



D Clendon  
Permissions Senior Advisor  
Department of Conservation - Te Papa Atawhai  
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Hokitika 7842

5 March 2015

Dear Di,

Please find enclosed a response to the further information requested by Jeremy Head (Registered NZILA Landscape Architect on behalf of the Department of Conservation) in his memorandum of 23 October 2014 "Infrastructure above Morgan Gorge" arising from his review of the 'Waitaha Hydro Scheme: Natural Character, Landscape and Visual Amenity Effects' report.

Westpower has considered the matters outlined in the memorandum from a wider options and design perspective. In response to the issues raised, Westpower has undertaken further topographic and engineering investigation and in discussion with Boffa Miskell, has refined the proposal for the headworks area, particularly in relation to the upper portal location, access road and temporary contractors' facilities.

It is proposed to refine the conceptual design of the location of the upper portal, access road and contractors' facility that accompanied the original application. The key revisions are:

1. To locate the upper portal close to the intake structure.
2. A much shorter access road (30 m) between the upper portal and the intake.
3. To replace the temporary contractors working area and associated road access with:
  - a. A contractors' work area - An elevated steel platform structure (approximately 10 m x 10 m x 7 m high) located adjacent to the intake/portal area, and fixed in to the rock with very limited vegetation clearance. The upper elevation of the structure is above flood level (RL 250 m+). This will be used to contain staff facilities and some materials; and
  - b. A storage/assembly area - A smaller levelled area (approximately 15 m x 15 m) located on the river terrace, which will be accessed from the river bed through an existing dry creek bed and which can be used to assemble machinery and store larger equipment above flood levels when required.

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4. Reduction in volume/dimensions of earthworks and area of vegetation clearance required for temporary and permanent activities associated with the construction and operation of the Scheme.

We attach the following addendum which provides context for and updates the application with respect to these revisions. The documents included within the addendum are listed below.

1. A description of the refined infrastructure proposal developed by S Matheson (Principal Engineer, Mitton Electronet) for Westpower, with cross referencing to the original application. This includes revisions to the tables outlining concession activities, the Scheme footprint, and to any suggested conditions that have been changed as a result of this proposal. This includes the following attachments:
  - i. Map 5 – Revised Area 1- Infrastructure Locations above Morgan Gorge; and
  - ii. Drawing of the Contractors Facilities Platform.
2. Memorandum 23<sup>rd</sup> October 2014 “Infrastructure above Morgan Gorge” – Mr J Head, Landscape Architect, Advisor for DOC.
3. A memorandum from James Bentley (Boffa Miskell). This provides a review of the assessment of effects, with respect to natural character, landscape and visual amenity values set out in the Landscape Report (Appendix 9 of the Concession Application). This review is in response to the proposed changes in regard to the upper portal, access road and temporary facilities for the operation and construction phases and the queries raised by Mr Head. This includes the following attachments:
  - i. R1 – Revised Intake Layout Plan;
  - ii. R2 - Contour Plan and Cross Section; and
  - iii. A revised photomontage of the intake area.
4. A memorandum from J Derks (TACCRA Ltd). This provides a response to the particular vegetation concerns raised in the request from Mr Head (i.e. relating to rehabilitation/re-vegetation and topography matters) and assessment of the effects of the refined proposal with respect to the Vegetation Report (Appendix 15 of the Concession Application) including a revision of the areas required for vegetation clearance.
5. The refined proposal has also been reviewed by the other relevant technical experts involved in the preparation of the assessment of effects for the application. These responses are attached and include any specific comments, recommendations and conclusions arising from their respective reviews.

Westpower considers that this response is in accordance with the conservative and iterative approach that has been employed in developing this project and application, and that is set out in Section 8: Avoidance, Mitigation and Monitoring of the concession application. Westpower's primary goal has been to avoid adverse environmental effects where it is practical to do so in the first instance, and remedy or mitigate effects where avoidance is not possible.

A further component of this approach is that, as noted in the application document (Section 1.2 – p2-3), any final design changes will fit within a development envelope and not be out of character or scale with, or raise higher levels of potential effect than, the matters outlined in the application (including this refinement).

Overall, there is the potential for final Scheme construction designs and methods to have lesser effects than those assessed in the application, and Westpower seeks to retain the ability to be able to achieve the best outcome possible for the Scheme and the location. This approach, which was also used successfully for the Amethyst Hydro Scheme, will ensure the most efficient and effective development of the Scheme and the ability to attend to specific site features to fit into the environment within which the Scheme is to be located. The refinements to the configuration and layout of permanent and temporary activities set out in this response are illustrative of this approach in practice.

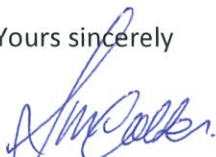
This approach is reflected in the responses from the technical experts. This refined proposal results in a reduction in potential effects or no change in effects on the particular values. The reduction in footprint means a reduction in vegetation clearance hence reduced potential effects on terrestrial fauna, invertebrates and of sediment loss. The location of a helipad at the intake site itself will reduce the potential up-valley detrimental helicopter noise effects on blue ducks by displacing some helicopter landings from the previous contractors' facilities site.

No additional conditions have been recommended or required by the experts as a result of their respective reviews. Any site specific measures or methods discussed as a result of the reviews e.g. sediment management and rehabilitation methods will be fully provided for under the proposed management plans which will be audited and approved by DOC. All of the technical experts are in agreement that the reconfiguration of the headworks provides an ability to further reduce the extent of potential effects on the environment within which the Scheme is situated.

The refined proposal achieves a substantially reduced footprint through locating the permanent components of the Scheme close together and the reconfiguration of temporary activities. Westpower considers that in providing greater certainty regarding the location of the headworks, the refinement fully addresses the issues raised by Mr Head.

Please do not hesitate to contact me if any further clarification or information is required.

Yours sincerely



**Sue Cotton**

Consultation Officer

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