



201 An Unexpected Journey: Improving Hamilton City Council's 3 Waters Resilience to Unexpected Events

Melanie Liu, Dan Stevens, Celia Walker & Karl Hjelmstrom, Beca, Hamilton City Council

Hamilton City Council has embarked on a journey to better understand the current level of resilience to natural hazards and climate change for their 3 waters assets and activities. This also includes developing a roadmap that will help them to improve the 4R's of resilience: Readiness, Reduction, Response, and Recovery.

Hamilton City Council has started on a journey to understand and work towards improving their current state of resilience for the 3 waters. Utilising a scorecard, based on the United Nations Disaster Resilience Scorecard for Cities, the team identified priority areas for further work which included:

- Preparing a 3 waters resilience risk register
- Developing a methodology for assessing the vulnerability of 3 waters critical assets
- Assessing the resilience of 3 waters power and telecommunication systems
- Developing a register of key contractors and supply chains and a process to assess their resilience
- Developing a register of and reviewing 3 waters emergency response plans and council design standards and guidelines relating to resilience.

The outputs from this work were used to develop an improvement plan for HCC and could be applicable to other local councils and new water entities for building long-term resilience and climate change adaptation into 3 waters strategic planning.

202 Risky Business

Josh Taylor & Emily Walton, Wynn Williams

A look into legal risk in the construction industry and how it can be managed to promote sustainability (particularly economic sustainability) for industry participants. We will examine how risk can be assessed and dealt with before, during, and sometimes after a construction or infrastructure project has been completed. Risk is a hot topic in the construction industry – particularly when risks come to fruition and cause issues for the project or for contractors and consultants involved. In order to have an economically sustainable construction industry it is critical for risk to be identified, discussed, allocated, and insured (where possible) at the beginning of a project.

This presentation will discuss the methods used and key issues when dealing with risk in an infrastructure construction project and will include discussion on:

1. Procurement and project due diligence.
2. Contract negotiation – allocating and pricing risks.
3. Insuring the project and its participants (including understanding what risks cannot be insured).

4. Preparing and making insurance claims.

When all these matters are properly considered and worked through, it significantly reduces the potential impact that project risks can have on the participants involved in a project. This facilitates an economically sustainable industry; one that benefits principals, contractors and consultants and ultimately the wider community.

203A From Canaries to Dashboards – Managing Risk for Asset Owners **Willis Macbeth, WSP**

Early last century, miners took canaries underground to provide advanced warning of the risk of rising carbon monoxide levels and associated increased risk of loss of life or asset availability.

Today, we have state-of-the-art technology and specialist expertise to manage risk; allowing owners of various assets to make informed decisions before, during and after a range of natural hazard events. In a world where climate change is resulting in increased frequency and severity of emergency events, a solution is needed by asset owners all around the globe to help them protect their assets, manage the life safety risk to users and maintain business continuity.

Hear how WSP are helping asset owners manage risk by merging advancements in technology (such as FME dashboarding, remote sensors and monitoring) and technical expertise to apply risk management principles such as implementing robust Trigger Action Response Plans. This advancement helps asset owners make informed decisions using real-time information before, during and after a range of natural hazard events.

203B National Asset Risk Management Programme of the United States **Army Corps of Engineers** **Colin Krumdieck, Retired Geotechnical Engineer**

Information to come