1. BURWOOD LANDFILL ENVIRONMENTAL IMPROVEMENTS RR 8727

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Corporate Plan Output: Solid Waste	

The purpose of this report is to seek the Council's approval to revise the environmental enhancement work planned at the Burwood Landfill.

BACKGROUND

The City Services Committee approved the following recommendations in relation to environmental enhancements at the Burwood landfill at its meeting on 10 February 1998:

"1. That a detailed study be completed to confirm, or otherwise, that lining Stage 2C is more environmentally beneficial and cost effective than constructing an enhanced capping layer. This is expected to be the case.

2. That, subject to final confirmation the outcome of the above study, Stage 2C of the Burwood Landfill be lined with a 600mm layer of clay and a leachate collection system be installed prior to placement of refuse in this area.

3. That gate charges for all organic wastes be increased, in 1999/2000, to cover increased costs associated with the above liner and leachate collection system."

RESULTS OF DETAILED STUDY

The results of recent groundwater monitoring at the Burwood Landfill site indicate that natural treatment systems such as rainfall (rich in oxygen)in the Stage 3 area are likely to treat leachate in groundwater from Stage 2C to a similar level as for other stages of the Burwood Landfill. This level is well within acceptable and safe limits. This investigation indicates that a liner is no longer needed under Stage 2C. However, in its place a leachate abstraction drain should be constructed before Stage 2C is filled to allow effective extraction of leachate from its most concentrated source if this proves necessary in the future.

COSTS/FUNDING

The estimated total cost to construct a leachate abstraction drain is $250,000, of which only approximately $160,000 is likely to be spent in the 1998/99 financial year. There is currently $920,000 in the 1998/99 budget for Burwood environmental enhancements (formerly expected to be a Stage 2C liner). See report "*Waste Management Unit Financial Update"* RR 8657 for proposed re-allocation of these funds.

The Committee requested that a summary of the consultant's report be available to the Council. The Solid Waste Engineer reports:

Further information requested by the City Services Committee, arising out of report RR8727 "*Burwood Landfill Environmental Improvements*" is attached. The Woodward-Clyde NZ Ltd letter dated 1 December 1998, *Burwood Landfill Remedial Alternatives* is summarised below:

1. Results of a recent risk assessment of the Burwood Landfill site, using a more refined groundwater model than previously, and the results of most recent groundwater monitoring, indicate that construction of a liner under Stage 2C of the landfill (see attached site plan) is no longer considered to be appropriate for the following reasons:

    - The assessed likelihood of having to remediate groundwater at the site is now significantly reduced;

    - The liner would provide only minimal improvement to the environmental effects at the site *(the previous model indicated that such improvements would significantly reduce the likelihood of having to remediate the site in the future)*;

    - There are likely to be much more cost effective ways to achieve more significant environmental improvements at the site, as outlined below.

2. A leachate abstraction trench on the eastern boundary of Stage 2C is now the preferred method to allow significant environmental improvements, by remediation at the site in the future if necessary. This is subject to the following work being carried out:

    - Agreement with the Canterbury Regional Council on likely remediation criteria for the site and agreement that consents would be granted for any future groundwater abstraction necessary to meet these remediation criteria, should remediation ever be required.

    - An assessment of the technical feasibility of constructing such an abstraction trench below the groundwater level at the site

(Note: There are other options, including construction of a sand/silt attenuation layer, which would also be considered in preference to a Stage 2C liner. Environmental monitoring to date indicates that if the leachate abstraction trench or sand attenuation layer options do not prove technically or financially viable, a "do nothing" approach could become justified on the basis that environmental effects from the Burwood Landfill site look increasingly likely to be minimal without any remedial action being necessary. This would of course be confirmed or otherwise in discussions with the Canterbury Regional Council, as recommended above.)

Recommendation: That the Council approve the construction of a leachate abstraction trench in Stage 2C instead of the liner approved in February 1998.