

# Memorandum



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<b>Project:</b>	Jericho Project Advisory	<b>File No.:</b>	04006
<b>From:</b>	Rick Pattenden	<b>Date:</b>	29 November 2004
<b>To:</b>	Derrick Moggy, Fisheries and Oceans Canada	<b>Page:</b>	1 of 3
<b>cc:</b>	Dan Johnson and Greg Missal, Tahera Diamond Corporation		
<b>Re:</b>	Response to DFO –Channel design		

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In a letter dated 4 November 2004, DFO outlined concerns with the Jericho Diamond Project that remained following NWB technical session held on 28 October 2004. This was followed by discussions on 10 and 12 November between Tahera Diamond Corporation, its fisheries consultant, and DFO. The intent of the discussions was to provide information to DFO in order to address the concerns or come to an agreement on how to resolve remaining issues. This memo provides information regarding the Stream C1 diversion channel design.

## **DFO Statement**

### Stream C1

2. Channel design – Due to the concerns with long-term water quality at closure, TDC has agreed that the diversion channel will be designed for long-term use. DFO supports this approach as well as the commitment to design the diversion channel to accommodate fish habitat characteristics typical of adjacent natural channels. In addition to the meanders and low flow channel, the incorporation of pools is also favourable as this would improve habitat diversity in Stream C1, given the limited pool habitat. However, due to the uncertainty associated with permafrost, DFO is concerned the 1 metre depth in the pool design over such a width may result in degradation of the pool. As a result, it would be beneficial to determine whether a narrow, longer pool would provide the same function as the wide pool. In addition, it is acknowledged that there is a general lack of baseline fisheries data previous to the construction of the berm, and therefore it is uncertain as to the extent of fish passage to upstream sections. Therefore, it would be favorable to improve the connection to the lower section, provided permafrost will not be an issue and the impacts due to blasting can be mitigated (i.e. incorporation of a temporary cofferdam until blasting distance is adequate). During DFO's site visit, it was apparent that riparian vegetation does well along the upper section of Stream C1 and will be a key component missing in the new channel. Since the diversion is being designed, the feasibility of incorporating riparian vegetation along the banks should be investigated.

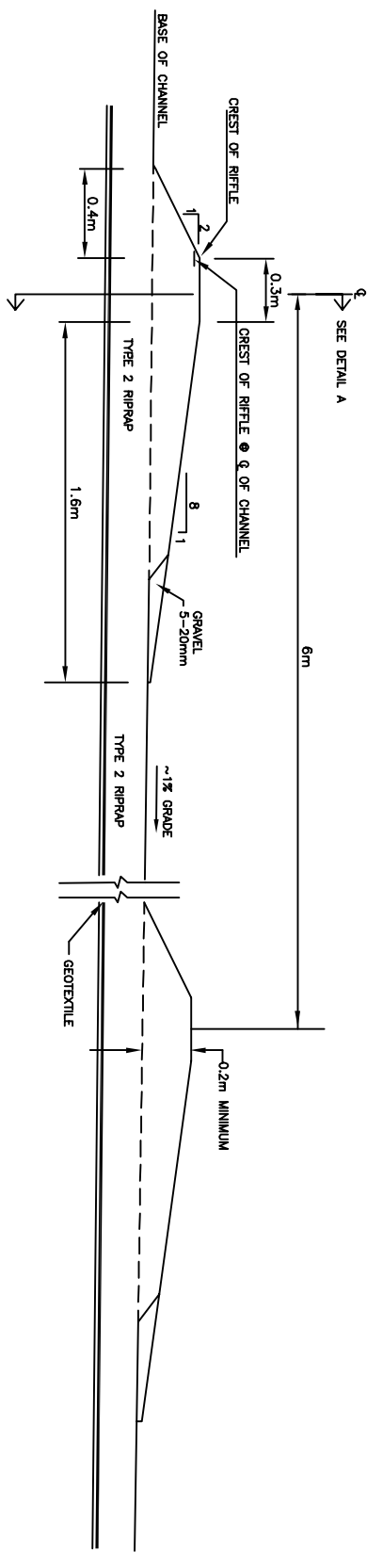
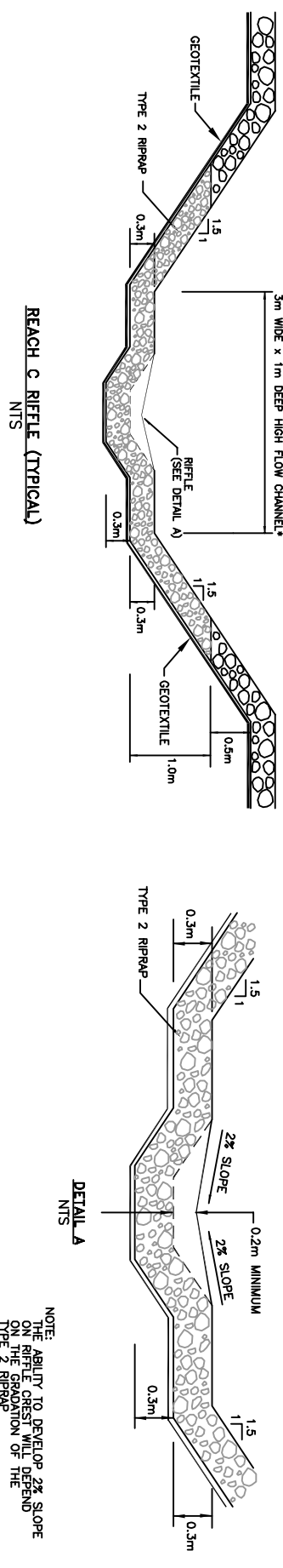
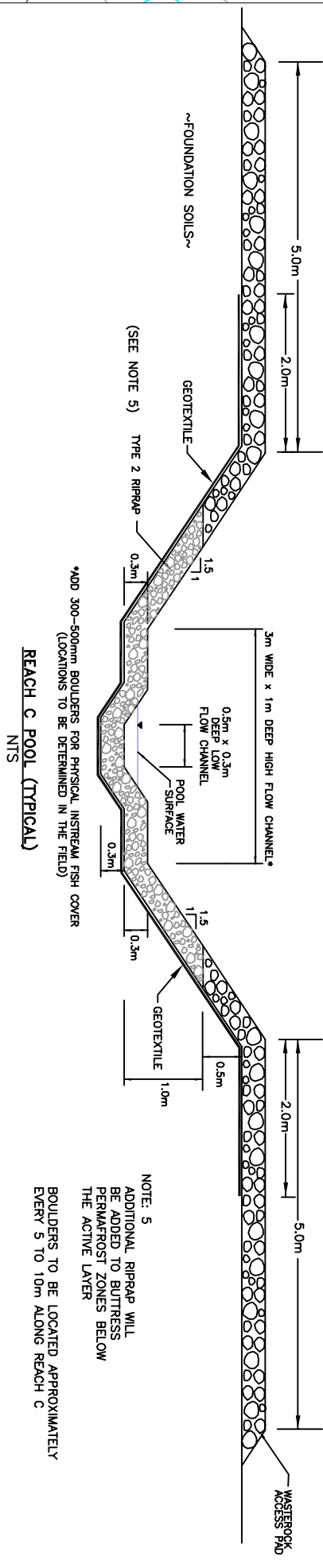
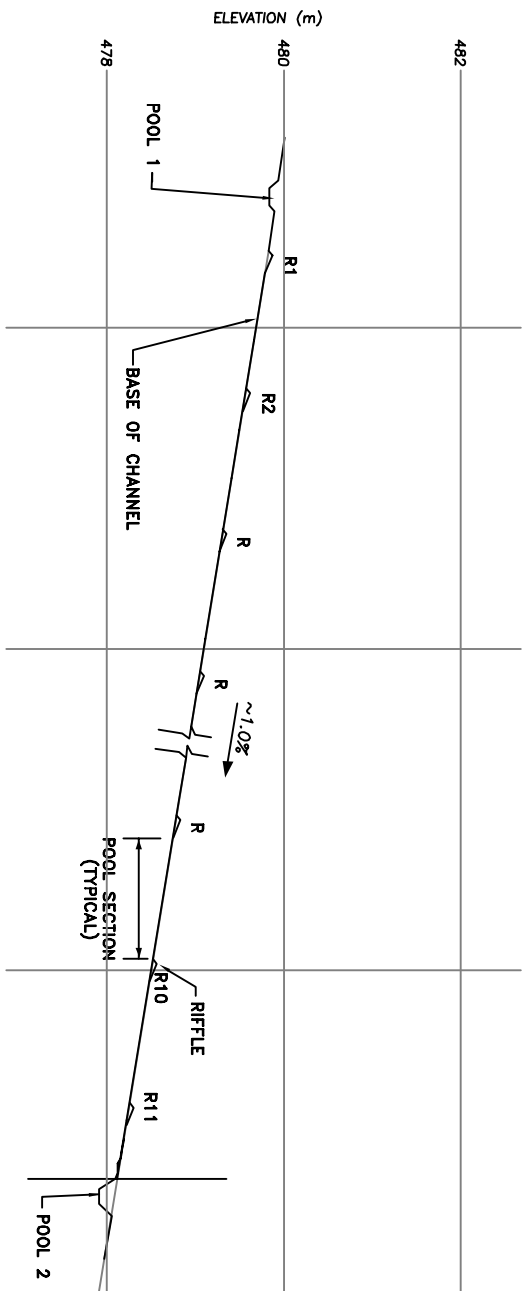
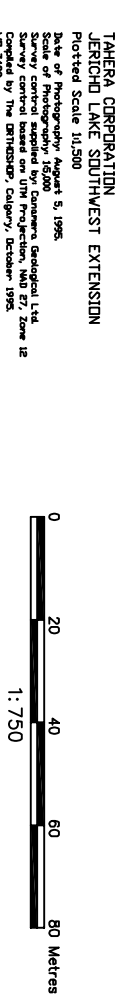
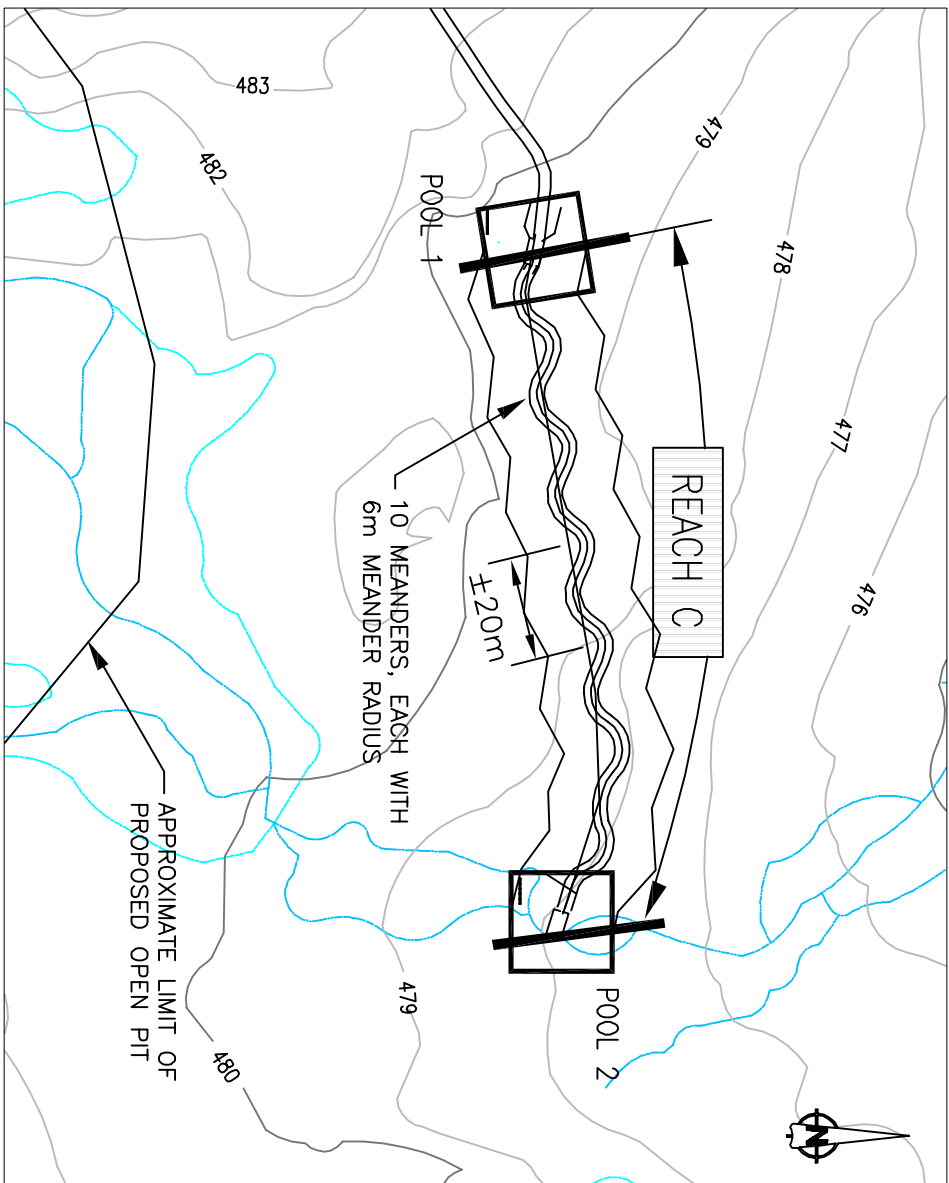
Next Steps: Please provide TDC's commitment to design the channel for long-term use, incorporating natural channel design principles such as meanders, low flow channels, as well as the feasibility of incorporating long, narrow pools, improved access to downstream habitat and riparian vegetation. Furthermore, **DFO will require detailed design drawings for review**, although a timeline on this provision would be sufficient the purposes of the NWB Hearing.

**Tahera Response**

Tahera is committed to designing a channel for long-term use, incorporating natural channel design principles (i.e., meanders, low flow channels, and riffle-pool complexes), as well as investigating the feasibility of incorporating long, narrow pools, and riparian vegetation.

*Detailed Drawings*

Detailed design drawings are presented in Appendix X - SRK Tech. Memo W, Drawings W- 2 and W-3. A revised design drawing W-2A that illustrates the details of the riffle-pool complexes to be incorporated into the diversion channel is attached.

[illegible]