

**Infrastructure Committee  
23 November 2017**

**Report for Agenda Item: 2**

**Department: Property & Infrastructure**

**Lake Hawea Water Supply Review**

**Purpose**

The purpose of this report is to present the findings of a 'lessons learnt forensic assessment' of the delivery of the Lake Hawea Water Supply Capex Project.

**Recommendation**

That the Infrastructure Committee:

1. **Note** the contents of this report;
2. **Accept** the conclusions and recommendations of the 'lessons learnt forensic assessment'.

Prepared by:



Name: Gareth Noble  
Title: Programme Director

9/11/2017

Reviewed and Authorised by:



Name: Peter Hansby  
Title: GM Property & Infrastructure

9/11/2017

**Background**

1. Following the receipt of a 'Contractor's Early Warning Notification' Peter Hansby, General Manager Property and Infrastructure, commissioned Harrison Grierson Ltd (HG) to review and assess the decision-making, design, construction, commissioning and operational processes relating to the Hawea Water Supply Capex project.
2. The review enabled HG to provide an accurate portrayal of actual events with an objective of identifying any root cause issues and associated 'opportunities for improvement'. The HG 'forensic assessment' report provides the opportunity for Council to *"reflect on project elements which should and/or should not be repeated on future projects. Specifically, it is the repetition of good practice*

*and/or the avoidance of problematic issues on future projects that demonstrates 'lessons learned'".*

3. HG were provided access to Council project files and obtained anecdotal information by interviewing Council officers, consultant and contractor representatives. A workshop was held on 28 June 2017 to review the draft findings with Council officers.
4. The Property and Infrastructure Department are currently undertaking a thorough review of the 'Business Case through Delivery Process' for Capex projects and a number of recommendations from the HG report have already been addressed through process improvements. The opportunities for improvement identified in HG's report have been recorded in a 'Lessons Learnt' register and are being actively managed through regular reporting to the General Manager, Property and Infrastructure.
5. In accordance with the HG's recommendations, a Point of Entry has been raised to progress network improvements to resolve the limitations of the existing system. A further paper will be presented to the Infrastructure Committee on the proposed improvements once the recommended actions have been finalised.

## **Comment**

6. The investigation undertaken by HG broadly evaluated the following stages of project development:
  - Project Establishment (Up to ~2009)
  - Concept Design (~2009 – 2013)
  - Detailed Design (~Oct 2013 – Nov 2014)
  - Procurement for Construction (~Nov 2014 – Feb 2015)
  - Construction (~Feb 2015 – Mar 2016)
  - Commissioning (~Mar 2016 – Sept 2016)
  - Operations (~Sept 2016 – Present)
7. HG's Conclusions and recommendations are summarised as follows: *"There are a number opportunities to learn from the development of the Lake Hawea Water Supply project. It is understood that numerous system improvements have already been made into QLDC processes, and which may already address some of the points identified in [this report].*
  - a) *Immediately resolve the design and construction solutions to the missing network components.*
  - b) *Engage in consultation with Contact Energy with respect to water infrastructure crossing the existing dam, and proposed water system improvements.*
  - c) *Meet with Southern DHB to review the findings of this report, to review the Lake Hawea Water Supply situation, and to improve communications for future projects.*

- d) *Undertake investigations as necessary to better achieve a calibrated hydraulic model for the Lake Hawea water supply and distribution, specifically to improve forward looking projections of future performance.*
- e) *For future capital projects, conduct a Better Business Case process early in the project establishment and scoping phase, to develop a robust short-list of viable alternatives, then select the best option for implementation.*
- f) *Review the Better Business Case at each subsequent stage of project development and confirm that the proposed solution is still the best option (specifically consider if any new information exists, or is required, to substantiate the decision to proceed).*
- g) *Clearly delineate design responsibilities, with an understanding that QLDC will not be self-performing the role of Designer for capital projects.*
- h) *Conduct robust peer review of concept designs (where QLDC staff have a specific role, and which may be augmented by independent reviews on complex projects).*
- i) *Clearly outline the approvals process and document design decisions during various stages of project development. Implement a system that provides Council with assurance that this is being achieved.*
- j) *Ensure QLDC staff are adequately trained, experienced, and continue to meet the requirements outlined by Council. Implement Performance Improvement Plans, or equivalent, where necessary.*
- k) *Ensure QLDC staff have an appropriate amount of time to complete the tasks required of them, in consideration of the number of projects or tasks they manage, plus the complexity, criticality, and value of their projects.*
- l) *Review the points raised in the previous section, and confirm which should be addressed for incorporation into QLDC processes going forward. Prioritise accordingly, and implement any required training, changes, or monitoring.*
- m) *Implement a holistic Risk Management process for each future project to follow.*
- n) *Provide feedback to those who contributed to the development of this report.”*

## **Options**

8. Option 1: Reject the conclusions and recommendations of the ‘lessons learnt forensic assessment’ and Do Nothing.

*Advantages:*

9. Nil

*Disadvantages:*

10. Lessons are not learnt, impacting the efficiency and effectiveness of future Capex project delivery.

11. Option 2: Accept the conclusions and recommendations of the 'lessons learnt forensic assessment'.

*Advantages:*

12. Lessons are learnt and improvements are adopted in the 'business case through delivery process'.

*Disadvantages:*

13. Minor internal documentation and staff development costs incurred.

14. Option 3: Adopt alternative conclusions and recommendations from those outlined in the 'lessons learnt forensic assessment'.

*Advantages:*

15. Lessons are learnt and improvements are adopted in the business case through delivery process.

*Disadvantages:*

16. Conclusions and recommendations may not align with good practice.

17. This report recommends **Option 2** for addressing the matter because the conclusions and recommendations have been provided by an experienced independent consultant with significant knowledge of sound Capex project delivery processes.

### ***Significance and Engagement***

18. This matter is of low significance, as determined by reference to the Council's Significance and Engagement Policy because the recommended actions require minor changes to Council processes.

### ***Risk***

19. This matter relates to strategic risk SR2 Business capability planning – delegation ownership and business continuity, as documented in the Council's risk register. The risk is classed as moderate. This matter relates to this risk because learning from past practices and implementing improvements supports business capability.

20. The recommended option considered above mitigates the risk by:

*Implementing process improvements to develop business capability to deliver an efficient and effective Capex programme.*

### ***Financial Implications***

21. No additional operational budget is anticipated for the implementation of the recommendations.

## **Council Policies, Strategies and Bylaws**

22. The following Council policies, strategies and bylaws were considered:

- None directly applicable.
- The Property & Infrastructure Capital Works Procedures Manual was considered.

## **Local Government Act 2002 Purpose Provisions**

23. The recommended option:

- Will help meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses by having a robust business case supporting the investment;
- Can be implemented through current funding under the 10-Year Plan and Annual Plan;
- Is consistent with the Council's plans and policies; and
- Would not alter significantly the intended level of service provision for any significant activity undertaken by or on behalf of the Council, or transfer the ownership or control of a strategic asset to or from the Council.

## **Consultation: Community Views and Preferences**

24. The persons who are interested in this matter are Queenstown Lakes District residents, visitors, business owners and operators. No persons are affected by this matter.

25. No consultation has been undertaken as this matter relates to internal Council processes.