

STAFF REPORT

TO: Chairman and Members, Engineering Services Committee
FROM: Jeff Cuthbertson, Utilities Manager
DATE: 17 January 2011
SUBJECT: **Utilities Management Report – RESC-11-03-15-INF**
Report prepared for meeting of 3 February 2011

1 UTILITIES GENERAL

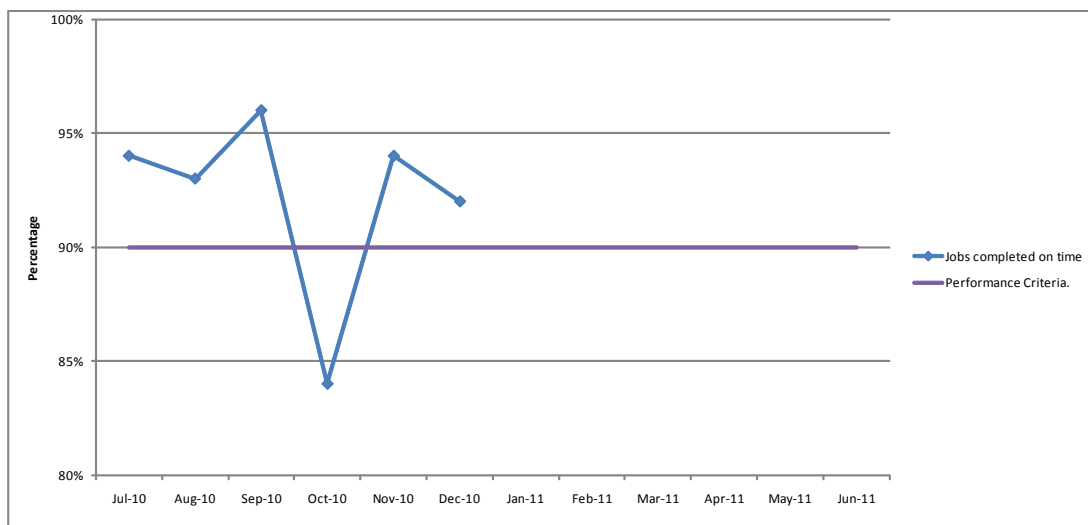
1.1 Contract 688

- 1.2 Downers have undertaken all proactive, routine and non-routine maintenance on the water/wastewater treatment plants, pump stations, reservoir sites and stormwater assets as scheduled within their December 2010 programme.
- 1.3 The stormwater and wastewater networks have, on the whole, performed reasonably well. The contractor undertook significant pre-storm checks and clearance on all Council stormwater assets prior to the holiday period. The systems were prepared prior to the heavy rain event experienced in late December and on the whole they performed well, the exceptions being some areas of Murchison and Golden Bay where the severe storm inundated the network.
- 1.4 The vast majority of the wastewater networks have performed well during the last period. The dry warmer weather typically resulted in longer retention times and higher temperatures within the system and had the potential to cause typical odour issues. Chemical dosing of the Takaka/Pohara network, in conjunction with the installation of carbon filter units at Burnside and Sunbelt pump stations, has significantly improved the levels of H₂S produced.
- 1.5 The heavy rain had an impact on the operation of the Wastewater Treatment Plants (WWTP) and pumping stations in the Golden Bay and Murchison areas. Their inundation caused numerous high level alarms and overflows at several sites. Once the rain had eased and the water levels subsided, the contractor was able to clear the backlog by a combination of manual pump downs, portable pumps with generators and tankering.
- 1.6 The majority of the water supply networks have also performed relatively well over the November and December periods despite the fact the dry weather has added extra demand. There were some issues with high turbidity in the Murchison, Collingwood and Pohara Valley water supplies after the rain event on 27 and 28 December 2010. Some operational amendments were undertaken as well as ongoing flushing of the reticulation systems. Murchison and Collingwood recovered quickly, however Pohara Valley proved more difficult and a precautionary “boil water” notice was set in place on 29 December 2010 and lifted on 7 January 2011.

- 1.7 A number of random audits were completed by MWH staff on the contractor's work sites as required within the contract. Typical results were proved and in line with performance expectations and above minimum targets.
- 1.8 Monthly contract meetings were held on 16 November and 21 December 2010.
- 1.9 Targets for Customer Services and requirements under Contract 688 are for the contractor to achieve 90% or above for completion on time. Following the drop in this area in October 2010, Downers have made some improvements to procedures for closing off jobs which is reflected in their recent scores.

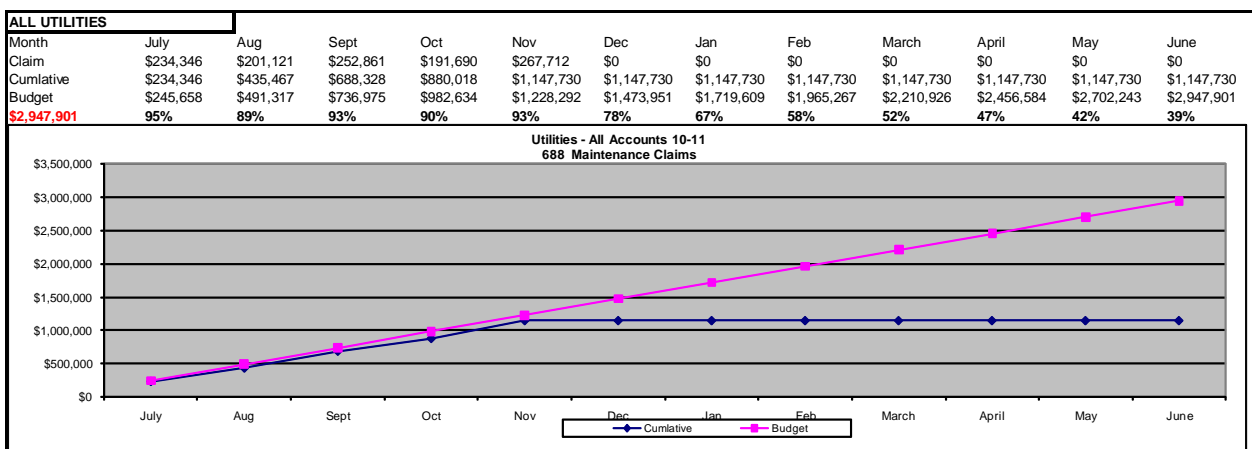
Contract 688 Performance Measurement scores achieved July 2010 to June 2011 - Jobs completed on time												
	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Jobs completed on time	94%	93%	96%	84%	94%	92%						
Performance Criteria	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

Tasman District Councils' customer service job completion on time target = minimum of 90%



1.10 Financial Performance

As can be seen from the information below, the overall utilities budget is in a healthy position at 93% of the estimated spend to the end of December 2010.



1.11 Contract 688 – Other Work in Progress

- 1.12 Leak detection programme - Scheme water usage assessments and remedial/repair works on site. Leak detection currently underway on the Wakefield/Motueka and Collingwood schemes.
- 1.13 Data capture programme - Data loggers to be installed on major user connections and in problematic (pressure) areas of the water supply networks. Staff are working closely with the contractor to ensure locations/areas to be monitored also tie in with modelling data required.
- 1.14 Review of the current stormwater regular inspection regimes due to recent additions of assets (stormwater inlets/grills).
- 1.15 Odour management at WWTPs and sewer pumping stations, liaising with various project designers to ensure operational perspectives are accommodated. Chemical dosing is ongoing on the Takaka/Pohara network and carbon filters installed at Burnside and Sunbelt Crescent pumpstations.

2 WASTEWATER NETWORKS

2.1 Exceptions

- 08/12/10 Collingwood – Wally’s Rest - Odour complaint in relation to sewer pumpstation. Contractor attended pumpstation and taped wet well lid to reduce odour.
- 16/12/10 Motueka WWTP – Aerator failure. Two new bushes and shaft made. Aerator reinstalled.

2.2 Sewer Blockages/Overflows

- 5/12/10 Richmond – Jubilee Park, Gladstone Road – Motor home dump station overflowed from manhole. Punts attended and cleared blockage. Cleaned up and disinfected.
- 20/12/10 Takaka – In behind 49 Waitapu Street – Blockage caused by fat build up caused overflow of approximately 1m³ of wastewater. Cleaned up and disinfected.
- 26/12/10 Richmond – 10 Valhalla Lane – Root intrusion caused overflow of approximately 1m³ of wastewater from manhole in neighbour’s property. Cleaned up and disinfected.
- 28/12/10 Pohara- Pohara Valley and Four Winds SPS – Overflow from pumpstations. Quantity unknown because of high rainfall and surface water. Contractor attended and cleaned up.
- 28/12/10 Collingwood WWTP – Untreated wastewater discharged into Burton Ale Creek. No UV treatment due to power outage. Unable to close off discharge valve due to high level in pond.
- 30/12/10 Takaka – 4 Buxton Lane - Blockage in public sewer cleared. No overflow occurred.

2.3 Wastewater Treatment Plants

- 2.4 Environmental and performance monitoring was routinely undertaken at all Tasman District Council operated WWTPs during December 2010.
- 2.5 Table 1 indicates whether full compliance with resource consent conditions was achieved at each WWTP. Where full compliance was not achieved, the likely factors contributing to the non-compliance event are detailed below.

Table 1 – WWTP Compliance with Consent Conditions

WWTP	Compliance	If no, why?
Collingwood	No	FC at UV discharge above consent limit, no UV during power outage
Motueka	Yes	
Murchison	No	Flow discharge consent limit exceeded
St Arnaud	Yes	
Takaka	No	High total suspended solids in marsh cell outlets, flow above consent limit
Tapawera	Yes	
Upper Takaka	No	Flows to WWTP above consent limit

2.6 Collingwood

Concentrations of faecal coliforms above the consent limit (1,000 cfu/100mls compared to a limit of 500 cfu/100mls) were recorded at the UV discharge on 22 December 2010. High flows (caused by over 320mm of rain over the previous six days) resulted in a decrease in UV performance. Any adverse impact on the receiving environment was minimal due to high flows observed in Burton Ale Creek and the Aorere River at the same time. Testing undertaken at the UV discharge on 30 December recorded concentrations of cfu's within the consent limit.

- 2.7 A power outage experienced in Collingwood on 28 December 2010 resulted in no UV treatment at the WWTP for a period of four hours. Approximately 120m³ of extremely dilute wastewater would have been discharged into Burton Ale Creek without UV treatment. Considering the volume of water recorded in the Aorere River (peaking at 3600m³/sec) on 28 December 2010, and the dilution of the discharge, any adverse impact on the receiving environment was negligible.

2.8 Murchison

The consent limit for wastewater entering the Murchison WWTP was exceeded on 28 December 2010. Approximately 520m³ of wastewater was recorded entering the WWTP compared to a limit of 500m³. The high inflow volume was a result of heavy rainfall and flooding on 27/28 December 2010.

2.9 Takaka

Total suspended solid concentrations were above the consent limit at the marsh cell outlets on 22 December 2010. A concentration of 74 g/m³ was measured in cells one to four and 61 g/m³ in cells five to eight compared to a limit of 60 g/m³. High flows, as a result of heavy rainfall over the previous week contributed to this non-compliance event. This event is unlikely to have had any adverse effect on the receiving environment.

- 2.10 Wastewater flow estimated at 3000 m³ was recorded entering the Takaka WWTP on 28 December 2010. The consent limit is 1680m³/day. The high flows were the result of 160mm of rain falling on 27/28 December 2010.
- 2.11 The heavy rainfall event on 28 December 2010 resulted in Takaka River floodwaters flowing through the WWTP site. Floodwaters entered the marsh cell area of the WWTP, and minor scouring of a number of marsh cells occurred. Debris (logs, vegetation etc.) remained after the water subsided. No damage to the ponds or other infrastructure on site has been reported. MWH are working with Downers to undertake any remediation/clean up required.

2.12 Upper Takaka

The consent limit pertaining to flow to the WWTP was breached on three occasions during December 2010. A level of 41m³ of wastewater was recorded entering the WWTP on 21 December 2010 following 262mm of rain spread over the six days prior. Following 154mm of rain over two days, 88m³ and 45m³ of wastewater were recorded entering the WWTP on 28 and 29 December 2010 respectively. Repairs undertaken on the public sewer network in 2009 have significantly reduced the peak volumes of wastewater and groundwater entering the WWTP during heavy rainfall events. Further work is still required to reduce inflow/infiltration from private laterals.

2.13 Wastewater Capital works

- 2.14 Motueka Pipeline renewals - Ching Contracting has made steady progress and the contract work is expected to be complete in February 2011.
- 2.15 Takaka Wastewater Treatment Plant Upgrade – This project is currently in the detailed design phase. A meeting with Golden Bay Community Board is to be held at the site of the existing plant on 24 January 2011 and also includes inspection of the area proposed for the future infiltration basins.
- 2.16 The Motueka Wastewater Treatment Plant Rapid Infiltration Basin (RIB) trial continues to show encouraging results with the RIB performing well and still showing little detectable impact on the groundwater environment.
- 2.17 The Headingly Lane Pump Station, Pressure and Gravity Main has been completed and commissioned and is operational. There is some landscaping to be carried out at the pumpstation site.

3 WATER NETWORKS

Overall the water supply networks continued to operate satisfactorily apart from the Pohara Valley supply following the significant rain event of 27/28 December 2010. Restrictions in the Waimea basin were lifted prior to Christmas. The operational issues were as described below.

3.1 Water Supply Exceptions

- 07/11/10 Dovedale Road, Dovedale – recurring failure of a 25mm lateral, 200m of pipe renewed.
- 08/11/10 146 Teapot Valley Road, Brightwater – repeated failures in a 20mm branch line. This pipeline needs to be renewed.
- 09/11/10 High Street South, Motueka – break in 200mm PVC main under pepper tree. Tree removed and main repaired. There are other trees along this section of main which may need to be removed.
- 11/11/10 Mapua Trunk Main – break in 200mm PVC main on Best Island beside the golf course.
- 11/11/10 Fauchelle Avenue, Richmond – break in 100mm AC main.
- 05/12/10 Richmond – widespread water outages, low reservoir levels, system could not keep up with demand.
- 23/12/10 Tapawera – break in 100AC main at rear of camp ground. This is the main about to be replaced.
Dovedale scheme – ongoing issues.
Ratepayer, Thorpe – main tank is at a high level and has not been receiving total water allocation. Some changes to the scheme pipeline and supply point may be required.
Humphries Creek Pump Station – a blown fitting on the high pressure chlorine injection pump has sprayed water over the electrical equipment, repairs are underway. The chlorine injection pump is to be re-housed outside in a sound proof chamber to prevent the issue recurring.
- 28/12/10 Pohara – heavy rain event affected intake. Boil water notice issued. System now back to normal.

3.2 New Water Connections

Twelve new water connections were installed in Riwaka, Dovedale, Mapua, Wakefield and Richmond during this period.

3.3 Water Capital Projects

- 3.4 Champion Road Reservoir – Planning and design is complete for the installation of seismic control valving on the Waimea trunk main near the Champion Road reservoir.
- 3.5 The contract for the Tapawera Rising Main Replacement has been awarded to Tasman Civil Ltd. The work is expected to be completed by March/April 2011.
- 3.9 Land negotiations for the Richmond East Reservoir and Pipework have continued with no real progress. Council will soon begin the process of compulsory land acquisition for the reservoir site and access.

4 STORMWATER NETWORKS

4.1 General

- 4.2 November and December have generally been dry months up until late December 2010. Several periods of rain resulted in water restrictions being removed. The storm event of 27/28 December 2010 caused widespread damage in Golden Bay with many rivers running at record levels, roads blocked and stormwater systems

overwhelmed. The Motueka Wharf Road floodgates were closed on 21 December and 27 December 2010 to provide stormwater detention during the events.

4.3 Pre-Christmas checks were carried out on key stormwater sites by Downers. Several drains received additional weed control as a result of public enquiries, prior to Christmas.

4.4 Borck Creek through the Bolitho property has been mown and the bed cleaned out prior to Christmas.

4.5 Stormwater Capital Projects

4.6 Richmond (Reservoir Creek Dam)

A resource consent application for construction of a new spillway and for improvements to the dam structure was lodged in 2010. The consent application has been subject to limited notification (to one party) and submissions to the application close on January 21. Detailed design for this work is complete (pending any additional consent requirements) and tender documents essentially complete.

4.7 Negotiations for land purchase are continuing with the landowner of the property immediately downstream of the reservoir and on which the dam sits. The work remains scheduled for construction this coming summer.

4.8 Ruby Bay (Tait Street and Stafford Drive)

A consent application has been lodged for construction a new stormwater outfall to the coast at Tait Street. Signed approval has been given by immediate neighbours and the consent is being processed on a non-notified basis. Agreement has been reached in principle with one landowner and two further landowners are in discussion with Council.

4.9 Mapua (Seaton Valley Stream)

Contract 799, for the construction of a new box culvert on the Seaton Valley Stream at the rear of the Mapua School, was awarded on 21 December 2010, and works commenced on site on 20 January 2011. The new culvert is scheduled to be installed by 15 February 2011 with final work completed by mid-March 2011. This culvert, combined with others recently installed, will reduce flooding in the Stafford Drive/Aranui Road area of Mapua.

4.10 Further culvert construction and stream widening works are programmed for the coming year and will be subject to ongoing landowner negotiations.

5 TELEMETRY

5.1 Analogue Telemetry

The analogue network is performing and even though a major storm event occurred at the end of December, the stations performed well within the designed parameters.

5.2 Base Station SCADA Server

During the holiday season a base lockdown was set in place, which did not allow any changes in the system unless for repair or emergency service. There have been no problems experienced related to software or hardware.

5.3 Digital Telemetry Network

The Collingwood repeater site is still experiencing some intermittent issues with interference on the communications network. The situation has improved over the last month and the faults/breaks in communications are now less frequent. Downers are continuing to investigate the issue and are working to locate the source at which stage Radio Spectrum Management can enforce a frequency change on the party causing the issue.

6 SOLID WASTE

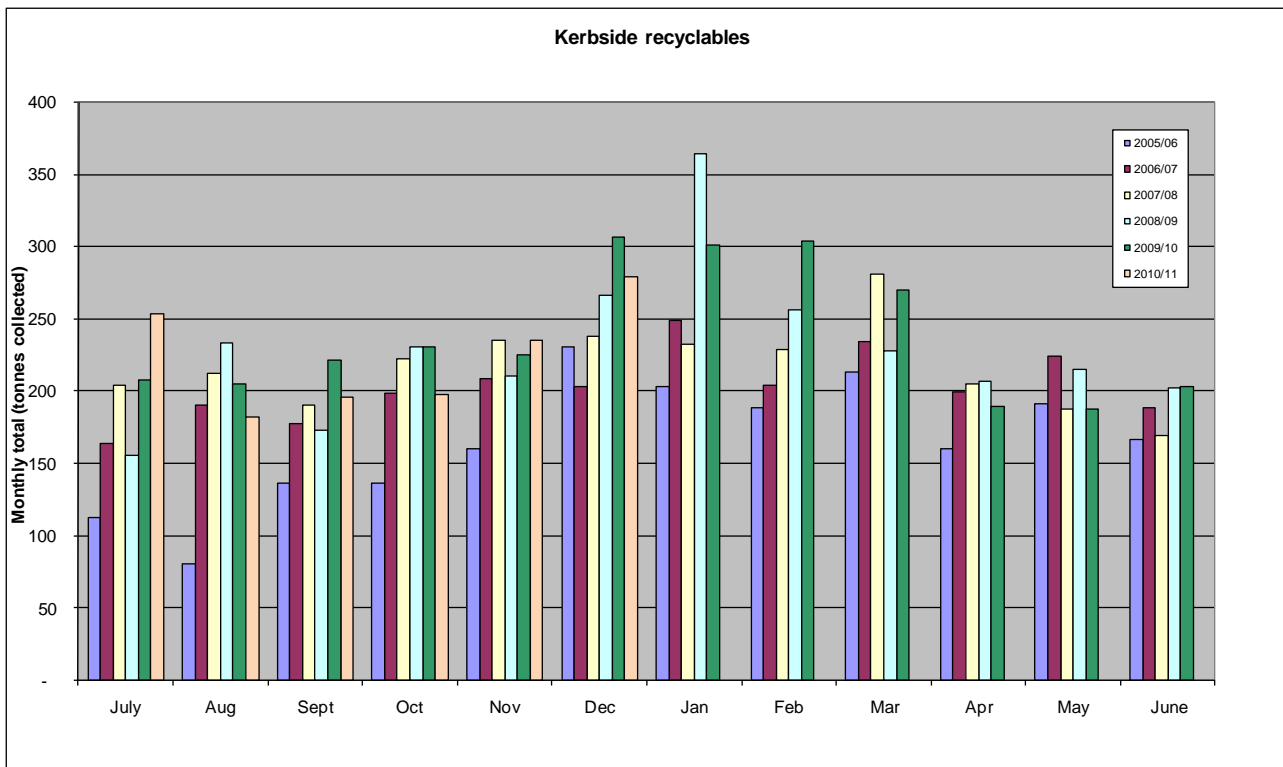
6.1 Kerbside recycling and bag collection

Kerbside collections over the summer holiday period occurred largely without incident. Heavy rain in late December delayed some collections but most were completed on time.

6.2 The collections contractor added significant resources over the period to ensure collections were completed on time, and 100% of service requests were completed within required timeframes. The contractor has also undertaken additional proactive education, visiting known problem spots over the period, issuing additional recycling bins and assisting new or infrequent users of the system.

6.3 Additional recycling and rubbish collections in Kaiteriteri are continuing until February, with most problems being isolated to one or two historical problem areas and dealt with as they arise. Feedback from local residents has been positive.

6.4 Kerbside recycling volumes for the quarter ending December were approximately 5% down on the same period last year, although volumes have increased over early January. Kerbside bag collections have also decreased slightly over the period.



6.5 Resource Recovery Centres

Three of the five Resource Recovery Centres were affected during heavy rainfall in December 2010.

- 6.6 The Murchison site was partly submerged in the lower area of the site, with the roof over the pit being damaged as it was lifted by floating debris. Hazardous materials were unaffected by flooding.
- 6.7 Additional pumps were brought into the Takaka site to keep mechanical plant dry and approval has since been given to raise this plant above flood levels.
- 6.8 The Collingwood site was largely unaffected by flooding, but saw additional waste volumes following the flood event. Provision was made for extended opening hours after the 28 December flood event to assist local residents to dispose of flood damaged goods and materials from their homes. Disposal fees were also waived temporarily for flood affected parties.
- 6.9 Refuse disposal quantities for the second quarter at Richmond and Murchison were essentially equal with equivalent period last year, while Mariri, Takaka and Collingwood were 6-8% down on the same period.
- 6.10 Tenders for a significant upgrade of the Richmond RRC (Contract 814) closed on 19 January 2011. Tenders were received from three invited tenderers. Works are scheduled to commence in February 2011 and conclude in June 2011. The works will include:

- A new entrance to the site from Fittall Street;
- Provision of a new carpark to provide access to the coastal walkway (funded separately by community services);
- Construction of a new recycling drop-off facility for the public;
- Installation of a new kiosk and transfer of the existing weigh-bridge;
- Construction of a temporary waste tipping pit; and
- Refurbishment of the existing waste tipping pit.

6.11 The works, when complete, will significantly improve health and safety, public convenience, traffic flow and scope for diversion of waste from landfill. Councillors are invited to a preconstruction inspection of the site at 2pm Thursday 17 February, 2011 following the visit to Port Nelson.

6.12 Tenders closed on 17 November 2010 for a new refuse compactor for the Richmond RRC and for new compactor bins (Contract 811). A preferred tenderer has been identified and negotiations are in progress, with award expected ahead of Contract 814.

6.13 Refurbishment of a new reuse shop is complete with a lease agreement being finalised with Kahurangi Employment Trust, for occupation commencing early February.

6.14 Further site development at the Mariri and Collingwood sites is scheduled for later in the financial year. Works at both of these sites will improve the drop-off areas for public recycling and improve traffic flows.

7 EVES VALLEY LANDFILL

7.1 Waste tonnages to the Eves Valley landfill fell in third quarter to 95% of the quantity in the same period last year. The majority of this fall was attributed to reductions in special waste, which equalled 68% of the quarter in the previous year. Continuing reductions in this area would impact income for the account.

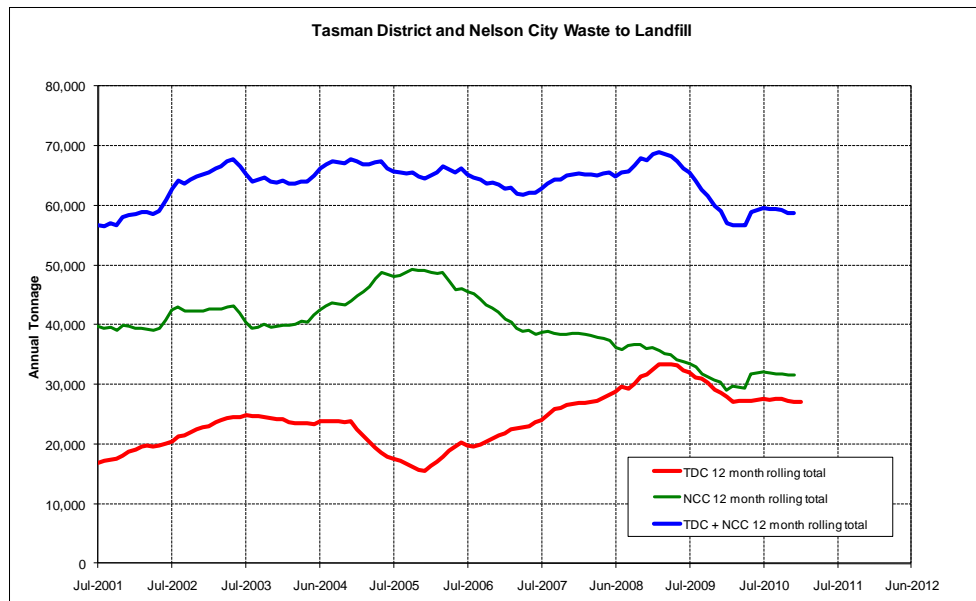
7.2 Landfill and refuse haulage continued over period with good performance by the contractor. An additional area on the western boundary of the operational has recently been excavated by the contractor, to enlarge the active landfill area and to increase long term capacity.

7.3 Additional fencing, tree clearing and planting has been undertaken on site, and further work is scheduled for March and April. This work will increase screening of the site and improve litter control.

7.4 Stage 1 of groundwater and geotechnical investigations for Stage 3 of the landfill are now complete, with further fieldwork planned for February and March 2011.

8 REGIONAL WASTE MINIMISATION

- 8.1 A report outlining governance options for future landfill management has been completed and will shortly be distributed to members of the joint TDC/NCC Waste Working Party. On 16 December 2010 Nelson City Council nominated Councillors Ruth Copeland, Mike Ward and Derek Shaw to the joint Waste Working Party. A meeting will be scheduled in February 2011 for members to discuss the report and development of the joint Waste Management and Minimisation Plan.
- 8.2 Regional waste quantities are static, with a trend of slight reduction becoming apparent over the last six months.



9 TENDERS

- 9.1 The following tenders have been awarded since the previous Engineering Services Committee meeting:

No.	Contract name	No. of tenders	Successful tenderer	Amount	Highest amount	Council estimate	Budget for this item	Comment
795	Takaka CBD firefighting scheme	4	Ching Contracting	\$1,047,405	\$1,058,467	\$1,007,490	\$1,099,496	
799	Seaton Valley School Drain	5	Tasman Civil	\$158,470	\$189,554	\$199,680	-	Part only of the total budget of \$520,719 for improvement works in the Seaton Valley Stream

9 RECOMMENDATION

THAT the Utilities Management Report, RESC-11-02-15 be received by the Engineering Services Committee.

Jeff Cuthbertson
Utilities Asset Manager