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# **Water Supply**

**(October 1999)**

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# **Operations Group**

**(October 1999)**

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# Operations Group Review of Operations For the Period Ended 31 October 1999

## 1. Items of Note

- ? The plant optimisation trials at Te Marua and Wainuiomata are proceeding well. Full scale plant trials at Te Marua have been completed and excellent results have been obtained. The trials at Wainuiomata have identified various improvements, which are being implemented.
- ? Algae growth in the lakes at Te Marua have caused minor operational problems. It will be necessary to closely investigate problems associated with the concept of lake management prior to next spring.

## 2. Water Quality

A total of 321 samples from trunk mains were tested for coliform organisms. None of these samples tested positive.

Secchi disc water clarity in the Te Marua north lake varied between 2.9 m and 3.5 m, and in the south lake between 5.6 and 7.8 m. These are considered satisfactory. The dominant phytoplankton were as follows:

- North Lake: *Oscillatoria*, *Synedra*, *Ankistrodesmus*
- South Lake: *Chlorella*, *Staurastrum*, and *Cyclotella*

*Oscillatoria* is a filter clogging algae when present in high concentrations.

*Synedra* produces a musty smell and slick tongue sensation when abundant.

*Chlorella* produces a musty smell and *Staurastrum* a grassy smell when abundant and *Cyclotella* is responsible for a fishy odour with geranium under tones.

Dissolved oxygen and pH readings are also satisfactory.

*Giardia* and *Cryptosporidium* results were as follows:

### Te Marua

- |        |                             |
|--------|-----------------------------|
| Lakes  | ) No <i>Giardia</i>         |
|        | ) No <i>Cryptosporidium</i> |
| Intake | ) No <i>Giardia</i>         |
|        | ) No <i>Cryptosporidium</i> |

Treated Water ) No *Giardia*  
) No *Cryptosporidium*

**Wainuiomata**

Treated Water ) No *Giardia*  
) No *Cryptosporidium*

Lower George Creek ) No *Giardia*  
) Low *Cryptosporidium*

Big Huia Intake ) Low *Giardia*  
) No *Cryptosporidium*

Intake ) Low *Giardia*  
) Low *Cryptosporidium*

George Creek South arm ) Low *Giardia*  
) Low *Cryptosporidium*

**Orongorongo**

Intake ) Low *Giardia*  
) Low *Cryptosporidium*

During October 12 transgressions were notified:

- 1 high fluoride
- 4 low fluoride
- 4 low chlorine
- 1 high pH
- 1 presumptive coliform

Five artesian samples were tested for the presence of macro-organisms this month. None were detected. This testing is necessary to prove security of the groundwater.

3. **Supply Situation**

The two monthly seasonal forecast for October and November 1999 issued by the Meteorological Service is as follows:

**Situation as at 10 August:**

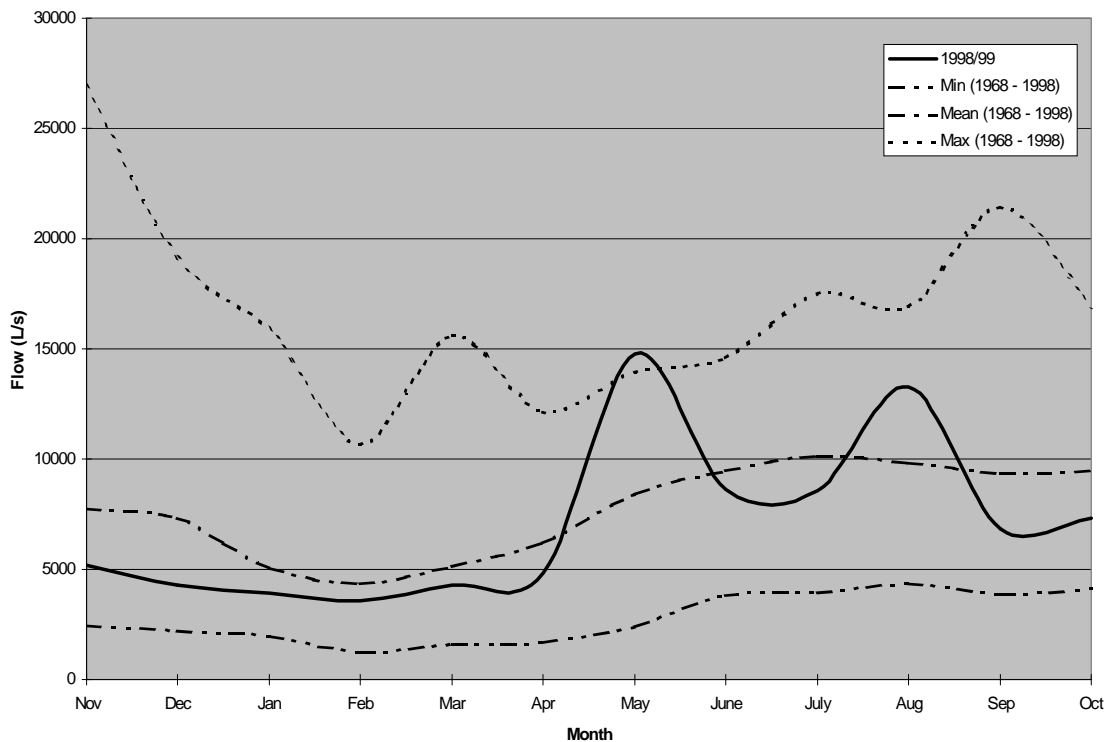
For Wellington:

- Rain:** 90 to 100 percent normal.
- Wind:** Slighter less than normal.
- Temperature:** Continuing about 1 degree above normal.
- Sunshine:** Average
- Specials:** Stretches of dry weather lasting several days.
- Confidence:** Moderate to high.

Spring showers this year are below par. We expect that some of the northwest gales may be severe, as occurs every spring but there should be fewer such events this year. Cold snaps are likely to be brief and rather weak but some of them could bring thundery showers.

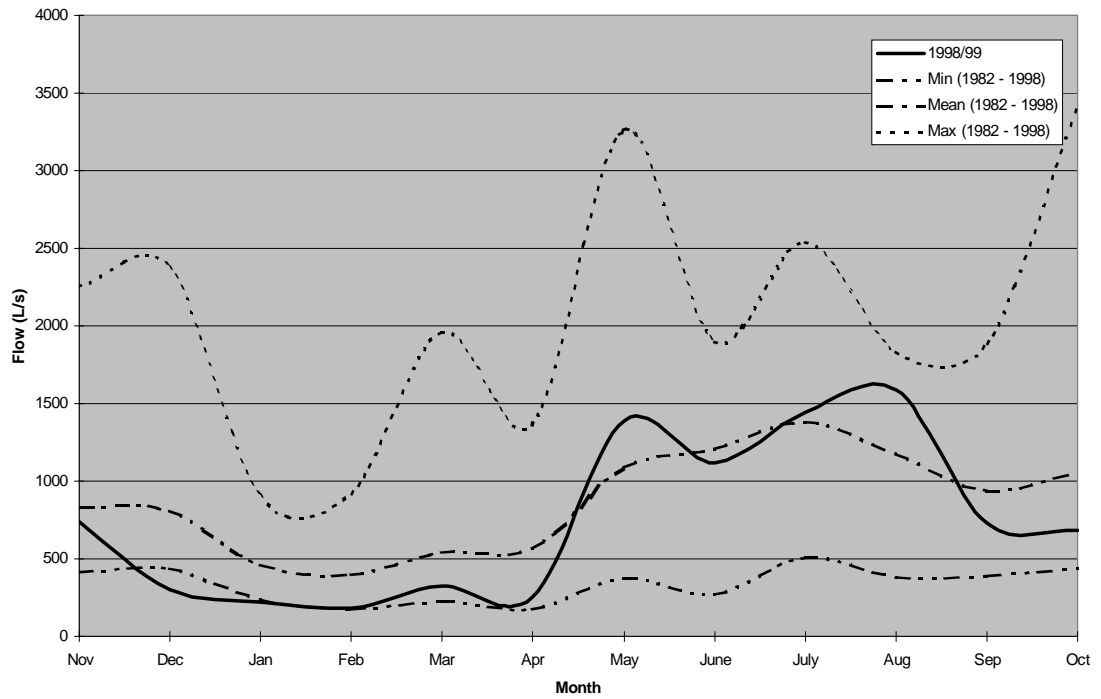
**Hutt River Flows**

The mean monthly river flow for month of October was below average.



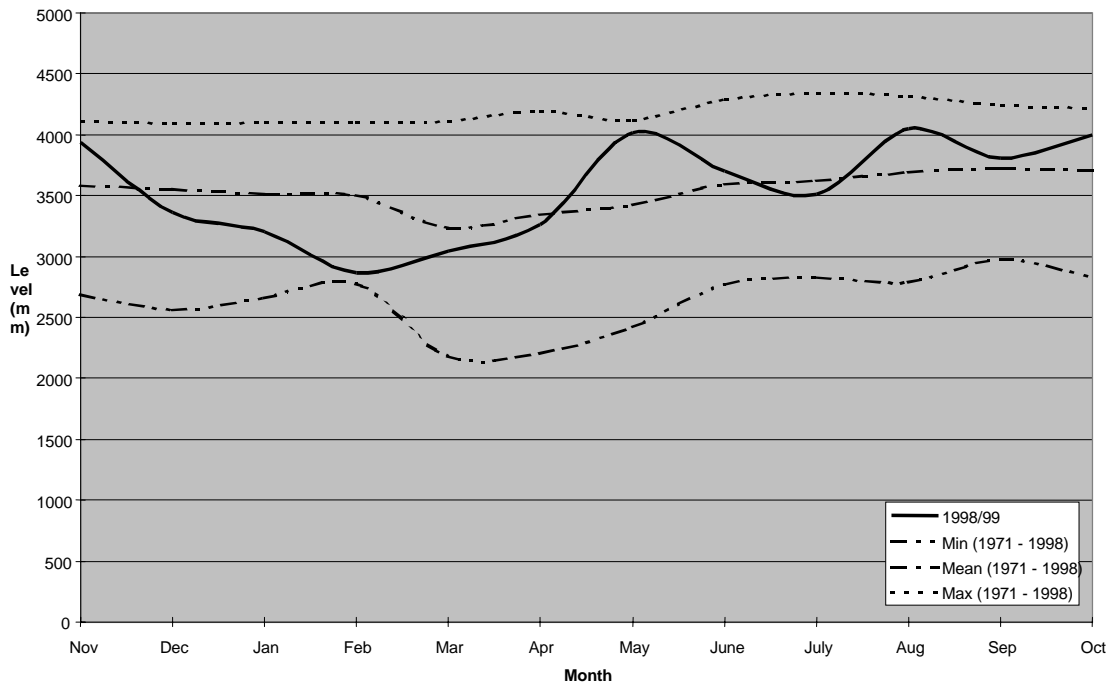
**Wainuiomata River Flows**

The river flows for the month of October was below average.



### Aquifer Levels

The aquifer level for October was just above normal.



## 4. **Production**

### 4.1 **Wainuiomata**

#### 4.1.1 *Quality*

As a result of the plant optimisation trials, the treated water quality has been improved.

#### 4.1.2 *Safety*

One cut finger. No time lost.

The implementation of the health and safety procedures is proceeding slowly.

#### 4.1.3 *Operations*

During the month a number of items of equipment failed. These were mainly instruments, which have been replaced. Problems have been experienced with the quality of lime received from our suppliers. It appears that there is a higher level of sand in the lime than should be present. Consultations have occurred with our suppliers who have assured us that they can resolve the situation.

During the storms at the end of October the 11,000 volt power lines fell onto the telephone circuits. The PABX, autodialler and a modem were damaged. What followed was an extremely peaceful and productive interlude before the telephone system was repaired.

#### *Plant Tours*

1 October: Wellington Regional Council arranged "water tour"  
30 people

13 October: 15 "B" certificate water treatment students.

#### 4.1.4 *General*

As part of the online plant trials, the coagulant was changed to a PAC. The results were so dramatic that this has become a permanent situation. The plant is now producing water that has a turbidity level below that detectable by the on-line instruments. Since being on PAC, higher than normal flows have been able to be maintained.

On Friday, 12 November, the first high river event occurred since being on PAC. One hundred and thirty true colour and 32 turbidities were treated, with a finished water quality of 0.1 NTU.

Although it was not cost effective to do this, it is reassuring to know that it can be done and provided verification of the effectiveness of the optimisation trials.

Minor equipment and instrument failures continue to hamper the operation of the treatment plant and the staff, contractors and consultants believe that there is a boredom subroutine in the software. If the place is running smoothly, it decides to make some part of the process fail. However, the same thing never occurs twice.

#### 4.1.5 ***Projects***

##### *Capital Works*

? The strengthening of the Wainuiomata Bridge has been completed.

##### *Operational Projects*

? The replacement of the coagulant storage tank is in progress.

#### 4.2 **Waterloo Water Treatment Plant**

##### 4.2.1 ***Quality***

As stated previously, concern has been expressed as to the quality of lime supplied. This has possibly contributed to fluctuating turbidity levels in the treated water. This problem has now been rectified.

##### 4.2.2 ***Safety***

There are no accidents or incidents to report.

##### 4.2.3 ***Operations***

31 October: Wellington No. 1 variable speed drive failed with a lot of enthusiasm. The previous failures have had logical explanations and solutions have been implemented.

11 November: Naenae No. 2 motor terminals flashed over. We think this is because of a contractor not tightening the terminals properly. The motor contactor welded, closed during this fault, and needs to be replaced.

##### *Plant Tours*

1 October: Wellington Regional Council arranged “water tour”  
30 people



#### 4.2.4 **General**

With the lake filling at Te Marua, Waterloo is supplying the bulk of the water. The aquifer levels are still healthy and the plant is running reliably.

#### 4.2.5 **Projects**

##### *Operational Projects*

- Aerator A mixer refurbishment.
- Lime waste disposal.
- Labelling of assets for asset management system.

#### 4.3 **Gear Island**

##### 4.3.1 **Quality**

No quality issues to report.

##### 4.3.2 **Safety**

There are no accidents or incidents to report.

##### 4.3.3 **Operations**

11 October: The plant was turned off to replace the main switchboard and drives.

15 November: The fixed speed pump and one DC drive has been commissioned. There are still some issues to sort out with the other DC drive. Full plant flow can still be achieved.

15 November: The caustic dosing pump stroke positioners were commissioned.

##### *Plant Tours*

1 October: Wellington Regional Council arranged “water tour” 30 people

##### 4.3.4 **General**

For the first time in years there has been a period of time when Gear Island has not been used. It was noticed that the sample taken from one of the well pumps was discoloured. It took a day and a half of flushing before the well pumps came clear. Gear Island will continue to be operated periodically in order to keep the well pumps flushed.

#### 4.3.5 *Operational Projects*

- ? Switchboard replacement.
- Labelling of assets for asset management system.
- The Buick Street plant was removed from service on 8 October.

#### 4.4 **Te Marua**

##### 4.4.1 *Quality*

Increased aluminium levels have been identified because of problems with direct filtration.

##### 4.4.2 *Safety*

There are no health and safety issues to report.

##### 4.4.3 *Operations*

Disruption to plant power because of a vehicle colliding with a power pole on State Highway 2 south of the Te Marua plant.

##### 4.4.4 *General*

###### *Te Marua Generator*

Work is progressing well on the installation of the new generator at the Te Marua Pumping Station.

###### *Kaitoke Generator*

Corrosion within the electronic controls of the Kaitoke generator has required new equipment to be installed. This work is due to be completed early in November.

###### *Lake Quality*

An algae bloom has been detected in Lake 1. Because of the type of algae involved (potentially toxic), an increased programme of monitoring has been implemented. Previous records indicate this bloom to be of a seasonal and temporary nature, and likely to reduce rapidly within weeks.

### *Plant Trials*

Plant process trials are continuing, as various water quality and conditions are experienced.

### *Plant Tours*

- 1 October: Wellington Regional Council arranged “water tour”  
30 people
- 28 October: CIT – 6 students

## 5. **Distribution**

### **Electrical Section**

#### *System Optimisation*

#### *Preparatory Work*

- ? Flow meter signals from the Hutt City at Wainuiomata No. 1 Reservoir, Wainuiomata No. 2 Reservoir and Point Howard Reservoirs have been connected to our telemetry system.
- ? Line pressure transmitters at Randwick, Ngauranga and Thorndon Pumping Stations have been calibrated.

### **Pipeline Section**

#### *Rahui Branch Line*

- ? The bypass valve from the 1050 mm main has been renewed
- ? The Rahui branch valve from the OK main at Korokoro has been changed
- ? The branch valve at Randwick has been repaired

#### *525 mm Cast Iron Main*

A leaking lead joint at Hutt Park Raceway has been repaired.

#### *Te Marua to Karori Pipeline*

A new 600 mm line valve and two bypass valves opposite Johnsonville Pumping Station have been installed.

### *Karori Decommissioning*

There has been ongoing work with the contractor involving Messines Road and Kelburn Reservoirs.

### *Electromagnetic Flow Meters*

New meters have been installed at the following locations:

- Porirua Low Level Reservoir inlet
- Porirua High Level Reservoir inlet

They have been connected to the telemetry system and commissioned.

## 6. **Health and Safety**

### *Total Injury/Illness/Incident Record*

#### *Production*

One minor cut with no time off work.

#### *Distribution*

One case of foreign matter in the eye with a half day off work.

#### *Network*

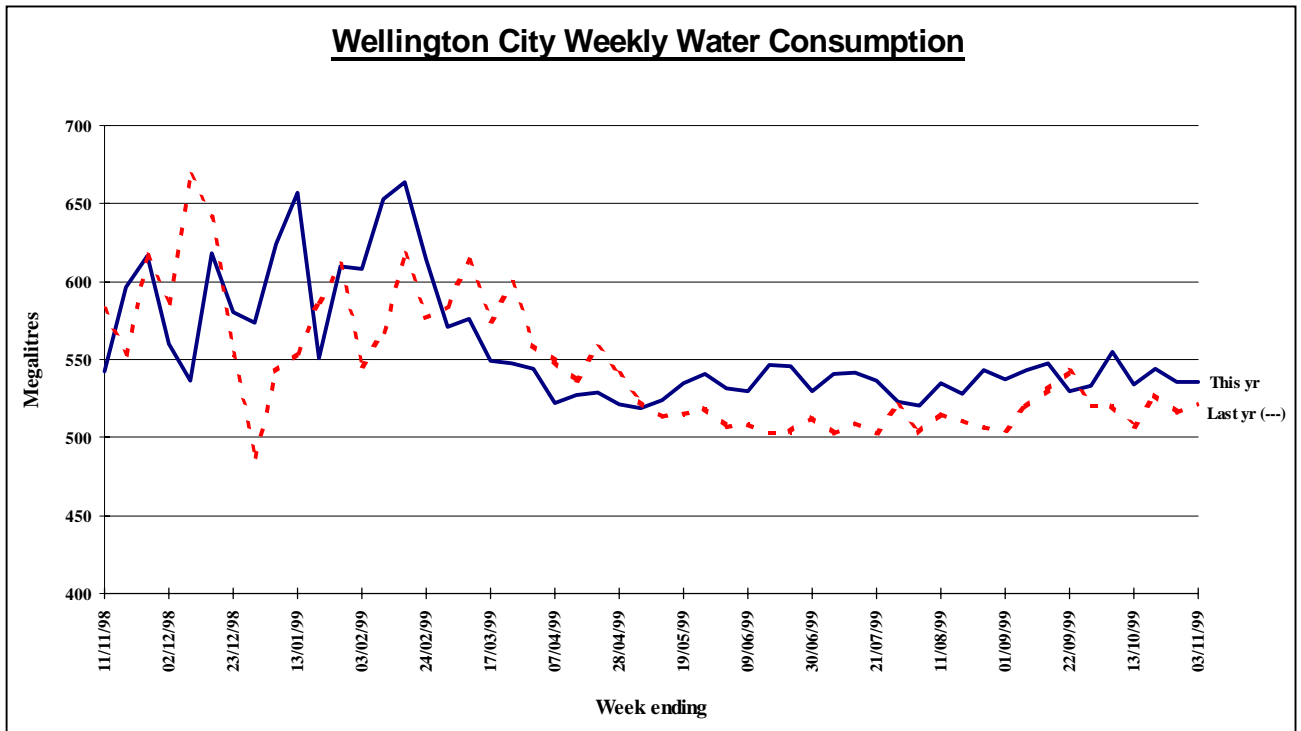
Two minor strains with no time off work.

# Operations Network Review of Operations For the Period Ended 31 October 1999

## 1. Items of Note

? The installation of the new job despatch system at Tory Street continues satisfactorily. It is hoped that it will be fully commissioned by the end of November and that we will then be able to demonstrate improvements in efficiency.

## 2. Water Supply (PT 30.1)



## 3. Financial

### 3.1 Facilities Management Contract

*Contract Amounts : Wellington, including Tawa*

Month	Actual \$	Budget \$	Variance %	Year To Date	Budget \$	Variance %
October	220,168	294,314	-25.19%	955,355	1,177,256	-18.85%



4. **Water Quality**

**Routine Testing (PT 1.1)**

The water quality was monitored and the appropriate laboratory tests were completed for the month of October. There were 136 samples from the reticulation system tested for bacteriological compliance. Compliance for the month is 100 percent. Compliance for the year to date is 100 percent.

**Water Tests Initiated by Customers (PT 2)**

	October	Year to Date	Compliance (%) Year to Date
	13	36	-
(PT 2.2) Within ability of Operations Network to control	2		-
(PT 2.1) Formal response within five days	13	36	97%

5. **Customer Services**

5.1 **Counter and Other Office Services (PT 3.1) (PT 4.1) (PT 5.1)**

An enquiry/complaints register is being maintained. A breakdown of complaints and enquiries received during the reporting period is as follows:

October	
Counter enquiries	70 + 8 encroachments
Proposals from other utilities	11
(PT 33.1) Plan records: - New services recorded	12
Compliance with response time requirement	100%

5.2 **Complaints Register (Monthly Summary) (PT 5.1)**

An enquiry/complaints register is being maintained. A breakdown of complaints and enquiries received during the reporting period is as follows:

October	
	Complaints
(PT 2.2) Water quality	13
(PT 16.1.2) Pressure	8

(PT 20.1)	Reinstatement	0
(PT 16.1.4)	No-water	17
	Contractors	0
	Other	0

All of the “Pressure”, “Water Quality” and “No-water” complaints were responded to, and completed within the performance criteria.

## 6. Response Maintenance

### 6.1 Compliance (Performance Target 9.1, 9.1a, 9.2, 10.1, 16.1)

	October			
	Number of Calls	Completed to Standard	Compliance %	
(PT 9.1)	Stopcocks	320	241	75%
(PT 9.1)	Hydrants	87	71	81%
(PT 9.1a)	Valves	20	19	95%
(PT 9.2)	Other Leaks	234	198	85%
(PT 10.1)	Mark-outs	40	40	100%
(PT 9.1a)	Value Repacks	6	6	100%
(PT 16.1.1)	Burst mains	4	3	75%
(PT 2.1)	Water Quality Complaints	13	13	100%
		<b>724</b>	<b>591</b>	<b>82%</b>

The installation of our new dispatch system commenced at the end of September 1999. We have had to carry out extensive training for all staff, which has had an effect on our performance and productivity. It is likely that this will continue until early December 1999.

#### Additional Work Carried Out

New Services	22
Damages by Contractors	22

### 6.2 Burst Mains (PT 16.1)



There were a total of four burst mains during the month October 1999.  
They were as follows:

8 Clutha Avenue, Khandallah	1/10/99
Cnr Jervois Quay and Hunter Street	14/10/99
Cnr Customhouse and Jervois Quays	15/10/99
118 Karori Road, Karori	22/10/99

Three of the four burst mains were attended to within 30 minutes and repaired within eight hours.

6.3 **Supply (PT 16.1)**

	<b>October</b>
Total calls received regarding loss of or temporary loss of supply because of broken mains or supply failure	17
Total calls attended within 30 minutes	17
Total Compliance	100%

6.4 **Reinstatement (PT 20.1)**

There were no complaints received this month regarding trench reinstatements. The Facilities Management Contract target is less than 12.

6.5 **Shutdown Notification (PT 6.1)**

There were 21 planned shutdowns during October 1999. All identifiable customers received notification within 24 hours prior to the shutdown.

6.6 **Locates and Investigations (PT 10.1)**

Work completed during the month comprised:

	<b>October</b>
Locate stopcocks	76
Leak location	59
Flow tests	0
Seepage/Investigations	3
Miscellaneous supply jobs	22

7. **Health and Safety**

There were six minor incidents reported this month.

8. **Meters (PT 13.1)**

A total of 2,382 city, voluntary and high use meters were read and entered into the system by 23 October 1999.

9. **Pumping Stations, Reservoirs and System Control**

9.1 **General**

Normal routine maintenance has resulted in the Wellington City system operating satisfactorily.

9.2 **Control System (PT 30.1)**

The control system continues to operate satisfactorily.

9.3 **Broderick Road Pumping Station**

The No. 1 pumpset has been returned to service and No. 2 pump has been sent away for overhaul.

9.4 **Grenada North High Reservoir**

A permanent mains supply has been connected to the TDI hut at Grenada, which was previously supplied by battery power.

9.5 **Maintenance Checks (PT 17.4)**

Maintenance has been carried out as follows:

October 1999	
Round C	Round D
Allington Road	Karepa Street
Messines Road Pumping Station	Highbury
Karori Park	Landfill
Montgomery Avenue	Rhine Street
Makara Road	Beacon/Signal Hill
Verviers Street	Townsend Road
The Zoo	Miramar North
Russell Terrace	Dargle Way
Lyndhurst Road/Chester	Grenada CV
Mills Road	Rangoon Heights CV
Baylands CV	Ngaio CV
Omega CV	Cunliffe CV
Woodridge CV	Cambrian CV
Sidlaw Street CV	

10. **Development**

10.1 **Development Statistics**

Subdivisions	October	Year to Date
Construction plans approved (lots/units)	31	33
Scheme plans approved	27	98
Subdivisions cleared (lots/units)	48	140

## 10.2 **Development Projects**

### 10.2.1 ***Woodridge Reservoir***

The reservoir is in operation. There are some minor engineering details to be tidied up. The subdivision is being cleared. It appears that land around the old reservoir will revert to the subdivider.

A lot is being created for new reservoir.

### 10.2.2 ***Churton North Reservoir***

Construction of the reservoir is largely complete. The valve chamber and pipework has been constructed. The steelwork and connecting pipework are outstanding. Waiting for completion of the pumping station before filling.

### 10.2.3 ***Westchester Drive Pumping Station***

Building and layout have been commented on. Consultants are working on amended design.

### 10.2.4 ***Major Subdivisions***

Construction plans for the following major subdivision were submitted:

- ? Hawtreay Terrace
- ? Greta Point

As-built plans for the following major subdivisions were submitted:

- ? Landsdale Subdivision
- ? Middleton Road

### 10.2.5 ***Fire Services Recently Connected (PT 12.1)***

Nil

## 10.3 **Building Development Appraisals**

	October	
	Commercial	Domestic
Building consents	21	28
PIMS applications	21	34
Compliance with response time requirement	100%	100%

## 10.4 Land Information Memoranda

October	
Applications processed	40
Compliance with response time requirement	100%

## 11. Capital Works

### 11.1 Main Laying City

#### 11.1.1 *Contracts in Maintenance Period*

The Terrace pipe replacement contract is in the maintenance period. The maintenance retention on Courtenay Place and Marion Street Contracts has been released.

#### 11.1.2 *Taranaki Street*

Wellington City Council has requested that pipe be purchased for the replacement of the 150 mm cast iron main in Taranaki Street.

#### 11.1.3 *Manners Street*

Design of a pipeline to replace the 300 mm cast iron main from Willis Street to Cuba Street is progressing.

#### 11.1.4 *Cuba Street*

Design of a pipeline to replace the 200 mm cast iron and 100 mm asbestos cement main from Ghuznee to Webb Street is progressing.

### 11.2 Main Laying Suburbs

#### 11.2.1 *Contracts in Maintenance Period*

The following pipelaying contracts are in the maintenance period.

- Johnsonville Road
- Tirangi Road, McGregor, Kingsford Smith and George Bolt Streets
- Bracken Road
- Breaker Bay Road
- Makara Road Rising Main

The maintenance periods for Chelmsford Street and Rakau Road, Hapua Street and Upoko Road Contracts have expired. Arrangements are being made to rectify any minor maintenance issues and to release the maintenance retentions.

The maintenance retention on the Miles Crescent/Lyndfield Lane Contract has been released.

11.2.2 ***Owhiro Bay Parade***

The Contract for replacing the pipeline along Owhiro Bay Parade attained Practical Completion on 11 October 1999.

11.2.3 ***Helston Road, Newlands***

The Contract Works for replacing the pipeline along Helston Road have been completed and the Practical Completion Certificate is about to be issued.

11.2.4 ***Rider Mains Replacement***

The Contractor (N Forsyth Ltd) has installed new rider mains in Somerville Terrace, Richmond Avenue, Queens Drive, Nikau Street, and Derwent Street. The replacement of the rider main in Moxham Avenue is almost complete.

11.2.5 ***Fox Street, Ngaio***

Design and preparation of Contract Documents for the replacement of the 100 mm asbestos cement pipeline in Fox Street from Awarua Street to Vasanta Avenue have been completed and forward to Wellington City Council for approval.

11.3 **High Level Distribution and Storage**

11.3.1 ***Karori South Reservoir***

The Karori South Reservoir is in service. Arrangements to supply the Allington Road Zone from the new reservoir are being discussed with Wellington City Council.

11.3.2 ***Wadestown Reservoir***

Montgomery Watson Ltd is undertaking the design and obtaining the Resource Consents for the proposed reservoir and associated earthworks. Submissions on the application for a resource consent closed 28 October 1999. The submissions are being analysed.

11.4 **Low Level Zone Storage**

11.4.1 ***Eastern Suburbs Storage Enhancement***

The report on the potential sites and proposed level for this reservoir is being considered by Wellington City Council.

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# **Strategy and Asset Group**

**(October 1999)**

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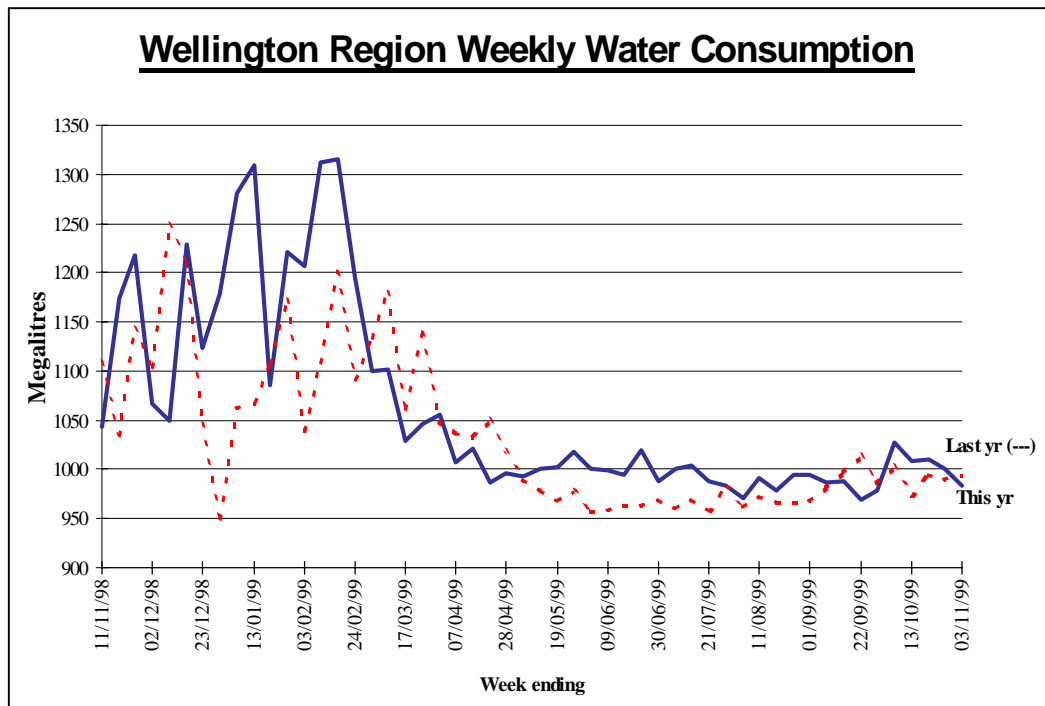
# Strategy and Asset Group Review of Operations For the Period Ended 31 October 1999

## 1. Items of Note

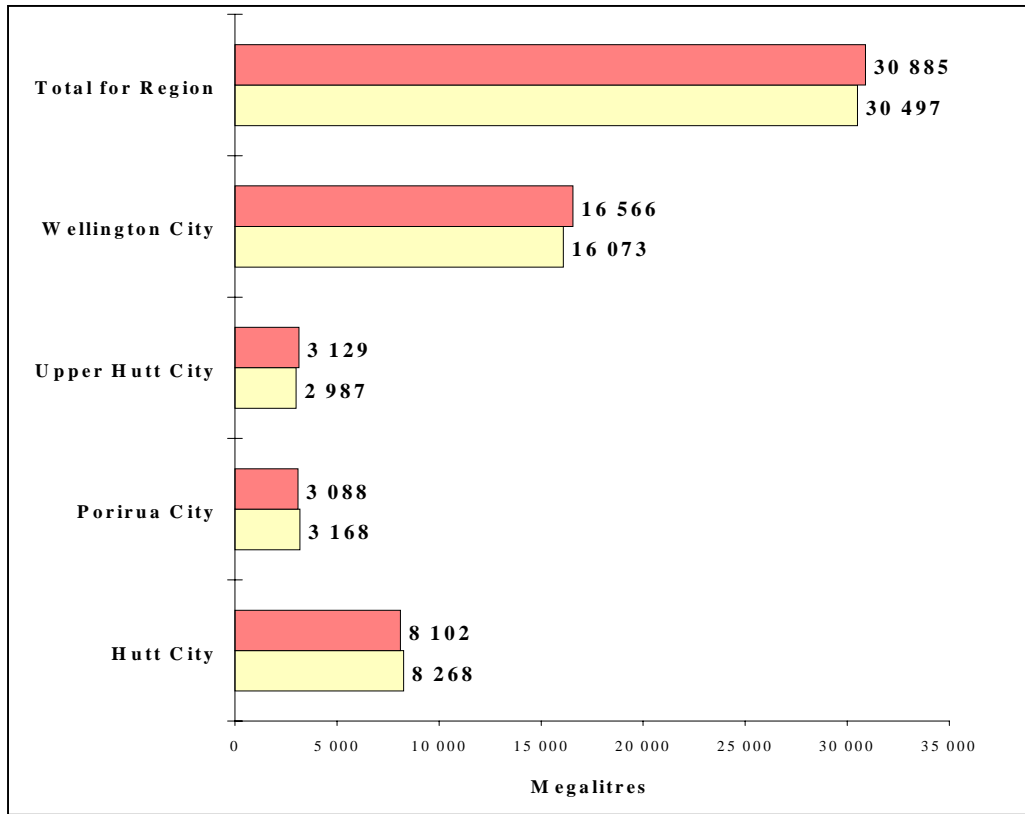
- ? Advice has been received that the Wellington City Council and Karori Wildlife Sanctuary Trust have completed their negotiations on the various agreements. The next step is to proceed with obtaining a binding ruling from the Inland Revenue Department.
- ? UnitedNetworks Ltd have provided a draft network agreement that will allow us to separate energy supply and network services into two contracts. There was a relatively smooth changeover to our new energy supplier, TrustPower, on 1 October or a few days earlier for some sites.
- ? Work has continued on the asset revaluation project. It is a major task, with about 6,000 assets to be valued.
- ? A separate report covers Petone water supply issues.

## 2. Sales Volume

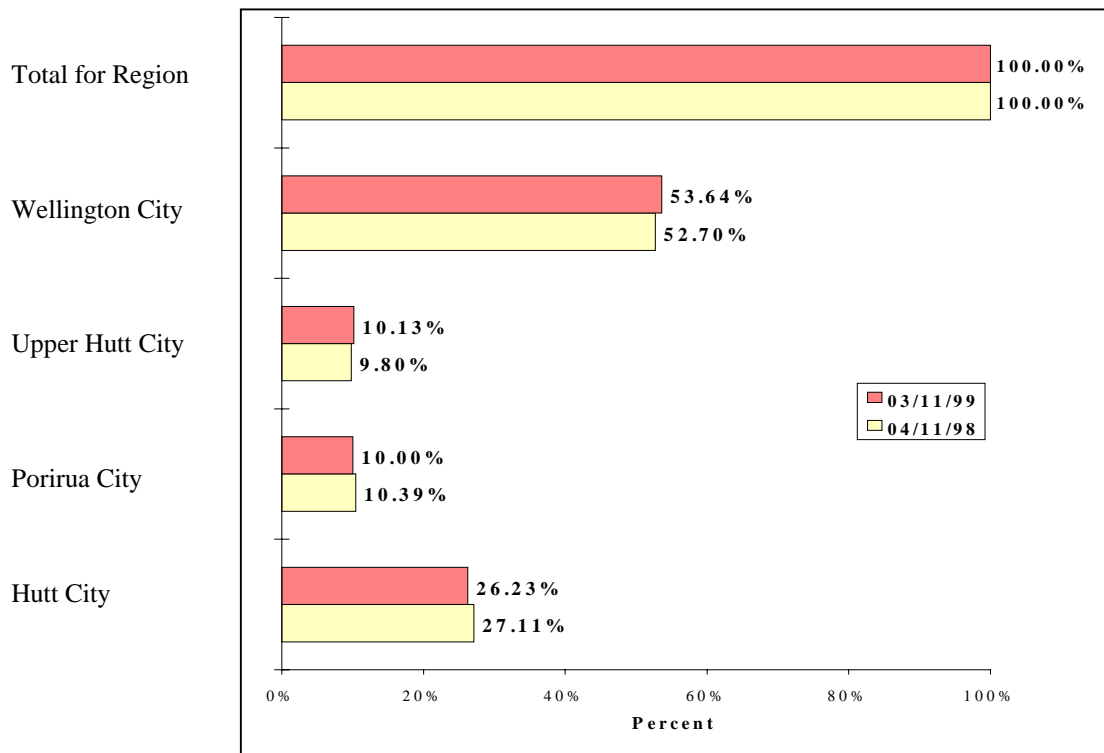
### Water Consumed from 1 April to 4 November 1999







An overall increase of 1 percent over the previous corresponding period. There were slight decreases in consumption in Lower Hutt and Porirua Cities, and increases in Wellington and Upper Hutt Cities. Percentage changes are represented below.



### 3. **Asset Management**

- ? The revaluation of Wholesale Water assets is close to completion. Initial indications are that the valuation will be significantly higher than the current book value. The individual asset values will be loaded into the recently installed Hansen Valuation Module, which will be used to depreciate assets in the future.
- ? A review of the June 1998 Asset Management Plan has been commenced. It is expected that this review will result in minor changes only, principally in the financial area.
- ? Capital Works for 1999/2000 are progressing. The new switchboard at Gear Island has been installed and is being commissioned. A contract for the refurbishment of the OK main between Thorndon and Karori has been let and tenders called for the relining of various pipelines at Te Marua.
- ? A programme of capital works for the period 2000 to 2020 has been compiled. The projected expenditure figures will be incorporated into the long-term financial model.
- ? A consultant is preparing a resource consent application for a new well tapping the Moera aquifer. A consultant has been commissioned to investigate the possible effects of this well on the IBM firefighting system.
- ? Draft applications and environmental assessments for the new surface water take consents have been prepared, and were forwarded to a range of groups and individuals for comment in July. So far there has been little response.
- ? A new strategy for managing Wainuiomata Water Treatment Plant supernatant has been developed and submitted to the public health authorities for their approval. The strategy calls for most supernatant to be returned to the plant but requires that supernatant be discharged to the river under certain conditions. A resource consent application is being prepared to enable this intermittent discharge of supernatant. Currently all supernatant is being discharged to the river under the terms of a temporary consent.
- ? The consultant commissioned to build a control optimisation system for the Wainuiomata/Waterloo supply is progressing. Some delays have been experienced, and commissioning of Stage 1 (Wainuiomata/Waterloo system) is now planned to commence on 1 February 2000. The optimisation system will manage source and pump use to minimise the cost of the production and distribution of water.
- ? Detailed seismic review work and risk assessment has been carried out for a number of network elements. Reports have been received on:
  - ◆ Black Creek pipe crossing
  - ◆ Gear Island Reservoir, buildings and structures

- ◆ Korokoro Stream pipe crossings
- ◆ Haywards Reservoir
- ◆ The stream pipe crossing at the bottom of Haywards Hill
- ◆ Randwick Pumping Station
- ◆ Landslide potential at the Haywards Reservoir site.
- ◆ Potential for damage from landslides to the Orongorongo pipelines,
- ◆ Potential for landslide damage to Kaitoke pipeline adjacent to the intersection of State Highways 2 and 58

These reports will be reviewed and summarised, and a programme of proposed strengthening or remedial works compiled.

#### 4. **Quality Assurance**

- ? Statistical analyses of turbidity readings to demonstrate compliance with the rule that requires turbidity to be less than 0.5 NTU for 95 percent of the time have been carried out. The results for October are set out below. The percentage of the time turbidity is less than 0.1 NTU has also been calculated.

<b>Percentage Compliance</b>	<b>Turbidity &lt; 0.5 NTU</b>	<b>Turbidity &lt; 0.1 NTU</b>
<b>Plant</b>	<b>October</b>	<b>October</b>
Te Marua	99.99%	99.43%
Wainuiomata	99.7%	64.38%

Software to analyse the data to check compliance with the rule requiring less than a 0.2 NTU rise in turbidity within 10 minutes is being developed. These two rules are intended to reduce the risk of *Giardia* and *Cryptosporidium* getting through the plant undetected.

- ? Work is continuing on the proposed Environmental Management System (EMS) being developed under the provisions of ISO 14001. A separate progress report on the EMS is included in the meeting agenda.

#### 5. **Marketing and Economics**

##### 5.1 **Market Research**

- ? Further progress on a research project to investigate public attitudes towards the service provided by our Network Section. C M Research designed qualitative research following completion of quantitative research that defined key issues. Focus groups were conducted to investigate the reasons behind attitudes that have the greatest impact on the public's overall perception of the Network Section's performance. C M Research will present the results in November.

## 5.2 **Summer Water Conservation Campaign**

- ? Development of the campaign continued. Two nationally recognised television garden show personalities were approached about presenting our proposed summer water conservation television advertisement. Both expressed their willingness to be involved and negotiations were continuing with our preferred choice. Concept and script development was commenced. City and regional authorities in Auckland, Christchurch and Kapiti were approached about possible involvement in the development of the campaign. Suitable television time has been investigated and booked for a six week period from 9 January.

## 5.3 **1998/99 Business Report**

- ? Work continued on The Water Group's 1998/99 Report of Business Activity. Final photography, text and graphic content were agreed. Proof reading and final changes were completed. Financial information was presented and received signed off by audit. Annual statistics were proofed. Colour proofs will be sighted before sign-off for printing in early November.

## 5.4 **Public Relations**

- ? A press release, *Upgrade to cut risk of water supply loss*, about a planned upgrade of the OK main between Thorndon and Karori was released on 19 October. As there will be some impact on vehicles during the work, further media releases will be made before the work starts.

## 5.5 **Economics**

- Progress is being made with the Sustainable Yield Model.
- Work on the PriceWaterhouseCoopers' run benchmarking survey has finished.

## 6. **Projects undertaken by Engineering Consultancy for the Strategy and Asset Group**

### ➤ **Te Marua Lakes to Treatment Plant Pipeline**

Contract Documents have been prepared and tenders invited for rehabilitating the relaid bitumen lined pipes with cement mortar lining.

? **Wainuiomata Reaction Tank**

The reaction tank and treatment process optimisation work has significantly improved the quality of the treated water. The construction contractor has been slow in completing the maintenance works. This is holding up settlement of the final claim and determination of the total project cost.

➤ **OK Main Slip Lining : Waiapu Road to The Rigi**

The OK main is to be recommissioned between Thorndon and Karori Pumping Stations. This main is required to supply water to Karori and Kelburn when the Kaitoke main is shut down for maintenance and repair work. A section of 300 m between The Rigi and Waiapu Road (through the Karori Tunnel) will be slip lined with a 400 mm diameter polyethylene pipe.

Tenders were invited for this work and five tenders received on 29 October 1999. Tenders were evaluated using a weighted attribute system. The Contract was awarded to the highest scoring tender, E N Ramsbottom Ltd, which also submitted the lowest normalised tender price. The tender was accepted by the Divisional Manager under delegated authority. The tender sum is \$103,711, excluding GST.

Work is programme to start on-site on 29 December 1999 and will be completed by 28 January 2000.

➤ **OK Main Crossing of Korokoro Stream**

The OK main between Randwick and Korokoro has been recommissioned to supply water to the new Rahui Reservoir. The pipe crossing the Korokoro Stream is corroded and poorly supported. It could fail during a moderate earthquake. A design for a replacement crossing is being prepared to allow a speedy replacement if required.

➤ **Waterloo Capacity Increase**

The new Wellington pumps continue to work satisfactorily. The Contractor is installing cooling fans in the variable speed drive cabinets to reduce the heat build-up.

Two non-return valves have been installed at Randwick valve chamber significantly reducing the head loss when pumping to Wellington.

➤ **Rahui Reservoir Rising Main**

The rising main, telemetry and controls at the reservoir have been commissioned, with water being supplied to this reservoir from Waterloo Pumping Station.

➤ **Plimmerton/Pukerua Bay Branch Pipeline Shut-off Valve**

The Contract for construction of a valve chamber for this shut-off valve was awarded to J D Dillon Contracting Ltd for the sum of \$14,160. Work is about to start on-site adjacent to Paremata No. 2 Reservoir.

➤ **Hutt Estuary Bridge Pipelines**

This strengthening work is on hold pending Hutt City Council finalising the design of the strengthening work on the Hutt Estuary Bridge.

➤ **Wainuiomata River Bridge**

The Contract for removal of the old deck and strengthening of the abutments and central pier is practically complete.

➤ **Karori Reservoir Rationalisation**

Following the decommissioning of the open water storage at Karori significant alterations in pipework connections has been required to rationalise the pipework layout.

This was a major project and involved the removal of many large redundant valves and pipes.

Rerouting the rising mains to Kelburn and Messines Road has been completed. Work on some minor scour pipework and tidying up the site is progressing.

➤ **Haywards Reservoir Utilisation**

New control valves and pipework are proposed for Haywards Reservoir. This is to allow remote control, turnover in the reservoir to maintain water quality and greater utilisation of the available water storage. Pipes, valves and flow meters are being purchased for this work.

➤ **Water Meter Replacement Programme**

The programme of replacing the existing revenue meters is progressing satisfactorily. An order has been placed for the supply of 14 high accuracy electromagnetic flow meters. They will be delivered in February 2000 and will be installed by the Distribution Section.

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# **Engineering Consultancy Group**

**(October 1999)**

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# **Engineering Consultancy Group Review of Operations For the Period Ended 31 October 1999**

## **1. Work Carried Out for the Strategy and Asset Group**

The main capital projects are itemised in the Strategy and Asset Group report.

Most of the plans produced prior to CAD have now been scanned. This will enhance plan security and access, as previously microfilms were the only back-up available. The task of attaching file names and linking to the plan index is yet to be completed.

## **2. Work Carried Out for the Operations Group**

The Engineering Consultancy Group has continued to provide support for smaller projects arising from the operation and maintenance of the wholesale water supply system.

## **3. Work Carried Out for Wellington City Council**

### **3.1 General**

Commissions have now been received for some 1999/2000 capital works projects.

Current projects underway are detailed in the following sections.

### **3.2 Pipeline Projects**

Contracts are completed for replacement mains in Owhiro Bay Parade, Helston Road and for various rider mains. The inlet main in Makara Road to the new Karori South Reservoir has been completed.

Tenders have been invited for the replacement of a water main in Fox Street, Ngaio. Commissions have been received for two difficult inner city projects. These are Manners Street, from Cuba to Willis Street, and Cuba Street, from Ghuznee to Webb Street.

The programme is for both of these Contracts to commence early in the New Year when traffic volumes are lower.

A commission has also been received for main laying in Rolleston Street, Salisbury Terrace and adjustment to the Bell Road zone.

### **3.3 Grenada North High Level Reservoir**



This permanent reservoir, 150 m<sup>3</sup> capacity, will replace the Grenada North temporary tanks. The site is at a higher level to the east of Nassau Avenue on land that is being transferred from TransPower to Wellington City Council. The intention of this reservoir and associated pipework is the second stage in the upgrade of the Grenada North water supply following the contamination incident in early 1998.

The job has been scoped and a brief prepared inviting proposals from consultants. The programme is for completion prior to 30 June 2000.

#### 3.4 **Wadestown Reservoir**

Montgomery Watson Ltd has been engaged for the design of a replacement reservoir, capacity 1,800 m<sup>3</sup>, along with the obtaining of resource consents necessary for the completion of the reservoir on the Town Belt, as well as for access across the Town Belt.

The application for a notified resource consent has been lodged. This included the AEE and design report. A prehearing meeting has been held and preparations made for the hearing on Thursday, 2 December.

#### 3.5 **Karori South Reservoir**

This 800 m<sup>3</sup> reservoir is complete and commissioned with the new rising main in Makara Road.

A proposal has been prepared to carry out the various interconnections to create the new larger zone and to allow the decommissioning of the Allington Road Pumping Station and removal of the associated precast concrete tanks. An alternative proposal involving a higher level link between the zones is being investigated.

#### 3.6 **Wellington Inner City Bypass**

An assessment has been made at the impact of the proposed by-pass between the Terrace Tunnel and the Basin Reserve. An estimate of the cost has been sent to the designers.

#### 3.7 **Eastern Suburbs Storage**

There is a storage deficit in the Low Level Zone of 10 ML. This was identified and reported on at the time of approval of the Macalister Park 20 ML Reservoir. Of this storage, approximately 7 ML is required in the Eastern Suburbs (Miramar) and 3 ML in the Southern Suburbs (Island Bay).

Because these reservoirs will balance on the Low Level Zone, a very careful analysis is required to establish the optimum reservoir levels. Additional pressure monitoring points have been established at the Moa Point Sewage Treatment Plant

and Kilbirnie Crescent. Network modelling was undertaken to establish levels for the reservoir at different sites, as well as enhancement required to the pipe network. The report has been forwarded to Wellington City Council.

### 3.8 **Work Related to the Facilities Management Contract**

Maintenance of the plan record system so that these are up-to-date, incorporating any alterations, has continued. Continuing assistance has been given to Wellington City Council in the transfer of plan records into the City Council system. Subdivisions are assessed for compliance with the *Code of Practice for Land Development* and approval given.

Project Information Memoranda (PIMs) and Land Information Memoranda (LIMs) are processed on a regular basis for the City Council.

## 4. **Other Projects**

### 4.1 **Pakuratahi Forest Access Road**

The Contract for the continuation of the access road from this forest to State Highway 2, near the top of the Rimutaka Hill, is complete and in use. Various minor maintenance items are being attended to.

### 4.2 **Waterloo Car Parks**

An investigation is underway to fit in some more parking spaces at the Waterloo Bus/Rail Interchange.

### 4.3 **Forest Bridge Inspection**

Inspections of the condition of the bridges in the forestry areas have been carried out.

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# **Laboratory Services**

**(October 1999)**

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# Laboratory Services Department

## Review of Operations

### For the Period Ended 31 October 1999

#### 1. Items of Note

- ? Summer sampling started and will continue until February 2000.
- ? *Giardia* and *Cryptosporidium* in small numbers were again detected at Wainuiomata River intake. The numbers are low and appear to be consistent with the trend for this area.
- ? Algae numbers have dropped in the Te Marua Lakes.
- ? The laboratory will be represented at the New Zealand Water and Waste Recreational Water Quality Monitoring Seminar and Workshop being held at the Wellington campus of Massey University. The aim is to improve our techniques to include the latest available technology in the detection of methods for enumeration of bacterial indicators.

#### 2. Financial

The operating surplus is tracking slightly under budget at this stage. Additional costs have been incurred relating to the new laboratory computer system.

#### 3. Business Summary

##### 3.1 Quality

There were no client requests for retesting samples. Test reports are being sent out within the agreed time frames.

##### 3.2 Health and Safety

There are no incidents to report.

##### 3.3 Number of Samples Analysed

October	
Samples	940
Approximate tests	3,800

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# **Plantation Forestry**

**(September/October)**

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## Plantation Forestry Department Review of Operations For the Period Ended 30 September and 31 October 1999

### 1. Log Harvest Contract

A further reasonable month with 5,306 tonnes for \$138,841 in September but a significant reduction to \$ 82,083 in October although 5,271 tonnes were felled. The reasons for the fall in average price was the road lining in Pakuratahi associated with the construction of the new access road and the contractors at Whakatikei being moved into the old crop which is unpruned. At this stage it is expected that logging at Whakatikei will be completed around Christmas by which time logging at Pakuratahi should be in full swing.

Output by grade was as follows:

	September 1999		October 1999	
	Tonnes	Percentage	Tonnes	Percentage
Pruned domestic	616.0	11.6	0	0
Pruned shorts	330.5	6.2	48.3	6.3
S Grade	0	0	190.3	3.6
A Grade	313.5	5.9	295.8	5.6
L Grade	397.5	7.5	306.8	5.8
R Grade	251.1	4.7	240.8	4.6
Pulp Domestic	1,380.1	26.0	1,979.9	37.6
Pruned Export	148.3	2.8	0	0
Sawlog Export	274.9	5.2	714.8	13.6
Rough Export	1,528.0	28.8	1,164.5	22.1
Pulp Export	0	0	0	0
Firewood	66.3	1.3	0	0
Total	5,306.1		5,271.9	

There have been minor price increases in export grades and minor decreases in domestic grades, which have tended to cancel each other out. Pruned logs have been sent as far as Thames and Te Kuiti, with some pulp going to Kinleith.

The move into the old crop at Whakatikei has increased roading costs as temporary tracks and skid sites were constructed. In some places logs were double handled as a less expensive option than constructing a track for logging trucks.

We have not had a good run with the river crossing at lower Pakuratahi East, with river “freshes” washing out the crossing within two or three days on numerous occasions. This is despite intense study of the weather forecast before a decision was made to rebuild.

## 2. **Silviculture Contracts**

The 1998/99 silviculture contracts have been completed and 33 hectares of a total 306 hectares of the current year’s contract have been completed.

## 3. **Plantation Forestry Operations**

No great activity in this area as both Plantation Forestry staff have been busy monitoring the four logging, one roading and three silviculture crews working at the moment. Additionally, they have been assisting with the planning for the Rallywoods access.

As would be expected with the warm wet weather, seasonal growth is good and the trees look healthy. The effect of the growing season is especially obvious in the new plantings with the 12 month old seedlings showing prolific growth. It is to be hoped that regular rain continues over the summer so we can capitalise on this additional growth.

## 4. **Forest Access**

Access has been maintained to all blocks, except Maungakotukutuku where the access road outside our boundary has been cut after being scoured out by the Maungakotukutuku River. On the last occasion this occurred the Kapiti Coast District Council closed the road short of the washout and made no attempt to repair the access. Access was reinstated by the contractors building a bridge in the Maungakotukutuku block. There is no silviculture programmed for this forest so the lack of access will not be a problem, at least in the short-term.

The new road at Pakuratahi East has been completed, as has the connecting section between the Via Dolorosa and Kelly’s Track. This now gives trucks access to the forest proper and harvesting can now commence. The next priority is to upgrade the Back Road from Kelly’s Track to the southern end of Centre Ridge Road. This will give access to the greater part of the forest and allow crews to move between blocks to meet differing market requirements.

Following the approval for a right-of-way through Rallywoods granted at the last meeting agreement in principle has been negotiated and planning and investigative survey has commenced for the construction of the bridge.

## 5. **Market Trends**

Current markets predictions indicate an easing in export prices because of inventory levels in Korea, although no problem selling product is expected. There is a mini glut in the American market, which is leading to an easing of pruned prices but this is not anticipated to last for long. With summer upon us and demand from local mills increasing, it is hoped that a moderate increase may be forthcoming in domestic sawlog.