Workshop Briefing Paper

QUEENSTOWN LAKES DISTRICT COUNCIL

Project/Bundle	**Shotover Disposal Field (001314)**
Gateway/Approval	**Summary of Short List Options – For Information, Q&A, feedback**
Date	**29 April 2025**

1.0 Purpose/Desired Outcome

1.1 Briefing for Information and Q&A/Feedback.

2.0 Background

2.1 The Shotover Wastewater Treatment Plant (SWWTP) was established in the 1970s. Before 2017, wastewater treatment at the SWWTP was basic, consisting of an aerated septage treatment lagoon (oxidation ponds) and treated wastewater was disposed directly to the lower Shotover River.

2.2 In 2017 the Stage 1 plant upgrade works were completed which included the addition of a Modified Ludzack-Ettinger (MLE) treatment train. The MLE process provides superior wastewater treatment to the oxidation ponds. Presently, approximately 80% of the wastewater is treated through the MLE process, with the balance of flows being treated within the oxidation ponds.

2.3 The two treated wastewater streams are then blended before receiving UV sterilisation and disposal through the dose and drain (DAD) field. The DAD disposal field was consented and installed in 2019. The intent at the time was to remove the direct discharge of treated wastewater to the Shotover River.

2.4 The SWWTP is currently being upgraded with a second MLE plant, which will avoid the need for raw waste to be treated through the oxidation ponds. It is expected that the second MLE plant will be operative by December 2025.

2.5 However, performance of the DAD disposal field has steadily deteriorated since 2020, and the field no longer operates as it was designed to do.

2.6 On 31 March 2025, QLDC exercised Emergency Powers under the Resource Management Act 1991 to divert the treated wastewater away from the DAD, through a historical channel directly to the Shotover River. A retrospective Resource Consent for this work is currently being developed and will be submitted to ORC within 20 working days of this discharge commencing. The Resource Consent will seek a short-term

approval to December 2030, until the replacement, long term disposal option has been constructed and is operational.

3.0 Current Situation

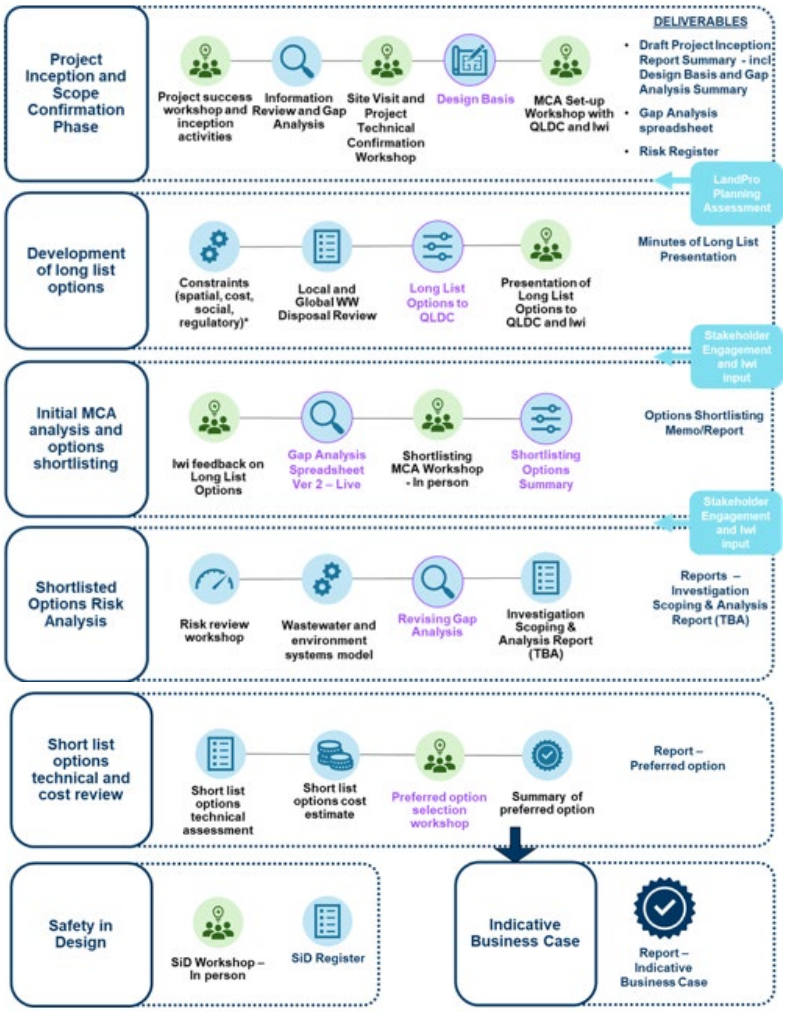
3.1 QLDC's Lead consultants were confirmed in September 2024 to provide technical input and investigations, options analysis and Business Case writing to develop a replacement Disposal solution. In October 2024 the Project Team commenced developing a new long-term disposal solution for treated effluent produced at the SWWTP. The solution will cater to the SWWTP's long-term effluent disposal requirements in a 'culturally appropriate, environmentally friendly, and operationally effective manner.'

3.2 This project is split into five stages. Optioneering and Concept design (S1) and Preliminary Design and Resource Consent Assistance (S2) will identify the most appropriate discharge solution and inform and provide the basis for the project's Business Case (S3). This will be followed by Detailed Design and Tendering (S4) and then Construction (S5) of the preferred solution.

3.3 In October 2024, project kick off meeting, site visits to the current disposal field and documentation review were completed and consultants produced a Project Inception and Gap Analysis report as the result of this initial analysis.

3.4 Initiation, Optioneering and Business Case development will follow the process as outlined below:

Table 1: Project Assessment Flowchart



3.5 Through November 2024, engagement was undertaken with Iwi Representatives (Te Ao Marama Inc and Aukaha) to understand cultural considerations, and a Multi Criteria Analysis (MCA) set-up workshop undertaken in December 2024 to identify the key investment objectives, critical success factors, social and environmental effects each option would be assessed against to determine a Preferred Option.

3.6 A long List of Options was presented to Project Team members in February 2025 to allow further discussion, and in March 2025 an MCA workshop was undertaken to determine a short list of options from the Long List presented. A summary of the Long List Options assessed, and those selected in the short list is outlined below (short list options in yellow highlight):

Table 2: Long List Options

Disposal option		Location of Disposal Sites		Options Shortlisted (Y/N)
Option 1	High rate land disposal	a)	Delta infiltration basins	No – Not supported by iwi & large quantity of civil works
		b)	Delta trenches	
Option 2	Moderate rate land disposal	**a)**	**Airport and surrounding area**	Yes – Retain as an option, require investigation and liaison with QAC and landowners for access
		b)	Southern corridor	No – project complexity (cost, land acquisition, bridges) Disposal rate concerns.
		c)	Alternate locations across the Shotover or Kawarau River	No - project complexity (cost, land acquisition, bridges)
Option 3	Low rate land disposal	a)	Doc land / Coronet peak	No – required areas needed and cost prohibitive.
Option 4	Land flow path to river	a)	Shotover	Yes – Not supported due to cultural view as direct water discharge, but carried forward as a 'do minimum' to meet proposed new national wastewater performance standards.
		b)	**Kawarau**	
Option 5	Deep well injections (moderate depth)	**a)**	**Frankton**	Yes – require field investigation to confirm technical suitability and preliminary sizing, and liaison with QAC and other landowners for access
		b)	Bridesdale	No – reason similar to Option 2c
Option 6	Shallow well injections	a)	Delta	No - Technical concerns, cultural view as direct water discharge
Option 7	Subsurface Wetland	**a)**	**Kawarau**	Yes – wetland provides land contact prior to discharge and additional retention time
Option 8	Well point injection / Soakholes	**a)**	**Airport and surrounding area**	Yes – require field investigation to confirm technical suitability and preliminary sizing, and liaison with QAC and other landowners for access

3.7 Short List Options Selection. 4 Short List Options were selected from the MCA assessment workshop, these were as follows, with further details provided in the Slide Pack:

Option 2a -Moderate rate land disposal to Airport and/or surrounding area.

Option 5a - Deep well injections at Frankton.

Option 7a - Subsurface wetland on Delta.

Option 8a - Shallow well point injection or soak holes at Frankton.

3.8 Following the MCA Workshop, a fifth option was added to the short list. The intention of this is to include an option that complies with the proposed national wastewater environmental performance standards from Taumata Arowai, which are planned to be implemented in August 2025. It is expected that this Option will be similar to Option **4b – Land Flow Path to the Kawarau river** and will provide a comparator as a 'Do Minimum' that complies with the latest environmental standards. Option 4b was not progressed past the Long List selection in the MCA assessment as the cultural impacts of this were not supported by Iwi representatives.

4.0 Budget

4.1 QLDC's Long Term Plan (LTP) has allocated $77.5M (escalated) of funding across Financial Years 24/25 to 29/30 for the replacement Disposal Field solution.

4.2 The Project Budget is based off a 2023 Beca estimate to convert the lower section of the Shotover Delta into Rapid Infiltration Basins at an estimated cost of $57M (+or-50%). A margin for design and contingency was applied to the $57M, along with

escalation to arrive at the LTP budget figure. This budget estimate did not include land purchase costs.

4.3 An Approved Adjusted Budget (unescalated) value of $70.3M is being used for project forecasting of Estimate at Completion.

Table 3: Current Estimate At Completion Breakdown by Workorder.

Work Order	All Months Total
Programme Management	$ 227,800.00
Initiation & Business Case	$ 56,400.00
Consents and Land	$ 232,000.00
Design	$ 4,258,753.07
Construction	$ 58,245,000.00
Project Close Out & Hand Over	$ 150,000.00
Contingency/Risk	$ 7,130,400.00
	$ 70,300,353.07
	Cumulative

5.0 Project Timeline

5.1 Optioneering and work on a preferred solution is expected to be complete by Q3 2025, followed by a preliminary design and Business Case in Q4 2025. Consent submission will follow in Q2 2026. Detailed Design and Construction will follow at a date to be confirmed and is expected to be complete and operating by Q4 2030.

5.2 The project will take over 5 years to complete from inception to handover.

6.0 Next Steps

6.1 Consultants have commenced site investigation works on the Shotover Delta and in parallel are planning site investigation works on the Frankton flats area. Site investigations and detailed analysis of short-term Options will continue through to July 2025.

6.2 A further MCA workshop to assess the Short List of options and identify a preferred option will be scheduled following the Site Investigations, circa August 2025.

6.3 The Business Case will then be prepared following the selection of the preferred Option, with the target for approval of November 2025.

6.4 In parallel, Preliminary design will be undertaken to allow the necessary consent applications to be made. Consent submission is targeted for Q2 2026.

6.5 Upon granting of Consents, Detailed design will be completed, followed by procurement, construction and hand over.

7.0 Ends

7.1 Questions and Feedback invited.