

STAFF REPORT

TO: Chairman and Members, Engineering Services Committee
FROM: Jeff Cuthbertson, Utilities Manager
DATE: 28 January 2008
SUBJECT: UTILITIES MANAGEMENT REPORT

1 GENERAL

The maintenance contractor has continued to perform well over the past month and operational issues have been kept to a minimum during the Christmas-New Year period. Some issues occurred as the utilities networks came under the pressure of peak demand however most were of a minor nature and were promptly resolved. The mid-December period of wet weather also provided for some temporary relief for the district's water schemes.

The monthly contract meeting was held on 19 December 2007 and 23 January 2008. A meeting to review aspects of the operations and management contract is to be held on 31 January 2008 between TDC, MWH and local/national Downer EDi Works staff.

The telemetry system has, in general, performed well over the last month. The operational reconfiguration, as proposed in the research report received last month from Brian Davis, is proceeding to its next phase of implementation. The proposed work will not only increase the efficiency and reliability of the telemetry system and reduce communications failures it will also reduce radio licence fees initially by more than \$10,000 per annum.

2 WATER

2.1 General

All water schemes came under significant pressure in November through to mid-December, due to the prolonged period without rain. Nelson City water supply, via the Champion/Salisbury Road valve/meter, was utilised to supplement the supply to Richmond in attempt to reduce the impact on the decreasing levels of aquifer reserves. Relief came with periods of light rain throughout the two weeks prior to Christmas and demand remained relatively low throughout most of January. Levels of demand are expected to increase significantly again as soon as soil moisture content drops.

The following water supply operational issues have occurred:

- mains break near Thorns pump station (Dovedale) - repair undertaken promptly avoided loss of supply;
- Brabant Drive booster pump malfunctioned causing Pinehill Heights reservoir into low level - remedied with no loss of supply;
- Fauchelle Avenue 100mm AC main burst due to poor pipe condition;
- Aranui Road 200mm main burst - possibly caused by heavy vehicle traversing berm area;

- Mapua 200mm main burst on Rabbit Island. Repair was undertaken without loss of supply.

Other works that have been recently been carried out include:

- overhaul of Tapawera Main pump station chlorination system;
- additional sampling as a Ministry of Health requirement due to peak summer population increases;
- installation of power supply to Old Coach Reservoirs;
- firewell testing and groundwater depth testing of firewells in Takaka was undertaken in December, as a requirement of Contract 688. Results were generally as expected with the majority of wells showing inadequate yields at standard pumping rates;
- backup batteries/charging system was set in place for the back up generator, at the Waimea water treatment plant;
- leak detection work carried out in Tapawera was successful, with some significant leaks found (not evident on the surface); the highest priority repairs have been completed.

2.2 Water Capital Projects

- **Brightwater Reservoir**

Initial excavation has commenced on site and preparation work proceeds in parallel off site to form pre-cast units. The work is expected to be completed by July 2008.

- **Dovedale Rural Water Supply**

The scheme has continued to operate at its limits particularly during the periods of dry weather. A problematic section of supply main within the Neals property is proposed for replacement. The Thorn pump station electrical upgrade and reservoir control valve installation is complete.

- **Seaton Valley Main**

The tender was awarded to Ching Contracting Ltd and work is due to commence in Seaton Valley Road in mid-February. Construction alongside the state highway between Aranui Road and Higgs Road will follow. The contractor offered an alternative higher strength pipe material (O-PVC) at no extra cost and this has been accepted.

- **Takaka Firewells**

A meeting between the NZ Fire Service, local Councillors, Community Board members, consultants and staff is being organised for the second week in February.

3 STORMWATER

3.1 General

Utilities networks were not impacted by the isolated rainfall events of the past month. Highest falls were experienced in Golden Bay, with no significant issues resulting.

Routine stormwater maintenance was undertaken in accordance with the annual schedule and flood inspection sites were pre-inspected due to heavy rain warnings. Scheduled monthly drain maintenance was completed by the mowing subcontractor. Significant work was undertaken on the open stormwater drains of Richmond in December, with further work in Richmond and Motueka carried out in January.

Other work carried out includes:

- maintenance of Old Wharf Road stormwater gates
- Groundwater level testing at Waitapu Road

3.2 Stormwater Capital Projects

- **Croucher / D'Arcy / Bird / Elizabeth Streets, Richmond**

Detailed design for this work has continued, with good progress being made. The scope of work has recently been increased to include the design of additional wastewater sewer which may be sensibly included in a single tender. These wastewater works are scheduled for the 2008/09 financial year.

The work proposed this financial year will involve construction of a new trunk stormwater system from the Waimea estuary, through private properties and under the Richmond deviation to D'Arcy Street. Work scheduled for next financial year will include construction of stormwater and wastewater sewers in D'Arcy Street and the side-streets flowing to it.

Agreement in principle has been reached with each owner of land through which the pipes will pass. These properties are all located north of D'Arcy/Croucher Street.

Revised tender documents, now including the wastewater work, are being prepared with a view to inviting tenders in mid-March.

- **Kaiteriteri Stormwater Improvements – Martins Farm Road**

This work carried out by Ching Contracting Ltd and now enters into its defects liability phase.

- **Seaton Valley Stream, Mapua**

At the time of writing, application for Resource Consent for works in the Seaton Valley Stream was about to be lodged. The Consent Application covers a comprehensive scope of work proposed between Stafford Drive (SH 60) and the Toru Street (Leisure Park) causeway. It is expected that the consent application will be publicly notified, as some of the proposed works are in the Coastal Marine Area.

Detailed design has commenced for Stage 1 of these works: the construction of additional culverts through the causeway and the replacement of the first of two culverts on the Seaton Valley Stream. Stage 2 of the work (widening of the stream channel and replacement of the second culvert by the Mapua School) is scheduled for the 2010/11 financial year, although some minor stream widening works may be completed earlier, as funds allow.

4 WASTEWATER

4.1 General

All treatment plants were routinely checked throughout the month and pump stations cleaned. Stations in holiday locations are being checked weekly. The Mapua Leisure Park pumpstation required increased visits to avoid the overflows that occurred last summer.

During late December and into January there has been an increase in required sampling due to peak demand at treatment ponds to meet resource consent conditions.

The following wastewater operational issues occurred:

Pipe bursts occurred on Abel Tasman Drive, at Four Winds pump station, and at Delaneys pump station;

- the aerator #3 at Murchison failed, bearings are to be replaced;
- blockages occurred at 21a Moffat Street, Motueka - isolated overflow occurred;
- UV plant at Collingwood WWTP overheated, fans to be installed to combat heat issues;
- Martins Farm sewerage pumping station backed up due to blown fuse, causing the Kaiteriteri vessel to overflow.

Other works that have recently been carried out include:

- Mapua sewer flow survey is ongoing;
- Sunbelt Crescent VSD filter on biofilter fan, motor replaced;
- Beach Road, Richmond, connection installed to discharge manhole, installation of high level probe and alarms in penstock chamber;
- installation of Eco socks in Golden Bay and Kaiteriteri coastal and Mapua pump stations.

4.2 Treatment Plants

Three-monthly sampling was carried out in October showing total suspended solids (TSS) and faecal compliance at all of the Collingwood, Motueka, Tapawera and St Arnaud sites. Significant rainfall events had caused increases in TSS and inflows had exceeded average limits and design capacity at St Arnaud and Collingwood respectively.

UV filter bulbs at the Collingwood WWTP were noted to have surpassed their life showing diminished intensity and once replaced results returned to UV intensity of over 30%.

4.3 Capital works

• Lodder Lane Sewer Main Replacement

This contract continues to proceed within programmed timelines. Ching Contracting has almost completed the pipe laying work in Lodders Lane as well as the portion across the Motueka Bridge. The construction of the shared off-road cycleway/footpath along School Road is almost complete, and the contractor has yet to receive consent for the design-build precast units for across the School Road culvert.

• Takaka Sewer and Pumpstation Upgrades

The contract is currently out to tender which closes late February. The contract includes a new pump station opposite Burnside Road/Abel Tasman Drive intersection, with replacement pumping main through to Sunbelt pump station. The contract also includes the Takaka Primary School and Waitapu pump station upgrades and replacement of associated rising mains.

• Wastewater Renewals Projects

Design has commenced on the next stage of wastewater pipeline replacements in Motueka. The contract is due to be tendered this month.

Tenders have been invited for the supply of mechanical screens for Tapawera and Collingwood wastewater treatment ponds. Three tenders were received and also one

alternative tender but it is yet to be awarded. There is a reasonable lead-in period required to fabricate the screens and the work is to be completed prior to end of June 2008.

A contract for the supply only of aerators has been tendered and the contract documentation is in accordance with AS/NZS 4911 which is specifically for the supply of equipment.

Detailed design for the upgrade of the Tapawera WWTP is complete and the tender for the construction of these works has been advertised and is due to close this month.

5 ASSET MANAGEMENT

Over the last six months Engineering staff have worked to substantially improve Council's asset management systems. This has primarily involved the migration of a number of sources of asset data to a single data set and database.

Current work is focused on improving the accuracy and extent of this data, with the immediate goal of compiling a utilities asset valuation in June 2008. Long-term improvement of the asset management system will allow Council to track and project maintenance costs and better anticipate capital works.

With a view to improving this asset data a number of additional projects are in progress.

A tender for additional CCTV inspections of wastewater sewers in Motueka and Richmond is to be advertised shortly. This work will further inform Council of the condition and serviceability of existing sewers (both older and recently installed) and assist in long term planning for asset replacement.

Hydraulic models of the wastewater, stormwater and water supply networks of the Richmond urban area have now been completed. These models will enable Council to evaluate the existing and projected capacity of these networks and plan for growth. Further work is in progress to extend the scope of these models, and will continue for a number of years.

5.1 Richmond Water Supply Zones

The Richmond urban area by in large is fed by three water supply reservoirs from two supply sources. Work is currently in progress to evaluate the long-term adequacy of these existing reservoirs and their associated pressure zones and to plan for growth in the north, west and south of Richmond. Options for growth include extending the existing water pressure zones (using new and existing reservoirs) or creating new intermediate and/or high level zones with new reservoirs.

6 SOLID WASTE

6.1 Kerbside recycling and bag collection

Kerbside collection over the summer holiday period was again busy with the collection contractor stretched to cover routes in the two weeks immediately following Christmas.

Daily collection of Council rubbish bags at Kaiteriteri has proved successful, with the

operator assisting Council by extending the collection route in the Rowling Rise area. This combined with discussions with Honeymoon Bay residents has significantly reduced illegal and inappropriate dumping in this area.

A review of the collection at Kaiteriteri will be completed at the end of February including an assessment of collection volumes and the feasibility of amended special collection frequency and duration.

6.2 Resource Recovery Centres

Operations at the five Resource Recovery Centres continued over the period, with no significant operational issues. Waste volumes have continued to significantly increase, in particular at the Richmond site. Volumes at Richmond in the month of December were approximately 15% greater than those of the previous year.

The haulage contractor purchased a second truck for the haulage operation, giving increased capacity and flexibility of the operation. This additional vehicle is already delivering improved performance at the RRC's.

- **Richmond**

Operations at this site are increasingly busy, with a combination of increased recycling and refuse volumes over the summer period at times stretching capacity of the site. Unexpected additional costs on capital works at this site mean that projections for remaining work exceed the capital budget for the year. Staff are working with our consultant, the contractors and the site operator to identify possible cost savings for the remaining work.

- **Mariri**

Operations at this site remained busy particularly over the summer holiday period. Design in progress for this site includes the improvement of drainage around the pit area, provision of a water supply and review of the proposed weighbridge site.

- **Takaka**

Construction of the recyclables storage and baling shed at the Takaka site is largely complete. The glass crusher, formerly located on the upper (public) level of the site has been relocated to the lower area to improve public safety. Construction of a concrete slab and bunker to accommodate the crusher is in progress.

Construction of a car dismantling shed is currently on hold pending final completion of the recyclables shed and the relocation of the glass crusher to the lower area, and may need to be deferred to the next financial year. Investigations into improved water supply on site are in progress.

- **Murchison**

Council have awarded a tender to Fulton Hogan for the construction of a transfer facility at Murchison and haulage of waste to Eves Valley for five years. Construction of the waste transfer facility will coincide with additional site improvements, including improved recycling facilities and site clearance.

The designation for the site was changed in December, to allow the change in activity. An application for Resource Consent (discharge to air and stormwater discharge) is currently being processed by Council. Pending consent, construction is expected to commence in

late February.

Meanwhile, landfill operations continue, with the final profile of the landfill being shaped using refuse as it arrives on site. Intermediate capping is being placed on the landfill and final capping will commence after a resource consent assessment of the (closed) landfill is complete.

6.3 Waste Education and Waste Minimisation

Waste education continued over the summer period concentrating on education at public events (particularly A&P shows) and work with construction firms. The waste education stand at the Richmond A&P Show won first prize in its category.

The waste education contractor is currently investigating the logistics of participation in a national "e-Day" in September, where electronic waste is collected for recycling.

6.4 Waste minimisation (solids) bill and Waste Management Plan

Additional submissions to this bill are currently before the select committee. It is expected that the bill in its final form will return to Parliament in the first half of this calendar year. Amendments to the bill propose a landfill levy of \$10 per tonne (plus GST); likely to be levied 12 months from the time the bill is passed into law. Provision has been made in the draft 2008/09 budgets for the legislative requirements of this bill.

Work with Nelson City on a joint waste management plan will recommence when the final form of the legislation becomes apparent.

7 TENDERS

Tenders awarded since the last meeting:

No.	Contract name	No. of tenders	Successful tenderer	Amount	Highest amount	TDC estimate	Budget for this item	Comment
704	Seaton Valley Road watermain	5	Ching Contracting	\$631,765	\$877,857	\$880,645	\$758,664	
706	Murchison Refuse Service Development	5	Fulton Hogan	\$334,630	\$481,066	\$274,400	–	Funding from both capital and operational budgets

8 RECOMMENDATION

THAT the report be received.

Jeff Cuthbertson
Utilities Asset Manager