Drainage alliance improves efficiency

To upgrade the drainage system in parts of Auckland and reduce the volume of polluted water entering the harbour, New Zealand's first water industry alliance was formed. The project, expected to conclude in August, received an honourable mention at Alliancing Association of Australasia's Excellence Awards in Melbourne last October. In this article, the association outlines the benefits that have resulted from the alliancing approach.

Approximately 15% of Auckland City is serviced by a combined drainage system, built more than 70 years ago, where both wastewater and stormwater flow through the same pipe. This drainage system is unable to cope during wet weather when the amount of stormwater entering the system increases dramatically. This results in wastewater overflowing into the streams and waterways leading to Waitemata Harbour around Westmere, sometimes forcing closure of Auckland's beaches. A critical drainage upgrade is needed to reduce the amount of wastewater pollution overflows and to ensure that the drainage infrastructure could cope with forecast growth.

In June 2007 the Clear Harbour Alliance was formed by GHD, Opus International Consultants and Downer EDI Works to improve the drainage network and to protect the environment. This was the first time that an alliance partnership had been undertaken in the New Zealand water industry. The $50 million project involved construction activity on some 1000 private properties and indirectly affected 5000 people living in some of the narrowest and most congested streets in the city.

As part of the project, combined sewers were replaced with separate dedicated wastewater and stormwater networks. Some 22km of new private drainage, 9km of new public wastewater and 3km of new public stormwater drainage were installed.

Tangible	Intangible
Program	Customer
Traffic operations	Legacy
Utility coordination	
System functionality	
Safety	
Environmental	

The project's Key Result Areas, grouped into tangible and intangible.

The venture is designed to reduce wastewater overflows entering the Waitemata Harbour by around 70,000m^3.

The client, Auckland City's water and wastewater utility Metrowater, chose an alliance methodology for efficiency gains and improved customer management.

Efficiency gains

Metrowater's Capital Procurement Strategy emphasised efficiency as a key outcome in the delivery of any capital works program. Hence the focus changed from many small projects being delivered under a traditional, fragmented approach, to delivering fewer large projects in a structured manner under relationship-based procurement methods.

"We found the previous method of doing this work in small segments to be very cost prohibitive. Not only were we getting higher prices because people would bid on each project separately, but we had resource constraints internally to manage all of these projects. So we turned it around and said we'll make it a $50 million project. We couldn't do that as a traditional method because of the risk, so we did it as an alliance," Metrowater general manager of asset management and investment, Anin Nama said.

Improved customer management

The alliance method was a means for Metrowater to improve customer management, an area where the previous projects had not performed well. Customer satisfaction was made the single largest contributor to the financial gain/pain incentives of the alliance and this became a significant area of innovation throughout the duration of the project.

"With previous jobs of this nature the contractor wanted to get in and do his work as quickly as possible, and then get out. Quite often that attitude can conflict with the needs and wishes of customers. Under traditional delivery methods there is no pressure on anybody to manage the customer,",said Nama. "An alliance forced

The project involved separating wastewater and stormwater pipe networks in densely populated areas of Auckland with many narrow and steep streets.

us to change the way that we interacted with the public by having a dedicated customer team, with the right skill set and training."

To ensure that Metrowater achieved a higher level of customer satisfaction from the Clear Harbour Alliance, eight key result areas (KRAs) were developed based on benchmark data gathered from previous projects. The KRAs were used to align all parties within the alliance so that they were all working towards a common goal.

In order to achieve efficiency gains and improved customer management, Metrowater selected alliance partners based on the strength of their non-price attributes (for example people and capability).

Obtaining property access

A common challenge with work of this nature is obtaining access to a property. The alliance ensured a mutual relationship between constructors and the public, whereby constructors met face-to-face with property owners to discuss construction methodologies prior to obtaining their consent. Traditionally, Metrowater staff or designers might have been the main point of contact for these customers.

This two-way communication ensured that the property owners were informed about the project every step of the way. This meant any obstacles could be addressed straight away and a mutually agreeable outcome resulted.

Communication

Another challenge with a large project, involving multiple partners and contractors, is communicating with the public.

The alliance made certain that the entire team was ready to communicate with the public regarding what was happening in a specific street, or anywhere on the project, at any given time. This was achieved by implementing a communication-training program for all alliance staff that consisted of training sessions and specific "communication tools".

"Having a community relations team is great, but it is important that all the staff on the project are responsible for delivering good customer care. The two-hour training sessions demonstrated how people might react to situations in different ways," Clear Harbour community relations officer Justin Connolley said.

Project staff were equipped with "tools" such as:

- A wallet card summarising the key aspects of the project.
- Access to a Customer Communications Database, which listed all communications to each customer linked to a property database, for site engineers and other key team members.
- Pre-work information sheets, on a street-by-street basis, were prepared for site crews by the Community Relations Team. These included information about pets, gardens, families or previous customer conflicts at each property.
- A dedicated free phone number was promoted to staff as a way to call and find out background information on customers that they were dealing with, as an alternative to accessing the customer database directly.

By using this integrated communications approach staff saw themselves as project ambassadors who "owned" customer care.

Managing relationships

A key principle for Metrowater was best practice health and safety performance to guarantee the safety of work crews and

The project is designed to reduce the volume of wastewater overflowing into Waitemata Harbour.

the public, and to comply with legislation.

Early on in the project, client and partner company relationships were put to the test when a number of health and safety breaches prompted Metrowater to intervene in the running of the alliance. Metrowater had to make a unilateral decision to shut the project down for a two-day period, due to concerns with health and safety. This decision created tensions in the alliance leadership and management teams, and questions were raised about the functioning of the alliance structure.

In 2008 the alliance team invited Andrew Hutchinson from management consultancy Alchimie to lead discussion between all parties. By returning to the collaborative roots of the alliance, openly airing their concerns and discussing the client's duty of care, a better understanding was reached by the partners.

"We overcame this challenge and moved on, and ultimately have now delivered a successful alliance," Nama said.

Curved pipes help reduce disruption

One of the challenges for the alliance was to reduce this disruption to the public, which was achieved by adopting curved pipe technology. Pipes with horizontal curves were designed and installed, where previously only straight pipes had been used. This design innovation allowed the team to install the pipes using trenchless technology in several locations, rather than open cut methods. This method also eliminated the need for some manholes to be placed in the back yards of residential properties.

While using trenchless technology to install new pipes is not new to Metrowater, it was applied in new ways by the Clear Harbour Alliance. This resulted in more than 80% of pipes being installed using trenchless methods – more than on any previous Metrowater project.

Now the curved pipe design is proving to work hydraulically, Metrowater is looking into adopting this method on future projects.

Reflections on alliancing

By adopting alliancing as an alternative method of procurement, Metrowater has improved itself as an organisation and learnt to overcome challenges along the way. The alliance partner companies and local industry have also reaped the benefits.

Clear Harbour Alliance members have assisted with alliance bid teams back in their parent companies.

Open and collaborative communication techniques have proved a successful way to get the public onboard at the onset of a project. The provision of property-specific, pre-work information sheets, proved an invaluable tool for providing excellent targeted customer relations. ●

This is an edited version of an article supplied by the Alliancing Association of Australasia.