BEFORE A HEARINGS PANEL OF THE GREATER WELLINGTON REGIONAL COUNCIL AND MASTERTON DISTRICT COUNCIL

[GWRC Ref: WAR 070077]

IN THE MATTER	of resource consent applications to Greater Wellington Regional Council pursuant to section 88 of the Resource Management Act 1991
AND	
IN THE MATTER	of a Notice of Requirement to Masterton District Council pursuant to section 168, 168A and 181 of the Resource Management Act 1991
BY	Masterton District Council
FOR	the proposed upgrade of the Masterton Wastewater Treatment Plant

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SUPPLEMENTARY STATEMENT OF EVIDENCE OF JOHN HARDING ON BEHALF OF MASTERTON DISTRICT COUNCIL

RESPONSE TO OFFICERS' REPORT

Subject Area: Peer Review and comments on public health issues

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1. COMMENTS ON OFFICERS' REPORTS

1.1 The Greater Wellington (**GW**) report is at odds with the AEE findings on several key issues and many of the issues raised in the report are based on some misunderstandings about what is proposed and the modeling work that has been carried out. The Masterton District Council has invested in a team of New Zealand's leading technical experts to investigate the effects of the existing ponds and the proposed upgrade. The concerns expressed in the GW reports do not, in my view, appropriately recognise the scope, conservatism and high quality of the work that supports the proposed upgrade. In some places the reports (particularly the Duffill Watts report) raise uncertainties or demonstrate misunderstandings which could have been resolved by discussions with the relevant experts. Others will comment on matters within their expertise, however I would like to comment briefly on some key points.

1.2 I believe that the GW report greatly overstates the risk of leakage from the new ponds. The low flow effects of leakage from the existing ponds have been investigated in the river adjacent to the ponds and have been found to be minor. The new ponds will be designed and supervised by specialist geotechnical engineers, will be constructed in the dry and, unlike the existing ponds, they will be lined using selected silty-clay materials. The new ponds will be far more water tight than the existing ponds and will leak far less. They will also be further from the river and will not be influenced by the upwelling of water that occurs in the current ponds when the river is at a higher flow.

1.3 The proposed instream standard for DRP of 0.012mg/L at all flows is nonsensical and could not be achieved with the current proposal.

1.4 A fundamental aspect of the proposal is that nutrient effects will be addressed by the discharge regime and land treatment, not by nutrient stripping. The proposed standard would require costly nutrient stripping even though that is not required to address environmental effects. I note that for the Manawatu River their DRP standard only applies at flows lower than half median. This is sensible, given that periphyton growth in rivers is a low flow phenomenon. In my view there is no proper basis for a DRP standard at all flows. At lower flows there is no need for an instream DRP standard since there will be no direct discharge, and the evidence is that the combined indirect discharges will not cause adverse effects. If there is to be an instream standard at such flows then it should be that which Dr Hickey has derived.

1.5 Section 13.5.4 of the GW Officer's Report addresses the purpose of the Act and summarises the six key conclusions reached in the Officer's Report. Dealing with these in turn:

(a) the suggested high degree of uncertainty in the land irrigation operation has been addressed by Dr Proffitt and Dr Green who have explained that a conservative approach has been taken with the modelling.

(b) robust monitoring is supported by the Masterton District Council. The Council obviously has a vested interest in sustainability and is acutely aware of the need to operate the land treatment scheme in a sustainable manner.

(c) contrary to the GW report, the proposed upgrade will improve the micro-biological quality (i.e. *E.coli* numbers) of the effluent in both summer and winter. This will be achieved because the new ponds will have more maturation cells than the existing ponds and will therefore produce an improved effluent quality.

(d) the GW report states that the dissolved reactive phosphorous guidelines may not always be met. There are currently no guidelines. The investigations carried out by Dr Hickey of NIWA support a figure of 0.030mg/L to apply only in summer and only at flows lower than median. If a more conservative figure was to be set, DRP stripping using alum would be a potential option. This is used in Palmerston North at low flows. However, chemical stripping with alum is expensive and produces large quantities of alum sludge which is difficult to de-water and dispose.

(e) the GW report states that the proposed maximum discharge rate (1200 L/s) enables a greater contaminant load to be discharged to the river. This is incorrect and possibly demonstrates a misunderstanding of how the scheme will work. By way of explanation, on an annual basis the contaminant load will clearly be less because much less flow will be directly discharged to the river than is currently the case. Effluent discharged to land will receive land treatment, which will significantly reduce its concentration of contaminants. The GW "contaminant load" concern probably refers to the contaminant flux or maximum rate of contaminant discharge, which will be higher than it is currently. During a discharge event after the upgrade, the discharge rate will be progressively increased to a maximum of 1200 L/s,

which will be reached at a river flow of 36,000 L/s (i.e. maintaining 30 times dilution as the discharge is ramped up). The rate of discharge will be capped at 1200 L/s, therefore at higher river flows the contaminant flux will become a progressively smaller proportion of the total flux of DRP and *E.coli,* most of which will be contributed by rural runoff in these wet weather events. I note that, as for all Wairarapa rivers that run through rural catchments, the Ruamahanga River becomes very turbid (ie dirty) at high flows. In my opinion, the proposed limit of 700L/s is not required to mitigate any particular environmental effect. The restriction has implications for storage volumes.

(f) the potential for greater than anticipated nutrient inputs into both the Makoura Stream and the Ruamahanga River has been thoroughly addressed by Dr Proffitt. I note that the majority of the DRP applied to land will in fact be removed when cropping pasture.

John Richard Harding
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