

6. WATER SUPPLY CONTAMINATION

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The purpose of this report is to advise of the actions taken following the recent water supply contamination incident in Upper Riccarton/Ilam, and to recommend a budget increase for an expanded programme of water supply security measures.

BACKGROUND

On Friday 7 March, Saturday 8 March and Sunday 9 March 2003 a contamination of the water supply occurred in the Upper Riccarton area. It appears that a small amount of diesel (or a similar petroleum product) was sucked into the reticulation pipework from contaminated ground at Auburn Street Pumping Station. The local supply area was quickly isolated, the station shut down and on a progressive basis the polluted water flushed from the mains pipes. As residents phoned in with queries they were asked to flush their own domestic pipes to waste.

Test results revealed a level of hydrocarbons well below published safe levels although the taste and odour of hydrocarbons varied from weak to strong. Around this date the media was also commenting on the possibility of terrorist attack on water supply systems generally throughout the country. The combination of these two events (local and national) has caused us to undertake a review of our emergency management and security generally in relation to water supply. As a result the actions outlined below are in the process of implementation.

CONTAMINATION EVENT OF 7, 8, 9 MARCH 2003

The recent contamination event has triggered the following action:

- Removal of contaminated ground at Auburn Station Pumping Station, checking pipe joints and associated work.
- A project Manager (Alan Beard) appointed to recommission this (currently shutdown) pump station when the fuel storage system has been replaced, the clean up completed and the station cleared for service.
- A check of all other pump stations and wellheads for similar potential contamination situations.

(Note here that a major review of well head security has been underway since 2002 on a programmed basis as part of a Ministry of Health requirement to confirm the Christchurch Water Supply status as 'Secure' in terms of likelihood of contamination at source and to ensure well water drawn from the wells is over 12 months old. This programme covering all 160 wells has been reviewed, and well inspections re-prioritised based in order of risk for suction, pumped or free flowing wells, and as a result the programme completion for the suction wells brought forward to 30 April 2003.)

IMPROVEMENTS TO MINOR EMERGENCY PROCEDURES IDENTIFIED TO DATE

Emergency procedures are being enhanced as follows:

- A project team has been appointed to plan and document possible contamination scenarios so as to enhance minor emergency response plan and procedures:
 - for example improve communication by setting up Engineering headquarter over the weekend with skeleton call centre, media liaison, technical liaison, Police, Community Public Health, Ecan and the like.
 - have leaflets ready to drop around neighbourhood area to advise locals of contamination and what they need to do (eg flush water system, boil water before drinking or whatever).
- Police liaison has been reviewed and enhanced.
- Community Public Health and Ecan liaison reviewed and enhanced.
- Water sample emergency testing procedure reviewed and updated.

LEARNING POINTS FROM RECENT CONTAMINATION EVENT

A number of learning points have come directly and indirectly from this incident. These include:

- The need to modify some wellheads and other items to reduce risk,
- The need for improved inspection and testing procedures to identify potential problem areas and deal with them before the problem occurs,
- Increased electronic surveillance to assist with overall security,
- Increased physical site security (fencing, locks, etc),
- Preparation, documentation and training of staff to manage and control emergency events,
- Standardisation of certain details for security measures and replacement of substandard items.

SITE SECURITY

The current site security improvement programme was established in 2002 following an independent review by consultants S and A Security. This was advised to the Committee in March 2002, and will be updated in the light of the recent 'heads up' police cyanide warning. The current programme prioritised improved security measures based on risk assessment to each site and has a five-year programme of work to be completed.

PUBLIC HEALTH RISK MANAGEMENT PLAN (PHRMP)

Recent events have highlighted the importance of our water supply PHRMP currently in the process of being finalised. This plan may identify the need for increased funding above that shown below, (for example even more backflow preventer installations). If this proves to be the case a further report will be submitted to this Committee later in the year.

FINANCIAL REQUIREMENTS

Currently the City Water and Waste Unit's budget includes around \$25,000 per year for these security improvements. It is recommended this be increased to \$100,000 per year for the next five years based on the table below. Such increased funding will include the learning points from the recent incident, as well as generally reducing ongoing security risks.

Item	2003/04	2004/05	2005/06	2006/07	2007/08
Capital					
Wellhead etc improvements	40,000	40,000	40,000	40,000	40,000
Physical/electronic security	20,000	40,000	40,000	40,000	40,000
Total Capital	60,000	80,000	80,000	80,000	80,000
Operational					
Standardisation of Equipment	10,000				
Planning/training etc	30,000	20,000	20,000	20,000	20,000
Total Operational	40,000	20,000	20,000	20,000	20,000
Total	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000

(Note that the operational part of this funding can be found from within the City Water and Waste Unit's existing budget but the capital funding is recommended as additional.)

SUMMARY

Water Supply site security and emergency response is being comprehensively reviewed as a result of a recent contamination and police terrorist warning. It is recommended that the City Water and Waste budget spending be increased for the next five years starting from 2003/04.

Staff

Recommendation: That it be recommended to the Annual Plan Working Party that expenditure in the City Water and Waste Unit draft 2003/04 budget be increased from \$25,000 per year to \$100,000 per year (ie by an additional \$75,000 per year capital funding) for a five year period to fund a programme of water site security measures.

Chairman's

Recommendation: That the above recommendation be adopted.