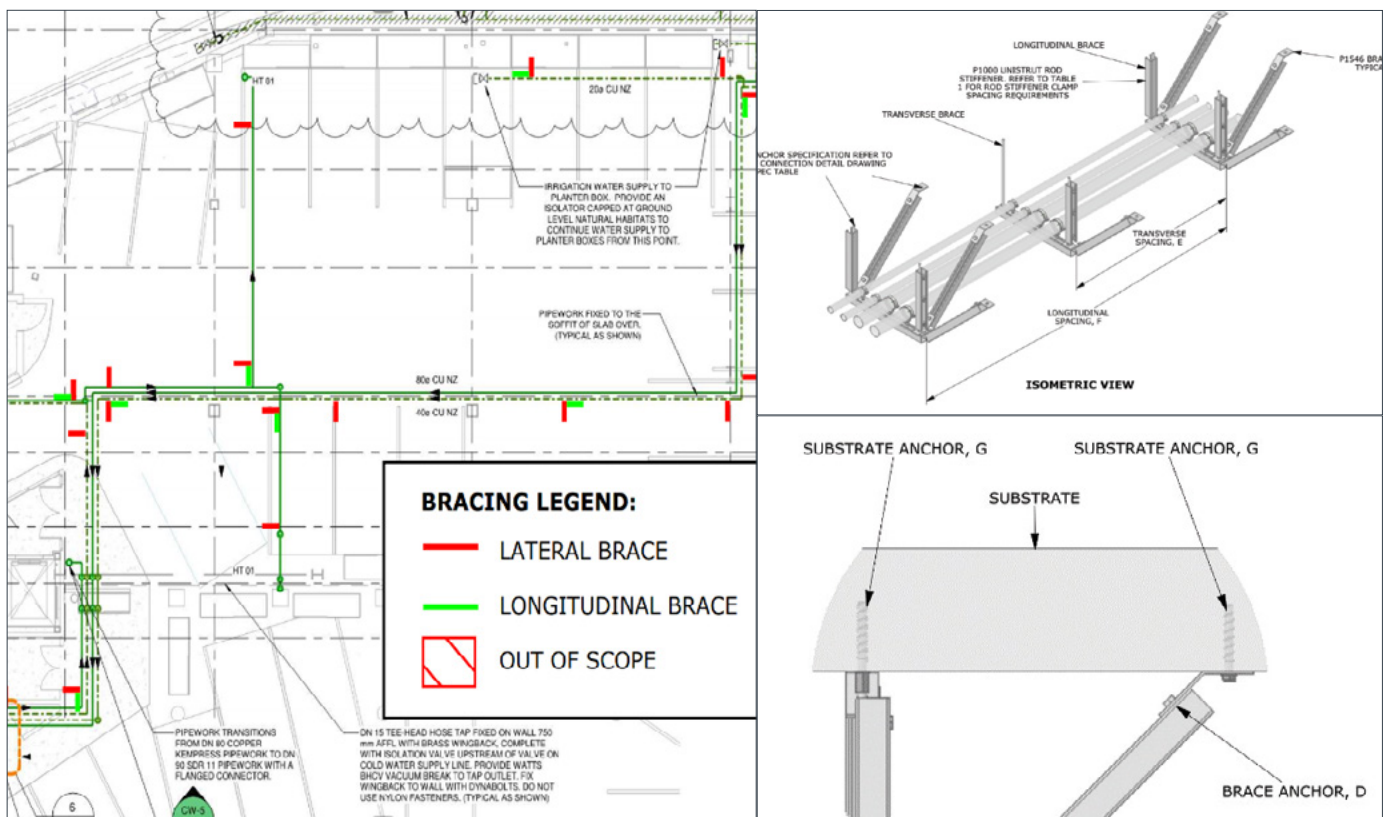
3/ The Process

This process starts with a consultation, which includes the clients project team, engineer, and FDG. It ensures everyone is aligned and fully understands the unique requirements of the project. The Design is then completed by a Registered Chartered Professional Engineer in accordance with the NZ Standard NZ 4219:2009. This is then reviewed by the in-house team at FDG to ensure the most efficient and cost-effective use of materials during installation. We then put together a Bill of Materials to minimise the risk of budget overruns for our client which is then supplied to the customer over the length of the project. To issue the final PS4 the registered engineer will inspect the final installation for compliance via a site visit or video conference/call.

We work with the experts so you get the best possible documentation with minimal effort.



Here are some examples of the type of Plans and Bracketry detail you will receive for your project from FDG.



Additional extras FDG can assist with:

- Prefabrication of Custom Bracketry and Frames.
- Plant Room Frames and Switch Board Room Design.
- Seismic engineering for bespoke requirements onsite, for example service clashes. This includes site consultations to ensure that the engineering solution works for all parties.
- CAD Design and BIM Modelling.



BRACING EXEMPTIONS UNDER NZS4219:2009

While all services must be 'seismically restrained' as per the building code, services that meet the following conditions don't require any additional seismic bracing as the hangers are able to provide enough rigidity alone:

Piping System

Piping systems do not require seismic bracing if:

1. Pipes are less than 50 mm in diameter and are suspended by individual hangers of 150mm or less; and
2. Have 150 mm of clearance from hangers and braces from adjacent suspended components.



Duct Work

Ductwork systems do not require seismic bracing if:

1. The ductwork is considered rigid; and
2. Ductwork is suspended by individual hangers 200mm or less; and
3. Have 150 mm of clearance from hangers and braces from adjacent suspended components.



Electrical Services

Non-essential electrical services (i.e., cable trays), do not require seismic bracing if:

1. The services are suspended by individual hangers 400mm or less; and
2. Have 150 mm of clearance from hangers and braces from adjacent suspended components.



Other notes on Seismic Elements

If you are able to keep flexible ductwork to less than 1.5m, it is less likely to require additional seismic bracing. When adding in individual components, such as speakers in a ceiling cavity, keeping these under 7.5kg, where possible, will also reduce the need for seismic restraint.

The minimum spacing requirements for unrestrained services (pipework, cable trays, HVAC ducts and suspended ceilings) are as follows:

