Notice is hereby given that a Meeting of the Te Anau Wastewater Discharge Project Committee will be held on:

Date:	**Wednesday, 6 July 2016**
Time:	**10.00am**
Meeting Room:	**Turnbull Room**
Venue:	**Distinction Te Anau Hotel & VIllas** **64 Lakefront Drive** **Te Anau**

Te Anau Wastewater Discharge Project Committee Agenda

OPEN

MEMBERSHIP

Chairperson	Mayor Gary Tong
Deputy Chairperson	Lyall Bailey
Members	Rachel Cockburn
	Mark Deaker
	Shirley Mouat
	Don Mowat
	Allan Youldon
Councillor	Ebel Kremer

IN ATTENDANCE

Chief Executive	Steve Ruru
Group Manager Services and Assets	Ian Marshall
Team Leader Governance	Chris Dolan
Manager Water and Waste Services	Ian Evans
Committee Advisor	Jenny Labruyere

Contact Telephone: 0800 732 732
Postal Address: PO Box 903, Invercargill 9840
Email: emailsdc@southlanddc.govt.nz
Website: www.southlanddc.govt.nz

Full agendas are available on Council's Website
www.southlanddc.govt.nz

Terms of Reference for Te Anau Wastewater Discharge Project Committee

This Committee is a committee of Council with delegated responsibility from the Southland District Council. That delegation involves the role of project management governance for the Te Anau wastewater treatment plant except that;

- The project case shall be as approved by Council
- The separate project physical works stages tenders cannot proceed until final business cases have been approved by Council for each respective stage.

The specific responsibilities of the Project Committee are to;

a) Provide overall direction for the project.

b) Ensure a robust business case is developed and submitted to Council for approval.

c) Ensure that the projects are completed on time, within the approved budgets and in accordance with the respective approved project definitions and business cases.

d) Monitor project progress including sub-projects.

e) Ensure that appropriate reporting systems are maintained to provide accurate and timely information to the Committee and Council.

f) Act as a conduit for communication and consultation with the Te Anau Community Board and the Manapouri Community Development Area Subcommittee.

g) Ensure that proper risk assessment is performed and mitigation strategies are developed.

h) Ensure that appropriate agreements are finalised and to forward, with recommendations, completed agreements to Council for final approval.

i) Ensure that final business cases are presented to Council for approval prior to the letting of physical works contracts.

j) Approve project timelines, budget, and deliverables within the Council approved project definitions and business cases.

k) Recommend to Council changes to the project objectives, timelines, budget and deliverables outside the Council approved project definitions and business cases.

l) Sign-off the project deliverables at the relevant milestones.

m) Ensure that the proper financial checks and professional balances are included.

n) Ensure that the projects meet Council's statutory obligations.

o) Ensure that the projects deliver the required benefits.

p) Ensure that all decisions and processes are well documented and the communities are kept informed; and

q) Ensure that appropriate quality assurance processes are maintained throughout the projects.

TABLE OF CONTENTS

ITEM **PAGE**

1 Apologies

At the close of the agenda no apologies had been received.

2 Leave of absence

At the close of the agenda no requests for leave of absence had been received.

3 Conflict of Interest

Committee Members are reminded of the need to be vigilant to stand aside from decision-making when a conflict arises between their role as a member and any private or other external interest they might have.

4 Public Forum

Notification to speak is required by 5pm at least two days before the meeting. Further information is available on www.southlanddc.govt.nz or phoning 0800 732 732.

5 Extraordinary/Urgent Items

To consider, and if thought fit, to pass a resolution to permit the committee to consider any further items which do not appear on the Agenda of this meeting and/or the meeting to be held with the public excluded.

Such resolution is required to be made pursuant to Section 46A(7) of the Local Government Official Information and Meetings Act 1987, and the Chairperson must advise:

(i) the reason why the item was not on the Agenda, and

(ii) the reason why the discussion of this item cannot be delayed until a subsequent meeting.

Section 46A(7A) of the Local Government Official Information and Meetings Act 1987 (as amended) states:

"Where an item is not on the agenda for a meeting,-

(a) that item may be discussed at that meeting if-

(i) that item is a minor matter relating to the general business of the local authority; and

(ii) the presiding member explains at the beginning of the meeting, at a time when it is open to the public, that the item will be discussed at the meeting; but

(b) no resolution, decision or recommendation may be made in respect of that item except to refer that item to a subsequent meeting of the local authority for further discussion."

6 Confirmation of Minutes

6.1 Meeting minutes of Te Anau Wastewater Discharge Project Committee, held 04 April 2016.

Te Anau Wastewater Discharge Project Committee

OPEN MINUTES

Minutes of a meeting of Te Anau Wastewater Discharge Project Committee held in the Distinction Te Anau Hotel & Villas, 64 Lakefront Drive, Te Anau, on Monday, 4 April 2016 at 10am.

PRESENT

Chairperson	Mayor Gary Tong
Deputy Chairperson	Lyall Bailey
Members	Rachel Cockburn
	Mark Deaker
	Shirley Mouat
	Don Mowat
	Allan Youldon
Councillor	Ebel Kremer

IN ATTENDANCE

Chief Executive	Steve Ruru
General Manager Services and Assets	Ian Marshall
Governance Team Leader	Chris Dolan
Committee Advisor	Jenny Labruyère

PUBLIC GALLERY

G Bell, P Hampton, P Hicks, T Loose,J Murrell**,** A Paton McDonald, A Pearce, L Shaw, R Shaw, P Smith, E Andrews, S Moran

1 Apologies

At the close of the agenda no apologies had been received.

2 Leave of absence

At the close of the agenda no requests for leave of absence had been received.

3 Conflict of Interest

There were no conflicts of interest declared.

4 Public Forum

P Smith

Mr Smith addressed the Committee and referred to his experiences of the process leading up to a consent application that he was involved in. Mr Smith advised what he learnt from the process was that good governance and good legislation provide the framework for the community to seek and find their own solutions. Mr Smith considered that it is a rather blunt instrument approach when a Commissioner or Environment Court judge imposes a decision on a community that leaves a section of that same community feeling disaffected especially when there has been limited community impact into the process. Mr Smith asked that this Committee give real consideration to using a process that arrives at a process acceptable to the majority of the community for the disposal of Te Anau's wastewater.

A Paton-McDonald

Mr Paton-McDonald made a written presentation to the Committee where he expressed concern that he thought that the Council was genuinely looking at options other than to the discharge of sewer wastewater at the Kepler and felt at this stage no further advances have been made since Pattle Delamore Partners (PDP) came on board.

He stated further the Fiordland Sewage Options Inc (FSO) group has spent thousands of dollars employing an expert, a wastewater consultant, to look at other options and assist PDP where possible in arriving at a solution. He stated 90% of Peter Riddell's work has been ignored and the other 10% has been hacked around to falsify the workings and true costings of his options. He also felt that Council has "stalled" proceedings to a point where the Environmental Court is about to call up the case and proceed to mediation of the Appeal against the Kepler scheme.

Mr Paton-McDonald also expressed concern at the three options to vote on, when all three options are totally unacceptable.

Mr Paton-McDonald referred to the $50,000 the Ministry of the Environment has awarded the FSO group to assist the Society in the Court process. He is concerned that Southland District Council is pushing for this consent now before any decision has been made as to what modifications are to take place at Te Anau to "further treat" and handle the sewer wastewater before it is piped to the Kepler.

Mr Paton-MacDonald asked that the Committee pass a resolution and give Ecogent, Peter Riddell's, Slee and Smith options the full and due consideration they warrant.

He stated Ecogent is prepared to design and build their option/scheme and offer it to Council for a "fixed price" as an indication of its confidence in the environmental and cost advantage it offers.

In conclusion he stated the Committee need to modify resolution three to include the Slee property and call for interaction between the steering group and to allow Ecogent to explain the true costs and advantages with their options.

Ruth Shaw

Mrs Shaw referred to the staff report entitled "Next Steps" that is included on the Agenda for today's Committee meeting. Issues Mrs Shaw highlighted from the report included;

Page 8 last para; request that the Council confirm that FSO's statement is correct regarding land designation.

Page 13 fully support the advice recommending that the Council should not abandon the current Kepler option until it has a similar level of certainly in relation to any alternative.

Page 14

e) Add the words "defending the appeals lodged if no prior agreement is reached."
f) Support
g) Support
h) Support in part

Request that the Council sets a termination date for the contract with PDP.

Page 15

- Support in part Option 3, but request that Council puts forward a fourth Option which allows the Council to hold the existing consent while investigating viable alternatives including the hybrid option.
- Taking all the evidence that has been received the Society believe that the Slee Block should still be considered as a possible option and many of the concerns raised could be put aside.
- Smith Block. PDP favours CPI discharge, which will have a higher possibility of being challenged through the resource consent process, rather than sub-surface irrigation. It would be of great benefit to the Councillors and the members of the Wastewater Committee to have the opportunity to speak directly to Peter Riddell, possibly via video conferencing, to clarify the concerns raised regarding sub-surface irrigation.

Page 17

Together with the appellants the Environment Court could be approached after mediation to state that progress is being made by all parties and therefore a later date for the Environment Court hearing would be appreciated.

It is understood that the Court is concerned with the delays so far, but if the Court can see positive progress is being made it could support this approach.

Pattle Dalemore Partners Report;

2.1 Kepler relocation options; have had legal advice that the proposed changes to Kepler may require additional consents, and that Council should take advice before assuming that no additional consents would be required. As the Council did not appeal the conditions of the existing consent any changes must be within the boundaries set out in those conditions.

2.3.5 If a Heads of Agreement can be reached with Mr Smith that allows the Council to either lease the block or buy only the area of land required, this could be a saving. If the Membrane Filtration (MF) option is adopted then 196 ha will not be required, only the 110 ha as outlined by PDP with 58 ha being utilised for wastewater disposal.

4d) Do not take anything away from all the work PDP has done to date but we cannot agree with their conclusions on sub-surface irrigation given the information available. Have full confidence that the Council and Wastewater Committee will go through the figures and detailed analysis of Peter Riddell's proposal. His reputation is at stake so believe his work to be thorough and proven.

Costs Estimates

- Smith (or south) Block sub-total C Sale of North Block $1,875,000.00. The retention of the south block must be for the disposal of wastewater from Manapouri. Residents have already made it clear that they do not want their sewerage piped to the south block, therefore strong objections would be made against any resource consent application. We are looking into other options which are more community based.
- We firmly believe that common ground can be found and we can work in co-operation with each other.

5 Extraordinary/Urgent Items

There were no Extraordinary/Urgent items.

6 Confirmation of Minutes

Resolution

Moved Councillor Bailey, seconded Councillor Kremer

That the Te Anau Wastewater Discharge Project Committee confirms the minutes of the meeting, held on 16 December 2015.

Reports

7.1 Te Anau Wastewater Discharge Project - Next Steps

Record No: R/16/3/4295

Report by Mr I Evans (Strategic Manager, Water & Waste), outlining suggested next steps to be taken to advance the Te Anau Wastewater Discharge Project given the findings contained in the draft PDP peer review and the need for Council to determine

whether it wishes to defend the appeal to the Environment Court in regard to the Kepler option.

Mr Evans advised the Committee was briefed on the findings in the draft PDP report at a two day Workshop held on 9 and 10 February 2016 and was also provided with a range of additional information to assist with narrowing down the range of future investigation work.

Mr Evans added the report makes recommendations around the potential alternatives. The assessments included in this report also need to be considered alongside legal and planning advice. This advice recommends that the Council should not abandon the current Kepler option until it has a similar level of certainty in relation to any alternative option that it may wish to consider.

Mr Evans added further that given the need for the Council to indicate to the Environment Court by 27 May whether it wishes to continue with the consented option it is important that the Committee make a recommendation on this issue prior to it being formally considered by the Council at its meeting on 27 April. The recommended Hybrid option allows for this to happen while the Committee awaits the development of a proposed investigation programme for the Smith block option and pursues negotiation of a suitable land access agreement with Mr Smith.

Mr Evans stated that at the workshop on 9 and 10 February 2016 the Committee were briefed on a number of LGA decision-making, legal, planning and financial matters that are relevant to the decisions that the Committee needs to make. The Committee also undertook site visits to develop a better understanding of the two reasonably practicable alternatives identified by PDP.

Mr Evans added on the basis of technical legal and planning advice sought for the workshop, three options for progressing the issue were discussed these being:

- Carry on with the current consented option
- Abandon the granted consent and start the process again
- Hybrid option of carrying on with the appeal while investigating any viable alternative.

Mr Evans advised that one of the options identified by PDP (the Slee option) is considered as being a high risk option. At this stage it is therefore recommended that no further work be undertaken in relation to this block of land. PDP do, however, propose that should the Committee be of the view that further investigations should be undertaken into an alternative option then those investigations should be undertaken in relation to the Smith block.

The Committee was advised a modified Kepler option is also being considered following a request by a number of Committee members following the workshop. There will potentially be significant advantages associated with this option if it could be undertaken in accordance with the conditions in the current consent. Proposals for a modified Kepler option are provided for information at this stage and will be considered further through the mediation process as the appeal to the current consented option is progressed.

In summarising the recommendations of the draft report PDP have highlighted that the Kepler proposal is a viable option with no fundamental flaws. They do, however, highlight an option they believe to be worthy of further investigation, that being what

they retitled the Smith Membrane Filtration option. Essentially, this involves enhanced treatment at the oxidation pond and irrigation by centre pivots at the Smith property.

Mr Evans stated PDP will be available at the meeting to highlight both the advantages and disadvantages of this option as an alternative.

Mr Evans added that it is proposed that PDP be asked to develop a detailed investigation programme including timelines and costings which will be considered by the Committee at a future meeting and which will be presented to Council when requesting further unbudgeted expenditure.

The Committee was advised that before committing to any significant expenditure on this potential alternative Council will need some surety around access to the land both for investigation work as well as commitments around long term ownership of or access to the property. This is best managed through a Memorandum of Understanding (or similar) negotiated with Mr Smith. It is important that the Council have a level of certainty around its ability to access the property before it makes a significant investment in further investigations.

In regard to legal and statutory requirements it was noted that all decisions of the Committee are subject to the decision-making provisions detailed in Part 6 of the Local Government Act 2002. In broad terms these provisions require that the Committee assess the advantages and disadvantages of each reasonably practicable option. The extent of consideration given should have regard to the level of significance of the proposed decision.

In relation to the Resource Management Act 1991 the Committee noted that the Kepler Block disposal site has been granted all necessary resource consents, and designated for treated wastewater disposal by a panel of independent Commissioners. These consents (but not the designation) are subject to an appeal to the Environment Court. To confirm the consents, an agreement needs to be reached with the Appellants, or failing agreement, the Court needs to confirm the grant of consent following a hearing.

Mr Evans stated that it is noted that it will not be possible, by 27 May 2016, for the Council to have investigated any alternative disposal scheme in detail let alone seek consent for such an alternative. Given the advice received from counsel it is therefore recommended that the Council indicate to the Environment Court that it wishes to pursue the Kepler consents.

Mr Evans commented the steps to do so can commence with Court assisted mediation. During this process the alternative Kepler options identified in the PDP report can be discussed with the appellants. If an agreement cannot be reached, evidence will then need to be finalised and a hearing held. Realistically to get through the Environment Court process is expected to take a year.

Mr Evans added that if the consents are confirmed by the Court, this does not commit the Council to constructing the Kepler Scheme. Rather it gives Council the right to do so which does not have to be exercised. Alternatives can continue to be considered if that is the wish of the Council.

When considering alternative options it is important to remember that they must demonstrate the same level of minimal environmental effect as demonstrated through the consent for the Kepler proposal. Counsel has also advised that any alternative

consent application carries the same level of risk of being appealed.

In regard to community views as part of the resource consent process, FSO and others have raised a number of environmental concerns about the Kepler proposal. It is reasonable for the Council to assume that the environmental issues will be appropriately assessed by the Environment Court. Given that the wastewater activity is treated as a district wide activity, and funded accordingly, it is appropriate that the Council also consider the views of other wastewater users and district wide ratepayers in general as they are also required to fund the costs and risks associated with the options chosen by the Council.

In referring to costs and funding it was pointed out that the Committee has no authority to expend funds. Any request to do so will therefore need to be recommended to Council for approval.

The Committee was informed to date costs associated with the review stand at $236K, which do not include the additional $12K as indicated in PDPs' communication of 4 March 2016, or any future work they may undertake. As this is essentially unbudgeted expenditure it will require approval by Council, in this case retrospectively given that the expenditure has already been incurred.

In regard to the options considered Mr Evans advised there are three options identified. These are to continue with the current consented option at the Kepler (Option 1), to abandon the Kepler option and pursue an alternative (Option 2) or a Hybrid option (Option 3).

Under Option 1 the Council would defend the appeal against the Kepler consented option through the Environment Court process and then make a decision on how it moved forward following receipt of a Court decision. It would not investigate any alternative options in the interim.

Under Option 2 the Council would abandon the current Kepler consent process and pursue an alternative site.

Under Option 3 the Council would continue to pursue the Kepler consent while undertaking investigations into a possible alternative site. The costs associated with the alternative investigations would need to be treated as an operational expense and funded accordingly.

At this point an analysis of advantages and disadvantages on the three options were outlined.

In regard to the assessment of significance the Committee was advised that any decision to abandon the current Kepler consented option would require the write off of the significant expenditure incurred by Council to date. This includes some $1.3 million of expenditure currently held on the balance sheet for investigations since 2013. This expenditure would need to be written off and funded. In addition the Council would effectively be writing off the investment in the work completed prior to 2010 that have previously been funded. The quantum of this write off would exceed the financial threshold for unbudgeted expenditure in the Significance and Engagement Policy.

Mr Evans added a decision to continue with the current consented option (Option 1) would be consistent with the direction that the Council has been pursuing for a number of years and within the Council's adopted 2015 Long Term Plan. Hence,

officers are of the view that a decision to adopt this option would not be significant.

The hybrid option (Option 3) would represent a continuation of the current option while also developing an understanding of the costs associated with investigating the Smith option alternative.

Mr Evans added if the investigation costs of exploring the Smith block alternative are expected to exceed $500,000 then this would breach the unbudgeted expenditure threshold in the Significance and Engagement Policy. As such a decision to commit to such expenditure, particularly while continuing with the Kepler option would likely constitute a significant decision.

The Committee noted that staff suggested Option 3 as the recommended option. It enables the Council to continue with pursuing consent for the Kepler option while receiving further information on a possible investigation programme for the Smith option.

At this point a teleconference was held with the consultants Rob Docherty and Dan Garden of Pattle Delamore Partners Ltd.

Resolution

Moved Councillor Kremer, seconded Member Deaker

That Mr Docherty and Mr Garden of Pattle Delamore Partners Limited (PDP), be granted speaking rights.

At this point the consultants addressed the Committee on their report headed" Review of Te Anau Wastewater Treatment and Disposal Options Addendum 1: Additional Options"

In summarising the report the consultants found that;

- The Kepler Relocated Option mitigates key concerns which have been raised with the consented Kepler Scheme, minimising the visual impact on the airport and mitigating public health concerns with spray drift. Risk of bird strike is also reduced. On the basis of reducing the size of the pipeline from 300mm to 250mm, and adding solid set sprinklers and storage, the cost of this option is similar to previous cost estimates for the Kepler Option. No changes will be required to the existing consent. The overall risk with this option are considered to be low.

- The Kepler Relocated MF Option using membrane filtration (MF) disinfection and irrigation as per the Kepler Relocated Option produces very good quality effluent, but it is considered to be cost prohibitive.

- The Smith MF Option using MF disinfection and centre pivot irrigation at Smiths is likely to satisfy Mr Smith's concerns regarding impacts to neighbouring properties. Given the significantly shorter length of pipeline to this site (6.0 km versus 18.3 km to Kepler), with MF at the WWTP the odour treatment facility (trickling filter and biofilter) will not be needed at Smiths although a chemical system for contingency odour treatment has been assumed.

- Opposition from neighbours and the wider public could make this option

difficult to consent, but opposition is unlikely to be technically based. This option is a viable long-term treatment and disposal option although detailed site investigations will need to confirm this. A consent term of at least 25 years is likely to be obtainable. The 25-year NPV cost estimate for this option is around $1.5M less than for the Kepler Relocated Option.

- The Smith IDEAL SDI Option using subsurface drip irrigation at Smiths is a high cost option which is considered to be cost prohibitive.

- The Wright MF Dual Discharge Option using centre pivot irrigation and rapid infiltration does not appear to be viable as the landowner is not interested in selling or long-term leasing his land to SDC.

- While the Wright MF RI Option is the lowest cost option, it has a high risk that a long-term consent will not be obtained due to the proximity to the Waiau River and the relatively high nitrogen load discharged to the River.

- The Slee IDEAL SDI Option has been revisited on the basis of an expanded SDI area (30 ha) and SDC purchase of the Slee farm in order to mitigate adverse effects on the foreshore lakes area. The cost implications of this means that there is no cost advantage compared with other options.

The report concluded that;

- The Kepler Relocated Option is a favourable option which should be considered by the Committee as a basis for discussions and mediation with opponents of the Kepler Scheme;
- The most favourable alternative option taking risk factors into account is the Smith Membrane Filtration Option.

At this point the consultant recommended the following;

- The Committee discuss and considers the advantages and disadvantages of the Kepler Relocated Option;

- If the Committee considers it is still worthwhile investigating an alternative option then the Smith MF Option is recommended as the most favourable alternative option.

Throughout the consideration of the report the Committee questioned the consultants on many issues outlined in the report including the consultation and recommendations.

A lengthy discussion took place on where to from here including further on-site visits, defence of the current appeal, enter into discussion with FSO to explore areas of common interest in regard to the Kepler resource consent prior to a formal Environment Court mediation process.

Resolution

Moved Councillor Kremer, seconded Member Youldon

That the Te Anau Wastewater Discharge Project Committee:

a) Receives the report titled "Te Anau Wastewater Discharge Project - Next Steps" dated 30 March 2016.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Recommends to Council retrospective approval of $235,907.12 of unbudgeted expenditure incurred as a result of undertaking the peer review.

e) Recommends to Council that it indicates to the Environment Court that it wishes to pursue the Kepler resource consent and therefore will be defending the appeals lodged if no prior agreement is reached.

f) Requests the Chief Executive to consult with Pattle Delamore Partners to develop a proposed itinerary and costs so as the Committee can inspect similar type schemes, and report back to the Committee for its consideration.

g) Recommends to Council that it enters into discussions with Fiordland Sewerage Options and other appellants to the Kepler resource consent to explore the areas of common interest prior to a formal Environment Court mediation process.

h) Recommends that Council approves unbudgeted expenditure of up to $50,000 to enable the Committee to carry-out further investigations and discussion as outlined above.

i) Recommends that Council ask the Committee to report back to Council with progress report on the outcomes of its work and a suggested way forward by the Council meeting scheduled for 20 July 2016.

7.2 Updated Management Report to the Te Anau Wastewater Discharge Project Committee

Record No: R/16/3/4321

Report by Mr I Evans (Strategic Manager, Water & Waste), updating the Management Report to Te Anau Wastewater Discharge Project Committee, was tabled.

Mr Youldon raised the issue relating to 35 Year Discharge to Air Consent Application for the oxidation ponds in regard to increasing the storage at the oxidation ponds, and questioned the response he received on this issue from PDP. It was agreed that staff respond to Mr Youldon's concerns.

Resolution

Moved Councillor Bailey, seconded Councillor Kremer

That the Te Anau Wastewater Discharge Project Committee:

a) Receives the report titled "Updated Management Report to the Te Anau Wastewater Discharge Project Committee" dated 28 March 2016.

The meeting concluded at 1.35pm.

CONFIRMED AS A TRUE AND CORRECT RECORD AT A MEETING OF THE TE ANAU WASTEWATER DISCHARGE PROJECT COMMITTEE HELD ON 4 APRIL 2016.

DATE:.....

CHAIRPERSON:.....

Te Anau Wastewater Discharge Project - Next Steps

Record No: R/16/6/9681
Author: Ian Evans, Strategic Manager Water and Waste
Approved by: Steve Ruru, Chief Executive

☒ Decision ☐ Recommendation ☐ Information

Purpose

1 To enable the Committee to make a recommendation to Council on the next steps to be taken to advance the Te Anau Wastewater Discharge Project given the findings contained in the draft PDP peer review, further correspondence from Peter Riddell to Fiordland Sewage Options (FSO) and the subsequent PDP response, as well as the Committee visit to Wanaka and the outcome of the Environment Court mediation process.

Executive Summary

2 Pattle Delamore Partners (PDP) were engaged to undertake a peer review of the consented Kepler option for the Te Anau Wastewater Discharge Project. The Committee has received information on the findings of the review through the issue of their draft report in December 2015, a two day Workshop held on 9 and 10 February, and an addendum to the original report released in March 2016.

3 At their meeting of 4 April 2016, the Committee agreed that Council should continue to defend the appeal on the Kepler option while also considering what, if any, further investigation work is needed on the alternative options that the Committee is considering.

4 At its meeting on 27 April 2016, Council approved the unbudgeted expenditure associated with undertaking the peer review to date as well as approving a further sum of $50K for the Committee to undertake further investigation work and/or site visits to assist with its decision-making process. It also agreed to defend the appeal against the Kepler consent.

5 This report provides feedback on the visit to the Project Pure treatment facility at Wanaka as well as providing a suggestion for additional sites that the Committee may wish to visit in order to help make a decision on the way forward. The Committee is asked to provide guidance on whether it wishes to undertake such visits or consider an alternative strategy to narrow down the list of alternatives it believes worthy of further investigation. Any decision made by the Committee will be forwarded to Council for consideration.

6 The report also notes that, following a report back to the Environment Court indicating that all parties agreed to continue the appeal process, a Court assisted mediation process occurred on 20 and 21 June 2016.

7 A key outcome of the mediation is that Council has undertaken to carry out further investigation work into the relative merits or otherwise of sub-surface drip irrigation as a potential disposal option, as compared with centre pivot irrigation, for treated wastewater irrespective of the site chosen. The Committee will be aware that currently the Kepler option and PDP's highest ranked alternative option both involve disposal by spray irrigation via centre pivots. As a consequence any advice on alternatives needs to be considered carefully not only by expert witnesses for Council but also those representing the appellants.

8 The proposed timeline for receipt of this report is by mid-late September before a reconvened mediation date on 7 October.

9 As a consequence it is recommended that any additional site visits are delayed until after expert witnesses report back through the Court on the outcome of these investigations as this could have a direct influence over which sites the Committee may consider worthy of further visits.

Recommendation

That the Te Anau Wastewater Discharge Project Committee:

a) Receives the report titled "Te Anau Wastewater Discharge Project - Next Steps" dated 28 June 2016.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Determines that it does not wish to make a decision as to its preferred option until the information, being developed as part of the Environment Court assisted mediation, on sub-surface as compared to centre pivot irrigation, is available.

e) Recommends to Council any further site visits it wishes to undertake to assist in considering alternative treatment and disposal options but that any such visits are delayed pending production of the expert conferencing report on suitability of sub surface irrigation as an alternative means of disposal.

f) Asks officers to report to Council on 20 July with an update on the position that the Committee has reached in its deliberations.

Content

Background

10 Subject to finalising its report, Pattle Delamore Partners (PDP) has largely completed its peer review of the current consented option for the Te Anau Wastewater Discharge Project. The peer review is intended to provide an independent assessment of the consented option relative to any other reasonably practicable alternatives.

11 The consented option involves removing the current discharge from the Upukerora River and pumping, via a newly constructed pipeline, the treated wastewater to a land treatment/disposal site north of Te Anau Airport Manapouri. Consent for this proposal was granted by independent commissioners in January 2015 and subsequently appealed.

12 PDP has presented its draft report, and an addendum to that report which confirms that the current consented option is viable and does not identify any 'fatal flaws'. This assessment is

consistent with the Commissioners' decision that the effects of the discharge on the receiving environment would be less than minor.

13 The draft report also identifies a number of alternatives, which PDP note may warrant further investigation as an alternative solution to the consented proposal. It is noted, however, that the initial findings were based on a 'desktop study' and that at some point consideration of any alternative would require significant physical investigation work and would have a different risk profile to that associated with the Kepler option.

14 Further evidence provided subsequent to the initial report has highlighted significant risk associated with a number of these potential alternatives, especially around those involving disposal of treated wastewater to the Slee block.

15 Through the peer review process, PDP have identified what it believes is its favoured alternative to the consented Kepler scheme. This alternative involves improved treatment at the oxidation pond site by membrane filtration followed by land disposal via spray irrigation to land at the Smith block on Sinclair Road some 6 km north of the oxidation pond site.

16 The Committee will eventually need to formally consider the findings from the PDP peer review and then make a number of decisions before making a recommendation to the Council as to which direction it should pursue. In the interim the Committee have also recommended that Council should proceed to defend the appeal against the Kepler consent. Following a final report back to the Environment Court an initial mediation was held over two days on 20 and 21 June 2016.

17 At its meeting of 27 April 2016, Council approved the un-budgeted expenditure incurred as a result of undertaking the peer review. At the same meeting, Council also approved further expenditure of upto $50K for the Committee to undertake site visits and further investigations to help come to a view on its recommended pathway forward. The $50K budget would also cover any costs associated with the development of a long term detailed investigation programme including timeline and overall costs. The first stage of this additional work included the visit to the Project Pure wastewater treatment facility at Wanaka, which is briefly summarised in the following section of this report.

Wanaka Wastewater Treatment Plant - Project Pure

18 Committee members visited the Project Pure facility at Wanaka on 17 May 2016. The purpose of the visit was to provide Committee members with more information on an alternative treatment and disposal option and to also learn about the decision-making processes that have been used in other locations.

19 The visit was hosted by Ulrich Glasner, Chief Engineer at Queenstown Lakes District Council, who was also able to give an insight into some of the issues experienced during the development and construction of the Maketu Wastewater Treatment Plant from a previous role at Western Bay of Plenty District Council. Committee members and Council staff were given a tour of the facilities followed by a presentation on a number of issues that arose and were dealt with during the development and consenting stages of both the Wanaka and Maketu treatment and disposal systems.

20 Construction of the Wanaka plant was via a design/build/operate contract to meet performance standards for the effluent of <30mg/l BOD, <30mg/l Suspended Solids and <10mg/l Total Nitrogen. Following a robust evaluation process United Group were selected as the successful tender.

21 The Project Pure treatment plant was tendered in 2007 as part of the wider upgrade of the Wanaka Wastewater system with three main contracts forming the basis of the upgrades.

Contract		
07/009	Wastewater Treatment Plant	$9552K
07/010	Reticulation	$5764K
07/011	Disposal Area	$510K.

The annual operating costs are additional to the above capital costs and would need to make an allowance for labour, electricity, sludge disposal, debt servicing and depreciation.

22 The system is designed to have sufficient capacity to treat the wastewater volume and load estimated to be produced by the Wanaka and Albert Town communities by 2021. Key design parameters are:

- Maximum wastewater flow of 12,860 m^3 per day.
- Maximum instantaneous wastewater flow of 232 l/s.
- Maximum daily loading of 2,170 kg BOD per day.

23 The land disposal scheme was designed and constructed under a separate contract. The rapid infiltration system was originally designed to discharge up to 5,000 m^3 per day into a subsurface pipe network covering three hectares, with an ultimate design expansion to12,560 m^3/d. The subsoil rapid infiltration system was chosen as the preferred disposal route as dispersal pipes could be located below the lower permeability topsoil within the high permeability sandy gravel subsoil as a rapid infiltration system requiring much less area than would be required for surface irrigation.

24 Groundwater is located 76 metres below the surface of the disposal site so treated wastewater which is discharged into the base of the disposal trenches (ie 2 m underground) will filter through 74 m of silty gravel soils before reaching groundwater. Groundwater flow is to a south easterly direction towards the Clutha River/Mata-au approximately parallel to State Highway 6 towards Luggate.

25 Given that the discharge is below the pasture root zone there is little uptake of nitrogen from the discharge effluent. In essence, any nitrogen discharged to the field will leach to groundwater, hence the requirement for the advanced SBR plant to limit nitrogen losses by removing at source. This is in comparison to the surface irrigation process where nitrogen uptake will occur during the growing season with losses to groundwater during the rest of the year. Modelling of the rate of flow of treated wastewater down through the soils at a rate of 1.7-2.5 m per day, giving an estimated time of travel of between 30 - 47 days to reach groundwater. Based on this modelling the time of travel to reach groundwater at Te Anau (Slee Block) would be no more than two days due to depth to groundwater being significantly less. This may become a major issue of concern if consent was to be applied for at this location.

Next Steps

26 The visit to Wanaka was an initial visit to give the Committee a greater understanding of other technologies available both for treatment and disposal (as well as understanding any limitations with these technologies) and the decision-making processes used in other locations.

27 Should further visits be required, Council officers along with PDP have identified a number of other sites that could be visited to help the decision-making process. These sites cover the majority of treatment and disposal scenarios that other councils have implemented across the country and that are believed to be appropriate for the scale of the current project.

28 Within close proximity of Taupo are three sites that are similar to the wastewater treatment and disposal options being considered at Te Anau (eg, Kepler/Smith and Slee). Other similarities include a lake environment and high peak flows over the holiday period. These sites also have similar climate and subsoil conditions (eg, high permeability). The sites are:

- **Taupo** - Basic WWTP (primary clarifiers, trickling filters and secondary clarifiers). treated effluent pipelines to two large scale land treatment systems (cut-and carry pasture). The average daily flow is around 8,000 m^3/d (ie, larger than Te Anau).
- **Acacia Bay** - SBR activated sludge WWTP with RI disposal 300 m from the lakeshore. This WWTP was one of the first SBRs in New Zealand when commissioned. The scheme has recently been re-consented for a 10 year period only, with nitrogen being main area of concern for the Regional Council (even though the WWTP achieves very low N). For the next consent round, the Regional Council has indicated that land treatment needs to be added or the WWTP upgraded further (for future re-consenting TDC is also considering pumping the treated effluent to the Taupo land treatment system). The average daily flow is around 300 m^3/d and peak is around 600 m^3/d (ie, smaller than Te Anau).
- **Kinlock** - Very similar to Acacia Bay (SBR and RI close to the lake shore). Again, through the recent re-consenting process the Regional Council has required improved dispersal of effluent and lower N even though the effects on the lake are quite minor. So despite having an advanced WWTP, the RI system is now being supplemented with 5 ha of subsurface drip irrigation at the Council owned Golf Course. Kinlock flows are similar to Acacia Bay.

29 In addition, the Maketu Plant is close by and is a potential detour following the Taupo visits. The plant servicing the townships of Maketu and Little Waihi is a small SBR plant similar to the Wanaka plant, but with a sub-surface drip irrigation disposal system. PDP have previously given information relating to some of the issues experienced during the initial commissioning stages, some directly related to the disposal area. These were also expanded on during the Wanaka visit. Some of the issues encountered during the commissioning of the disposal area included blocking drippers, surface ponding due to inadequate depth of burial of pipework and deadspots of grass as a result of chemical dosing installed to prevent blockages.

Further sites in the North Island and specifically referenced (some in detail) through this process include:

- Omaha - Aeration, filtration, disinfection, chemical dosing followed by above ground and sub surface irrigation.
- Tairua/Pauanui - activated sludge, UV disinfection, chemical dosing with sub surface irrigation via rapid infiltration and slow drip irrigation.
- Whangamata - activated sludge, filtration, UV disinfection followed by spray irrigation to forestry.
- Whitianga - activated sludge, filtration, UV disinfection followed by disposal to steam.

30 Other alternative sites worthy of consideration, and closer to the District include:

- Rolleston - activated sludge with UV and centre pivot irrigation.
- Rakaia - biological filtration and centre pivot irrigation.
- Dunedin Airport - membrane treatment and surface water discharge.
- Tiwai Aluminium Smelter - screening/settlement/ continuous chemical dosing and slow rate irrigation.

31 As an alternative, the Committee may wish to endorse the preferred option that PDP have identified through the peer review process, and undertake an initial study to determine whether the scheme would be acceptable to key stakeholders, especially those from surrounding properties. As a reminder this option involves improved treatment at the oxidation ponds with subsequent disposal via spray irrigation to the Smith Block on Sinclair Road north of Te Anau.

32 In their reports, PDP have also identified a number of other possible options on land around the oxidation ponds (Slee Block) however, they also point out that these options are likely to carry a significantly higher degree of risk and may be unlikely to get a long term consent as a result. The Committee may wish to recommend to Council that one of these options warrants further investigation.

Feedback from Court Assisted Mediation

33 Following agreement that Council should continue with the Kepler appeal process, it was agreed that all parties to the appeal would be prepared to enter into Court assisted mediation. Mediation between parties was held on 20 and 21 June in Invercargill.

34 The main outcome from the mediation process was that Council undertook to carry our further investigations into the feasibility of utilising sub surface drip irrigation as a viable alternative to the proposed centre pivot irrigation.

35 Council appointed experts will develop a brief which will be shared with the appellant expert witnesses with a view to developing a report highlighting advantages and disadvantages of each type of disposal technique. The report will consider the overall viability of each disposal option rather than be specific to individual sites. In essence, if an option proves to be viable at one site then it is in all likelihood viable at any alternative site notwithstanding differences in ground conditions, topography etc.

36 The output from this process will be a report that will be used to assist Council with its decision-making on its preferred way forward in respect of the current appeal. It will also be of relevance to any decision-making on alternative sites.

37 It is anticipated that this report and further mediation will resume on 7 October. With this in mind, it is suggested that the Committee may wish to postpone any further site visits and/or consideration of alternative sites until experts have reported back as there should be a degree of further certainty around alternative disposal options.

38 **Correspondence from Peter Riddell and Response from PDP**

39 Following the previous meeting a paper drafted by Peter Riddell, on behalf of Fiordland Sewage Options, was forwarded to Council from FSO members. This paper refers to a

number of matters and issues relating not only to Kepler but also matters raised within the PDP reports. Given that this is essentially a review of PDP work to date they were given the option of response with both reports to be submitted to the Committee at their next meeting. Both documents are included as attachments to this report (attachments A and B).

40 While Mr Riddell indicates that the Slee Block is still worthy of further consideration the response from PDP tends to disagree with a number of the points raised in his report to FSO. In particular, they raise concerns in relation to the hydraulic relationship between lake levels, groundwater levels and the matter of the significant areas of standing water at the bottom of the Slee property, especially after significant rainfall. Overall, PDP still believe there is a significant degree of risk associated with the development of any alternative on the Slee property. PDP recommend a preferred alternative option of enhanced treatment of the oxidation pond effluent by membrane filtration followed by disposal via spray irrigation at Smith's block on Sinclair Road north of town.

41 Given the risks identified by PDP and their recommendation of a potential suitable alternative (subject to further work) of enhanced treatment and disposal via spray irrigation at the Smith block, the Committee may wish to consider endorsing this recommendation and request that PDP develop the scope for an investigation programme, including timetable and cost estimates.

42 In summarising the recommendations of their draft and addendum reports, PDP have highlighted that the Kepler proposal is a viable option with no fundamental flaws. It does however, highlight an option they believe to be worthy of further investigation, that being what they retitled the Smith Membrane Filtration option. Essentially, this involves enhanced treatment at the oxidation pond and irrigation by centre pivots at the Smith property.

Issues

43 There is a need for the Committee to make a decision about whether they wish to undertake any further site visits prior to making a decision on a preferred way forward for the overall project.

44 With the Environment Court assisted mediation process now on hold until 7 October to enable further technical advice on sub-surface and alternative disposal options to be gathered the Committee may also wish to delay further site visits and/or decision-making until the report into viability of alternative disposal systems is received and more fully understood.

Factors to Consider

Legal and Statutory Requirements

45 Committee members have previously been briefed on the legal factors that need to be considered under both the Local Government Act 2002 and the Resource Management Act 1991.

46 In relation to the Local Government Act 2002, it is noted that all decisions of the Committee are subject to the decision-making provisions detailed in Part 6 of the Act. In broad terms these provisions require that the Committee assess the advantages and disadvantages of each reasonably practicable option. The extent of consideration given should have regard to the level of significance of the proposed decision.

47 In relation to the Resource Management Act 1991, it is noted that the Kepler Block disposal site has been granted all necessary resource consents and designated for treated

wastewater disposal by a panel of independent Commissioners. These consents (but not the designation) are subject to an appeal to the Environment Court. To confirm the consents, an agreement needs to be reached with the Appellants, or failing agreement, the Court needs to confirm the grant of consent following a hearing.

48 The Committee is reminded that the advice Council has received is that it should not surrender the Kepler consents, until it has in place, and beyond challenge, the consents needed for any alternative scheme that it may choose to pursue.

49 If agreement is reached through mediation, or consents are confirmed by the Court, this does not commit the Council to constructing the Kepler Scheme. Rather it gives Council the right to do so which does not have to be exercised. Alternatives can continue to be considered if that is the wish of the Council.

50 When considering alternative options it is important to remember that they must demonstrate the same level of minimal environmental effect as demonstrated through the consent for the Kepler proposal. Counsel has also advised that any alternative consent application carries the same level of risk of being appealed.

Community Views

51 Under Section 78 of the Local Government Act 2002, the Council is required to consider the range of community views that might exist in making any decisions.

52 It is clear that there are a number within the Te Anau and Manapouri communities who are concerned about the current Kepler consented option. The Fiordland Sewage Options Group (FSO) has made it clear that it will actively challenge the Kepler consented option.

53 As part of the resource consent process, FSO and others have raised a number of environmental concerns about the Kepler proposal. It is reasonable for the Council to assume that the environmental issues will be appropriately assessed by the Environment Court.

54 Given that the wastewater activity is treated as a district wide activity, and funded accordingly, it is appropriate that the Council also consider the views of other wastewater users and district wide ratepayers, in general, as they are also required to fund the costs and risks associated with the options chosen by the Council.

55 It is reasonable to expect that, in addition to appropriately addressing the environmental impacts of any proposal, there will be ratepayers who also expect the Council to manage the financial aspects of the project in a prudent and cautious way. Hence, the Council should not, for example, write off the historical investment that has been made in getting to the current point without good reason and should be conscious of the financial costs and risks associated with pursuing an alternative option.

Costs and Funding

56 Under the current Terms of Reference, the Committee has no authority to expend funds. Any request to do so needs to be approved by Council.

57 It is important to remember that all work on potential alternatives to Kepler, undertaken to date, has been desktop work. To more fully understand the impact of environmental effects it will be necessary to undertake extensive investigation work, particularly if it is to be used as part of a future resource consent process.

58 Since July 2013, approximately $1.3M has been spent through the investigation and consenting stages of the project on the Kepler option. There is an estimated $300K further expense required through the appeal process. These costs are currently being treated as a capital expense. Investigations into any alternative, other than Kepler, would need to be treated as an operational expense and funded accordingly.

59 At its meeting on 27 April 2016, Council approved all unbudgeted expenditure associated with the peer review to date. At the same meeting Council also approved a further $50K unbudgeted expenditure to assist the Committee in undertaking site visits and/or investigation work it felt necessary to help with its decision making process.

60 In making a decision on whether to investigate an alternative option, the Committee needs to be satisfied that the costs and benefits (including risks) of pursuing an alternative outweigh the costs and benefits of pursuing the Kepler option. While the Net Present Value assessment included in the draft PDP report contains some level of assessment, it has not been subjected to a comprehensive risk assessment process. It would seem appropriate for this work to be undertaken before a final decision is made into investigation of any alternative.

Policy Implications

61 The longer the consenting process takes, the greater the chance becomes that any new consents will be assessed against new policies and rules. In particular, the National Policy Statement for Freshwater Management 2014 ("NPS") requires Environment Southland to develop freshwater quality limits, and impose conditions to meet those. There is currently uncertainty about when those limits will be finalised, and what they will be via the Water and Land 2020 process.

62 The preference for wastewater to be discharged to land rather than water is a well-known concept within the region. It arises in the operative Regional Policy Statement (RPS) in Policy 5.4, and is duplicated in the proposed RPS at Policy WQUAL.7. In both the operative and proposed RPS, the preference is to be used when discharge to land is practicable, and when the adverse effects are not significant.

63 Council has shown that it is practicable to discharge to land in the Kepler Block scheme, and in its decision to grant resource consent, the Commissioners stated that the proposal would be well within the significant adverse effect threshold under the operative RPS. The key environmental outcome of the proposal is that the discharge is to land, and not to the Upukerora River, which better meets stakeholder expectations and environmental preferences, as identified in both the RPS mentioned above, as well as in the NPS. Any alternative option would also need to meet these criteria.

64 The District Plan provisions will also apply to any new consent application with that alternative requiring either a land use consent or a designation as is currently in place at Kepler. This would likely require notification and a hearing.

65 The decision on the notification path (ie non/limited/publically notified) will depend on the likely level of effects and whether they extend beyond the broadly adjoining properties. For example, disposal adjacent to an urban boundary is more likely to be considered as needing to be publically notified whereas the sites further away from the urban boundary would potentially be subject to limited notification.

66 Setbacks outlined in the current and proposed plan will apply around the designation which could further restrict site selection and available land for future expansion, with it being unlikely that these could be reduced by way of consent conditions.

Analysis

Options Considered

67 There are three options identified. These are to endorse the Kepler (Option 1), to pursue the Smith block (Option 2) or to recommend an alternative option that the Committee believes warrants further investigation (Option 3).

68 Under Option 1 the Council would defend the appeal against the Kepler consented option through the Environment Court process and start to develop the business case to undertake the project subject to a favourable Environment Court outcome. It would not investigate any alternative options in the interim.

69 Under Option 2 the Council would continue with the appeal process while further investigating PDP's highest ranked alternative option ie Smith Block. The costs associated with the alternative investigations would need to be treated as an operational expense and funded accordingly. The Committee may wish to delay agreeing to this alternative subject to the outcome of the mediation report into SDI which is expected in September.

70 Under Option 3 the Council would continue with the appeal process while undertaking investigations into a further alternative site as recommended by the Committee. The costs associated with the alternative investigations would need to be treated as an operational expense and funded accordingly.

Analysis of Options

Option 1 - Continue with current consented option

Advantages	*Disadvantages*
• Time and cost of future investigations will not be incurred. • Subject to outcome of the appeal the Council will have long term certainty on future wastewater discharges. • The costs of the appeal process will continue to be capitalised. • Consenting process already well advanced and designation is in place. • Is consistent with the adopted Long Term Plan. • Consistent with legal advice. • A decision will be received within a timeframe that would enable the current timeframes imposed through current Upukeroroa consent to be met.	• Further opposition likely through Environment Court process. • Risk that it might not constitute the least cost option and that consent may not be confirmed.

Option 2 - Continue with current option through the appeal process while undertaking further investigation at the Smith Block

Advantages	*Disadvantages*
• Likely to be popular with appellants. • Provides clarification into suitability of an alternative land within the Te Anau Basin. • May be a more cost effective alternative.	• Introduces significant uncertainty around getting consent at an alternative site. • There is risk of an alternative being appealed as with the Kepler proposal. • Alternative site may not prove to be viable or as having more advantages than the Kepler option. • Costs incurred in pursuing Smith block investigations would need to be treated as operational expense and funded from rates today. • Costs associated with Kepler will need to be written off and funded if this option is pursued as preferred option. • Consenting process will need to start from scratch with associated costs and risks not yet understood. • Will likely require a further short term extension to current Upukerora discharge consent. • Possibility that it would not be seen as financially prudent and business like and therefore in breach of the Local Government Act 2002.

Option 3 - Continue with current consented option through the appeal process while investigating a further alternative as recommended by the Committee

Advantages	*Disadvantages*
• Likely to be popular with appellants. • Provides a degree of certainty and reduces risks by ensuring that alternative investigations continue while pursuing consent for Kepler option. • Consenting process for Kepler already well advanced and designation in place. • Council would still have option of pursuing an alternative scheme even if consent for Kepler option is confirmed.	• Costs of investigation of alternative will need to be treated as operational expense and funded from rates. • Risk that a suitable alternative may not be found. • Risk that any alternative investigated option will also be appealed. • Council will be incurring costs for pursuing two options at once. It could be argued that the financially prudent approach would have been to pursue alternative once it is known whether Kepler consent is confirmed. • Will likely require a further short term extension to current Upukerora discharge consent.

Assessment of Significance

71 Any decision to abandon the current Kepler consented option would require the write off of the significant expenditure incurred by Council to date. This includes some $1.3 million of expenditure currently held on the balance sheet for investigations since 2013. This expenditure would need to be written off and funded. In addition, the Council would effectively be writing off the investment in the work completed prior to 2010 that have previously been funded. The quantum of this write off would exceed the financial threshold for unbudgeted expenditure in the Significance and Engagement Policy.

72 Officers are of the view that a decision to abandon the Kepler consent either now, or at some stage in the future, would constitute a significant decision. As such there would be a reasonable argument that the Council should consult on any such proposal particularly given the financial consequences and change in policy that such a decision would represent.

73 A decision to continue with the current consented option (Option 1) would be consistent with the direction that the Council has been pursuing for a number of years and with the Council's adopted 2015 Long Term Plan. Hence, officers are of the view that a decision to adopt this option would not be significant.

74 If the investigation costs of exploring options 2 or 3 are expected to exceed $500,000 then this would breach the unbudgeted expenditure threshold in the Significance and Engagement Policy. As such a decision to commit to such expenditure, particularly while continuing with the Kepler option would likely constitute a significant decision.

75 The Committee is not, however, being asked to recommend the incurrence of such a level of investigation works at this stage. This is a decision that will need to be made, following consideration of a future report, once the costs that might be associated with investigating an alternative can be more fully scoped.

Recommended Option

76 In summarising the recommendations of the PDP's peer review they have highlighted that the Kepler proposal is a viable option with no fundamental flaws. They do, however, highlight an option that they believe to be worthy of further investigation, that being the Smith Membrane Filtration option with disposal via centre pivot irrigation. Through mediation, Council has also agreed to undertake further investigation work with expert witnesses for Council and appellants to determine the suitability of alternative sub-surface disposal systems. The outcome from this work will also be of relevance to decision-making around the Smith option.

77 At this stage the Committee are being asked to consider all three options based on information received to date. There is a need for the Committee to determine whether its decision-making process would be assisted by undertaking further site visits for the provision of further information.

78 If the Committee is of the view that its deliberations would benefit from further site visits then this would apply irrespective of the relative merits of each alternative option. Given that the feedback received from the further technical work being undertake on sub-surface irrigation (SDI) will be beneficial to the options to be considered there is an argument to say that further deliberation on each of the alternatives and/or further site visits should be delayed until after this work has been completed. At this stage this work will be available in September to assist with the mediation process, which is to be reconvened in early October.

79 It is recommended that the Committee delay making a decision on its preferred option until after the further information on sub-surface (SDI) irrigation is made available in September. The outcome of this work will be of relevance to all of the options under consideration.

80 The Committee is required to report back to Council by 20 July. It is also recommended that the Committee report back to Council noting that the work that has been completed with the site visit to Wanaka and that it is awaiting the further technical work on the merits of sub-surface irrigation prior to making a decision on its preferred option.

Next Steps

81 Officers will prepare a report on the outcome of the Committee's deliberations for consideration by Council at its 20 July meeting.

82 The work, agreed to as part of the mediation process on evaluating the merits of sub-surface irrigation will be completed and referred back to the Committee as well as being used in the mediation process.

Attachments

A Ecogent - Kepler Review letter to Committee MR View
B Response from Pattle Delamore Partners Ltd on the Ecogent Review of the Kepler Block document View

Kepler Review

Ecogent has been assisting FSOI to review the Kepler proposal and alternatives.

Ecogent has advised that pond improvements and irrigation at the Slee property offer the lowest cost opportunities with acceptable or better environmental outcomes. The Smith property is a practical alternative and no convincing evidence has been provided to the contrary.

Ecogent has engaged with PDP to explain technical aspects of the treatment and disposal, and with the assistance of Groundwater Consultants (GWS) has conceptualised and modelled the groundwater flows and impact from irrigation at the Slee property. We have also organised a water level survey and inspection of a pit between pond and lake to confirm soil profiles. This information appears to have been ignored by PDP although we would note that many claims in the original groundwater Technical Memo have now been modified.

Ecogent has had several discussions with Mr and Mrs Slee and Mr Smith and reached conceptual agreement on utilising their respective lands in a manner which would be beneficial to them and the community. This information and suggestions have been passed to PDP.

Ecogent has revisited the cost estimates over the past few months and obtained detailed prices from suppliers and local installation contractors to the extent that the prices quoted in this report are prices that are reliably based for the purposes of making decisions regarding the installing, commissioning and operating the proposed systems. This is more than just a desk top study. The operating costs are well understood based on Ecogent's experience with design, build and operation of similar systems. There are minimal operating cost risks or environmental risks compared with the Kepler proposal and there is more potential to expand irrigation in the future. There is also potential to stage construction and costs to meet growth which is not the case at Kepler, where all infrastructure and cost must be incurred at day 1.

Consentability risks are an issue that Ecogent has considered. In general, if all parties agree with the proposal, following suitable explanation, then this risk becomes minimal and can be determined at low cost. The required investigation costs are easily staged and the simplicity of the concepts means that these costs are also minor compared to the Committee Agenda estimates. Ecogent and GWS personal have experience in obtaining consents without significant objection.

Specific issues are as follows.

1. **Suitability of the Slee site.**

   We have discussed this at length with PDP. The points on which we believe we have agreement are:

   - That the groundwater contours are generally down toward the lake.
   - That there will be very little flow towards the river and given the low concentrations in the groundwater will be undetectable in the river water if it did occur.
   - That dilution of treated wastewater in the groundwater is expected to be 1 in 10 to 1 in 15 i.e. to about 6 to 10% of the treated wastewater concentration after irrigation. The inspection hole Mr Slee organised showed no lenses of clay, reinforcing the expectation of good dilution/diffusion. In addition, there was no groundwater to 4m. This is contrary to the PDP desktop sketch.

- That there will be no odour, no spray drift or no surface water runoff of contaminated wastewater by using subsurface irrigation.

The following are the points we disagree with and our reasons:

- That there will be any significant contribution from groundwater to the ponding at the Slee foreshore.
  We organised a survey of water levels after the heavy rain last month and found the ponding was perched higher than the lake, indicating drainage down to the water table and confirming that ponding was probably primarily caused by rainfall, and in extreme events river spill as per the photo forwarded indirectly from Ian Evans.

- That there will be any significant or even measureable increase in nutrient in the ponded area causing eutrophication problems as claimed by PDP.
  Our reason for considering that this is not an issue is threefold;

  1) that there is no likely mechanism to send significant quantities of groundwater to the pond,
  2) the concentrations after irrigation will be low (2-5 ppm) and
  3) the concentrations after dilution in groundwater will be even lower at about 0.1 to 0.5ppm. This level is only 10% of the expected level discharging to the river from the Kepler groundwater and is of negligible effect. This is before any dilution due to rainfall or river overspill or seepage back through the lake.

  Pictures we took when the survey was done showed significant pollution due to the resident duck population and this plus rainfall runoff from farming would eclipse any input from the proposed irrigation. We discussed the issue with Mr Slee who confirmed his agreement with our observations and that the issue was of no concern to him. He saw no value in filling the low areas.

- That the foreshore ponds to the west will become affected by nutrient.
  We believe for the same reasons as above that the groundwater that might enter the private ponds to the west at the foreshore will not have a significant effect as these ponds are directly influenced by lake level. The incremental increase in N levels is likely to be less than the 0.1 to 0.5ppm range and will be further diluted by the residual water. We suggested to PDP that the way to eliminate that risk was for council to buy the 2 properties and after a proving period could develop them to a suitable building level and put them back on the market. We have included the cost to do that in our estimates tabled below.

- That there will be increased nutrients compared to the Kepler block. As we show in the next section this is not the case and expected N concentrations and loads are less than at the Kepler.

In summary these points constitute the main reasons that the Slee block appears to have been discounted for further investigation. As we have emphasised many times, we believe they are all without substance and that simple investigations will confirm that. We believe it offers the lowest cost opportunity for satisfactory wastewater treatment and disposal and should not be discarded solely on the basis of a disputed desktop study.

2-Nitrogen levels

In our opinion the statements about nitrogen removal are incorrect. We tabulate below the levels at each stage of the treatment and disposal and the nett weight to the surface water environment. We have included a range incorporating where practical figures from PDP as a comparison for the high levels of the range. The figures are based on the future average flows of 1300m3/d, being 880m3/d in winter and 1510m3/d in summer.

Description	Existing discharge to river	Slee - Ecogent option	Kepler as consented to land
Nitrogen (ppm)	28	28	28
After nitrogen treatment e.g IDEAL (ppm) [1]	28	10-15	28
After membrane/ to irrigation (ppm) [2]	N/A	8-12	28
Concentration in surface runoff after irrigation [3]	N/A	0 (all subsurface therefore no runoff)	Up to 28ppm
After irrigation (ppm) [4] [8]	N/A	2-5	5-11
Percent removed in irrigation [4]	N/A	60%	60 -83% (PDP)
Concentration in groundwater at discharge to surface water (ppm) [5] [8]	N/A	0.1-0.5	4.5-5
Weight to surface water Kg/yr [6]	13,300	500-1500	2000-3000
Weight including grazing Kg/yr[7]	13,300	1000-2000	2000-3000

Note 1: Based on Ecogent design increased by PDP estimate of potential variation

Note 2: Membrane removes suspended material and reduces N associated with that. It provides an excellent quality effluent for irrigation

Note 3: Any rainfall runoff at Kepler will have raw wastewater potentially diluted by rain and also with high solids loads

Note 4: Based on actual field measurements at Omaha golf turf on cut grass left on site, ie not removed. The Kepler figures are based on the consent and the recent PDP claim of 83% removal from their Overseer modelling. The claim by PDP that sprinkler is more efficient than dripper is not substantiated by field measurements which indicate the opposite with improved yields and less N loss from subsurface. No allowance has been made by us for the probable improved efficiency from subsurface irrigation. Areas allowed for are 30ha of subsurface irrigation at Slee's, 70 ha centre pivot at Kepler.

Note 5: Based on 1/10 to 1/15 dilution for Slee, consent evidence for Kepler.

Note 6: Assumes additional 1.5mm/d drainage throughout winter, normal ET losses in summer at Slee

Note 7: Assumes the irrigated area at Slee is also grazed as at present.

Note 8: The increase in groundwater concentration at Kepler does trigger concern for drinking water bores. The groundwater concentration at Slee's is below levels of concern, and there are no identified bores in the flow path

Conclusion from Nitrogen Estimates

The figures demonstrate better nitrogen outcomes for the environment for the Slee proposal using 30Ha of subsurface irrigation. There is also potential to install a smaller, lower cost, irrigation area and allow nitrogen levels to increase to similar expectations as at Kepler.

Slee Scheme Description

The scheme for which the above nitrogen table was produced consists of a nitrogen reduction treatment plant constructed in the top (southern) section of pond 1. Treated water is then pumped through membrane filtration modules as presented by Ecogent at the Waitangi day public meeting and described by PDP in its latest report. Treated water is then pumped directly to the 30Ha subsurface irrigation system. The predicted treatment level is as tabulated below. We have also included sanitation as a further reduction in pathogens and as a measure to control biofilm in irrigation pipes. All components of this scheme are well proven and understood by Ecogent.

The CAPEX of this system is $5.5M to $6.5M and an NPV of $9.8M to $10.8M

Ecogent notes that the initial concept to remove the direct discharge from the river (in about 2002) was to rapidly infiltrate the wastewater to land. This did not proceed at the treatment plant site mainly because forecast flows were high (6000m^3/d) and there was no treatment planned resulting in a rather unsatisfactory system with crude disposal such as at the failing Manapouri airport disposal system. However, the realisation by council that flows will actually be much lower at 1300m^3/d allows a variation of this concept to be revisited. In its most simple and economic form it could consist of a membrane to polish the pond water followed by Rapid Irrigation to a small area of about 5 to 6ha. This allows discharge to land which was, and remains, the primary objective. It also allows pathogens to be substantially removed and a reduction of about 25% in the weight of nitrogen discharged to the lake via groundwater. Given that this reduction in nitrogen would be beneficial it is worth the committee reconsidering the economics of this approach, especially as it has the potential to be expanded with future nitrogen reduction and more irrigation area after a period of monitoring. It also provides a foundation for an effective scheme at Smiths with winter irrigation at the treatment plant and summer irrigation when the nitrogen could beneficially be taken up by the crop. A benefit of this is that the concern over winter Nitrogen from Smiths leaching into the river would be eliminated and the present quality of the river would be maintained at Smiths and improved adjacent to the treatment plant by removal of the existing discharge.

Another possible option with many benefits which we have explained to PDP is some irrigation at the Slee property and some at Smiths. The 6Ha of RI at Slees for winter irrigation removes concern about winter leaching at Smiths, and could also be used for beneficial summer irrigation while the bulk of the summer wastewater could go about 25Ha Smiths. This option would not need Nitrogen reduction at the ponds. This option also maximises operational simplicity and is similar to Omaha and Pauanui where water goes to different places at different times.

Cost Details

A summary is given in the following table.

The range is based on different allowances for preliminaries, contingencies and design. The lower figure uses the 10% preliminaries, 20% contingency, 10% engineering add on applied by PDP at Kepler while the second figure uses the 15%, 30%, 15% applied by PDP for schemes other than Kepler. We have included both for more meaningful comparisons. All costs have been created using similar unit rates to those used by PDP or rates that are representative of actual costs obtained from local contractors.

For the non Kepler schemes we have allowed for a 1.8M contribution from the Kepler land sale.

We have assumed that the land cost for the other options will be in the form of an annual lease. For indicative purposes only this is included as $500/ha /yr. We have confirmed with Mr Slee that he would consider a long tem lease (potentially greater than 25 years but to be negotiated) in return for a lease payment, the right to graze as at present and access to the land by Council for maintenance.

We note also that Council should consider the value of a clean, sanitised, nutrient rich water to a farmer with no water available in droughts when considering how to obtain a win-win for a farmer and the community. Community irrigation schemes charge farmers an average of $750/Ha/Yr for water delivered to the farm gate so it is quite possible that a lower lease payment than we have assumed could be negotiated.

We have increased some figures at Kepler to allow for greater CAPEX to build the bridges, provide suitable operations shed and generally equipment to the same standard as allowed for under the Slee proposal. We have also allowed for more realistic expenses and the expectation that returns from harvest sales will not be as optimistic as planned based on current trends. This increases capital cost by about $1M but is largely academic as it is clear that there is a significant benefit in looking more closely at the Slee or a Smith option with subsurface irrigation.

However neither the Slee, Smith or combined Slee-Smith options have the same risk to OPEX of poor grass sales as those costs would be managed by the owners who are experienced farmers and they would utilise the feed effectively. The Slee and Smith options also have lower operator costs as they are automated and do not have the same critical environmental demands. While the Kepler operator demands "may not be for the faint hearted" as noted in consent hearings the ecogent proposals by comparison are simple to operate, have fewer demands on the operators and are proven technology.

Summary of capital and operating costs and Nett Present Values

Values in $M	Slee RI 6 Ha	Slee 30ha SRI	Slee with nutrient removal plus 30Ha SRI	Smiths 25ha SRI with 5ha RI at Slee for winter and peak flow	Kepler As consented
CAPEX	2 - 2.5	3.8 - 4.4	5.5 - 6.5	5.8 - 6.8	12.8 - 13.8
OPEX	0.22	0.23	0.3	0.3	0.25 - 0.5
NPV	5.1 - 5.5	7.2 - 7.9	10 - 11	9.7 - 10.6	15.9 - 21

Multi-Criteria Analyses.

PDP's Multi-Criteria Analysis (slide 27 Dec 2015 report) showed the Kepler option ranked 13th equal out of the 15 options they considered, i.e. almost the worst. Using this same Multi-Criteria Analysis (as shown in slide 73 Public Presentation, Waitangi Day 2016), the Ecogent Options ranked the highest of all the options assessed by this methodology.

If this evaluation process is to have any credibility, then Council must surely consider the Ecogent options with the same technical vigour. They have clear advantages for all of the accepted criteria for the 4 well beings. Social-Cultural-Environmental and Financial.

Summary

Ecogent-FSOI Options	Kepler
Lower Capital Cost ($2M - $6.8M) – depending upon option	Higher Capital Cost ($12.8M - $13.8M)
4 Options – so lower risk – can evaluate cheaper option first – expand if necessary	1 option – high risk – all capital upfront
Lower or equal operating costs (depending on option)	Committed to highest operating cost option
Improved environmental outcome (i.e. lower nutrient to receiving environment)	Higher export of nutrient to the receiving environment
Better social outcomes (i.e. subsurface irrigation hence no odour, visual sign of irrigation, no aerosols, no cross contamination of rainfall runoff) – plus beneficial reuse of effluent to farming community & less burden and risk on ratepayers & community	Inferior social outcomes (spray irrigation on to flood prone land, next to an airport used by tourists) – income risk borne by ratepayers & highest financial burden & risk option for ratepayers and community
Better cultural outcomes (i.e. water stays in catchment or neighbourhood (Rohe) where produced and passed through "mother earth")	Inferior cultural outcomes (i.e. water moved to another catchment - Rohe and sprayed on top of the ground – where it can mix with rainfall runoff)
Higher compatibility with RMA & Local Govt Act 4 well beings of option assessment: i.e. financial / environmental / social / cultural	Inferior compatibility with RMA & Local Govt Act 4 well beings of option assessment: i.e. financial / environmental / social / cultural

PATTLE DELAMORE PARTNERS LTD
Level 4, PDP House
235 Broadway, Newmarket, Auckland 1023
PO Box 9528, Auckland 1149, New Zealand
Tel +64 9 523 6900 Fax +64 9 523 6901
Web www.pdp.co.nz
Auckland Tauranga Wellington Christchurch
solutions for your environment

29 April 2014

Dear Committee

Te Anau Wastewater Options - PDP Feedback on Ecogent Paper dated 20 April 2016

This letter provides feedback from Pattle Delamore Partners Ltd (PDP) on the paper from Mr Peter Riddell of Ecogent Ltd dated 20 April 2016 (6 pages).

Mr Riddell's paper discusses technical aspects and cost estimates for the Kepler wastewater scheme and possible alternative schemes at the Slee and Smith Blocks. The comments from Mr Riddell highlight some important considerations, however, Mr Riddell has made a number of incorrect statements which we discuss in the following sections.

PDP has undertaken an independent review and has been careful not to align ourselves with one supplier or one type of treatment or irrigation equipment although we have had a number of discussions and email exchanges with Mr Riddell and other suppliers during the course of our review. PDP's review focused on environmental and technical aspects and was summarised in a report in December 2015 plus an Addendum Report in March 2016.

PDP's review has concluded that while the Kepler Option remains viable, there are other viable alternatives options worthy of further investigation. PDP's highest ranked alternative option (Smith MF Option) is an upgrade of the existing oxidation pond WWTP to include membrane filtration and further treatment and beneficial reuse of the effluent via spray irrigation at the Smith Block. PDP has also concluded that another potentially feasible option (Slee Option) would require a more comprehensive upgrade of the WWTP (to remove nitrogen) and the effluent could be disposed of by subsurface irrigation at the Slee Block adjacent to the existing WWTP. For both the Smith and Slee options PDP recommends that SDC purchase land used for irrigation in order to minimise risks associated with the wastewater scheme. The key advantage of the Kepler Option is that it has been thoroughly investigated whereas detailed site investigations have not been undertaken for alternative options.

Further to Mr Riddell's paper dated 20/4/2016 PDP has received some cost information from Mr Riddell for various options which is also discussed below.

1.0 Groundwater System at Slee Block

a) PDP's assessment of the groundwater (GW) system at Slees has not changed from that outlined in the Addendum Report and in PDP's Hydrogeological Memo dated 3 February 2016.

b) We agree with Mr Riddell that the GW from the site will very likely flow to Lake Te Anau. Our assessment also indicates that some GW will likely flow to the river at times and GW will discharge into the permanent lake/pond on Kaipo Drive and into the foreshore lakes on the Slee property at certain times when the level of Lake Te Anau is high. Therefore, nutrients, particularly nitrogen, irrigated at the Slee Block and not removed from the wastewater by the WWTP or by the land

system will be transported by the GW to Lake Te Anau, to the lake on Kaipo Drive and to the lakes/ponds at Slees when the lake level is high. As these lakes/ponds are relatively small stagnant water bodies we have some concern regarding nutrient impacts on these lakes (refer Section 4 for more detail).

c) The test pit excavated at Slees by FSO in February 2016 was at a time when the level of Lake Te Anau and the GW level were low, therefore, it is not surprising that no GW was encountered at this time.

2.0 Nitrogen Mass Load Assessment

PDP agrees with some but not all of the nitrogen assessment outlined in the table on page 3 of Riddell's paper. This is explained below and is based on PDP's nitrogen mass load assessment as outlined in Table 1 below. For comparison purposes PDP has also added the Smith MF Option.

Table 1: PDP Nitrogen Mass Load Assessment

Option		Existing Discharge to the Upuk. R.	Slee – Ecogent Option	Kepler Option as Consented	Smith MF Option
Description		Oxi. Pond and River Outfall (status quo)	In-Pond activated sludge WWTP (e.g. I.D.E.A.L.) and 30 ha SDI with sheep grazing	Oxi. Pond and 70 ha C.P. Irrigation with cut-and-carry pasture	Oxi. Pond, MF and 58 ha C.P. Irrigation with cut-and-carry pasture
Average Effluent Nitrogen Concentration[1]	g/m^3	28	15	28	21
Effluent Nitrogen Mass Load[2]	tN/yr	13.3	7.1	13.3	10.0
Hydraulic Loading Rate to Irrigation Area	mm/yr	N/A	1,600	680	820
Nitrogen Loading Rate to Irrigation Area	kgN/ha/yr	N/A	240	190	172
Nitrogen Removed by the Land System[3]	%	N/A	45%	83%	79%
Mass Load of Nitrogen Discharged to Surface Water[4]	tonnesN/yr	13.3	3.9	2.2	2.1

Notes:

1. *Average effluent nitrogen concentration discharged from the WWTP prior to disposal;*
2. *Effluent nitrogen mass load per year discharged from the WWTP is based on an average daily flow rate in year 2040 of 1,300 m^3/d;*
3. *Percentage of nitrogen removed by the Land System is based on Overseer Modelling which assumes spray irrigation. For the Slee Option with subsurface drip irrigation a 20% increase in nitrogen leaching predicted by Overseer has been assumed;*
4. *Mass load of nitrogen discharged either direct to the Upukerora River for the status quo, or via leaching to groundwater and subsequently to surface water via the groundwater for other options.*

a) As shown when comparing Mr Riddell's table with Table 1 above, PDP agrees with Mr Riddell that under the status quo (i.e. oxidation pond effluent discharged direct to the river) the mass load of

nitrogen discharged to the river in year 2040 would be around 13 tonnes of nitrogen per year (tN/yr).

b) PDP also agrees with Mr Riddell that the mass load of nitrogen leaching from Kepler in year 2040 would be around 2.2 tN/yr (which is based on PDP Overseer modelling which estimates nitrogen leaching at around 32 kgN/ha/yr over the 70 ha irrigation area). Note that if further treatment was provided at the WWTP then the nitrogen leaching at Kepler could be reduced further.

c) However, PDP's assessment shows that the mass load of nitrogen leaching from the 'Slee – Ecogent Option' (at around 3.9 tN/yr) is significantly higher than the nitrogen leaching suggested by Mr Riddell (at 1.0 to 2.0 tN/yr). PDP's assessment is based on Overseer Modelling (for spray irrigation and sheep/beef grazing) and applying a 20% increase in nitrogen leaching for subsurface drip irrigation (SDI) compared with spray irrigation. The 20% increase has been applied because the proposed SDI method will be less efficient at removing nitrogen for several reasons including some bypass of the top soil and root zone, discrete high loading around the drippers and no volatilisation losses of nitrogen to the atmosphere. The soil types and shallow topsoil depth at Slees (gravels and sands) will also contribute to higher nitrogen losses from SDI compared with spray irrigation. PDP's assessment indicates that the mass load of nitrogen leaching from Slees will be close to twice that from the Kepler or Smith MF options. Note sheep and beef grazing at the irrigation site at Slees as suggested by Mr Riddell means that more nitrogen will leach from the irrigation site than if the land was used for a cut-and-carry pasture system, hence why PDP recommended no grazing in the Addendum report.

d) It should also be noted that the other lower cost Slee options outlined in Mr Riddell's paper will discharge significantly more nitrogen than 3.9 tN/yr. For example, the mass load of nitrogen leaching from Mr Riddell's 'Slee RI 6 ha' Option which includes a membrane filtration upgrade only and negligible removal of nitrogen in the rapid infiltration (RI) disposal system will be around 10 tN/yr (i.e. equivalent to the nitrogen load irrigated to the Smith Block with MF). As noted in PDP's December report, a Slee option could achieve a similar mass load of nitrogen leaching to the environment to the Kepler or Smith options if the WWTP was upgraded to remove more nitrogen (e.g. WWTP Upgrade C or D as outlined described in the PDP report which would involve a tank based activated sludge WWTP fully optimised for nitrogen removal). A local example of a similar WWTP which removes a significant amount of nitrogen is the Wanaka Sequencing Batch Reactor (SBR) WWTP. The discharge from this Wanaka scheme is to an RI system adjacent to the Clutha River and the Wanaka Airport. Previous work by PDP has indicated that the NPV costs for this type of WWTP and disposal system at the existing Te Anau WWTP would be similar to the Kepler scheme (CAPEX is lower but OPEX is higher).

e) It should be noted that the existing sheep and beef grazing at Kepler and Smiths currently leaches around 15 kgN/ha/yr. Therefore, if 115 ha was removed from grazing (which presently leaches around 1.7 tN/yr) and was instead used for wastewater irrigation and cut-and-carry, the net increase in the mass load of nitrogen leached will be only 0.5 tN/yr (=2.2-1.7 tN/yr). In order to provide a very robust case for a long-term consent for a Smith MF option PDP suggested SDC could purchase the whole 196 ha farm from Mr Smith and grazing could be progressively removed from the farm in the future so that the net increase in mass load of nitrogen leaching from the Smith Block was zero (i.e. it would leach the same mass load of nitrogen as the existing farming operation).

f) It is worth pointing out that PDP is not of the opinion that a Slee option discharging more nitrogen to the environment than a Kepler or Smith option is necessarily a fatal flaw for a Slee option provided that the effects of the scheme can be shown to be minor. As discussed in Section 4 below, PDP believes that the groundwater nitrogen concentrations in the surface water bodies on

private property at Slees and at the two adjacent properties on Kaipo Drive are a concern (even if the present landowners are agreeable this could potentially change in the future and therefore poses a risk to the scheme). Therefore, in the Addendum Report PDP has allowed for the cost to purchase the Slee property and filling of low lying areas in order to reduce risks. We agree with Mr Riddell that purchase of the two adjacent properties with the lake/pond on Kaipo Drive would also reduce risk and hence agree that the purchase of these properties could also be allowed for. Removal of stock, planting and/or other improvements could further mitigate impacts of the wastewater scheme on the foreshore area, however, there is still a risk that some members of the community or other stakeholders could resist the scheme on the basis that it will adversely impact on the foreshore area. These sorts of issues (some of which are 'perception issues') would need to be worked through during consultation if this option was to be pursued further.

3.0 Omaha and Kinloch Subsurface Irrigation Schemes

a) Further to the above discussion on nitrogen removal from a subsurface drip irrigation (SDI) system, Mr Riddell has referenced the Omaha scheme to support his case for 60% nitrogen removal in a 30 ha SDI system at Slees (note than even assuming 60% nitrogen removal from the land system we calculate the mass load of nitrogen as 3.2 tN/yr and not 1.0 to 2.0 tN/yr as suggested by Mr Riddell).

b) PDP is familiar with the Omaha scheme as PDP is presently undertaking detailed investigations for Watercare as part of the re-consenting for this scheme. The soil conditions at Omaha downstream of the 5.7 ha Golf Course SDI area and downstream of the 13 ha above ground drip-lines adjacent to the WWTP on either side of the estuary are favourable for nitrogen removal as they are peat (high carbon) soils and nitrogen is removed via a denitrification process in these soils. The peat on either side of the estuary site is extensive as the area used to be a swamp. At Slees there is limited top soil above the alluvial gravel/sand soils and there is no extensive downstream peat zone as at Omaha. Therefore, nitrogen removal in the 30 ha SDI system at Slees will be less that at Omaha.

c) Another recent New Zealand example of subsurface drip irrigation being used for wastewater disposal is at the Kinloch Golf Course which is located on the north side of Lake Taupo. Taupo District Council has advised that for consenting of this scheme Waikato Regional Council (WRC) would not accept that the SDI system would remove any nitrogen, and WRC would accept that the only benefit of the SDI was improved dispersion of the effluent to the groundwater. PDP understands that design parameters at Kinloch are similar to that being considered at Slees.

d) Therefore, the 45% nitrogen removal assumed by PDP based on the proposed loading rates to 30 ha of land could be considered to be optimistic and certainly PDP considers that 60% nitrogen removal (as proposed by Mr Riddell) is too optimistic.

4.0 Kepler and Slee Groundwater Nitrogen Concentrations

a) The nitrogen assessment table and discussion in the Riddell paper has used outdated and incorrect information. Mr Riddell has stated that the groundwater (GW) nitrogen concentration at Kepler will be 5 to 11 g/m^3 (note ppm=g/m^3) and the GW concentration at the discharge to surface water will be 4.5 to 5 g/m^3. Mr Riddell has noted that these figures are based on information from the Assessment of Environmental Effects (AEE) document. However, the AEE for the Kepler consent application prepared by MWH erroneously applied peak flows rather than average flows to determine annual leaching rates. Consequently the nitrogen leaching predicted by MWH in the AEE document was too high (180 kgN/ha/yr instead of 32 kgN/ha/yr), and consequently the predicted GW nitrogen concentrations were also too high. This error was

resolved at the Hearing and PDP's review has confirmed that a nitrogen leaching rate of 32 kgN/ha/yr from Kepler is reasonable. Based on a leaching rate of 32 kgN/ha/yr the GW nitrogen concentrations will be around 0.9 to 2.0 g/m^3 at the Kepler irrigation site (not 5 to 11 g/m^3 as stated by Mr Riddell) and by the time the GW reaches surface water (Waiau River) the nitrogen concentration will be 0.3 to 0.9 g/m^3 (not 4.5 to 5 g/m^3 as stated by Mr Riddell).

b) Detailed site investigations have not been undertaken at Slees, but there will be dilution in the GW at Slees and PDP has estimated that dilution is likely to be around 1 in 15 by the time the leaching reaches the foreshore area. At the foreshore lakes that presently occur when Lake Te Anau is at a high water level and in the permanent lake on Kaipo Drive PDP estimates the nitrogen concentrations will be similar to that outlined above for discharge to the Waiau River from the Kepler Scheme (i.e. 0.3 to 0.9 g/m^3). The difference at Slee's however, is that the discharge will be to stagnant water bodies on private property (unless purchased by SDC) which will be highly susceptible to eutrophication (algae and periphyton growth). PDP has assumed that the effect on the foreshore of Lake Te Anau can be shown to be acceptable (assuming that the WWTP is upgraded to achieve an effluent quality of 15 gN/m^3), however, the effects on the lake/pond on Kaipo Drive and on the occasional lakes on the Slee property are a concern. We agree that the water quality in these lakes is likely to already be impacted by water fowl and agricultural activity. However, it could still be argued that the wastewater discharge will have more than a minor effect on these lakes, therefore, this could be a problem for obtaining a long-term consent. At this stage (prior to any detailed site investigations) we have assumed that this risk could be manged by SDC buying the Slee land and filling low areas to minimise ponding and nutrient effects. PDP has allowed for this cost in our estimates our reports. SDC ownership of the land would also ensure that SDC has access for maintenance of equipment, such as repair/replacement of control valves, manifolds and subsurface drip lines.

5.0 Operation and Maintenance of Subsurface Drip Irrigation Systems

a) Mr Riddell has understated the complexity and challenges involved with subsurface drip irrigation (SDI). A typical SDI system involves multiple zones controlled by field mounted solenoid or hydraulic actuated valves and filters and continuous or periodic chemical (chlorine) dosing to prevent blinding of the buried drip emitters. The Omaha Scheme has a large number of field mounted solenoid valves which are controlled by radio link to a central control system.

b) An example of a recently installed SDI system which has suffered a number of problems is the 4 ha SDI system at Maketu in the Bay of Plenty. Some of the problems encountered with this scheme are outlined as follows:

- WWTP process upsets and filter failure led to solids carry over into the SDI pipework and blinding of the drippers.
- Some drip lines were installed at shallow depth leading to ponding in some areas (although soils are different to Te Anau) and also damage to the buried drip lines by harvesting equipment;
- The SDI system used PVC manifolds connected to the PE drip lines and a number of these joints failed which needed to be repaired;
- Overdose of chlorine to control biofilm fouling of drippers on occasion has killed grass in a disposal field.

PDP understands that Ecogent has been involved with the Maketu scheme so Mr Riddell is no doubt familiar with these issues.

6.0 Multi Criteria Analysis

a) The Multi Criteria Analysis (MSC) outlined in the PDP December report scored the Kepler Scheme marginally lower than some of the other options with regard to a number of social and cultural criteria as well as some technical criteria. It should be noted that a MCA is a highly subjective exercise and different results are typically generated by different people with different views.

b) PDP has not undertaken a revised MCA for the Smith MF Option or the Slee Option in its current form as social and cultural aspects were agreed to be considered separately by the Committee. However, PDP expects that the Smith MF Option would score highly in an MCA.

7.0 Cost Estimates

a) As outlined in the PDP reports, at this preliminary stage we have applied a higher cost allowance to the Slee IDEAL Treatment and RI options for Contractor's Preliminary and General, Contingency and Engineering due to the higher risk and complexity of this option compared with the other options. Risks with this option are associated with the significant earthworks to convert the existing oxidation ponds to an in-pond activated sludge process, temporary bypass of Pond 1 during construction and installing a significant array of sub surface pipes in the stony ground at Slees. The additional contingency would also be needed for unforeseen costs such as the purchase of the two properties on Kaipo Drive.

b) Mr Riddell has also commented that he believes an additional $1M should be added to PDP's CAPEX estimate for the Kepler Block to allow for additional costs to build bridges, provide a suitable equipment shed and increase the standard of other equipment. Mr Riddell has provided no justification for these additional costs and PDP does not agree that the CAPEX estimate should be increased for Kepler.

c) Mr Riddell's paper of 20/4/2016 presented cost estimates for four options. Mr Riddell's Options 1, 2 and 4 include a membrane filtration WWTP upgrade and subsurface drip irrigation at Slees and/or at Smiths. Mr Riddell's Option 3 appears to be similar or equivalent to PDP's 'Slee IDEAL treatment plant and 30 ha SDI option' costed in our Addendum report of 23 March 2016. PDP has received Mr Riddell's cost breakdowns for Options 1, 2 and 4 but not for Option 3.

d) Mr Riddell's Options 1, 2 and 4 with membrane filtration only will discharge significantly more nitrogen than the options considered by PDP for a long-term consent (e.g. 25 years). PDP's opinion is Mr Riddell's Options 1, 2 and 4 would only be granted a short-term consent (e.g. 10 years) whereas an Option 3 could potentially be granted a long-term consent (e.g. 25 years).

e) It should also be noted that the issue of obtaining a consent with a term longer than 25 years or for re-consenting after the expiry of a 25 year consent is a key factor to be considered. PDP's opinion is that less future upgrades are likely to be required for a Smith MF Option compared with a Slee Option that will leach more nitrogen to surface water.

f) A brief review of the cost breakdowns provided for Mr Riddell's the lower treatment Slee options suggest that the key differences between PDP's cost estimates and Riddell's cost estimates include the following:

- PDP has assumed reasonably conservative estimates for physical works items (as PDP has done for all options at this preliminary stage) whereas Mr Riddell has been less conservative with his estimates;
- PDP has allowed $1M for investigations and obtaining a new consent whereas Mr Riddell has allowed $500K;

- PDP has allowed for SDC purchase of 65 ha of the Slee property at a cost of $2M whereas Mr Riddell has assumed leasing 27 ha at $500/ha/yr;
- PDP has allowed $300K for an environment court appeal to defend the Kepler Consent whereas Mr Riddell has not included costs for this appeal.

PDP can undertake a detailed review of Mr Riddell's cost estimates for Option 3 if this is provided to PDP.

8.0 Staged Upgrade Approach

a) PDP's Brief has been to advise the Committee with regard to long-term wastewater treatment and disposal options (e.g. a 25-year consent term). An alternative approach suggested/implied by Mr Riddell is a staged upgrade approach. A staged upgrade approach as discussed below could be considered by the Committee although the consenting costs for this approach would likely increase and opportunities such as purchase of the Smith Block may not be available in the future. Note that PDP is uncertain whether a stage approach would be acceptable to Environment Southland or to the Environment Court.

b) Stage 1 could include membrane filtration with a short term (e.g. 10 years) discharge to a rapid infiltration (RI) system at the SDC owned property adjacent to the WWTP and at Slees.

c) Stage 2 (after 10 years) could then include either a more comprehensive upgrade to the WWTP and an expansion of the subsurface disposal, or alternatively, Stage 2 could involve a transfer pipeline to a suitable slow rate irrigation site (e.g. larger area) where spray irrigation could be used to provide optimal treatment via the land system such as at the Smith Block.

d) As discussed in the previous sections, in our opinion a 10-year consent may be obtainable for Stage 1 (Slee MF RI) although this would need to be discussed with Environment Southland and other stakeholders. This approach is similar to the approach taken by SDC 10 years ago when minor upgrades were undertaken at the WWTP (e.g. adding the wetlands and additional aerators to the oxidation ponds) rather than committing to a more comprehensive upgrade for a longer-term consent. This approach effectively delays the decision making for a long-term viable wastewater scheme which PDP believes is not in the best interest of SDC or the community.

9.0 Summary

a) PDP's highest ranking alternative option is the Smith MF Option as it has a very low environmental impact (less than a Slee option unless a comprehensive WWTP upgrade was undertaken) and many if not all of the concerns which have been raised with Kepler are removed. The Smith MF Option requires a significantly shorter pipeline than Kepler and will not require a biological treatment system at the irrigation site for odour removal (as needed at Kepler). The Smith MF Option is also less costly than the Kepler Option. The key disadvantage of the Smith MF Option and the Slee Option is that they have not been thoroughly investigated to the same extent as the Kepler Option has.

b) Subsurface irrigation at the Slee Block is also viable, however, a long-term consent (e.g. 25 years) will likely require a more comprehensive upgrade of the WWTP (to remove more nitrogen) than a membrane filtration plant upgrade only as suggested by Mr Riddell. The low cost options suggested by Riddell are likely to be granted a short-term consent only (e.g. 10 years).

c) For both the Smith and Slee options PDP recommends SDC purchase the land for irrigation in order to minimise risks associated with the wastewater disposal scheme. In the case of the Slee Option, SDC ownership of the land and filling in the low areas downstream of the disposal site is also recommended.

d) A detailed breakdown of cost estimates for the Slee option with nitrogen removal at the WWTP on the same basis as assumed by PDP has not been provided by Mr Riddell, however, the cost for SDC purchase of the Slee land does not appear to have been allowed for in Mr Riddell's cost estimates. Other differences between PDP's cost estimate and Mr Riddell's cost estimates appear to include the level of conservatism allowed for physical works items, consenting costs and an allowance for an environment court appeal.

e) The approach for a staged upgrade approach could be discussed further with the Committee if there was a desire to pursue a short-term consent (e.g. 10 years).

Yours faithfully,

PATTLE DELAMORE PARTNERS LIMITED

Daniel Garden

Rob Docherty

Te Ao Mārama Inc Cultural Statement - Te Anau Wastewater Discharge

Record No: R/16/6/9762
Author: Ian Evans, Strategic Manager Water and Waste
Approved by: Steve Ruru, Chief Executive

☐ Decision ☐ Recommendation ☒ Information

Background

1 The attached report (Attachment A) has been provided by Member Mowat outlining issues of cultural significance and the value placed upon water and land by Ngāi Tahu.

2 Ngāi Tahu (through Te Ao Mārama Incorporated) has been a key stakeholder in the development of the overall Te Anau Wastewater Strategy initially through involvement with the original Infrastructure Working Party and more recently through membership of this Committee.

3 Throughout the development of the overall wastewater strategy, Ngāi Tahu have been consistent in their message that direct discharges to water are unacceptable and should not be considered. This view has been a factor in the decision to pursue the Kepler consented option as well as recent potential alternatives that have been developed.

4 The Committee are asked to keep these considerations in mind when considering any potential alternatives that they believe should be worthy of further investigation.

Recommendation

That the Te Anau Wastewater Discharge Project Committee:

a) Receives the report titled "Te Ao Mārama Inc Cultural Statement - Te Anau Wastewater Discharge" dated 27 June 2016.
b) Consider the contents of the report when identifying any potential alternative treatment and disposal options for the long term Te Anau Wastewater Project.

Attachments

A Te Ao Mārama Incorporated Cultural Statement - Te Anau Waste Water Discharge View

Te Anau Waste Water Discharge
Te Ao Marama Inc. Statement

1. INTRODUCTION

Te Ao Marama Inc. represents the four Ngai Tahu Papatipu Runanga, Awarua, Hokonui, Oraka/Aparima, Waihopai, who are collectively involved in the protection and promotion of the Murihiku Region's natural and physical resources which requires the recognition and provision for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga; to have particular regard to kaitiakitanga and take into account the principles of the Treaty of Waitangi.
Ngai Tahu is today, and was at the signing of the Treaty of Waitangi in 1840, the tangata whenua that hold manawhenua and manamoana within the takiwa of Ngai Tahu Whanui with which comes the responsibility of kaitiakitanga and ahi ka.

2. O TE WAI – THE WATER

Water is a taonga or treasure of the people. Throughout time immorial, indigenous peoples have expressed water as being significant in sacred terms – the tapu and the wairua. The life force of the water-body includes the life supporting capacity from the bottom of the food chain. It is the kaitiaki responsibility of tangata whenua to ensure that this taonga is available for future generations in as good as, if not better quality. Water has the spiritual qualities of mauri and wairua. The continual wellbeing of these qualities is dependent on the physical health of the water. Water is the life blood of papatuanuku and must be protected.

3. STATUTORY ACKNOWLEDGEMENT

The Ngai Tahu Claims Settlement Act 1998 conferred Statutory Acknowledgement on Lake Te Anau (schedule 58), Lake Manapouri (schedule 45), and the Waiau River (schedule 69). The names of these natural state waters record Ngai Tahu History and describe the cultural, historical and physical landscapes associated with them. It is the responsibility of Ngai Tahu as Kaitiaki to ensure the Mauri is preserved and the special places protected.
History records the establishment of a Ngai Tahu Village near the mouth of the Upukeroa River into Lake Te Anau.

4. DISCHARGE TO LAND

The discharge of waste water to waterways is considered unacceptable to Iwi. The direct discharge of sewage to waterways, treated or not, is unacceptable and should be prohibited.
For the discharge of waste water to land the level of treatment is secondary to the nature of the land form, the permability of the soil structure, the length of time the discharge will take to reach the receiving environment – the longer the better – and the ability of the root system of vegetation to absorb the nitrogen and other contaminants. The test of acceptability of all these factors needs to be

strictly measured for the discharge to be acceptable to Iwi. The preference therefore is discharge to be by irrigation to pasture or trees which meets the criteria above, to satisfy the cultural values. The passage through land options (sub-surface wetlands and infiltration basins) pass through "artificial land" and very quickly (1-3 days) and as such would still degrade the receiving water-way. Ngai Tahu preference is irrigation to land in a manner that allows the natural filtration abilities of the earth (i.e. Papatuanuku) to cleanse the waste water of contaminants over a long time. Therefore the length of time the waste water is passing through the ground is important (and will vary from site to site depending on geology/soils).

Reference : Te Tangi a Tauira. "The Cry of the People"
Ngai Tahu ki Murihiku Natural Resource and Environmental Management Plan 2008

Updated Management Report to the Te Anau Wastewater Discharge Project Committee

Record No: R/16/6/9669
Author: Ian Evans, Strategic Manager Water and Waste
Approved by: Steve Ruru, Chief Executive

☐ Decision ☐ Recommendation ☒ Information

Purpose

1 The purpose of this report is to keep Committee members updated on the progress of works being undertaken within the Te Anau and Manapouri areas that are not necessarily related to the larger discharge consent project. It is to provide information to Committee members so they may be able to deal with enquiries from ratepayers.

2 The report will be updated and presented at all upcoming Committee meetings. This information is up to date as of the week commencing 20 June 2016.

Status Report on Ongoing Work

3 Discharge Consent Application

- Consent was granted 15 January 2015.
- Three appeals were subsequently lodged with the Environment Court (EC).
- Both Council and appellants have agreed to participate in court appointed mediation.
- Response to EC was lodged by Environment Southland (ES) on 29 May 2015 indicating the position of all parties to the appeal.
- Further hold until 18 December, with the expectation this will be extended pending the outcome of the peer review.
- Council's legal advisors will review the PDP report and provide legal advice on implications of the peer review outcomes. They will also prepare response to the Environment Court.
- Court appointed mediation set aside for 20 and 21 June 2016. An update of the outcome of the mediation process is included in an additional report on the agenda for 6 July meeting.

4 Designation 80 Process

- Council approved Commissioners' recommendation to grant designation on 8 April 2015.
- One appeal was received but rejected by the EC.
- Council planning maps will be updated to show the designation.
- No further work required around this item at present.

5 Short Term Discharge Consent Application

- Application lodged with ES on March 2014.
- Additional information provided as requested.

- Affected parties identified and written approvals provided to ES.
- Draft conditions have been accepted by Council.
- Draft conditions have been discussed with ES on 17 August.
- Further information in support of the application has been supplied to Environment Southland. Draft conditions have been agreed and awaiting further feedback.
- Short term consent was granted November 2015.
- No appeals received within statutory period hence this item deemed complete.

6 <u>35 Year Discharge to Air Consent Application (for oxidation ponds)</u>

- ES requested that discharge to air element of oxidation pond be separated.
- Consent for 35 years is being applied for.
- An Odour Management Plan has been drafted and will be submitted as part of the application.
- Meeting with ES has been scheduled for 17 August 2015 to agree processing times, draft conditions etc.
- The consent is likely to be processed on a non-notified basis subject to affected party approvals being sought.
- Unable to secure all identified written approval so the consent was processed on a limited notified basis to the one party who would not provide written approval. One submission was received opposing the application as it stands citing issues relating to duration and operational issues around when the screens were installed and desludging was undertaken.
- A pre-hearing meeting was held on 23 March 2016 and while agreement was not reached, staff will undertake further work to help overcome concerns held by the submitter. If agreement cannot be reached the application is likely to proceed to a hearing.
- A further meeting was held with Mr Slee on 24 May 2016 where he provided written approval to the consent application.
- Twenty-five year consent was granted on 2 June 2016.

7 <u>Pond Desludging</u>

- This work is required irrespective of the outcome of either appeal process.
- Hydra-Care established on the site and completed the initial sludge survey and sampling of the three ponds.
- They constructed the dewatering bund.
- The bund has been constructed and fully lined.
- The desludging itself was carried out mid/late August which is slightly delayed from the previous report.
- Further delays to the desludging of the Winton pond delayed the start date in Te Anau until early September.

- Hydra-Care have completed work on the large pond and disestablished from site. They will return in the new year to complete the remaining two smaller ponds. Council staff currently in discussion with Hydra-Care around potential reinstallation.
- Hydra-Care re-established to site on 19 May 2016 to complete desludging of ponds two and three. Work is now substantially complete.

8 Inlet Screen Upgrade

- Work required irrespective of the outcome of either appeal process.
- Te Anau Earthworks is undertaking the installation of the inlet screen.
- Earthworks commenced week commencing 18 May 2015.
- Installation is now fully complete with electrical and telemetry connections and some pipework modifications now the only items of outstanding work.
- Final installation and commissioning have been undertaken and screen is now fully operational.
- No further action required to date.

9 Caswell Road Stormwater Upgrade

- This project is in no way connected to the sewerage works, it is purely a stormwater upgrade.
- Works are all but complete except for the installation of the final sump and reinstatement of the works.
- The excess gravel that is not required by Fiordland College will be stockpiled at the ponds for use in future works.
- It is expected that all works will be complete and the Contractor disestablished within a fortnight (weather dependent).
- If ground conditions are unsuitable, final grass sowing could take place in the spring.
- No further progress on this at present.

10 Upukerora Flood Defence Work

- ES is proposing flood defence work both upstream and downstream of the Upukerora Bridge.
- ES claims that work is necessary to protect both the bridge and Council's oxidation ponds should the river deviate from its current course.
- ES indicates that any significant deviation could cause oxidation ponds to be inundated in the event of a significant flood.
- Any flood event will also increase the risk of the Upukerora Road downstream of the ponds being washed out.
- Risk of inundation also arises from not managing gravel levels in the river bed.
- Currently there is little demand for gravel and as a consequence, levels have increased over those previously measured.
- Meeting on 26 May 2015 discussed proposed works.
- As an outcome of the meeting ES will investigate feasibility and costs of a proposed alternative.

- The alternative proposal has been assessed and a draft with costs provided to Council on 24 July 2015. A further meeting will be scheduled by ES.
- Meeting with senior Council and ES staff agreed to delay the decision until the outcome of the peer review is known and understood as this may have implications for the degree of protection work required.
- No further progress at present.

11 Contact Tanks at Te Anau and Manapouri Water Treatment Plants

- Full assessment of the condition and serviceability of the contact tanks at both Te Anau and Manapouri water treatment plants will be undertaken in the upcoming financial year.
- Design work to be undertaken in 2016/17 financial year.

12 Finance and Risk

Financial estimates and risk registers have been developed and will be presented to the Committee at future meetings once they have been aligned to Council's Risk Management Policy.

Recommendation

That the Te Anau Wastewater Discharge Project Committee:

a) Receives the report titled "Updated Management Report to the Te Anau Wastewater Discharge Project Committee" dated 27 June 2016.

Attachments

There are no attachments for this report.

Exclusion of the Public: Local Government Official Information and Meetings Act 1987

Recommendation

That the public be excluded from the following part(s) of the proceedings of this meeting.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

C8.1 Update on Court Assisted Mediation

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
Update on Court Assisted Mediation	s7(2)(g) - The withholding of the information is necessary to maintain legal professional privilege. s7(2)(i) - The withholding of the information is necessary to enable the local authority to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations).	That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding exists.