

## STAFF REPORT

**TO:** Chairman and Members, Engineering Services Committee  
**FROM:** Jeff Cuthbertson, Utilities Manager  
**DATE:** 14 May 2010  
**SUBJECT:** **UTILITIES MANAGEMENT REPORT – RESC10-05-03**  
Report prepared for meeting of 27 May 2010

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### 1 UTILITIES GENERAL

#### **Contract 688**

Downer EDI Works (Downers) undertook all pro-active, routine and non-routine maintenance on the water/wastewater treatment plants, pump stations, reservoir sites and stormwater assets as scheduled within their March and April 2010 programme.

March and April have again proved to be challenging months in relation to balancing supply and demand of the water supply networks. However the introduction of water restrictions, the increase in periods of rain, and the gradual decrease in temperature have helped in reducing some of the demand on the networks, particularly rural supplies.

The wastewater networks have on the whole performed well apart from a few isolated issues arising in some sewer pumping stations and wastewater treatment plants (WWTP's). The issues were symptomatic of the extended warm dry summer and chemical dosing units which continue to be used in some Golden Bay sewer pump stations. Odour logging has also continued at some of these pumpstations and WWTP's to obtain a fuller record and identify means of resolving the issues moving into the next season.

The continuing dry period has meant there has been minimal flow through the majority of Council's open drain stormwater network therefore weed growth within these channels has not been an extensive issue over the last few months. The programmed works for clearance/maintenance during audit were found to be slightly deficient in one or two areas. The contractor has put steps in place so that proactive maintenance is undertaken to ensure the systems are able to cope adequately with the wetter weather when it arrives.

A monthly contract meeting was held on 15 April.

#### **Contract 688 Performance Standard Monitoring**

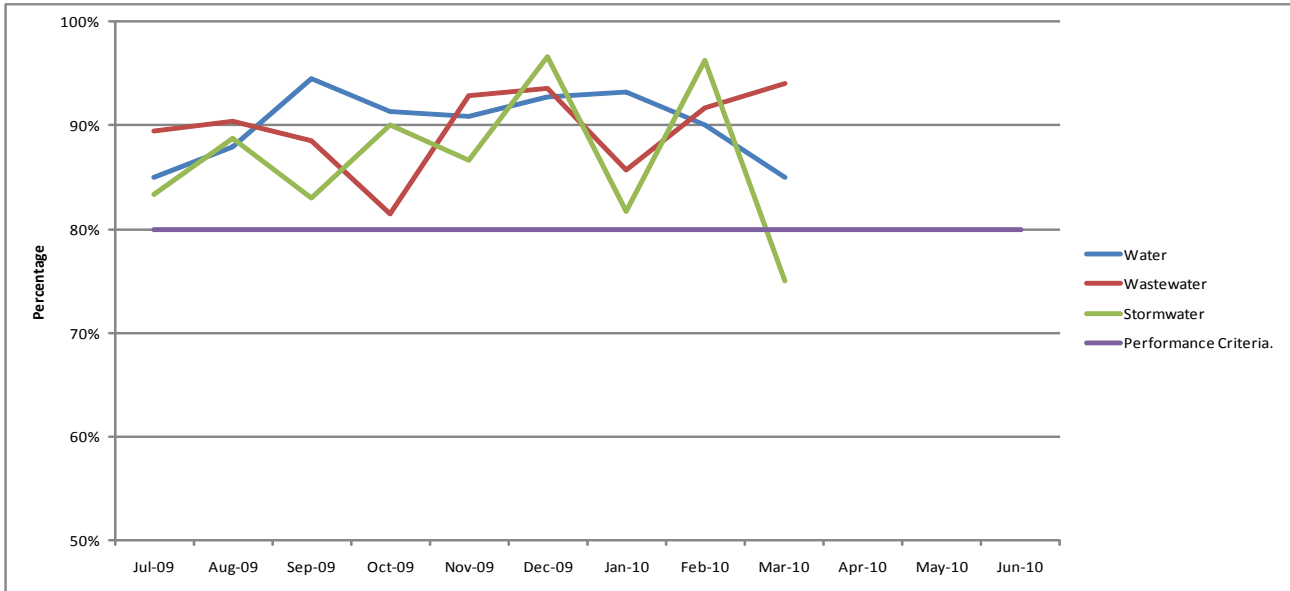
In accordance with the contract, MWH undertook a random selection of audits on various portions of the water, wastewater and stormwater networks, the results are summarised below:

## Contract 688 Performance Measurement Audit scores July 2009 to June 2010

Contract 688 Performance Measurement Audit scores July 2009 to June 2010

	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
Water	85%	88%	95%	91%	91%	93%	93%	90%	85%			
Wastewater	89%	90%	89%	81%	93%	94%	86%	92%	94%			
Stormwater	83%	89%	83%	90%	87%	97%	82%	96%	75%			
Performance Criteria.	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Contract performance standard measurement target requirement is to achieve a minimum score of 80% in any one discipline.



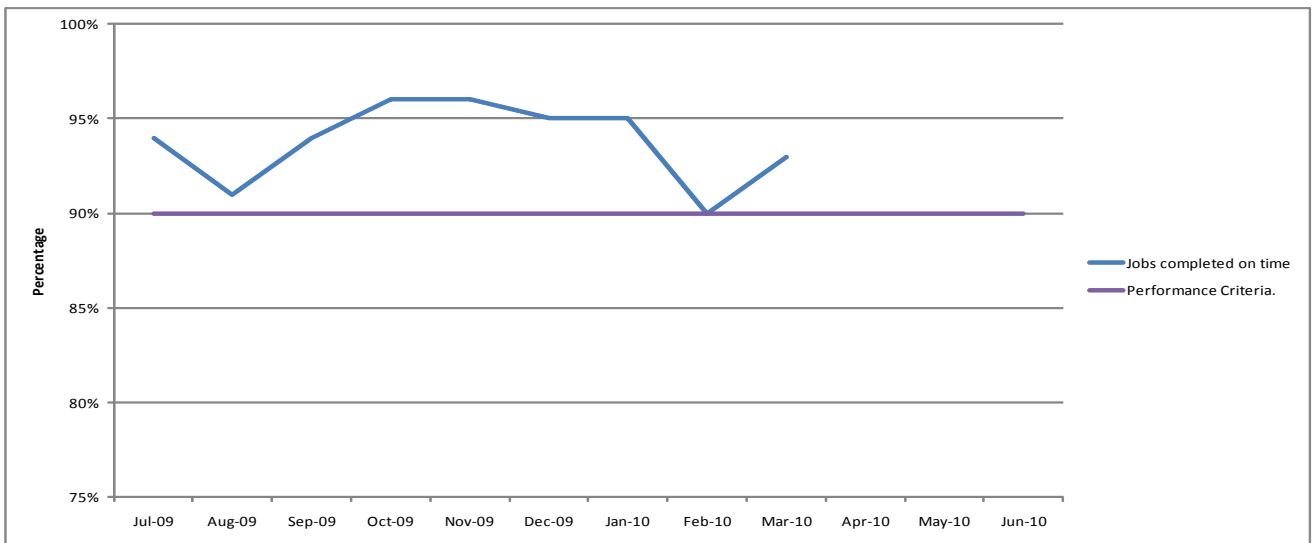
### Customer Services - Job Completion

Targets under Contract 688 are for the contractor to achieve a score of 90% or more of jobs completed on time. After a slight drop in performance in February, Downers have increased to a 93% completion rate and continue to perform well in this area of contract performance. The detail below summarises their performance in this area from July 2009 to date.

Contract 688 Performance Measurement scores achieved July 2009 to June 2010 – Jobs completed on time.

Contract 688 Performance Measurement scores achieved July 2009 to June 2010 - Jobs completed on time												
	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
Jobs completed on time	94%	91%	94%	96%	96%	95%	95%	90%	93%	90%	90%	90%
Performance Criteria	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

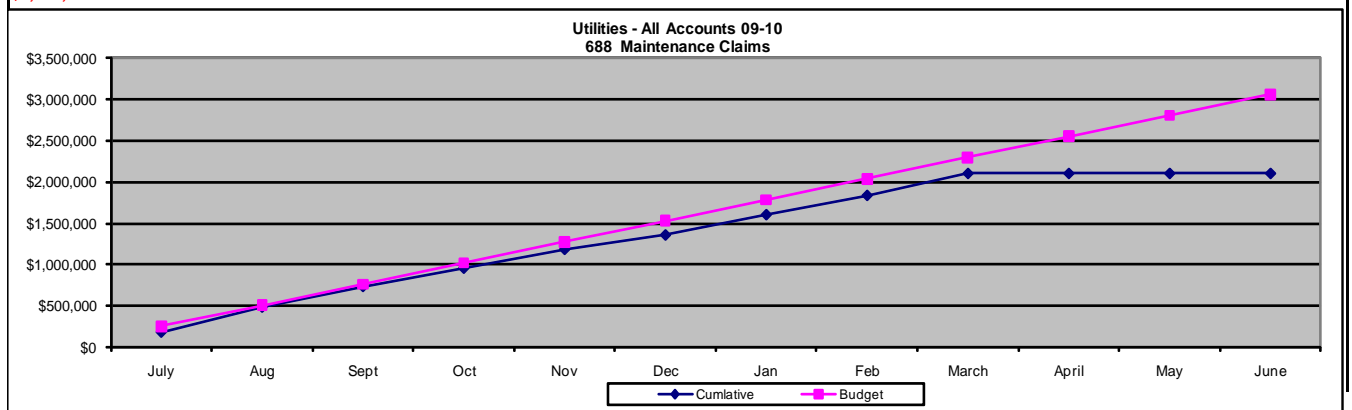
Tasman District Councils' customer service job completion on time target = minimum of 90%



## Financial Performance

The financial information for Contract 688, current to the end of March 2010 is detailed below. The overall utilities budget continues to track well at 92%. Over the last month there has been additional reactive works required on the water supply networks primarily due to the continuing periods of dry weather. In addition there has also been an increase in pro-active activities on the wastewater network, such as chemical dosing at numerous sites to deal with odour issues.

ALL UTILITIES													
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	
Claim	\$180,786	\$304,867	\$250,150	\$221,534	\$228,740	\$174,361	\$246,894	\$234,044	\$266,468	\$0	\$0	\$0	
Cumulative	\$180,786	\$485,653	\$735,803	\$957,337	\$1,186,077	\$1,360,438	\$1,607,332	\$1,841,376	\$2,107,845	\$2,107,845	\$2,107,845	\$2,107,845	
Budget	\$255,128	\$510,255	\$765,383	\$1,020,510	\$1,275,638	\$1,530,766	\$1,785,893	\$2,041,021	\$2,296,148	\$2,551,276	\$2,806,403	\$3,061,531	
	<b>\$3,061,531</b>	<b>71%</b>	<b>95%</b>	<b>96%</b>	<b>94%</b>	<b>93%</b>	<b>89%</b>	<b>90%</b>	<b>90%</b>	<b>92%</b>	<b>83%</b>	<b>75%</b>	<b>69%</b>



## **Contract 688 – Phase Two**

Following the presentation of a summary report recommending Downer EDi continue with the contract at the April Committee meeting, official notification will be presented to Downers at a Contract 688 partnering meeting scheduled for 20 May 2010.

## **2. WASTEWATER NETWORKS**

The chemical dosing system continues to be utilised on the Pohara/Takaka sewerage scheme and is having a significant effect in reducing the levels of H<sub>2</sub>S in the system. There are some ongoing odour issues at the Sunbelt Crescent pumpstation and staff are working closely with the contractor to find a resolution. There has been additional odour logging at this site and investigation continues at the adjacent contributing pumping stations to identify the main contributors to the high levels of H<sub>2</sub>S. Monitoring at the Mapua Wharf sewerage pumpstation is being investigated with the potential of installing similar chemical dosing mechanisms to control the odour issues experienced at this location.

### **2.1 Wastewater Exceptions**

- 12/03/2010 45 Trewavas Street, sewer pump station went into high level on numerous occasions due to multiple blockages. Blockages cleared.
- 13/03/2010 Brightwater Main sewer pump station went into high level due to pump blockage. Blockage cleared.
- 16/03/2010 Blockage at Tait's sewer pump station. Blockage cleared.
- 20/03/2010 Pump blockage at Brightwater Main sewer pump station. Blockage cleared.
- 24/03/2010 Leak found on sewer main in Pohara. Leak repaired.
- 25/03/2010 Odour complaint received from resident in Mapua Village. Wet wells checked and found to be clean and not the source of odour.
- 26/03/2010 Faulty float discovered at Oaks Village, Naumai Street sewer pump station. Float replaced.
- 03/04/2010 Blockage found at caravan dumpsite behind New World supermarket in Motueka. Site unblocked and clean-up undertaken.
- 04/04/2010 Break found on 100 mm sewer rising main outside 685 Abel Tasman Drive in Pohara. Sewer isolated and repaired two days later.
- 05/04/2010 Delaney's sewer pump station went into high level due to power outage and reconfiguration. Q22 programme was reset and issue resolved.
- 06/04/2010 Sewer overflow recorded at 61 Matai Crescent, Tapawera. This was due to blockage in sewer main. Blockage cleared and clean-up undertaken.
- 17/04/2010 Motupipi sewer pump station pump tripped out. No fault was found.

- 20/04/2010 Burnside Road sewer pump station pump number one soft starter failed. This has been sent away for repair.
- 22/04/2010 Collingwood Motels sewer pump station pump number two blocked. Blockage cleared.
- 27/04/2010 Martins Road sewer pump station pump 1 has been removed and stripped down. Debris was found under the seal, this has allowed water into the motor. Downers are awaiting a report from the supplier.
- 23/03/2010 Pohara; Pohara Valley Road – 100 mm sewer main damaged by Fulton Hogan digging trial pits. Approximately 1 m<sup>3</sup> of wastewater overflowed. Sewer main repaired and clean-up undertaken.
- 25/04/10 15a Motueka Quay; Pump in sewer pump station blocked, resulting in overflow of approximately ½ m<sup>3</sup> of wastewater. Blockage cleared and clean-up undertaken.

**2.2 Wastewater Treatment Plants**

Environmental and performance monitoring was routinely undertaken at all wastewater treatment plants (WWTPs) during March and April 2010.

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 are discussed below.

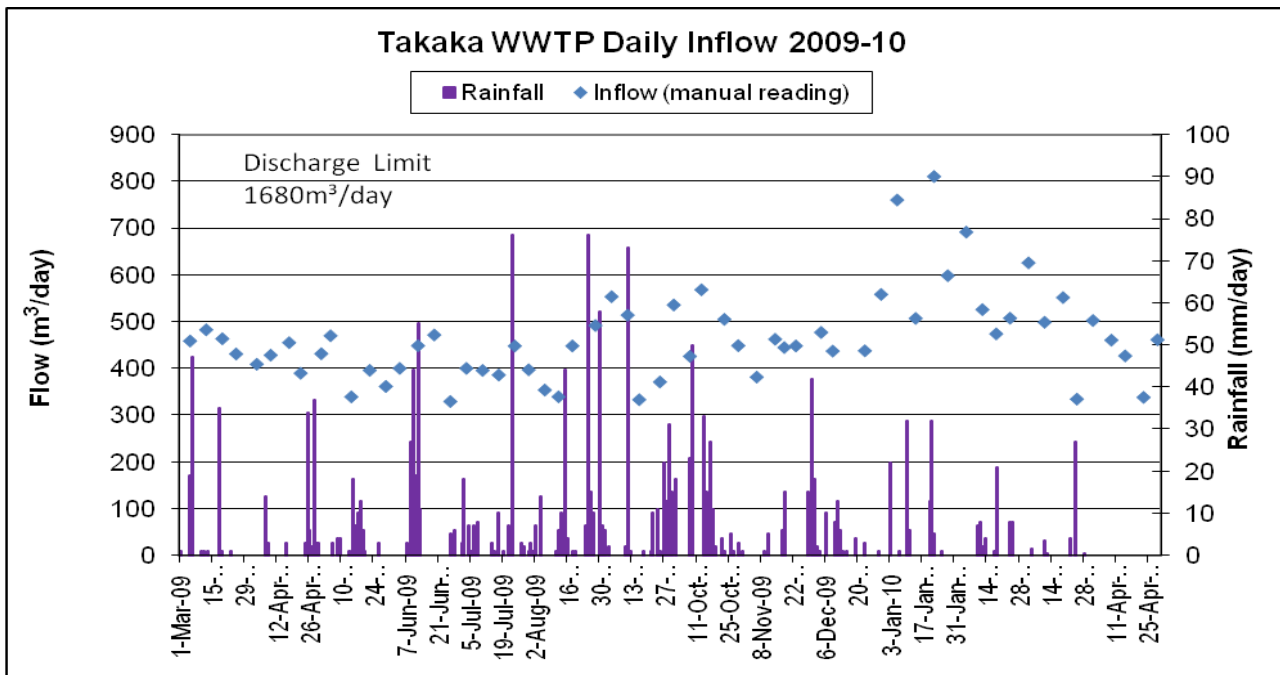
**Table 1: WWTP Resource Consent Compliance - March and April 2010**

WWTP	Compliance	If not, why not?
Collingwood	Yes	
Motueka	Yes	
Murchison	Yes	
St Arnaud	Yes	
Takaka	No	Faecal coliforms and total suspended solids above limit in wetland cells, odour recorded from the first oxidation pond.
Tapawera	No	Low dissolved oxygen in oxidation pond.
Upper Takaka	Yes	

**Takaka**

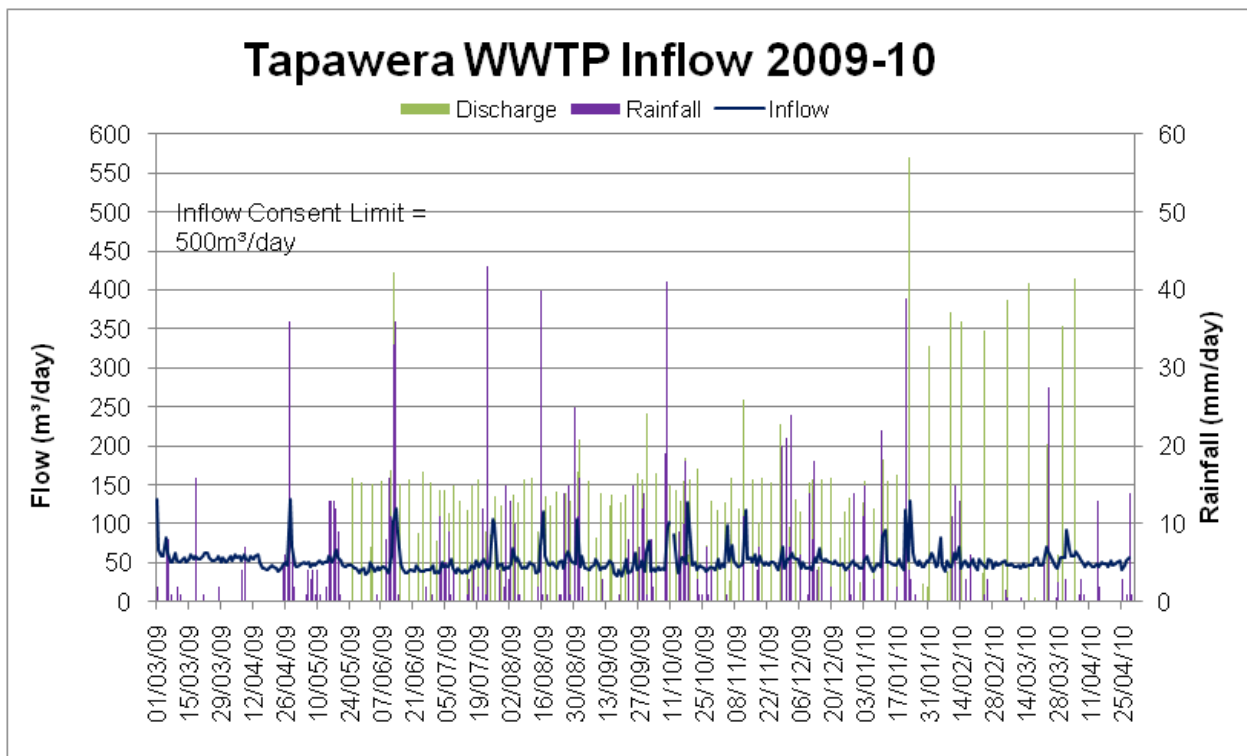
Elevated levels of faecal coliforms and total suspended solids above the consent limit recorded in one of the wetland cells on 24 March 2010 were most likely due to the 27mm of rainfall on the day prior to the sampling being undertaken. This may have resulted in a plug of less treated wastewater discharging from the oxidation ponds into the marsh cells. It is also possible that the faecal coliform non-compliance was an anomalous result, as the levels were considerably higher than those recorded leaving the second oxidation pond and levels in all other wetland cells. An instruction to retest for these non-compliant parameters was issued.

An odour complaint in relation to the WWTP was received from a resident on Waitapu Road on 23 April 2010. Downers also recorded odour being emitted from the first oxidation pond during the same week in which the complaint was recorded. Seasonal change is likely to have contributed to this odour. The complaint was logged in Confirm.



### Tapawera

Low dissolved oxygen was recorded in the oxidation pond on 4, 18 and 26 March 2010. No odour from the WWTP was recorded by Downers. It is proposed to have this condition removed from the resource consent. MWH intends to complete this request by the end of May.



## 2.3 Wastewater Capital works

- **Delaneys Pumpstation and Rising Mains, and Collingwood Motels Pumpstation**

Ching Contracting Ltd have attained practical completion for this contract. The Collingwood Motels upgrade work is also complete. The total project was completed within budget and allocated timeframes. Landscape planting around both of the pumpstation sites is yet to be carried out.

- **Motueka Sewermain Renewals**

The sewer upgrade constructed in conjunction with the proposed New Zealand Transport Agency reconstruction of High Street from Whakarewa to Tudor Streets has been substantially completed within the last month.

- **Rabbit Island Rising Main**

Ching Contracting Ltd continue to make steady progress installing the PE rising main along Rabbit Island. Junction chambers have been installed in sequence with the pipeline and no issues have occurred so far to hinder progress. The expected project completion date is late August 2010.

- **Takaka WWTP Upgrade**

Detail design is being progressed. There will be two contracts, one for the construction of the wetland and one for the construction of the treatment plant.

- **Headingley Lane Pump Station**

Detailed design has been completed. Three contractors were short listed as part of the Registrations of Interest for the tender process. Tenders close 26 May. Easement negotiations with landowners for the rising main are being finalised. Construction is planned to start mid-June 2010.

- **Motueka Wastewater Treatment Plant Rapid Infiltration Basin (RIB) trial**

The initial results of the RIB trial have been encouraging with the RIB performing well and showing little detectable impact on the groundwater environment. The testing has confirmed a complex interaction of the tide with the groundwater system beneath the site and the testing programme is to continue for 12 months.

### 3. WATER NETWORKS

A review of the Brightwater water network bulk usage was undertaken which indicated approximately 25% potential system losses unaccounted for. A leak detection survey was due to commence week beginning 3 May 2010. A programme for assessment of the remaining networks is being developed and is to be submitted for approval by the end of May 2010.

#### 3.1 March - April Exception Report

11-03-10	Dovedale; Supplejack Valley Road, leak on 65mm PVC main repaired.
11-03-10	Dovedale; Sunday Creek Road, leak on 50mm PVC main repaired.
14-03-10	Upper Takaka; low reservoir level caused by a filter blockage.
15-03-10	Brightwater; White Road Hope, broken 100mm AC main repaired.
15-03-10	Redwoods I; both main and top reservoirs empty due to a broken 25mm branch pipeline.
16-03-10	Redwoods II; Stringer Line, leak found and repaired, further work done renewing two creek crossings. Supply to Stringers restored.
22-03-10	Richmond; Valhalla High Level Reservoir, solar panel renewed following vandalism.
25-03-10	Wakefield; reservoir empty, following a pump fault. Telemetry alarm system also faulted. Wakefield out of water from 7am to 8.30am.
06-04-10	Dovedale; Thorn Pump Station, Pump Number 2 overhauled following bearing failure.
30-04-10	Motueka, Old Wharf Road, 200mm PVC main break near Thorp Street corner.

#### 3.2 New Water Connections/Disconnections

Clark	Seaton Valley Road	Mapua	Disconnection of rural low-flow connection.
Edwards	Main Road South	Wakefield	Rural low-flow connection.
Manderson	Pigeon Valley Road	Wakefield	Rural low-flow connection.
Arnold	Hill Street South	Richmond	Rural low-flow connection.
Ainsworth	Torlesse Drive	Kaiteriteri	Connect subdivision ridermain.
Teece	21 Wilkes Street	Richmond	Water and wastewater connections.



St Leger		104 Champion	Richmond	Subdivision connections.
Daelyn		Joyce Place	Richmond	Subdivision connections.
Brown	Acre	Wilkie Street	Motueka	Subdivision connections.
Village				
Alleyne		27 Fearon Street	Motueka	
Nelson	Tasman	Hart Road	Richmond	50mm connection to apartment complex.
Housing Trust				
Network	Tasman	24 Main Road	Brightwater	150mm water main connection.
		Hope		
Barlow		45 Dawson Road	Mapua	Increase rural water units back to 2m <sup>3</sup> /day.
Thia		57 Paton Road	Hope	Increase rural water units back to 2m <sup>3</sup> /day.

### 3.3 Water Capital Projects

- **Wakefield Reservoir**

Tasman Civil has completed all concrete work required for the reservoir and remaining site contouring and finishing works are on track. Some minor defects continue to be monitored. The contractor has been granted practical completion, with retentions held for remedy of potential defects.

- **Water Renewal Projects 2009/10**

Work continues on portions of the Water Renewal Programme. Water meter replacements and rider-main renewals in Murchison are almost complete. Tenders for the Richmond water renewals contract for 2009/10 & 2010/11 are currently being evaluated.

## 4. STORMWATER NETWORKS

March and April have been dry months with minimal rainfall recorded. Weather warnings were received on 23 March, 13 and 26 April. The event on 26 April was the most significant and the Motueka gates were closed as the predicted event coincided with a 4.1m tide. The contractor carried out the required pre-storm checks and no significant problems were reported.

Drain clearance has been ongoing and audit activities indicated on the whole a good general level of compliance. Several drains are being looked at in regard to increasing the frequency of clearing due to the amount of vegetation growth being encountered. The open drain in Little Kaiteriteri had been identified by MWH audit as non-compliant and one complaint had been received.

A cut off drain has been installed in Bill Wilkes Reserve to divert ground water back into the stream. This ground water had been, during heavy rain events, welling up in 24 Rochfort Drive. Considerable amounts of ground water were found while the drain was being excavated. This site will be monitored over the coming winter months.

Bill Wilkes Reserve cut off drain prior to topsoiling/grass sowing.



#### 4.1 Stormwater Capital Projects

- **Salisbury Road Stormwater Upgrade**

Tasman Civil Ltd completed the works in Salisbury Road and have some minor works to complete as the project enters its defects liability phase. The contract scope was extended for a further 80m and the contractor worked well to achieve programme on the extended scope of work.

- **Ruby Bay**

A preferred option has now been identified for stormwater improvements in the Broadsea Avenue / Stafford Drive / Pomona Road area in Ruby Bay. Detailed design has commenced and a consent application is being prepared for construction of two new stormwater outfalls to the coast at Tait Street. The first pipe will collect water from the Crusader Drive area while the second will collect water from Stafford Drive.

Funding for this work is spread across three years, and tenders will be let and work completed over coming financial year.

- **Mapua (Seaton Valley Stream)**

Contract 762 was awarded to Tasman Civil in November last year for the installation of an additional stormwater culvert through the Toru Street causeway at Mapua. This work commenced in late April.

Contract 777 (for the construction of a single box culvert on the Seaton Valley Stream) has now been awarded to CJ Industries, and work will commence late May (in line with Resource Consent requirements).

Detailed design for a second box culvert (adjacent to the Mapua School) is complete. Landowner approvals have been received from all but one landowner, with whom discussions continue. If approvals are forthcoming the work may be completed in conjunction with Contract 777.

- **Motueka**

Contract 780 (Old Wharf Road stormwater improvements) was awarded to Ching Contracting Ltd. The majority of the stormwater main along Old Wharf Road is now

complete with connections to the Woodlands Drain and existing stormwater systems outstanding. The work is on programme to be complete on 4 June.

- **Brightwater**

Taylor's Contracting Ltd have completed the stream widening work at Jeffries Creek, Brightwater (Contract 779) with only grassing work outstanding. The contractor has worked well in what was at times a challenging contract environment.

- **Richmond**

The Bird / Elizabeth Street stormwater upgrade (Contract 727) has an unresolved contractual issue that the contractor has indicated he wishes to take to mediation. This mediation is scheduled for late May.

## **5. Telemetry Development**

### ***Analogue Telemetry***

The "cross-talk" issue that has been evident at a small number of sites has been resolved. The network traffic has slowed to an acceptable level. Some anomalies have occurred at the Wai-iti Dam control site and ongoing investigations continue.

### ***Digital Telemetry Network***

With capital works well underway, there are new sites coming online every week. The network is steadily being migrated to a D-Band frequency, which eliminates the potential of interference with the remaining Analogue Telemetry Network.

New areas added into the network include Pohara, Kaiteriteri, Motueka, Dovedale, and St Arnaud.

The two new sub-base-stations are due to go online in Motueka and St Arnaud.

## **6 SOLID WASTE**

### **6.1 Kerbside recycling and bag collection**

Kerbside recycling volumes have now returned to levels similar to previous years. Contract performance has recovered and public enquiries have reduced significantly.

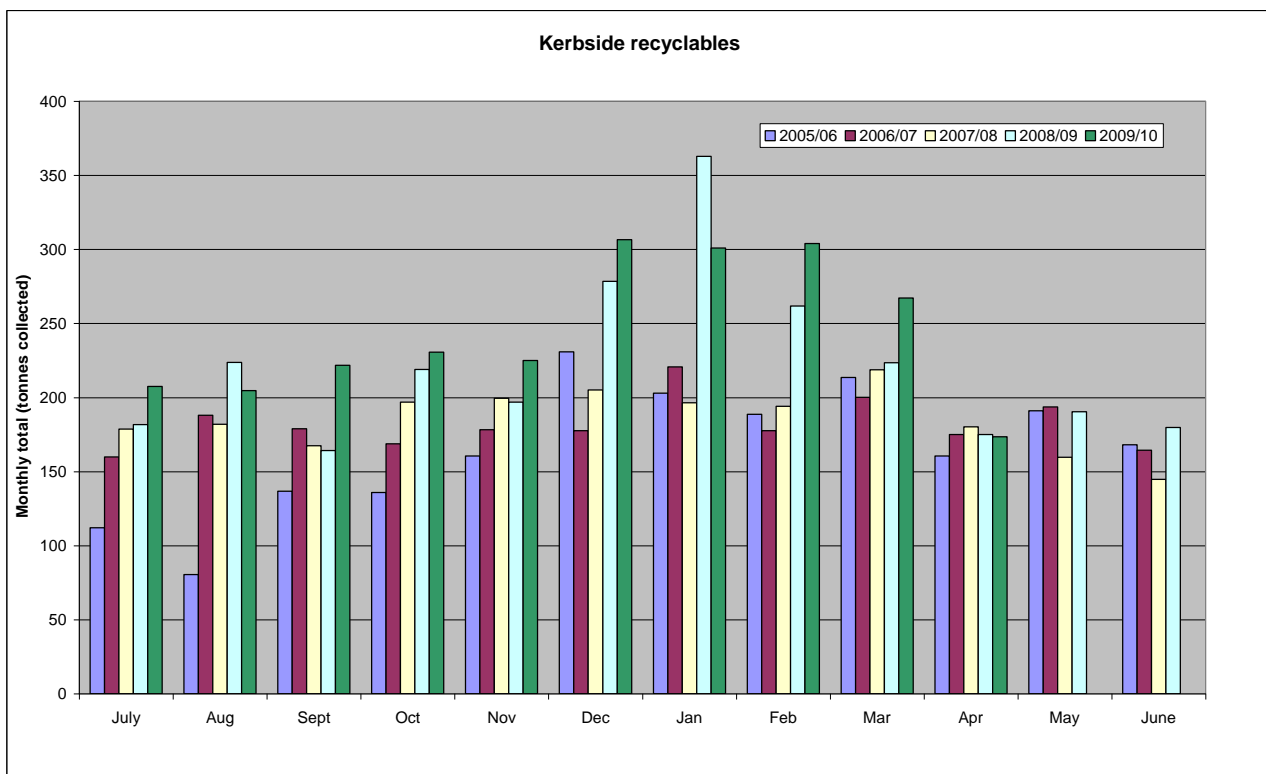
Over the coming months Council staff will work with the contractor to identify causes of the larger than usual summer peak and to better plan for peaks as they occur in the future.

### **6.2 Resource Recovery Centres**

Site activity dropped slightly over the reporting period. Sales volumes and refuse quantities remain tight and below budgeted income. Staff are continuing to limit non-essential or uncommitted expenditure.

Recent site capital works at Resource Recovery Centres have included sealing of access roads at the Murchison site. Staff have recently been reviewing loading and transport arrangements for each site in conjunction with preparations for the new haulage contract. This work will assist in the long term planning for capital works at each site.

A review of the contractual arrangements for the operation of and haulage of waste from Murchison RRC is discussed in a separate paper.

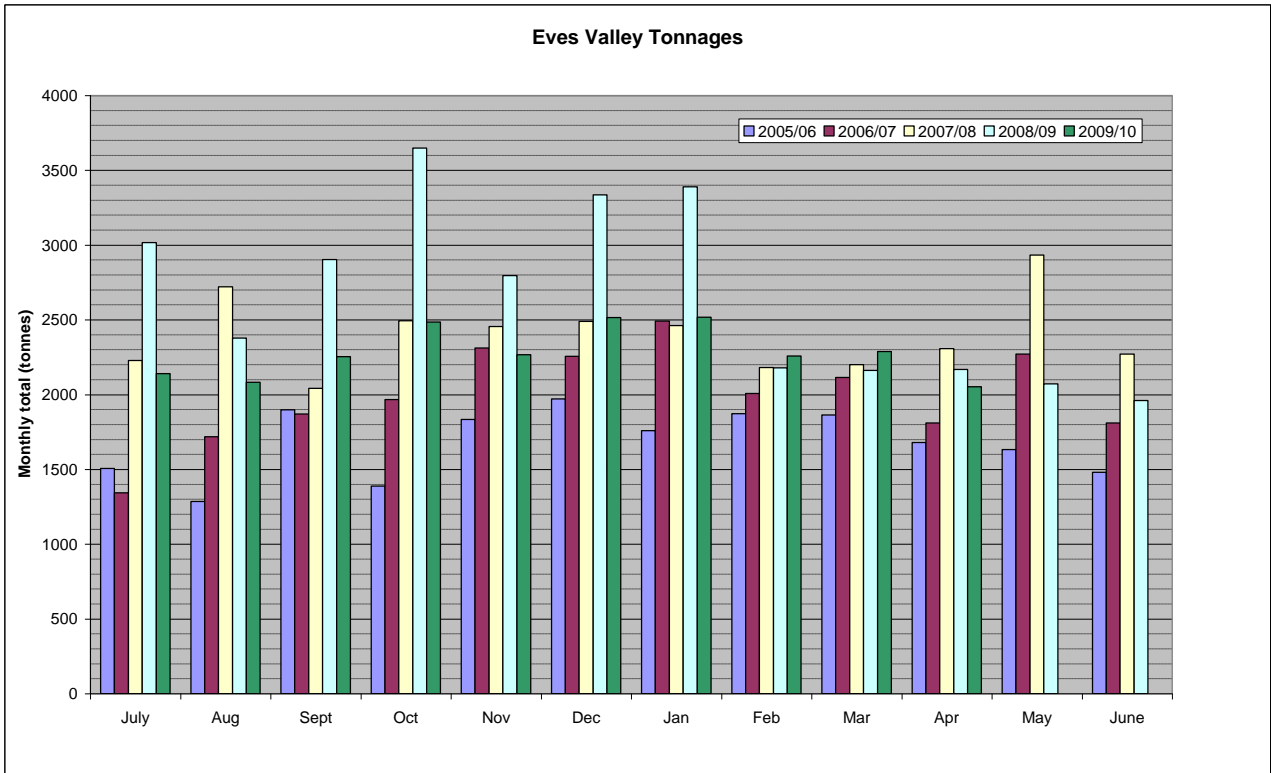


### 6.3 Eves Valley Landfill and Waste Haulage

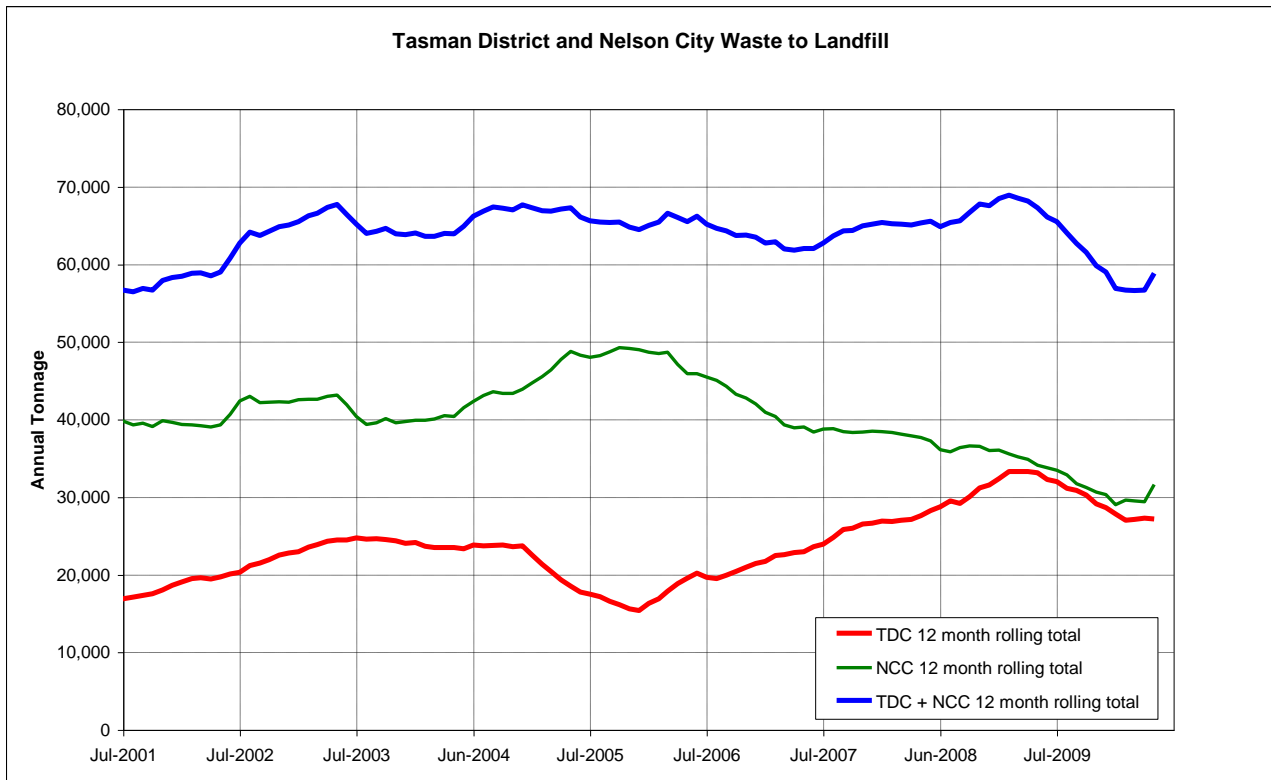
Waste tonnages to landfill (including special waste) remain lower than in previous years. As indicated above, this continues to place pressure on the solid waste account.

Council has now concluded discussions with the contractor of the landfill and waste haulage contract (Sicon, Contract 611) and has reached agreement on the transfer of some assets at the conclusion of the contract. The contract will now conclude in September 2010, and ownership of the fixed compactors and open-top and compactor bins used for haulage of waste will transfer to Council ownership.

Contract 781, for refuse haulage and operation of the Eves Valley landfill for a two year period (with two possible extensions of one year) is now being finalised and will be advertised for tender in late May. Following a review of the current contract, a number of smaller items previously included will now be included in other contracts. These include waste haulage from Collingwood to Takaka and loading operations at Mariri.



Regional waste-to-landfill quantities remain flat and are indicated in the following graph. The recent lift in Nelson City tonnages are due to a one-off event.



## 6.5 Waste Minimisation Act 2008 and joint Tasman District Council/Nelson City Council Waste Management Plan

Following the adoption of the joint Waste Assessment by both Nelson City and Tasman District Councils staff have met to discuss a programme to develop a joint Waste Management and Minimisation Plan. The immediate focus has been work-streams required to assess the governance of joint landfill ownership and management.

## 7 TENDERS

No.	Contract name	No. of tenders	Successful tenderer	Amount	Highest amount	TDC estimate	Budget for this item
777	Seaton Valley Street – Culvert Installation	4	CJ Industries	\$149,686	\$155,835	\$143,085	Budget carried forward from 2008/09 for this and other works.
792	CCTV Surveys 2010-2012	7	Aqua Lance Consultancy Services Ltd	\$131,340	\$466,677	\$149,111	Part only of the total CCTV surveys budget for the three years of the contract.

## 8 RECOMMENDATION

**THAT the report be received.**

Jeff Cuthbertson  
**Utilities Asset Manager**