

DW Reference: E1613

20/10/2016

Bas Veendrick
Water Services Leader
Pattle Delamore Partners Limited
295 Blenheim Road
Upper Riccarton
Christchurch 8041

Dear Bas

RE: BCI Akarana Pond – ECan Review of Draft Assessment of Environmental Effects

We respond to your email dated 18/10/2016 outlining a review by Environment Canterbury (ECan) on the draft Assessment of Environmental Effects (AEE) for the proposed BCI Akarana Pond.

The ECan review suggested that the following information should be provided as part of the resource consent application for the proposed BCI Akarana Pond, based on on guidance from a recent interim decision of the Environment Court¹:

- Dam Safety Management Plan
- Emergency Action Plan
- Emergency Evacuation Plan

The interim decision of the Environment Court referred to by ECan¹ relates only to the resource consent appeal for the proposed Waimakariri Irrigation Limited storage pond. It is stated in this interim decision that “*it was appropriate to have available more detailed information about the design, construction, operation and maintenance of the proposed structure than might be considered common for such projects*”. This statement indicates that the more detailed information requested by the Environment Court in this interim decision is specific to that appeal and is not representative of the information required to be submitted as part of a Resource consent application for all large dams.

A recent resource consent application for a high Potential Impact Classification (PIC) dam in Canterbury² has been granted consent by ECan on the condition that a Dam Safety Management Plan (including an Emergency Action Plan) is submitted to ECan for certification upon completion of the dam construction and prior to first filling. We recommend that this course is also taken for Resource consent application for the proposed BCI Akarana Pond.

¹ *Interim Decision of the Environment Court*. Decision No: [2016] NZEnvC 178. Date of Issue: 7 September 2016.

² Applications CRC164541 for a water permit to dam water and land use consent to store water, and RC155704 for a land use consent to construct and maintain a water storage pond near Sheffield. *Decision of Commissioners Appointed by Canterbury Regional Council and Selwyn District Council*. Dated: 27 July 2016.

The requirements for a Dam Safety Management Plan and Emergency Action Plan is outlined, at a preliminary level, in the Damwatch report entitled *BCI Akarana Pond – Preliminary Engineering Design* (Issue 3, date 11 August 2016) and consistent with recommendations in the *New Zealand Dam Safety Guidelines* (May 2015)³.

Provision of more specific details on these plans at the Resource consent stage would be premature for the following reasons:

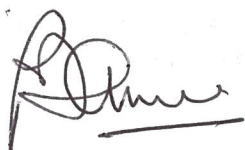
- The design of the BCI Akarana pond is at a preliminary stage (i.e. at a sufficient level of detail to establish the technical and economic feasibility of the dam and to support Resource consent application). As outlined in *New Zealand Dam Safety Guidelines* (May 2015) detailed design of new dams is not usually complete at the resource consent stage, and is progressed on granting of resource consent by the regulatory authority.
- A Dam Safety Management Plan (including an Emergency Action Plan) is produced during the detailed design phase and prior to commissioning of the dam when all the design and construction details are available. This is because these plans are required to reflect the “results of the completed investigation, design, construction and commissioning processes” of the dam (as stated in Module 5, Section 3.3 of the *NZ Dam Safety Guidelines*). There is not sufficient information to produce a comprehensive Dam Safety Management Plan (including an Emergency Action Plan) based on preliminary engineering design details.

Regarding the suggestion by ECan to include an Emergency Evacuation Plan as part of the application for the proposed BCI Akarana Pond is also not recommended at this stage. Such plans are typically developed by Police, Civil Defence Emergency Management and Territorial and Regional Authorities (refer to Module 6, Section 3.3.16 *New Zealand Dam Safety Guidelines*) and in consultation with those potentially affected by the dam break flood. It is recommended that such plans are also prepared during the detailed design phase and prior to commissioning of the dam.

Based on the discussion above, we do not believe the interim decision of the Environment Court¹, referred in the ECan review of the AEE for the proposed BCI Akarana Pond, should be used as general guidance of the level of detail for resource consent applications for large dams. This interim decision is site specific and not directly transferable to resource consent applications for other large dams.

We recommend that the documents listed at the start of this letter (i.e. a Dam Safety Management Plan, including an Emergency Action Plan and Emergency Evacuation Plan) are completed prior to commissioning of the dam and when sufficient information is available to complete these documents.

Yours sincerely



Peter Amos
Managing Director
Damwatch Engineering Limited

³ NZSOLD. (2015). *New Zealand Dam Safety Guidelines*. New Zealand Society on Large Dams.