

## STAFF REPORT

**TO:** Chairman and Members, Engineering Services Committee

**FROM:** Jeff Cuthbertson, Utilities Manager

**DATE:** 17 September 2010

**SUBJECT:** **Utilities Management Report – RESC10-09-07**  
Report prepared for meeting of 30 September 2010

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### 1 UTILITIES GENERAL

#### 1.1 Contract 688

Downers have undertaken all proactive, routine and non-routine maintenance on the water/wastewater treatment plants (WWTP), pump stations, reservoir sites and stormwater assets as scheduled within their July and August 2010 programmes.

1.2 Significant amounts of rain have impacted the wastewater networks resulting in the normal issues of inflow and infiltration into the reticulation network. The Contractor has managed these issues by monitoring pump station levels and performance. The various WWTPs have also been affected by the large inflows and have at times been stretched to capacity.

1.3 Proactive management of the network of culverts/channels, clearing of inlets/grills and planned closures of the Motueka floodgates has resulted in operational issues being kept to an acceptable level on the stormwater systems during periods of significant rain. The stormwater inspection regimes have been reviewed to include recent additions of assets.

1.4 The monthly contract meeting was held on 18 August 2010.

#### 1.5 Contract 688 Performance Standard Monitoring

As required in Contract 688 a random selection of audits were undertaken on various portions of the water, wastewater and stormwater networks, and the results are summarised below:

Contract 688 Performance Measurement Audit scores July 2010 to June 2011

	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Water	89%	90%										
Wastewater	90%	93%										
Stormwater	88%	97%										
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.

1.6 The results which are pleasing indicate an overall improvement in performance audit scores for August compared to the previous month. Performance criteria targets of 80% have been achieved across all three activities.

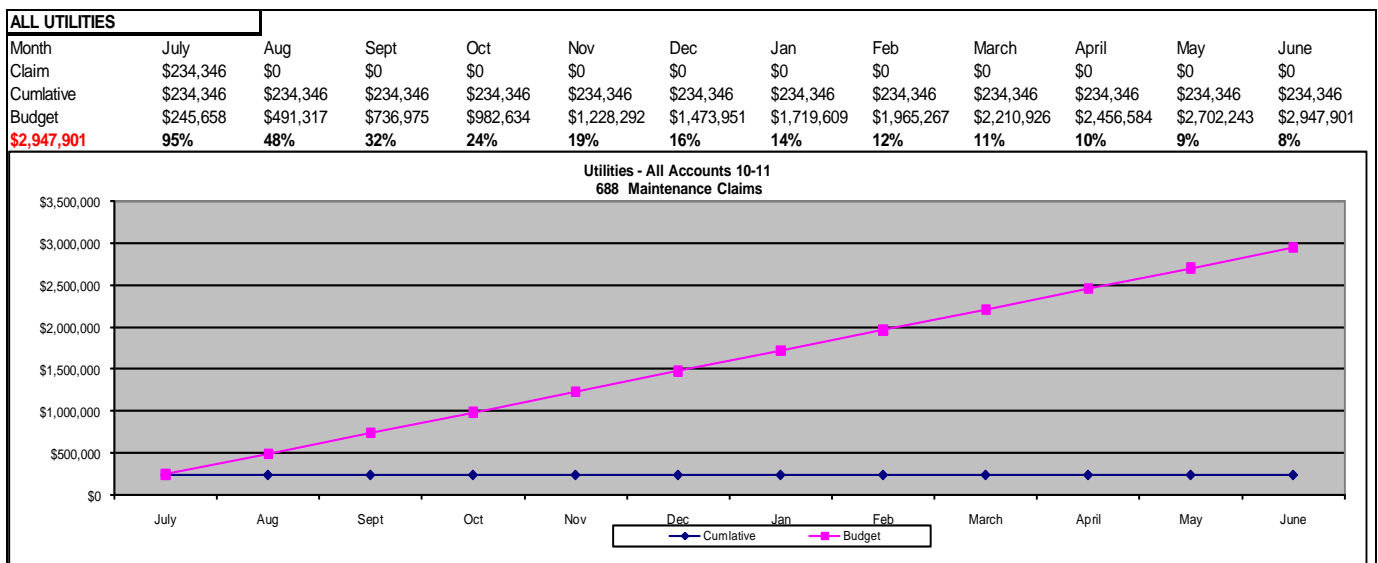
## 1.7 Customer Services - Job Completion

Targets for Tasman District Council Customer Services and requirements under Contract 688 are for the Operations and Maintenance Contractor to achieve 90% or above for completion on time. Downers have continued to perform well in this area and achieved pleasing scores for July and August 2010 of 94% and 93% respectively.

1.8 Contract 688 Performance Measurement scores achieved from July 2010 to June 2011 – Jobs completed on time.

## 1.9 Financial Performance

The financial information for Contract 688 current to the end of July 2010 is detailed below. The current August 2010 claim is being processed and the financial information relating to this period will be available with the next report.



## 2 WASTEWATER NETWORKS

- 2.1 The wastewater reticulation systems have on the whole performed very well with the majority of the pipe breaks and/or blockages being of a relatively minor nature.
- 2.2 Inflow and infiltration continues to be an issue for some of the region's sewer networks, in particular Motueka and Upper Takaka. Significant increases in flow are recorded during the latter winter months when the groundwater table is high, especially following significant rainfall.
- 2.3 The wetland area adjacent to the Motueka oxidation pond has a tendency to seep or overflow to the surrounding area during periods of significant rain and this eventuated following 19-24 August rainfall. An interim resource consent has been applied for to cover these rare occasions until the WWTP is upgraded. In time the considerable ongoing programme of sewer mains replacement in Motueka is also expected to reduce the volume of groundwater infiltration and total volumes discharged to the treatment plant following rainfall events.

## 2.4 Wastewater Exceptions

- 13/06/10 Golden Bay – Several sewer pumpstations went into high level due to arranged power shutdown. No overflows reported.
- 17/06/10 Motueka WWTP – Inlet screen tripped out due to power spike.
- 18/06/10 Brightwater Main Pumpstation – Power failure.
- 18/06/10 Pohara Camp Sewer pumpstation went into high level due to an airlock in pumps.
- 25/06/10 Takaka – Burnside Sewer Pumpstation went into high level due to a float fault.
- 27/06/10 Motueka – Woodlands Sewer Pumpstation went into high level due to pumps blocking.
- 03/07/10 Pohara – Four Winds Sewer Pumpstation – Pump No. 2 failed.
- 09/07/10 Pohara – Pump failed at Four Winds Sewer Pumpstation. Required a rewind.
- 12/07/10 Collingwood WWTP – minor leak discovered at outlet structure. Leak repaired.
- 14/07/10 Takaka – Waitapu Sewer Pumpstation – Pump fault due to a loose wire.
- 09/08/10 Richmond – Sewer blockage discovered on corner of Washbourn Drive and Hill Street. Blockage due to a section of sewer main that has not been connected as part of a new subdivision development.
- 12/08/10 Rabbit Island – Leak discovered on 200mm sewer main on Bullivant Road. Leak repaired and clean up undertaken.

## 2.5 Sewer Blockages / Overflows

- 09/07/10 Richmond – 22 Gladstone Road, Jubilee Park – Blocked sewer resulted in overflow of 1-2m<sup>3</sup>. Overflow cleaned up. Root intrusion discovered to be the cause.
- 09/07/10 Ruby Bay – Pomona Road – Plastic cap found to be blocking outlet from manhole. Overflow of 1m<sup>3</sup> cleaned up and disinfected.
- 15/07/1099 Rabbit Island – Sewer rising main burst. Tanker from Astro Environmental used to tanker away wastewater from Mapua. Overflow of approximately 8-10 m<sup>3</sup> cleaned up.
- 15/07/10 Ruby Bay – 11 Crusader Drive – Tree roots found to be causing blockage. Blockage cleared. No overflow reported.
- 16/07/10 Takaka – Four Winds Sewer Pumpstation – Corroded wire on Q-Tech module resulted in pump failure. Overflow of approximately 1-2m<sup>3</sup> into paddock. Clean up undertaken.
- 20/07/10 Rabbit Island – Sewer rising main damaged by contractor laying new main. Tanker arranged to collect wastewater from Mapua. Overflow of approximately 4-5m<sup>3</sup> cleaned up.
- 30/07/10 Murchison – Waller Street – Blockage in manhole resulted in overflow of approximately 1-2m<sup>3</sup>. Blockage cleared by Punts. Clean up and disinfection undertaken.
- 02/08/10 Motueka – 13 High Street – Blockage found on lateral. Punts cleared blockage. No overflow reported.
- 19/08/10 Richmond – 20 Churchill Avenue – blockage due to timber in sewer. Blockage cleared by Punts. Overflow of 1-2m<sup>3</sup> cleaned up and disinfected.
- 22/08/10 Motueka – 13 High Street – Build-up of debris caused blockage. Blockage cleared. Discharge cleaned up and disinfected.
- 23/08/10 Richmond – Caravan dump site at Jubilee Park – Blockage found on sewer line. Blockage cleared and line flushed. No overflow reported.
- 31/08/10 Richmond – 11a Farnham Drive – Blockage in downstream manhole of

property resulted in overflow from gully trap in downstairs basement. Blockage cleared and overflow of 1-2m<sup>3</sup> cleaned up by Jays Carpet Cleaning Services.

## **2.6 Wastewater Treatment Plants**

Environmental and performance monitoring was routinely undertaken at all Wastewater Treatment Plants (WWTPs) during July and August 2010.

## **2.7 Motueka**

A sludge survey is yet to be undertaken to determine the levels of sludge around the outlet and if this is contributing to levels of total suspended solids. A TSS result in July was marginally above the consent limit (by approx 6%), however monitoring in August showed full compliance. Intermittent seepage from the wetland area due to heavy rain events continues to occur, and an interim resource consent for this type of occurrence is still being obtained.

## **2.8 Takaka**

Groundwater monitoring undertaken on 20 July resulted in the following non-compliance events:

- A median concentration of 33 cfu/100mls (faecal coliforms) in bores inside the effluent plume compared to a limit of 13 cfu/100mls.
- A median dissolved reactive phosphorus concentration of 0.12 g/m<sup>3</sup> in bores inside the effluent plume compared to limit of 0.004 g/m<sup>3</sup>
- A median BOD<sub>5</sub> concentration of 2 g/m<sup>3</sup> in bores inside the effluent plume compared to a limit of 1 g/m<sup>3</sup>.

2.9 The groundwater compliance limits are determined by the median concentration of a parameter measured in bores outside the effluent plume. Consent conditions allow for a 50% increase in concentrations inside the effluent plume compared to outside the effluent plume.

## **2.10 Tapawera**

Isolated odour issues in connection with the Tapawera WWTP were due to the aerator being out of the pond for repairs combined with a programming fault, and its recommissioning resulting in odour. The aerator is now back in full service with no further issues of odour

## **2.11 Upper Takaka**

High Rainfall volumes on 1 and 13 August resulted in flows to the WWTP above the consent limit. The high inflow and infiltration issues are suspected to be primarily on private drainage network.

## **2.12 Wastewater Capital works**

### **2.13 Headingly Lane Pumpstation**

Construction of the pump station and gravity main is substantially completed with expected completion in October.

### **2.14 Rabbit Island Rising Main**

Ching Contracting have completed installing the new rising main on Rabbit Island

and on Bell Island. The contractor has been awarded practical completion and the project has now entered the defects liability phase.

### **2.15 Takaka WWTP Upgrade**

Council has formally purchased 1.8 hectares of land for the WWTP upgrade. Detailed design is now progressing.

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

The RIB trials continue to show encouraging results with the RIB performing well and still showing little detectable impact on the groundwater environment.

## **3 WATER NETWORKS**

3.1 Overall the water supply networks continued to operate satisfactorily. There were a few operation issues with the rural networks.

### **3.2 Water Supply Exceptions**

02-07-2010 Beach Road, Richmond broken 150mm AC main.  
16-07-2010 88 Valley Reservoir empty, leak located and repaired.  
25-07-2010 Waimea Pump Station – electrical, treatment and pump control equipment damaged by power spike caused by car crash.  
06-08-2010 Headingly Lane, 50mm main broken twice by Fulton Hogan.  
09-08-2010  
17-08-2010 Richmond Well No. 2, bore cleaned and pump refitted.  
23-08-2010 Appleby Highway Richmond, 150mm AC main break at overbridge.  
28-08-2010 Gladstone Road, Richmond, 100mm AC main break near Three Brothers Corner.

### **3.3 New Water Connections**

Rural water unit reductions – eight properties in Mapua, Hope, Best Island and Wakefield South.

Daelyn Drive	Waimea Supply
50mm Fire Sprinkler Connection	
Headingly Lane	Richmond
Orion Street	Collingwood
121 Fairfax Street	Murchison
119 Wensley Road	Richmond
480 Queen Street	Richmond
316 Queen Street	Richmond
Parker Street	Motueka
16 Toru Street	Mapua
Relocate existing connection.	
71 Pigeon Valley Road	Wakefield Rural
131 Maisey Road	Redwood Valley Rural

### **3.4 Water Capital Projects**

### **3.5 Richmond Water Meter Renewals**

This contract has been extended to include 120 additional meters. The contract is expected to be completed by mid-October and within budget.

### **3.6 Richmond Watermain Renewals**

This contract has been tendered and closed on 15 September. Tenders are being evaluated and the contract is expected to be awarded by 30 September 2010.

### **3.7 Redwoods Watermain Replacement**

Tenders for this contract closed on 22 September. The tenders are being evaluated and the contract is expected to be awarded in early October.

### **3.8 Takaka Fire Fighting Reticulation**

This contract has been tendered and closed on 29 September. The tenders will be evaluated and the contract is expected to be awarded by mid-October. A meeting with the working group will be held on 22 September at the Takaka Office.

## **4 STORMWATER NETWORKS**

### **4.1 General**

July and August have been wet months with regular rainfall throughout the period. Heavy rainfall warnings were received on 20 and 30 July and again on 1, 12 and 25 August. The Wharf Road floodgates in Motueka were operated on 12 and 25 August as the rain coincided with high tides. Pre Heavy Rainfall checks were carried out prior to these events.

4.2 Warmer weather has resulted in some early growth in the various stormwater drains around the district. This is being monitored and additional clearance carried out as required.

### **4.3 Stormwater Capital Projects**

#### **4.4 Richmond (Reservoir Creek Dam)**

Council has submitted a resource consent application for construction of a new spillway and for improvements to the dam structure and an application to the Historic Places Trust to gain authority for work on the dam.

4.5 Detailed design for the improvements and the tender documents are largely complete.

4.6 Negotiations for land purchase are continuing with the landowner of the property, and subject to successful negotiations, the works are scheduled to commence in late summer.

#### **4.7 Ruby Bay (Tait Street and Stafford Drive)**

A consent application for a new stormwater outfall at Tait Street is being prepared for submission in October. Detailed design for Stafford Drive and Tait Street works continues. Improvements to the existing outfall pipeline through Chaytor Reserve are scheduled to commence in November.

4.8 It is expected that construction will commence in the last quarter of the financial year.

#### **4.9 Mapua (Seaton Valley Stream)**

Council staff and Ward Councillors met with landowners at the site of a second proposed culvert on the Seaton Valley Stream (adjacent to the Mapua School). Progress has been made and staff are hopeful of consent being granted for this work over the summer period.

4.10 Remaining stream widening works will be subject to further landowner negotiations and are likely to commence later in the year.

#### **4.11 Motueka (Poole Street and High Street)**

Detailed design has commenced for construction of a new stormwater network in the Poole Street and High Street (Poole Street to Parker Street) areas. Construction of the High Street portion of the work is scheduled for this year (to be coordinated with New Zealand Transport Agency planned work) and Poole Street next year.

4.12 The work is expected to include some wastewater renewals and (potentially) a new water main in Poole Street.

#### **4.13 Collingwood (Swiftsure Street)**

Council staff have been working with local residents and members of the Golden Bay Community Board to resolve stormwater issues in this area. Potential delays have been encountered due to landowner access issues.

4.14 A preferred option has been identified and is the subject of a separate paper to the committee.

### **5 TELEMETRY**

#### **5.1 Analogue Telemetry**

The network is working well. There are no anomalies to report.

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

In the past six weeks, all telemetry sewer pumpstations in Kaiteriteri have been switched over to digital, including Little Kaiteriteri, Martins Farm, Stephens Bay, Sewer Vessel and Tapu Bay. Pulse flow meters have been replaced with ABB MAG Masters to enable more efficient monitoring of flow characteristics at each site.

5.3 The Richmond wellfield has been upgraded to digital telemetry control and is working well.

5.4 The Pohara WTP received an electrical upgrade and is ready to be integrated into telemetry.

5.5 Dovedale is yet to be completed, as the Contractor is still waiting the high sites such as Thorns and Silcocks to become accessible following the recent periods of wet weather

5.6 In St Arnaud the new base station has been installed. The switch over of the sewer sites will proceed within the next few weeks.

5.7 Brightwater now has two sewer pump stations on digital telemetry, the main sewer pump station at Brightwater Engineering and Waimea West.

#### **5.8 Base Station SCADA Servers**

The base station experienced several software issues managing the analogue and digital network. A log file is now in place as a service tool to prevent the reoccurrence.

5.9 The servers are running out of free memory space. Council's IS department is aware of these and is working to resolve this issue.

### **6 SOLID WASTE**

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

Kerbside recycling tonnages continue to grow consistently, with preliminary data indicating growth of 6% in the first two months of this year.

6.2 Rubbish bag collections have stabilised in the first two months of the financial year, with bag sales increasing. A proposal to introduce an additional larger bag is discussed in a separate paper.

6.3 Further work has been completed by the contractor to evaluate the feasibility of exporting glass to Auckland for re-smelting into glass bottles. The contractor is now proposing to continue to collect all recyclables weekly, but to "colour-sort" glass at the kerbside from 1 November 2010. Council supports this initiative and is considering infrastructure improvements on the sites for stock-piling and export of glass.

6.4 Switching to colour sorting may result in slightly slower collections and adjustments to collection times in some areas. In some instances over the busiest summer period the contractor may have to revert to the current collection in order to complete collections on time.

#### **6.5 Resource Recovery Centres**

Disposal quantities for the first two months of the year have increased slightly on last year with growth at the Richmond site offsetting small reductions at most other sites. Income for these sites is on budget.

6.6 Refurbishment of a new reuse shop in Richmond is near completion and staff are arranging for transfer of the site operator (Kahurangi Employment Trust) to the new facility over the coming month.

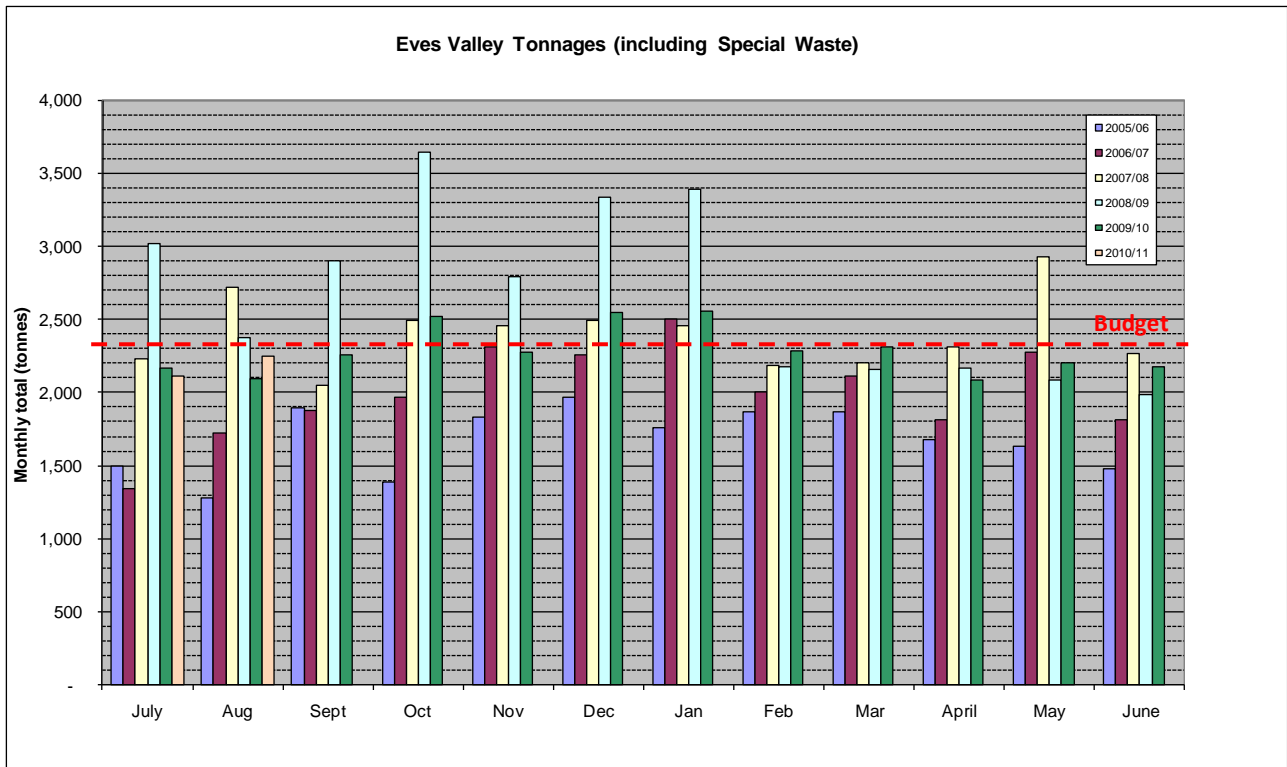
6.7 A condition assessment of existing compactor units at the Richmond and Takaka sites has recently been completed and procurement of new compactor(s) and compactor bins will commence shortly.

6.8 Reconstruction of the refuse pit and waste transfer area in Richmond is proposed shortly in conjunction with replacement of the compactor unit. This work will result in the requirement of a temporary alternative, and detailed planning for this is in progress. Pavement renewal around the recyclable processing building is expected to be complete prior to December.

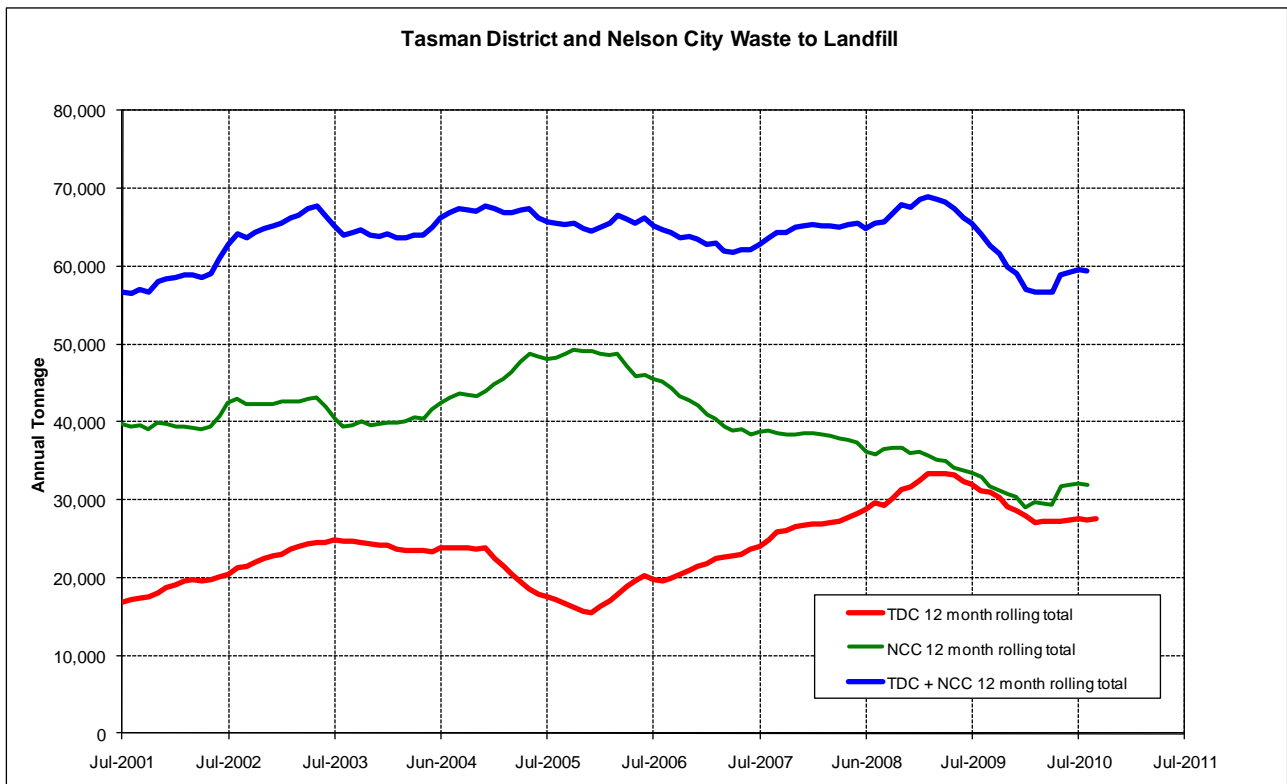


## 6.9 Eves Valley Landfill and Waste Haulage

Waste tonnages to the Eves Valley landfill are stable and on track for budget targets.



6.10 Regional waste quantities have also stabilised and show a flat trend of disposal.



6.11 Contract 781 (Landfill operation and waste haulage) was awarded to Fulton Hogan on 20 August 2010 for a period of two years commencing 1 October 2010. The

tender price for the work was under the Council estimate and is expected to result in savings.

6.12 Council staff and consultants have met with the outgoing contractor (Sicon Ltd) and Fulton Hogan several times since the contract was awarded and a smooth transition is expected.

6.13 Geotechnical and groundwater investigations continue at Eves Valley. This will inform development planning and a resource consent application for continued operation of the landfill - the existing consent expires on 30 June 2015.

#### 6.14 Waste minimisation – eDay

Nelson City and Tasman District have both participated on a joint basis in “eDay” over the last two years. While the bulk of the funding for this activity has been covered by others, Councils have contributed by organising volunteers and providing arrangements for the day’s activities.

6.15 Funding for this activity has been in doubt this year, and indications were at the time of finalising budgets that the event would not proceed. Since that time it appears that the event will proceed, with a proposed date of Saturday November 6.

6.16 Councils’ waste education contractor will be attending a briefing for the event shortly, and Council staff will be considering whether the event can be accommodated within existing budgets.

## 7 TENDERS

No.	Contract name	No. of tenders	Successful tenderer	Amount	Highest amount	TDC estimate	Budget for this item	Comment
781	Refuse Haulage and Landfill Operations	4	Fulton Hogan Ltd	\$2,235,896	\$3,445,264	2,928,432	\$3,190,500 (over four years)	The tender amount and budget is for four financial years and includes set up and completion changes.
805	Eves Valley Landfill Site Investigation	1	Griffiths Drilling	\$61,439	\$61,439	\$65,000	\$65,000 (as part of a wider scope)	Part only of investigation and consent budget.
768	Richmond Reuse Shop Building alterations	3	Trubet Holdings	\$40,364	\$70,764	-	\$50,000 (as part of a wider scope)	Balance of 2009/10 budget carried forward to complete this work.

## 8 RECOMMENDATION

**THAT the Utilities Management Report (RESC10-08-07) be received by the Engineering Services Committee.**

Jeff Cuthbertson  
**Utilities Asset Manager**