

Terms of Reference

*Cost variance review of the East
Rotoiti Sewerage and Reticulation
Project*
Version 4

November 2024

Document control

Revision history

Version	Date	Author	Description of changes
1	5 August 2024	Ministry for the Environment	Draft
2	23 August 2024	Ministry for the Environment	Incorporated additional information from Rotorua Lakes Council and Bay of Plenty Regional Council
3	3 September 2024	Ministry for the Environment	Incorporated additional information from Rotorua Lakes Council
4	11 November 2024	Ministry for the Environment	Incorporated additional information from Te Arawa Lakes Trust

Distribution list

Name	Title	Business group

Document approval

I have reviewed the terms of reference and confirm that is fit-for-purpose based on my understanding of the objectives of the review and current risks.

<Signature>	<insert Senior Responsible Owner (SRO) name or equivalent e.g. Head of Internal Audit or Head of relevant Enterprise Portfolio or Programme Management Office>	Date	<dd month yyyy>
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Contents

1	Background and objectives	4
2	Scope	5
2.1	Theme 1: Decision-making and change processes.....	5
2.1.1	Background	5
2.1.2	Minimum review questions	5
2.2	Theme 2: Project management	7
2.2.1	Background	7
2.2.2	Minimum review questions	8
3	Deliverable and timeframes	9
4	Review team and estimated charges	9
5	Conflicts of interest	9
	Appendix 1: Deed of Funding (#11489)	10
	Appendix 2: Historical timeline	11

1 Background and objectives

In March 2008, the Crown agreed to contribute \$72.1 million to the \$144.2 million Rotorua Te Arawa Lakes Programme (the Programme) to restore four priority lakes (Rotorua, Rotoiti, Rotoehu and Ōkāreka) with the overall objective to reduce the amount of nutrients entering the Priority Lakes to reach the community-agreed targets by 2032.

The Deed of Funding (#11489) is with Bay of Plenty Regional Council (BOPRC) and Rotorua Lakes Council (RLC). However, the Programme is governed by the Rotorua Te Arawa Lakes Strategy Group (Strategy Group) that includes BOPRC, RLC and Te Arawa Lakes Trust (TALT). The Deed of Funding (see Appendix 1) outlines the obligations of the Crown, BOPRC and RLC, and definitions of terms used in the deed and this document.

Through the FY 2024-2025 Annual Work Plan (AWP), the Strategy Group requested an interim reprioritisation of \$10 million in Crown funding allocated to BOPRC's Incentives and Engineering programmes to RLC's East Rotoiti Sewerage Reticulation Programme (the Reticulation Programme) to significantly reduce rates to Lake Rotoiti property owners.

Hon Andrew Hoggard (Associate Minister for the Environment) is the Minister responsible for approving the AWP and this request. On 6 June 2024, Minister Hoggard approved in-principle the interim reprioritisation of \$10 million, pending:

- RLC's approval to recover the funding from their Lake Enhancement Rates (or other revenue streams) within their Long-Term Plan 2024-2034.
- The clear understanding of the cost variance incurred by RLC that have led to the increase in the estimated cost for completing the Reticulation Programme.
- The Deed of Funding being varied to note changes to Schedule 2 and how this interim re-prioritisation of funding will be managed.

At the beginning of the Programme, RLC developed a proposal to construct a Rotoiti/Rotomā wastewater reticulation and treatment system. This attempt resulted in a failed Environment Court consent application in 2012. Per RLC's LTP 2012-2022, the total estimated cost for the Reticulation Programme was \$14.276 million.

In 2013, following the Environment Court hearing, an integrated community steering group was established. The Steering Group arrived at a new concept – a single treatment plant serving both catchments (Rotoiti and Rotomā). This concept plan was submitted to RLC and adopted in 2014.

The purpose of this review is to understand the cost variance incurred by RLC that have led to the increase in the estimated cost for completing the East Rotoiti Sewerage Reticulation Programme (see Appendix 2 for a more detailed historical timeline). In FY 2014-2015, the estimated cost for the Rotoiti/Rotoma scheme was \$35 million, where \$28 million was specifically budgeted for Rotoiti. The latest estimated cost provided by RLC in their Long-term Plan 2024-2034¹ for the scheme is \$56.214 million, where \$45.6 million is for Rotoiti.

2 Scope

The review should focus on the themes below as they relate to RLC's East Rotoiti Sewerage Reticulation Programme, and how they impacted the cost variance. The coverage of the main themes and minimum review questions are based on the Ministry current's knowledge (known) and gaps in knowledge (unknown) about the matters that affected the costs. Appendix 1 summarises the key matters that occurred from FY 2013-2014 (from the Environment Court hearing) to present, including the changes in estimated costs.

The review should also include desktop review of relevant documentation from RLC and BOPRC (if any) and interview of the project team. Unless the independent reviewer deems it to be appropriate in some instances, the Ministry does not require nor expect the review to cover the overall Rotorua Te Arawa Lakes Programme.

2.1 Theme 1: Decision-making and change processes

2.1.1 Background

Theme 1 aims to understand how the Strategy Group fed into the decision-making and change processes of the Reticulation Programme. In particular, the changes from the new design (after the Environment Court hearing) which was estimated at \$35 million for both Rotoiti and Rotomā to \$56.214 million per RLC's Long-term Plan 2024-2034.

2.1.2 Minimum review questions

The minimum review questions coverage for this theme are outlined below. Where relevant, these should also be considered with the other themes identified for this review.

RLC provided the details regarding the decision-making and change processes they followed regarding the variance from the concept-based costs to actual costs (key drivers identified later in this section). Documentation and records kept by RLC show how the change in costs was communicated through the following levels and decision-making platforms:

- RLC's Executive Team
 - Advised at key points on the outcomes of consent conditions, the tender outcomes and emerging cost factors, such as cultural management plans, pandemic and lake levels impacts.

¹ Rotorua Lakes Council, *Rotorua Our 10-Year Plan (Rotorua Lakes Council: Long-term Plan 2024-2034)*, [rlc-ltp-final-document-2-july-2024.pdf](https://www.rotorualakescouncil.nz/files/2024/07/rlc-ltp-final-document-2-july-2024.pdf) ([rotorualakescouncil.nz](https://www.rotorualakescouncil.nz))

- RLC (elected members) Committees and Council
 - Advised at key points on the outcomes of consent conditions, the tender outcomes and emerging cost factors, such as cultural management plans, pandemic and lake levels impacts.

- RTALP Steering Group (who acted as the Project's Steering Group)
 - Advised since FY 2018-2019 on the outcomes of consent conditions, the tender outcomes and emerging cost factors, such as cultural management plans, pandemic and lake levels impacts.

- RTAL CFO Group (concerned with funding distribution and transactions)
 - Advised since FY 2018-2019 on the outcomes of consent conditions, the tender outcomes and emerging cost factors, such as cultural management plans, pandemic and lake levels impacts.

- RTAL Strategy Group
 - Regular updates provided and input was sought to reduce the scope of the scheme so costs can be lowered. The Strategy Group resolved not to accept those changes on 2 November 2018.
 - From August 2020 to late 2022, the Strategy Group made further resolutions to support the funding of the East Rotoiti Sewerage Reticulation Programme's actual costs as a priority over other longer term programmes.

- BOPRC's Operations and Monitoring Committee

- The Iwi Liaison Group representing the Ngāti Pūkiao community of the scheme were involved in all phases, and their views informed the selection of the sewerage treatment and the execution of the project processes.

- The East Rotoiti Residents Association were involved in the on-property systems selection process and advised on emerging actual costs.

- The local community were advised on project progress and of the emerging higher actual costs but the advice on actual net costs to them (as a targeted rate) was withheld pending the Strategy Group's resolutions and the Minister's decisions as well as the Council's Long Term Plan resolutions.

Further, as outlined in Appendix 1, the estimated cost for East Rotoiti Sewerage Reticulation Programme increased several times after the Environment Court hearing: FY 2014-2015 (\$28 million), FY 2017-2018 (\$34.5 million), FY 2018-2019 (\$35.3 million), and FY 2023-2024 (\$43 million or \$45.6 million if inflation-adjusted). According to the correspondence with and documentations from RLC, the main drivers for the increase in cost include:

- construction inflation since 2014
- higher costs to meet consent conditions not known in 2015
- construction of landowner-demanded access onto the leased land at Haumingi, 9B3B site
- provision of higher quality pre-treatment systems to address cultural impacts
- additional security of installation for pre-treatment systems on 180 sites where the systems must be installed below the water table (dewatering measures required)
- special legal processes to secure consents to install infrastructure on Māori land with multiple owners

Considering the above matters, the Ministry would like to understand:

1. Was there adequate appreciation, foresight and planning around cultural matters and cultural risk factors or were they approached in an ad hoc fashion?
 - a. Did a lack of cultural consideration for matters of cultural significance added to the cost variance?

2. Is inflation the main driver for the increase from \$28 million to \$43 million (or \$45.6 million if inflation-adjusted) in the 10-year timeframe?
 - a. How much did the other provisions of the resource consent affect the estimated costs?
 - b. Were there any matters not identified in these documents that had effects on the estimated costs?
 - c. Was it ensured that the necessary technical assessments and design work in relation to the treatment facility and access road were sufficiently completed prior to awarding the contracts?
 - d. What data / evidence shows the impact of inflation over the life of the project?
 - e. What controls were put in place to address inflation?

3. Compare the actuals spend to date for the Reticulation Programme to the annual estimates submitted as part of the Annual Work Plans from FY 2014-2015 to date.

2.2 Theme 2: Project management

2.2.1 Background

Theme 2 aims to understand how the Reticulation Programme has been managed and whether any specific project management activities have contributed to the cost variance. RLC provided the Ministry project management-related clarifications, in particular those that relate to the Reticulation Programme.

- In every contract, including the tender associated with the Reticulation Programme, tenderers (as part of their submissions) are required to submit a methodology² on how they will manage the project delivery, as part of the non-price attributes.
- The approach RLC has undertaken in managing core community infrastructure is based on an in-house capability augmented with select expert panels. For example, for the Reticulation Programme, the project team is composed of:
 - S. Michael (General Manager Infrastructure, RLC)
 - G. Manzano (Infrastructure Planning Manager, RLC)
 - P. Dine (Infrastructure Capital Programmes Manager)
 - Engineering Team for contracts management
 - Expert consultants, including PDP, GHD, Trinity and Stantec
 - Expert sector service delivery – Fulton Hogan
- The reticulation programme for East Rotoiti has an internal control system in RLC through the Infrastructure and Finance Groups, including regular reports to the Infrastructure Committee.
- RLC's Infrastructure Group has a dedicated project manager (that has changed over the years), who is supported by a wider engineering, communications and finance teams.
 - The project manager assigns the labour time to the project for capitalisation purposes.
- The Strategy Group has its own governance group comprising the Programme Steering Group, the CFO Forum and the Strategy Group itself that receives quarterly reports.
- RLC has a Project Management Office (PMO) that monitors project risks and reports to RLC's Executive Team and Risk and Audit Committee.
- RLC's Annual Plans since 2017 have made provisions for emerging actual costs as informed by the progress of the project.

2.2.2 Minimum review questions

The minimum review questions coverage for this theme are outlined below. Where relevant, these should also be considered with the other themes identified for this review.

² Fulton Hogan Ltd (20 November 2020), *Tender – RLC Contract 18/027 Rotoma – Rotoiti Sewerage Scheme: Rotoiti Onsite Wastewater Treatment Systems (Supply, Install, Operate & Maintain)*

1. The Reticulation Programme is led by RLC, but how does the Strategy Group affect the day-to-day management of this specific work programme?
2. Does RLC's dedicated project manager also manage the contract with Fulton Hogan, or is there a separate person managing this contract?
 - a. It is noted that the project manager salary is obtained from the Reticulation Programme budget. How has the salary increase over the years been taken into account (eg, through performance and/or inflation)?
3. Is there a regular assessment of the effectiveness of the project management to facilitate effective monitoring of risks, delivery against timeframe, cost, and quality and benefits realisation?
 - a. Has there been any changes to project management activities resulting from these?
 - b. Were contingencies identified and overlain on base costs to allow for known and unknown risks, overhead and optimism biases?

3 Deliverable and timeframes

Timelines to be agreed

4 Review team and estimated charges

<Provide a breakdown of the estimated charges, including the planned number of hours for each review team member. As a minimum, this must include the Lead Reviewer and any other named resources.

Any assumptions used in arriving at the estimated charges must be clearly stated.>

5 Conflicts of interest

<Any conflicts of interest and how they are to be managed should be clearly stated.

All parties need to be aware of potential conflicts of interest both real and perceived. Independence and objectivity are critical to the delivery of assurance services to provide robust challenge. Examples of conflicts of interest include:

- *Personal relationships between agency and provider personnel.*
- *Performing an assurance review where the provider has or is currently providing project management or technical services*
- *Fixing issues identified during the course of an assurance review.>*

Appendix 1: Deed of Funding (#11489)

Appendix 2: Historical timeline

Financial Year **Key notes (including total estimated cost for the East Rotoiti Sewerage Reticulation Programme, where available)**

<p>2008-2009 to 2013-2014</p>	<p>Total estimated cost = \$14.276 million (RLC LTP 2012-2022)</p> <p>At the beginning of the Rotorua Te Arawa Lakes Programme, RLC developed a programme to reticulate sewerage from septic tanks around the targeted lakes of the Deed. An estimated 2,200 properties were included under a number of schemes. All those schemes were agreed by the Strategy Group and initial funding allocations were assigned to each scheme based on concept estimates. One of those schemes was the East Rotoiti scheme. Later, this scheme included the Rotomā community, but this was not funded by the Deed. The proposal to construct a Rotoiti/Rotomā wastewater reticulation and treatment system. This attempt resulted in a failed Environment Court consent application in 2012. The concerns from local iwi related to the proposed location of the treatment and disposal site, which was in close proximity to a culturally significant site.</p> <p>In 2013, an integrated community steering group was established that sought to rebuild the relationship between RLC, mana whenua, and the community. The steering group arrived at a new concept: a single treatment plant servicing both Rotoiti and Rotomā located on Iwi-owned land in the east Rotoiti catchment and all networks connected to it.</p>
<p>2014-2015</p>	<p>Total estimated cost = \$28 million</p> <p>An estimate for East Rotoiti was developed (28 million). This was based on earlier reticulation schemes where approximately 1,700 properties were reticulated (approximately from 2008 to 2012), with an average per property gross cost of \$25,000. The East Rotoiti reticulation was to serve 550 properties. The estimate based on earlier schemes was composed of:</p> <ul style="list-style-type: none"> • \$14 million for reticulation; • \$12 million for a local wastewater treatment plant • \$2 million for community planning, systems trialling and reference group costs <p>As the above were concept-based, the estimate had a level of noted uncertainty of 30% for scope and unknown consent conditions and/or forward inflation.</p> <p>On 19 December 2014, RLC resolved to “accept the Preferred Option for the Rotoiti/Rotoma Sewerage Scheme which includes LPGP (low pressure gravity pump) for Rotoma and the same for East Rotoiti, unless the biolytic pre-treatment system trial was successful. In such case, on site Biolytix (or equivalent) pre-treatment units for East Rotoiti and that both communities be connected to a central MBR (membrane bioreactor) wastewater treatment plant and land disposal system.”</p>

<p>2015-2016</p>	<p>The sewerage scheme for East Rotoiti was scheduled for construction from 2018, subject to obtaining resource consents.</p> <p>Confirmation of the suitability of the site for the wastewater treatment plant and land disposal site had been obtained, including through Cultural Impact Assessments. A preliminary concept design of the proposed wastewater treatment plant and land disposal site was developed on this basis.</p> <p>By the time of the FY 2015-2016 annual reporting to the Ministry, the resource consents were being reviewed with the intention of submitting them early in FY 2016-2017.</p> <p>The resource consent application for the trial of the <i>Biolytix EcoPod</i> system was also lodged in this FY.</p>
<p>2016-2017</p>	<p>By the time of the FY 2016-2017 six-monthly reporting to the Ministry, the resource consent was lodged and a number of submissions received. The hearing regarding the application was scheduled at the start of FY 2017-2018.</p> <p>By the time of the FY 2016-2017 annual reporting to the Ministry, the detailed design work for the wastewater treatment plant and land disposal system was being progressed and set to be completed by FY 2017-2018.</p>
<p>2017-2018</p>	<p>Total estimated cost = \$34.5 million (RLC 2017-2018 Annual Plan)</p> <p>The resource consent application for the wastewater treatment plant and land disposal system was granted in late 2017 following objections and submissions from mana whenua and landowners and Iwi trusts beneficiaries that informed the final conditions of the consent. After the consent, land lease agreements and a Heads of Agreement with Ngāti Pīkiao were progressed and concluded informing the expected cultural management plan for the scheme. Once these were finalised for the siting of the new treatment plant on land owned by local iwi and the formation of cultural impacts team to oversee the execution of the scheme were concluded.</p> <p>The remaining sewerage on-property pre-treatment installations, mains and submains network and connections for East Rotoiti was scheduled for completion in 2019 subject to agreements on the on-property treatment tenders and contract award. Detailed design of the wastewater treatment plant and Rotomā Sewerage reticulation was scheduled for this FY.</p>

	<p>In early 2018, it was noted that the new resource consent conditions indicated an expected increase in the scope and the initial cost estimate for the scheme. This was reported to RLC's executive team and subsequently (4 October 2018) to the Council with options to compress the scope and projected costs of the scheme. Recommendations / options to reduce costs by compressing the scope of the scheme were subsequently (2 November 2018) also reported to the Strategy Group. The Strategy Group resolved not to reduce the scope of the scheme but to continue to deliver the full scope and fully fund the scheme.</p>
2018-2019	<p>Total estimated cost = \$35.3 million (RLC LTP 2018-2028)</p> <p>The construction of the scheme's wastewater treatment plant, land disposal system and Rotomā reticulation was scheduled to be completed by 2020. The Rotomā part and the wastewater treatment plan were tendered, constructed and tested by 2020.</p> <p>Tender reports, recommendations and updates on the emerging actual costs of the scheme were provided to RLC in mid-2019. The emerging cost variance against the initial concept estimate were reported to the RTALSG Steering Group in early 2019 and noted the need to review the initial Deed of Funding allocation.</p> <p>Tenders for the East Rotoiti onsite systems were being prepared in this FY. The Strategy Group noted that because of this, RLC was unable to provide financial details relevant to the full cost implication / net cost options for ratepayers.</p> <p>Because of the impacts of the COVID-19 pandemic (2020/21), the Iwi Liaison Group were unable to participate effectively in the tender scope and procurement process and to reach agreement on the type of on-property pre-treatment system for East Rotoiti until January / February 2021. This phase of the scheme was elongated.</p>
2019-2020	<p>Tender documents for the Rotoiti onsite systems were prepared by Pattle Delamore Partners (PDP). PDP was engaged by RLC to assist in the production of tender documents and the procurement of contracting services to supply, install, operate and maintain residential and non-residential on-site wastewater treatment systems for the Rotoiti Area of Benefit, as part of the Rotomā-Rotoiti Sewerage Scheme. The engagement included a two-stage procurement process, prior to evaluation, where the first stage occurred from this FY.</p> <p>Stage 1, called Request for Expression of Interest (REOI), was where an open invitation to the market was made in early 2020 and a short list of Civil Contractors and Principal-selected onsite wastewater treatment systems (OWTS) was compiled.</p> <p>The Rotoiti/Rotomā wastewater treatment plant was officially opened on 19 August 2019, where it went through nine phases of testing and then became fully operational by September 2020.</p>

<p>2020-2021</p>	<p><u>Procurement (affected by the COVID-19 pandemic)</u></p> <p>Stage 2 of the procurement process (Invited Tender), occurred from this FY. In this stage, the shortlisted Contractors were invited to Tender on the project and encouraged to include proposals for each of the Principal-selected OWTS.</p> <p>The Request for Tender (RFT) documents were released on Tenderlink on 2 October 2020 to six invited Tenderers. Prior to the close of Tenders on 20 November 2020, three submissions were received by RLC via Tenderlink. In line with tender evaluation processes, the submissions consisted of two electronic boxes for Price and Non-Price attributes.</p> <p>The first evaluation meeting occurred on 16 December 2020. The second evaluation hui occurred on 21 January 2021, which focused on the cultural aspects and risks for the OWTS.</p> <p>It was recommended that the negotiations with Fulton Hogan (preferred supplier) focus on the procurement of a suitable system that meets the cultural aspirations of RLC’s iwi partners and as required by the resource consents at an acceptable price using the pricing obtained from the tender process as a baseline. The first system explored (and then constructed and commissioned) was <i>Biolytix EcoPod</i>.</p> <p><u>Cost update to the Strategy Group</u></p> <p>RLC Chief Executive Geoff Williams and General Manager Infrastructure Stavros Michael informed members of the status of the Rotoiti/Rotomā wastewater reticulation and treatment scheme/project via reports and discussions in August 2020 and February 2021.</p> <p>They recommended to adjust the Deed of Funding contribution for this scheme with the eventual actual costs and precedent policy. It was expected that final costs would remain within the ±30% uncertainty envelope as initially forecasted in FY 2015-2016, subject to outcomes of the East Rotoiti on-property pre-treatment tenders and Iwi agreement.</p>
<p>2021-2022</p>	<p>Total estimated cost = \$43 million (or \$45.6 million for inflation-adjusted funding noted in the document summarised below)</p> <p><u>Wastewater Scheme Funding (12 February 2021) – analysis undertaken by BOPRC and RLC submitted to the Strategy Group</u></p> <p>RLC had undertaken an analyses and recommended to request for the interim reprioritisation of \$10 million from BOPRC’s Incentives and Engineering programmes to RLC’s East Rotoiti Sewerage Reticulation Programme. RLC advised that the actual costs of the Rotomā / Rotoiti scheme were expected to have a variance from the initial estimate, and efforts were made to stay broadly within ±30%.</p>

	<p>According to this analysis, the recommended interim reprioritisation to RLC does not prevent BOPRC delivering its Deed-funded work programme responsibilities including Lake Rotorua Incentives Scheme, further Advice and Support for landowners affected by Plan Change 10, and engineering solutions in the Lake Rotorua catchment.</p> <p>The forecasted variance by RLC had been noted to be driven by costs associated with reticulating East Rotoiti. The cost drivers are varied but predominantly led by:</p> <ul style="list-style-type: none"> • construction inflation since 2014 • higher costs to meet consent condition now known in 2015 • construction of landowner-demanded access onto the leased land at Haumingi, 9B3B site • provision of higher quality pre-treatment systems to address cultural impacts • additional security of installation for pre-treatment systems on 180 sites where the systems must be installed below the water table (dewatering measures required) • special legal processes to secure consents to install infrastructure on Māori land with multiple owners <p>In May 2021, the Strategy Group received a report from RLC, which considered those facts and resolved to make recommendations to augment the Deed of Funding contribution to the East Rotoiti. If the Minister was not open to additional funds, then to agree to reallocate unspent funds from BOPRC’s Incentives programme (\$10 million) to East Rotoiti as a matter of priority so RLC could have the certainty required to enter into the contract for the East Rotoiti reticulation and on-property systems installation.</p> <p>Based on those resolutions, RLC agreed to enter into the contract for East Rotoiti in June 2021.</p> <p>In addition to these reports and Strategy Group resolutions, RLC responded to a BOPRC request to provide a further report to its Monitoring and Operations Committee on 7 September 2021.</p>
<p>2023-2024 to 2024-2025</p>	<p>Total estimated cost = \$43 million (total for the scheme is \$56.214 million; remaining is for Rotomā not covered by the Deed of Funding)</p> <p>The previous Minister and the leaders of the Strategy Group exchanged a significant number of communications on this matter since August 2021. The principal requirement of the Minister has been to ensure the ability to fund the delivery of the land incentives programme when required. RLC, the Strategy Group and the Minister (previous and in-principle for current) have reached an agreement on how to achieve that and RLC has made funding provision to that effect in its Long-Term Plan 2024-20234.</p>

On 6 June 2024, Minister Hoggard approved in-principle the interim reprioritisation of \$10 million, pending:

- Agreed and actioned: RLC's approval to recover the funding from their Lake Enhancement Rates (or other revenue streams) within their Long-Term Plan 2024-2034.
- The clear understanding of the cost variance incurred by RLC that have led to the increase in the estimated cost for completing the Reticulation Programme.
- The deed of funding being varied to address changes to Schedule 2 and how the interim reprioritisation of funding would be managed.