Waitaki
DISTRICT COUNCIL
TE KAUNIHERA Ā ROHE O WAITAKI

I hereby give notice that the
Assets Committee Meeting
will be held on:

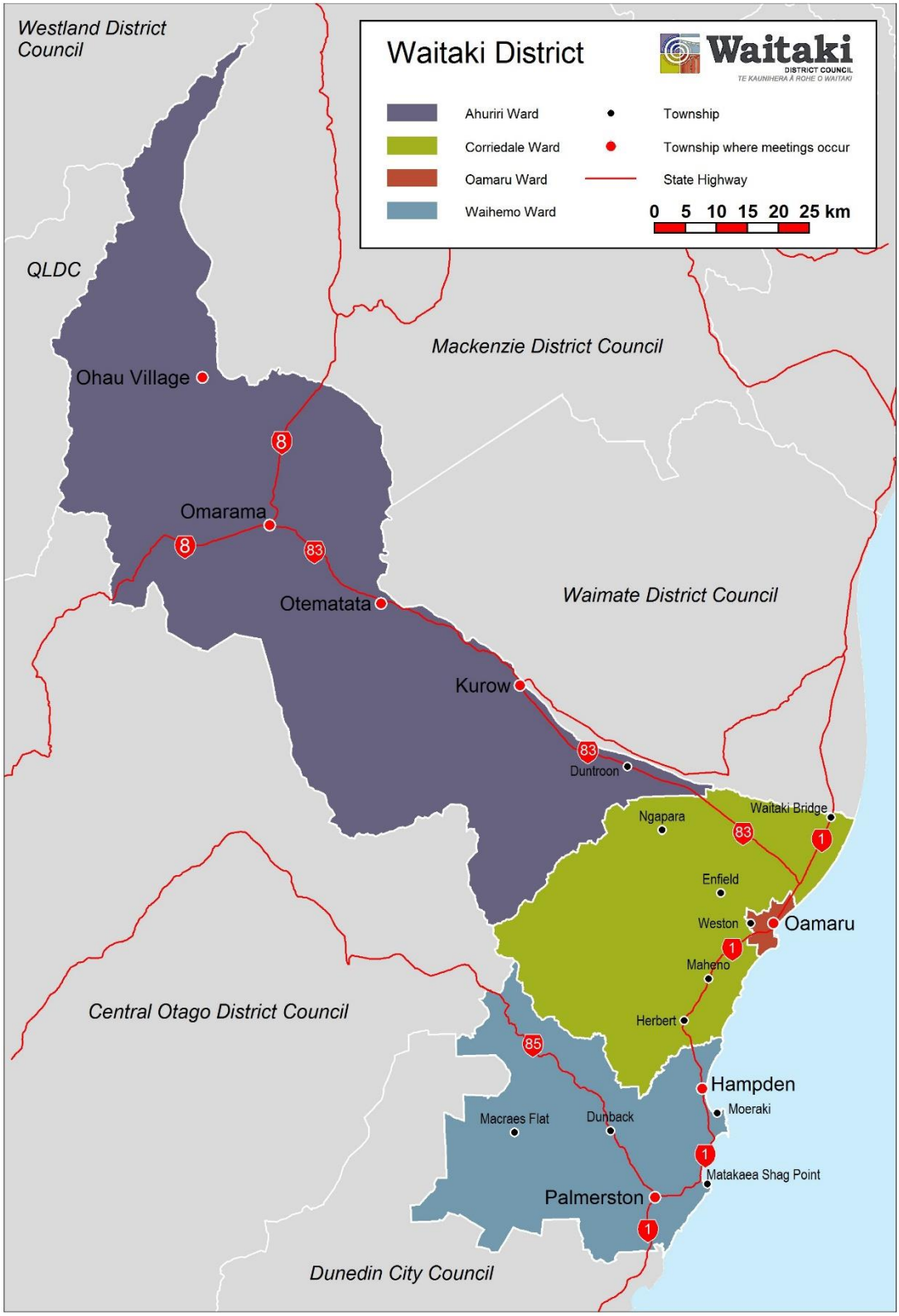
Date:	**Tuesday, 27 August 2019**
Time:	**Following the meeting of the Community and Culture Committee**
Location:	**Council Chamber** **Third Floor** **Office of the Waitaki District Council** **20 Thames Street, Oamaru**

Agenda

Assets Committee Meeting

27 August 2019

Fergus Power
Chief Executive


Waitaki District
Waitaki
DISTRICT COUNCIL
TE KAUNIHERA Ā ROHE O WAITAKI
Ahuriri Ward
Corriedale Ward
Oamaru Ward
Waihemo Ward
Township
Township where meetings occur
State Highway
0 5 10 15 20 25 km
Westland District Council
QLDC
Mackenzie District Council
Waimate District Council
Central Otago District Council
Dunedin City Council
Ohau Village
Omarama
Otematata
Kurow
Duntroon
Ngapara
Waitaki Bridge
Enfield
Weston
Oamaru
Maheno
Herbert
Hampden
Moeraki
Macraes Flat
Dunback
Matakaea Shag Point
Palmerston
8
83
1
85

Agenda Items

1 APOLOGIES

2 DECLARATIONS OF INTEREST

3 CONFIRMATION OF PREVIOUS MEETING MINUTES

3.1 CONFIRMATION OF MINUTES

Author: **Ainslee Hooper, Governance and Policy Advisor**

Authoriser: **Lisa Baillie, People and Culture Group Manager**

Attachments: **1. UNCONFIRMED Minutes of Assets Committee Meeting, 2 July 2019**

RECOMMENDATION

That the Assets Committee confirms the public minutes of its previous meeting held on 2 July 2019, as circulated, as a true and correct record of that meeting.

Waitaki District Council

Assets Committee

UNCONFIRMED MINUTES of Assets Committee Meeting of the Waitaki District Council held in the Council Chamber, Office of the Waitaki District Council, 20 Thames Street, Oamaru on Tuesday 2 July 2019 at 11.23am

Present	Cr Bill Kingan (Chair), Cr Jeremy Holding, Cr Guy Percival, Deputy Mayor Melanie Tavendale; and Mayor Gary Kircher
Apologies	Cr Hugh Perkins
In Attendance	Cr Craig Dawson Cr Jim Hopkins Cr Jan Wheeler Cr Colin Wollstein Fergus Power (Chief Executive) Neil Jorgensen (Deputy Chief Executive / Assets Group Manager) Paul Hope (Finance and Corporate Development Group Manager) Lisa Baillie (People and Culture Group Manager) (part of meeting) Roger Cook (Acting Heritage, Environment and Regulatory Group Manager) Ainslee Hooper (Governance and Policy Advisor)
In Attendance for Specific Agenda Items:	Martin Pacey (Water Services and Waste Manager) Mark Renalson (Acting Roading Manager) Renee Julius (Property Manager) Erik van der Spek (Recreation Manager) Rodger McGaw (Network Infrastructure Engineer) Lindsay Hyde (Recreation Officer)

The Chair declared the meeting open at 11.23am and welcomed everyone present

1. Apologies

RESOLVED
AC 2019/046 Cr Jeremy Holding / Deputy Mayor Melanie Tavendale
That the Assets Committee accepts an apology for absence from Cr Hugh Perkins.

CARRIED

2. Declarations of Interest

There were no declarations of interest.

3. Confirmation of Previous Meeting Minutes (Public)

RESOLVED
AC 2019/047 Deputy Mayor Melanie Tavendale / Cr Jeremy Holding
That the Assets Committee confirms the public minutes of its previous meeting held on 28 May 2019, as circulated with minor grammatical changes, as a true and correct record of that meeting.

CARRIED

4. Waitaki District Speed Limit Review 2019

The report, as circulated, presented information on the outcomes of the first round of public consultation of the Speed Limit Review 2019 and updated the Committee on timeframes for the remaining process.

Group Manager Neil Jorgensen introduced the report, and Network Infrastructure Engineer Rodger McGaw was also present to answer questions from Elected Members.

The following points were highlighted / clarified during discussion on the report:

- A review is being undertaken where the percentages who want change and who do not want change are close. If recommendations need to be changed as a result of the review, then officers will come back with revised recommendations.
- There is a statutory process to go through for speed limit changes. Where the percentages are close (amongst those who want change and those who do not), then they will be reviewed. New changes have been requested by the public, and they have to be formally assessed by Stantec. A follow up report will come to Council in September, which will be followed by formal consultation and then eventually the whole list will come to Council for adoption (hopefully, in December 2019).
- It was noted that, in the case of new sub-divisions, proposed speed limits are based on those in place for surrounding roads, and they need to be ratified during the formal review process. In the meantime, they may show as the same in the proposal going out for consultation.

RESOLVED
AC 2019/048 Cr Jeremy Holding / Mayor Gary Kircher
That the Assets Committee receives and notes the information.

CARRIED

5. Assets Group Activity Report April 2019

The memorandum, as circulated, informed the Assets Committee about strategic matters and outcomes.

There was general discussion on sections of the report, as noted below.

Water Services and Waste

There was general discussion on the greater number of leaks; on officers' greater focus on the more rural aspects of the networks, and on replacing pipes rather than repairing them; and the increasing difficulty of recruiting and training within the water sector.

Mayor Kircher left the meeting at 11.44am and returned at 11.47am.

Roading

There has been some extra roading maintenance undertaken on rural roads in Duntroon and Kurow, but this has been done within existing maintenance budgets.
Whitestone Contracting Limited has apologised for having to pull out of work it had provisionally agreed to do due to the need to prioritise contractual arrangements with another district council. This was one demonstration of the increased pressure on existing resources within the sector. It was also suggested that price increases may also follow.

The Tyne and Wansbeck Streets' roundabout is already showing signs of 'scuffing'. It was noted that it has the same dimensions as the other one.

Road safety audits are conducted after any road crash. Following the recent fatal accident at the intersection of TY Duncan and Shortland Roads, the audit has been done but the report has yet to be received. Police will also need to produce its serious crash report before Council will be able to take any corrective action.

There was brief discussion about stockdriving permits, and the information requested to ensure that road safety issues (such as ensuring the right signage is put out when an accident occurs) is taken into account. It was noted that officers respond with the requirements to how they should be managed and will respond to complaints, but generally, not many are received.

Property

The breakwater now has 66% of rock armouring. The next round of armouring is likely to occur in 2-3 years' time. Although more armouring would be better, it is a dynamic structure – rock gets eroded by wave and sand action. Bringing it up to 100% now might make it look good now, but then it will deteriorate again.

Recreation

A response from MBIE to Council's funding application could be two months' away yet. MBIE officers are supportive.

As in other sectors, there is high demand around the country for skilled staff to work in Aquatic Centres. For example, recruitment for a lifeguard team leader has been a six-month process. Despite these challenges, service level changes are not anticipated at this time.

The bike parks have been very well received.

Council allocated $50k in the Long Term Plan for a feasibility study for the Oamaru to Dunedin Cycle Trail.

Graffiti at the Garden of Memories was labelled as "disgusting". Officers advised that the matter had been reported to the Police.

Concern was raised that trees on the intersection of State Highway 83 and Horse Gully Road have paint around them, and it was suggested that officers follow up promptly, to ensure someone is not proposing to remove it. Recreation Manager Erik van der Spek advised that they are heritage trees, so a resource consent would be needed for any removal proposal.

It was noted that Council has a register for any residents who do not wish Council to use chemical sprays for weed control on the berms outside their properties. They can apply to join the register and are then responsible for keeping their areas clear of weeds.

RESOLVED
AC 2019/049 Deputy Mayor Melanie Tavendale / Mayor Gary Kircher
That the Assets Committee receives and notes the information.

CARRIED

There being no further business, the Chairman declared the meeting closed at 12.22pm.

TO BE CONFIRMED at the Assets Committee Meeting to be held on the 27th day of August 2019 in the Council Chamber, Office of the Waitaki District Council, 20 Thames Street, Oamaru.

_____
Chairman

4 DECISION REPORTS

4.1 PARKS MAINTENANCE CONTRACT

Author: **Erik van der Spek, Recreation Manager**

Authoriser: **Neil Jorgensen, Assets Group Manager**

RECOMMENDATION

That the Assets Committee recommends:

That Council approves a competitive open procurement process for the Parks Maintenance Contract up to a value between $1.9 to $2.2 million per annum, for a contract of three years with two rights of renewal of two years each for a potential contract term of seven years.

DECISION OBJECTIVE

1. To ensure local government and council requirements are met for open and transparent procurement.

2. To seek Council approval of an expected price range.

SUMMARY

It is proposed that Council tender recreation maintenance services. An assessment of delivery options against seven criteria has determined that open tendering of recreation maintenance is the preferred option.

SUMMARY OF DECISION-MAKING CRITERIA

	No/Moderate/Key		No/Moderate/Key
Policy/Plan	No	Environmental Considerations	No
Legal	Key	Cultural Considerations	No
Significance	No	Social Considerations	No
Financial Criteria	Key	Economic Considerations	No
Community Views	No	Community Board Views	No
Consultation	No	Publicity and Communication	No

BACKGROUND

Council has decided to tender its Parks Maintenance Contract with the new contract effective from 1 July 2020.

A Council workshop on levels of service agreed that the majority of service levels were adequate. The exception was ‘Awamoa East’, for which Council requested an increase in service levels from the current three to six mows a year to a regular mowing regime in line with other Parks. This has been implemented as a variation to the existing contract and will be maintained to this level from this point forward. Council also requested that officers seek feedback from the community on mowing levels on Kakanui Esplanade. Submissions closed on 16 August. Twelve (12) of 18 responses (66.67%) want service levels to remain as they are.

Officers have reviewed the s17a review completed in 2015 that determined the best approach was for Council to take the contract to the market. Officers believe that the drivers and risk appetite has not changed in the interim four years and the resulting assessment of the options against the

criteria is unchanged. Therefore, open procurement of the maintenance services is the recommended option. Government guidance and Council's default position for procurement is for an open tender process.

A review of the procurement plan from 2015 shows that Council expected a contract value of approximately $2,000,000 per annum. The effective price was approximately $1,800,000 per annum (including day works), a saving of $500,000 per annum.

As officers believe the current contract was under-priced by approximately $250,000, the expected price range for tenders is $1,900,000 to $2,200,000 per annum.

A contract of three years with two rights of renewal of two years each for a potential contract term of seven years is recommended, as this will enable a contractor to depreciate equipment over the term of the contract and encourage competitive tenders.

Process from here:

Now – 15 August 2019	Procurement plan development and review
27 August 2019	Assets Committee Meeting agenda report
15 August – 4 October 2019	Procurement documentation / contract preparation
4 November 2019 – 24 January 2020	Tendering
25 January – 28 February 2020	Tender assessments and award
29 February – 30 June 2020	Lead-in

SUMMARY OF OPTIONS CONSIDERED

Option 1 – Competitive open tender (recommended)
Council and Government procurement policies require an open tender process.

Option 2 – Single negotiated contract.
Council is unable to demonstrate cost effectiveness of this option and it would not meet Council procurement processes.

Option 3 – In-house delivery
An assessment of the drivers and risk determined this is not a desired option.

Option 4 – Hybrid – combination of in-house and contract services
A workshop with Councillors determined this was not a preferred option.

ASSESSMENT OF PREFERRED OPTION

Option 1 is the preferred option as it is required by Council and Government procurement policies.

Appendices

Appendix 1 – Additional decision-making considerations

APPENDIX 1 - ADDITIONAL DECISION-MAKING CONSIDERATIONS

The following matters have been considered in making the decisions.

Outcomes

The decision contributes to the following Council outcomes;

- We keep our district affordable.
- We provide and enable services and facilities so people want to stay and move here.
- Enabling opportunities for new and existing businesses.

Legal

The purpose of the Local Government Act 2002 requires Councils to meet the current and future needs of communities for good-quality local infrastructure, local public services and performance of regulatory functions in a way that is most cost-effective for households and businesses.

Section 17 of the Local Government Amendment Act 2014 requires Councils to review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good quality local infrastructure, local public services, and performance of regulatory functions.

Financial and Economic Considerations

Tender prices are likely to be higher than the current contract but lower than the previous contract.

4.2 RETIREMENT VILLAGE RESERVES - LEVEL OF SERVICE

Author: **Erik van der Spek, Recreation Manager**

Authoriser: **Neil Jorgensen, Assets Group Manager**

RECOMMENDATION

That the Assets Committee recommends:

That Council allows the Observatory Retirement Village to remove trees and landscape the reserve to the west of the retirement village (Area 2) with Council to maintain the verge in front of the retirement village entrance and the reserve around the observatory to the north of the retirement village (Area 1) to Neighbourhood reserve standards.

DECISION OBJECTIVE

To seek a Council decision on tree removals and levels of service on Council reserves at Stoke Street.

SUMMARY

It is proposed that the Assets Committee reviews the request from the retirement village and determines what service levels Council would maintain on the adjacent reserves.

SUMMARY OF DECISION-MAKING CRITERIA

	No/Moderate/Key		No/Moderate/Key
Policy/Plan	Key	Environmental Considerations	No
Legal	No	Cultural Considerations	No
Significance	No	Social Considerations	No
Financial Criteria	Moderate	Economic Considerations	No
Community Views	No	Community Board Views	No
Consultation	No	Publicity and Communication	No

BACKGROUND

Trustees of the Observatory Retirement Village ("the retirement village") have written to Council (Appendix 2) requesting:

That Council:

1. *Gives permission for the retirement village to remove the existing stand of gum trees to the west of the village (Area 2 in Appendix 2) and landscapes Council land in accordance with the landscape plan; and*
2. *Maintains areas 1, 2, and 3 on the map in Appendix 2 to a higher service level.*

Trees

The retirement village previously requested Council remove the gums at Council's cost, as it impacts on their desired view and leaf litter creates maintenance issues in the village. As none of

the gums pose a safety risk, the request was declined in accordance with Council's 'Policy for Council Trees 2014'. Councillors were advised of this at the time.

The retirement village has now requested permission to remove the gums and landscape the reserve at its cost in accordance with Policy 6 of Council's 'Policy for Council Trees 2014'.
Policy 6 states:

> ***Policy 6***
>
> *Trees on Council administered land and reserves will only be pruned, removed or maintained for private benefit (e.g. improving private views) when the following criteria have been met:*
>
> *a. The removal will not result in adverse effects to the reserve; and/or*
>
> *b. There are proven adverse health consequences e.g. allergy as a result of the presence of the tree; and*
>
> *c. The tree is not protected under the District Plan; and*
>
> *d. The work is carried out by a suitably experienced person to accepted arboriculture standards; and/or*
>
> *e. A private individual is prepared to pay for any costs incurred in the maintenance work; and/or*
>
> *f. Council has deemed that the tree is inappropriate or is contributing to a loss of amenity for adjacent neighbour/s.*

The retirement village has provided a landscape plan and has undertaken to carry out work at its cost. As the retirement village intends to replace the trees with others of similar scale and nature, it is officers' view that, in the long-term, the removal will not result in adverse effects on the reserve. The trees are not listed in the district plan and work will be carried out by experience arborists. As such, it is officers' view that the request meets the provisions of Policy 6 and that allowing removal of the trees is acceptable.

Landscape plan and works to be completed by the retirement village

Maintenance

Prior to the sale of land to the retirement village, these areas were grazed. Current maintenance comprises the retirement village maintaining the verge to the west and Council maintaining the reserve to the north (around the observatory) to a Neighbourhood standard. (Part of the area to the north was previously used as part of the retirement village construction and has recently been returned to Council for maintenance.)

Officers consider maintaining the verge to the west of the retirement village and the reserve around the observatory to neighbourhood reserve standards is consistent with the nature of the reserves and consistent with other locations in the district. Officers consider a higher service level such as that of the Oamaru Public Gardens or Jones Park is unnecessary in these locations.

It is officers' view that invasive weed control and reactive maintenance as necessary to manage fire danger in the remaining areas is sufficient, as these areas would be difficult to maintain with typical mowing equipment. This is also consistent with reserves of a similar nature and a higher maintenance standard does not benefit the general ratepayer.

SUMMARY OF OPTIONS CONSIDERED

Option 1 – (Recommended) Allow the retirement village to remove trees on condition that it landscapes the site in accordance with the landscape plan, with Council maintaining the observatory reserve to the north (Area 1) and the verge to the west (Area 2) of the retirement village to Neighbourhood reserve standards.

Option 2 – Allow the retirement village to remove trees on condition that it landscapes the site in accordance with the landscape plan, with Council maintaining Area 1 and 2 to a high standard similar to Jones Park and the Oamaru Public Gardens.

Option 3 – Status Quo. Council declines to allow the trees to be removed.

ASSESSMENT OF PREFERRED OPTION

Option 1 is the preferred option as it is consistent with Council's policies and service levels in similar reserves.

Appendices

Appendix 1 – Additional decision-making considerations

Appendix 2 – Request for Tree Removal and Changes to Level of Service

APPENDIX 1 - ADDITIONAL DECISION-MAKING CONSIDERATIONS

The following matters have been considered in making the decisions.

Outcomes

The decision contributes to the following Council outcomes;

- We keep our district affordable.
- We provide and enable services and facilities so people want to stay and move here.

Policy and Plan Considerations

Proposed removal of trees is consistent with Council's District Plan and Reserves Management Plan. An increase in service level to a level comparable with the Oamaru Public Gardens or Jones Park is inconsistent with the type of reserve outlined in the Reserves Management Plan.

Financial Considerations

An increase in service levels will result in higher costs to ratepayers

Appendix 2 – Request for Tree Removal and Changes to Level of Service

Hi Erik,

Just in response to our recent email correspondence, I confirm the following:-

1. **Stoke Street Tree Removal**: as advised, Observatory Village Lifecare Ltd have confirmed that they will cover all costs associated with the removal and disposal of the existing Eucalyptus trees and the designed landscaping reinstatement works.
   1.
2. **Surrounding Properties Grass Maintenance**: as we discussed on-site, with the development of the Observatory Retirement Village on the Stoke Street reserve, it is apparent that the current level of maintenance to the grassed areas to the perimeter, adjoining and surrounding properties requires some review. As you will appreciate this development is now a Residential home for in excess of 150 North Otago elderly persons and the need to provide them with a well maintained property and aspect is very important to the O.R.V Management, Directors and Trustees. I have attached a marked-up Site Plan, highlighting three areas that we would like to resolve an improved maintenance level for – currently these are being maintained by Council to varying levels:-
   2.
   a. **Area 1**: this is the Stoke Street reserve area that sits in front of the Stage 2 and 3 Care Wings, and this currently mown to the 60mm standard – this area sits at the main entry to the Retirement Village and is the visible aspect for some twenty plus Care Room Residents and one of the Community Lounges and so the O.R.V Directors would like to request an improved maintenance level standard to ensure that visitors and residents (and users of the "Skyline Walkway") are provided with an improved, tidy and well maintained reserve area.
      3.
   b. **Area 2**: this is the grass berm along the North side of Stoke Street and the reserve area at the entrance to the "Skyline Walkway". As above this area sits at the main entry to the Retirement Village and is the visible aspect for some twenty plus Care Room Residents and so the O.R.V Directors would like to request an improved maintenance level standard to ensure that visitors and residents (and users of the "Skyline Walkway") are provided with a tidy and well maintained reserve area.
      4.
   c. **Area 3**: this is the parcel of Crown Reserve land (that I understand the Waitaki District Council manages on behalf of the Department of Conservation) that sits South East of the Stage 2 and 3 Apartment Block – currently this is effectively a paddock that is not grazed and is infested with gorse. Given this sits in the easterly aspect of the Apartment Residents the O.R.V Directors would like to request an improved maintenance level standard to ensure the gorse in this paddock is controlled and the grass level maintained to mitigate vista impact and fire risk.
   5.

Observatory Village Lifecare Ltd are now a major rate payer (I understand the second biggest in town) and they have developed a facility that provides a home for many North Otago elderly, as well as employing a significant number of locals. This development is community owned and is something that as a community we should be incredibly proud of and the O.R.V Directors are seeking some assistance from Council to improve the maintenance levels to the grassed areas and properties (owned by Council) around the perimeter of the Village, so that we maintain a facility to a high standard for all of the community.

I am happy to discuss the above further if required and I look forward to working with you to mutually resolve a solution that meets all parties expectations and provides a maintenance standard that is appropriate for this development and site.

If you have any queries or if you require any further information with respect to the above or enclosed, please don't hesitate to contact me. I look forward to hearing from you in response to the above in due course.

Regards

Michael Forgie

Forgie Hollows & Associates (Oamaru) Ltd

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Rev	Description	By	Date

FOR INFORMATION

NOTES:

CONSULTANTS:

observatory village lifecare

OBSERVATORY VILLAGE LIFECARE

Project Name:
Observatory Retirement Village

Drawing Title:
OVERALL SITE PLAN

SCALE: 1:500 @ A1

SL-001

Designed:	Drawn:	Checked:
BP	BP	SD
28/03/18		A1

4.3 CAMPBELL'S BAY AND MOERAKI TOILET LOCATIONS

Author: **Erik van der Spek, Recreation Manager**

Authoriser: **Neil Jorgensen, Assets Group Manager**

RECOMMENDATION

That the Assets Committee recommends:

That Council:

1. Approves the existing site as the location for replacement toilet and shower facilities at Campbell's Bay.
2. Approves a new site by the carpark at Moeraki Beach Reserve as the location for a replacement toilet facility in Moeraki.

DECISION OBJECTIVE

To determine the sites for replacement toilets at Campbell's Bay and Moeraki.

SUMMARY

It is proposed that the Assets Committee considers community feedback and recommends preferred sites to Council.

SUMMARY OF DECISION-MAKING CRITERIA

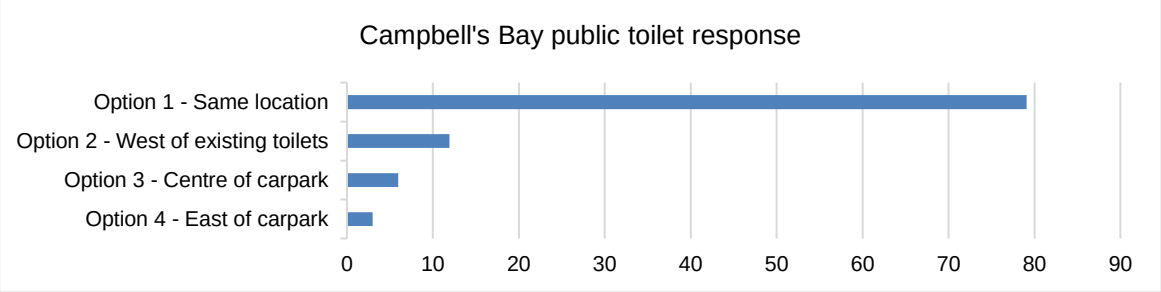
	No/Moderate/Key		No/Moderate/Key
Policy/Plan	Moderate	Environmental Considerations	No
Legal	No	Cultural Considerations	No
Significance	No	Social Considerations	No
Financial Criteria	Key	Economic Considerations	No
Community Views	Key	Community Board Views	No
Consultation	Key	Publicity and Communication	No

BACKGROUND

In the 'Plan for Public Toilet and Dump Stations 2018-2028', Council planned to replace the toilets at Campbell's Bay and Moeraki Boulders in 2019/2020. Council successfully applied to the Ministry of Business, Innovation and Employment's (MBIE) round 3 of the Tourism Infrastructure Fund (TIF) for $300,000 support to replace these toilets.

Council sought the views of the Kakanui and Moeraki communities on location of the facilities. The survey results are provided on the next page.

Campbell's Bay survey results

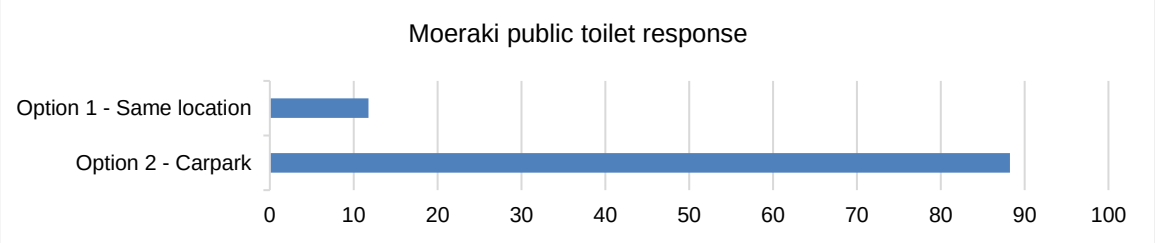


	RESPONSES %	Number
Option 1 – At the same location as the existing toilets	79.10%	53
Option 2 – On top of the bank, west of the existing toilets	11.94%	8
Option 3 – Approx. in the centre of the carpark	5.97%	4
Option 4 – East of the carpark	2.99%	2
TOTAL		**67**

The Kakanui community showed a clear preference for replacement toilets on the same site.

Some stated that they would like the current facility refurbished. Officers had previously had an engineer assess the feasibility of this option, which determined it was not practical. Other comments included the need for changing rooms and showers which are included in the project scope.

Moeraki Survey results



	RESPONSES %	Number
Option 1 – At the same location as the existing toilets	11.76%	2
Option 2 – On top of the bank, west of the existing toilets	88.24%	15
TOTAL		**17**

The Moeraki community showed a clear preference for replacement toilets on a new site closer to the carpark.

Budgets

Use of the preferred Kakanui site comes at a higher cost due to additional complexity in accessing it and the requirement in the building code for an accessible path. Officers believe they can complete both projects within the total project budget of $640,000.

Style

A three-pan unisex-style facility similar to that used successfully in Otematata was proposed in the consultation. This appears to have met general acceptance. The exterior can be painted or overlaid with cladding. It is intended to run a competition with the community during the construction period for ideas on how it should be ‘enhanced’.

Compliance

Both facilities are located in a significant coastal landscape and resource consent is required.

SUMMARY OF OPTIONS CONSIDERED

Option 1 – (Preferred Option) Replacement facilities on sites recommended by the Community. This creates added complexity and cost for the Campbell's Bay site due to accessibility requirements, but officers believe this can be managed.

Option 2 – Replacement facilities on one of the other sites consulted on. This is likely to result in community concern.

Option 3 – No replacement. Both existing facilities are basic and do not meet current standards. The existing Moeraki toilets are subsiding on one corner with cracking evident and, with expected continued land movement, they will require replacement in the near future.

ASSESSMENT OF PREFERRED OPTION

Option 1 is the preferred option as these are the sites preferred by the respective community and can be completed within the allocated budgets (albeit with additional complexity for the Campbell's Bay facility).

APPENDIX 1 - ADDITIONAL DECISION-MAKING CONSIDERATIONS

The following matters have been considered in making the decisions.

Outcomes

The object of this decision meets the following community outcomes;

1. 'We provide and enable services and facilities so people want to stay and move here'.
2. Waitaki's distinctive environment is valued and protected'.

Policy and Plan Considerations

The preferred sites are located within a Significant Coastal Landscape overlay in the District Plan and will require Resource Consent.

Environmental Considerations

Replacing the existing facilities will help to minimise the effect of tourism on the local environment.

Publicity and Communication Considerations

It is recommended that Council's decision is reported in an issue of the 'Link'.

4.4 LAKE OHAU WATER SUPPLY UPGRADE

Author: **Michael Goldingham, Project Management Engineer**

Authoriser: **Neil Jorgensen, Assets Group Manager**

Attachments: **1. Lake Ohau Water Supply Upgrade - Consideration of Design Options** ⇩

RECOMMENDATION

That the Assets Committee recommends:

That Council:

1. Approves the transition of the Lake Ohau Alpine Village Water Supply to an entirely on-demand supply as part of the drinking water supply upgrade and for the upgrade to be designed accordingly to deliver this level of service;
2. Approves capacity for chlorination to be incorporated into the upgrade design and construction, noting that chlorination will not be activated until Council or another authorised party lawfully instructs this to occur;
3. Approves Option 1 of this report (sourcing and treating groundwater located adjacent to Lake Ohau Road and pumping this into the reticulation system using pressure-controlled pumps) as the preferred upgrade option including prior exploration of groundwater adjacent to Lake Ohau Road to confirm its suitability as the preferred drinking water source for Lake Ohau Alpine Village;
4. Considers options for the funding of the upgrade project in a future report;
5. Formally thanks the Lake Ohau Alpine Village Residents and Ratepayers Association and community Task Force for their assistance with and contribution to this project;
6. Concludes formal engagement with the Lake Ohau Alpine Village Residents and Ratepayers Association and community Task Force on the upgrade project beyond the level of general project updates;
7. Undertakes informal engagement with the Lake Ohau Alpine Village Residents and Ratepayers Association on matters relating to the visual impact of constructed works, as required and deemed appropriate by Council officers, prior to and during the upgrade construction phase.

DECISION OBJECTIVE

The objective of the decision is to agree service levels for, and enable the progression of, the Lake Ohau Alpine Village Water Supply upgrade to meet the requirements of the Health Act and its amendments.

SUMMARY

The Lake Ohau Alpine Village Water Supply is a public drinking water supply wholly owned by Council. In its current form, the supply fails to meet the requirements of the Health Act and its amendments, or the New Zealand Drinking-Water Standards. The water is entirely untreated and is at no time considered safe to drink without boiling.

Although the rate charge is identical for all consumers connected to the village's water supply, some receive a restricted flow supply, while others receive an on-demand supply. This is considered by officers to be inequitable.

The supply must be upgraded to reduce and manage the risk to public health, and to meet the Health Act requirements. Addressing inequitability can be achieved in conjunction with the upgrade process.

Upgrading works are scheduled for the 2020/21 financial year and, while this is nearly a decade later than initially envisioned, this will satisfy Council's 2008 resolution to upgrade the supply to meet the Drinking Water Standards.

An extensive engagement process with the local community and stakeholders has been completed. The key issues raised during this process related to service level, risk, water source and the aesthetic impact of built infrastructure.

The Lake Ohau Water Supply Upgrade report should be read in conjunction with this report.

SUMMARY OF DECISION-MAKING CRITERIA

	No/Moderate/Key		**No/Moderate/Key**
Policy/Plan	Key	Environmental Considerations	Key
Legal	Key	Cultural Considerations	No
Significance	Moderate	Social Considerations	No
Financial Criteria	Moderate	Economic Considerations	Moderate
Community Views	Moderate	Community Board Views	Moderate
Consultation	Moderate	Publicity and Communication	Moderate

BACKGROUND

Current Water Source and Quality
The Lake Ohau Alpine Village ("the village") water supply upgrade is required to protect public health and meet legislative requirements, and therefore is a high priority project for the 3 Waters and Waste unit. Given the level of risk, upgrading this supply is now considered to be a matter of some urgency.

The extensive contamination event in Havelock North – resulting in four fatalities, permanent harm to around a dozen people, and illness for more than 5,000 people – has raised the profile of drinking water quality and reinforced the importance of ensuring safe supply of drinking water across New Zealand. Future failures placing the community at risk are unlikely to be accepted by regulators or the community at large.

The village water supply was constructed around 1981 to support the development of a 136-lot subdivision. Currently, around half of these lots have been built on, primarily as holiday homes.

The supply is a registered drinking water supply, wholly owned by Council. It is currently ungraded and falls below the population threshold for Ministry of Health reporting.

The village water supply is untreated and sources water from an unnamed minor tributary of Lake Ohau. The yield and water quality from this source vary, and the supply does not meet the requirements of the Health Act and its amendments, or the New Zealand Drinking Water Standards. At no time is the water considered safe to drink and the supply is subject to a permanent boil water requirement.

Current Service Levels
The village water supply was established as a restricted flow supply where the design flow to each lot was a set volume of 455L/day. Over time the supply has morphed into a hybrid combination of restricted flow at 600L/day and on-demand supply. This results in varying levels of service to consumers – it is estimated that around half of the connected consumers receive an on-demand supply. Consumers pay the same rate irrespective of service received and this inequity is becoming increasingly problematic. About half of the available sections have been built on as of 2019.

Progressing the Upgrade Process
The Oamaru Water Supply was upgraded to meet the Drinking Water Standards in 2008. In the 2009-19 Long Term Plan, Council confirmed it would upgrade other supplies in the district, including the Lake Ohau Village's, in order to meet the New Zealand Drinking Water Standards and ensure compliance with the Health Act and its amendments.

The village supply upgrade is now overdue and has been deemed a high priority, with the construction works now planned for the 2020/21 financial year.

A comprehensive stakeholder engagement plan and engagement process has been undertaken as part of the upgrade planning process. Engagement focused on gaining views via a survey on whether the supply should be on-demand, and whether the supply remain unchlorinated.

The project costs to date are at $140,000, with $80,000 spent in the past seven months.

There was clear consumer support for an on-demand (with 69% support indicated) and un-chlorinated (with 82% support indicated) supply.

Overall, the cost to the community is less to develop the village supply as on-demand system.

Chlorination is not currently mandatory, although it is very likely that this will change as the Government completes the Havelock North Water Inquiry. It is considered prudent to design for the installation of chlorine, whether or not chlorination is actually commissioned.

Stakeholders were encouraged to provide feedback on matters of high importance to them and clear themes emerged, including impact on the visual amenity of the area, need to upgrade, preferred source water, and potential alternative "household"-based treatment options.

Multiple design solutions were developed considering different sources of water and forms of supply. A sub-set of four options was subjected to detailed consideration by Council officers, design consultants and representatives of the Community Task Force.

There has been considerable feedback and consultation with the community. This information has been uploaded and is available through Council's website (click here).

The main issues in feedback from some members of the community can be summarised as:

The quality of the current water source:

> Members of the community believe that it is clean and pristine, but testing data shows it is not. There is historical data to show that it is contaminated and has been for many years (only five (5) samples out of 25 met bacterial criteria around 1991 to 1994) and requires treatment. That is why there is a permanent boil water notice in place.

The quantity of the water source:

> The water supply was designed for 455 L/day per property and it has had reduced flow during dry periods (refer to "consideration of design footnote source August 2019" document

on the website). Half of the properties still need to be developed with houses on their sections, and that will increase the risk of not being able to supply water.

A bore system would be unsightly, and the sewerage pond is too close to it:

The location of the treatment plant has been moved to a more discrete location and infrastructure will be screened. The location of the bores is not affected by the location of the sewerage pond.

SUMMARY OF OPTIONS CONSIDERED

A summary assessment of the most viable upgrade options considered is included below. A detailed assessment of all options considered, including the preferred option, is attached (Attachment 1 – Consideration of Design Options).

In summary, all options are likely to cost around the same – between $1m to $1.6m – with the exception of the two-stage option.

OPTION 1 – Lake Ohau Groundwater (recommended)

This option is referred to as "Option 2revA" in the design reports.

It involves sourcing and treating of groundwater adjacent to Lake Ohau Road. The abstracted groundwater would be treated and pumped to the reticulation system by pressure-controlled pumps. No reservoir in the traditional sense would be required.

This option has the highest likelihood of sourcing the required volume and quality groundwater but it is located in a more visually-sensitive location.

Estimated Capital and NPV costs for this option are $1.2m and $1.6m respectively.

OPTION 2 – Behind Village Groundwater

This option is referred to as "Option 8" in the design reports.
It is conceptually identical to Option 1 but sources the water from behind (south-west) of the village.

The abstracted groundwater would be treated and pumped to the reticulation system by pressure-controlled pumps. No reservoir in the traditional sense would be required.

The likelihood of sourcing the required volume and quality of groundwater in this vicinity is lower than Option 1, although the visual impact is substantially reduced.

Estimated Capital and NPV costs are $1.1m and $1.5m respectively.

OPTION 3 – Selected abstraction of existing surface water prior to the staged development of Option 2

This option is referred to as "Option 9.1 and 9.2" in the design reports.

It comprises two stages: Stage 1 is the harvesting and storing of the current source water (when of treatable quality) prior to treating and pumping to the network; and Stage 2 involves the development of groundwater from behind (south-west) of the village to supplement the existing source.

Estimated Capital and NPV costs for Stage 1 are $0.8m and $1.6m respectively.
Estimated Capital and NPV costs for Stage 2 are $1.0m and $1.5m respectively.

OPTION 4 – Above Village Groundwater with treated water reservoir
This option is referred to as “Option 6” in the design reports.

It was initially offered by the landowner upon whose property the current source is located but has since been rescinded.

This option is not considered further.

ASSESSMENT OF PREFERRED OPTION

Option 1, being Lake Ohau groundwater, is the preferred option. The likelihood of successfully sourcing the required volume and quality of source water is highest in this location. Access and construction constraints are minimised, and visual impact can be mitigated by sympathetic design and careful siting.

This was the highest performing option in the option evaluation and allows the abandonment of high-value, aged infrastructure, will free-up renewal funding and reduce rates impact.

CONCLUSION

Option 1 is the preferred option because it provides the best outcomes overall in terms of risk, performance and cost. Other options carry increased cost and risk in relation to securing sufficient volume and quality of water. This outweighs the benefits of being able to more easily reduce the visual impact.

Lake Ohau Alpine Village Water Supply Upgrading.

Consideration of Design Options

D C Brown

2 Aug 2019

Contents

1 Executive summary

The Ohau Alpine Village Water Supply is an untreated supply that, in its current form, fails to meet the requirements of the Health Act (and its amendments) and the NZ Drinking Water Standards. Water samples show persistent faecal contamination and the consumers are required to boil all drinking and hygiene water. Health authorities have identified concerns relating to the risk of water borne illness since at least 1994 and source capacity issues were recognised around 2000, leading to multiple start/stop attempts to initiate upgrading works over the preceding two decades.

Council resolved to upgrade the supply in 2008.

Although originally conceived and designed as a very low volume (455L/day) restricted supply, around half of the connected consumers receive an on-demand supply leading to issues around equitability and placing higher demands on the source water.

Extensive engagement was undertaken with the community and representative groups from within the community, ultimately leading to the creation of a Community Task Force who worked with Officers to develop and consider solution options. The engagement process identified a preference among the community for a non-chlorinated, on-demand supply and the transition to on-demand carries the least cost to the community as a whole when compared to transitioning to restricted.

A broad range of solution options were developed and considered with the four most likely options being short-listed and subjected to more detailed consideration. The single most significant difference between the short-listed options was the source of water where one option, favoured by the Task Force, continued to use the existing rock-field gravity surface water with potential for staged supplementation with groundwater, while the balance utilised groundwater alone with the groundwater bore location varying between options.

The existing rock-field source and associated option, preferred by the Task Force, is not considered to have sufficient volume to meet on-demand service levels without supplementation.

The key source water differentiating criteria are volume availability, quality variability and treatability.

The options were evaluated by Officers and their design consultants, and the Task Force representatives and awarded a weighted score. The score considered cost, water safety, location, environment and future proofing/resilience. The highest ranked option was to source and treat groundwater from adjacent to the lake and pump this into the network as an on-demand supply.

The capital cost of options was estimated with the least cost option being the Task Force favoured option retaining the current source, although this option is not able to provide sufficient flows for the future nor on-demand supply. The rate impact was also estimated with a dedicated groundwater source option offering the least rate impact even though its capital cost was estimated to be higher. This is due to the release of depreciation funds from abandoning the existing source and associated infrastructure.

On balance, the preferred option is to:

Abandon the existing rock-field source and gain groundwater adjacent to the lake for treatment and supply to the consumers as an on-demand supply.

2 Introduction.

Constructed in 1981 as a 136-lot subdivision, the Ohau Alpine Village is a settlement of around 70, predominantly holidaymaker, dwellings located adjacent to Lake Ohau at the western-most extremity of the Waitaki District.

The village is serviced with un-treated, reticulated water supplying a mixture of on-demand and restricted supply connections. The supply also services the wastewater plant, adjacent camping area and a small number of nearby users and facilities.

The water supply is registered on the Ministry of Health's register of Drinking Water Supplies as Ohau Alpine Village code OHA005, is currently ungraded, falls below the population threshold for compliance reporting and, as such, does not feature in the Ministries annual report of drinking water quality.

The water supply is subject to the requirements of the Health Act 1956 and its amendments including the Health (drinking-water) Amendment Act 2007. As such the supply is required to meet the requirements of the Act and the Drinking Water Standards for New Zealand.

In its current, un-treated state, the supply satisfies neither the Act nor the Standards and upgrading is required.

The need to upgrade has been long recognised with a "Water Upgrade Group" being formed by permanent residents in the summer of 2000/2001, preliminary proposals to upgrade identified and budgeted from depreciation reserves as early as 2003 and upgrading budget allocation identified in the 2006 draft Waitaki Community Plan. That the need was identified prior to the 2007 amendment to the Health Act reflects the understanding of the constrained yield, poor microbial quality and high health risk associated with the supply.

Council resolved to upgrade the supply in 2008 (resolution 08/543) with upgrading planned for 2012. Due to the high level of public health risk there was no change to the scheduled date following the relaxation of government mandated compliance dates.

3 Drivers for upgrading works.

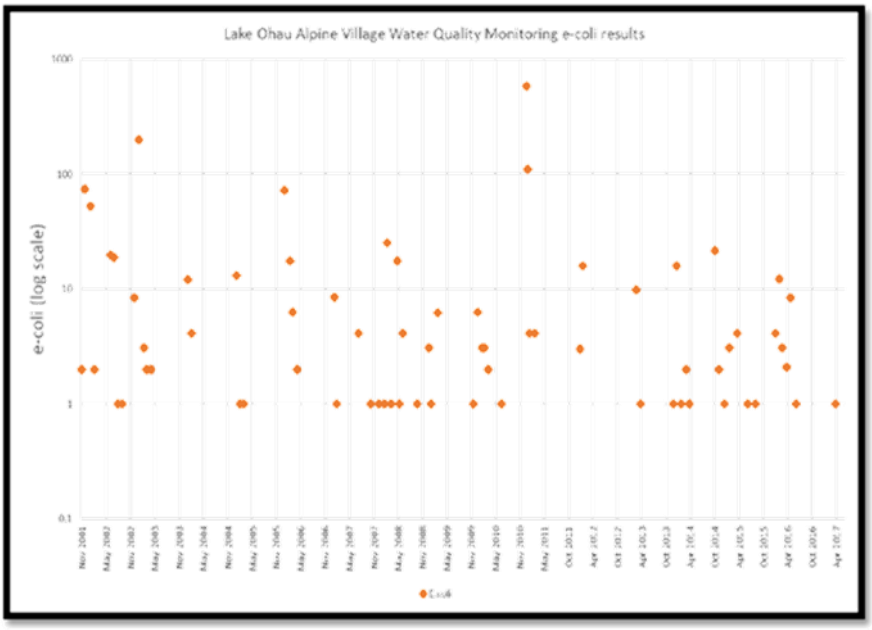
Upgrading is necessary to address water quality concerns. These concerns are:

1. A high prevalence of microbial contamination in the supply.

   The supply is sampled once per month for e-coli. More than one in three (70 of the 188) samples taken between 2001 and 2017 showed faecal contamination in the network drinking-water.

   The e-coli monitoring results are displayed in Figure 1 below. Each orange diamond represents a sample where e-coli was identified by the laboratory. The vertical scale on the chart is logarithmic to more easily display the higher e-coli counts. The e-coli limit in New Zealand Drinking Water Standards is nil detected.

   Figure 1 e-coli monitoring



   Historic sampling results are less easily retrieved than the post 2000 electronically recorded results, however, a cursory review of Councils paper records identified 1994 correspondence from Officers[1] confirming 20 out of 25 samples taken since 1991 failed to comply with the New Zealand Drinking Water Standards.

2. A high risk of microbial contamination linked to the nature of the catchment.

   A Public Health Risk Management Plan (PHRMP) drafted in 2009 identified a requirement for bacterial and 4 log protozoal treatment. A Water Safety Plan (WSP), being the modern

[1] J Dimmendaal 23 June 1994

equivalent of a PHRMP, drafted in 2018 identified a requirement for bacterial and 3 log protozoal treatment.

These assessments identified that the catchment can never be assumed to be free of animal waste contamination and that this contamination is likely to enter the water supply. That this is occurring is demonstrated by the frequency of e-coli detected in the water sampling. This is not to say that the water is of particularly poor quality, rather that it is typical of a surface water where animal contamination can, and does, occur.

3. The existence of a permanent "Boil Water" notice applying to all water used from the supply for drinking, food preparation and oral hygiene.

   Boil water notices require the user to boil all water used for food preparation, drinking and oral hygiene.

   Boil water notices have been identified as being in place since at least 1994[2] and potentially earlier as records show advice from the Public Health Unit at Dunedin Hospital of "serious contamination..... users should be advised of risk"[3] and "shocking result consumers must be advised to boil any drinking water"[4]

   Studies show that over 50% of consumers either ignore advice to boil water or engaged in risky behaviour[5] so it seems entirely unreasonable to expect that all users have always boiled the water since at least the mid 90's, being some 25 years.

   Boil water notices are not a reliable mechanism to ensure public health goals are met and they are not likely to be successful in protecting the community from the risk of water borne illness.

The prevalence of microbial contamination in samples confirms that the current source has consistent and persistent contamination. The PHRMP/WSP assessment of the risk to human health which considered, among other things, the nature of the catchment, identified a high risk to public health. As an untreated supply there are no barriers to contamination in place to protect the public from the contamination and the risk of contamination.

Upgrading of the water supply is necessary to address this contamination and risk of contamination.

[2] J Dimmendaal 18 May 1994
[3] OAHB Dunedin Hospital 23 June 1992
[4] OAHB Dunedin Hospital 16 Nov 1992
[5] C Bergin 26 Sep 2008

4 Impact of the Havelock North water incident

The Havelock North water incident and the resulting governmental enquiry brought sharp focus to the impact unsafe water can have on our communities.

The following May 2017 commentary from the Department of Internal Affairs is useful in outlining the scale of harm that unsafe water can contribute too:

"Safe drinking water is crucial to public health. The outbreak of gastroenteritis in Havelock North in August 2016 shook public confidence in this fundamental service. Some 5,500 of the town's 14,000 residents were estimated to have become ill with campylobacteriosis. Some 45 were subsequently hospitalised. It is possible that the outbreak contributed to three deaths, and an unknown number of residents continue to suffer health complications."[6]

Subsequent to the authoring of the above statement it is now considered that the outbreak contributed to four deaths.

The Government enquiry into the incident identified a raft of failures across many aspects related to the supply of safe drinking water, ranging from governance to regulation to operation and the standards themselves. While the findings of the enquiry were extensive and detailed, perhaps the most useful guiding finding is the need to "**embrace and implement a high standard of care**".

The Havelock North incident has ensured that there is no longer the appetite nationally to permit continued low standards of care. It is difficult to see how it can be argued that the supply of untreated, demonstrably microbially unsafe water from a high-risk source such as the Lake Ohau Alpine Village Water Supply can be deemed to meet a high standard of care.

The Lake Ohau Alpine Village Water Supply must be upgraded to supply safe drinking water.

4.1 Six fundamental principles of drinking-water safety in New Zealand

The enquiry identified six fundamental principles of drinking-water safety in New Zealand[7] and these have been universally accepted by the wider water industry. The six principles are:

Principle 1: A high standard of care must be embraced

> Unsafe drinking-water can cause illness, injury or death on a large scale. All those involved in supplying drinking-water must therefore embrace a high standard of care. Vigilance, diligence and competence are minimum requirements, and complacency has no place.

Principle 2: Protection of source water is of paramount importance

> Protection of the source of drinking-water provides the first, and most significant, barrier against drinking-water contamination and illness. It is of paramount importance that risks to sources of drinking-water are understood, managed and addressed appropriately.

Principle 3: Maintain multiple barriers against contamination

[6] Government Inquiry into Havelock North Drinking Water. 2017. Report of the Havelock North Drinking Water Inquiry: Stage 2. December. Auckland: Department of Internal Affairs
[7] Government Inquiry into Havelock North Drinking Water. 2017. Report of the Havelock North Drinking Water Inquiry: Stage 2. December. Auckland: Department of Internal Affairs

Any drinking-water system must have, and continue to maintain, robust multiple barriers against contamination appropriate to the level of potential contamination. No single barrier is effective against all sources of contamination, and any barrier can fail at any time.

Principle 4: Change precedes contamination

Contamination is almost always preceded by some kind of change, and change must never be ignored. Change of any kind should be monitored for and responded to with due diligence.

Principle 5: Suppliers must own the safety of drinking-water

Drinking-water suppliers must maintain a personal sense of responsibility and dedication to providing consumers with safe drinking-water. Knowledgeable, experienced, committed and responsive personnel provide the best assurance of safe drinking-water.

Principle 6: Apply a preventive risk management approach

A preventive risk management approach provides the best protection against waterborne illness. Once contamination is detected, illness may already have occurred. This requires systematic assessment of risks throughout a drinking-water supply from source to tap; identification of the ways these risks can be managed; and control measures implemented to ensure that management is occurring properly. Adequate monitoring of performance of each barrier is essential.

These six principles set the expectations of government, the community and the water industry and must be used to guide decisions relating to Waitaki District water supplies, including the Lake Ohau Alpine Village water supply.

4.2 The water supplier

Council is the lawful water supplier for the Lake Ohau Alpine Village Water Supply.

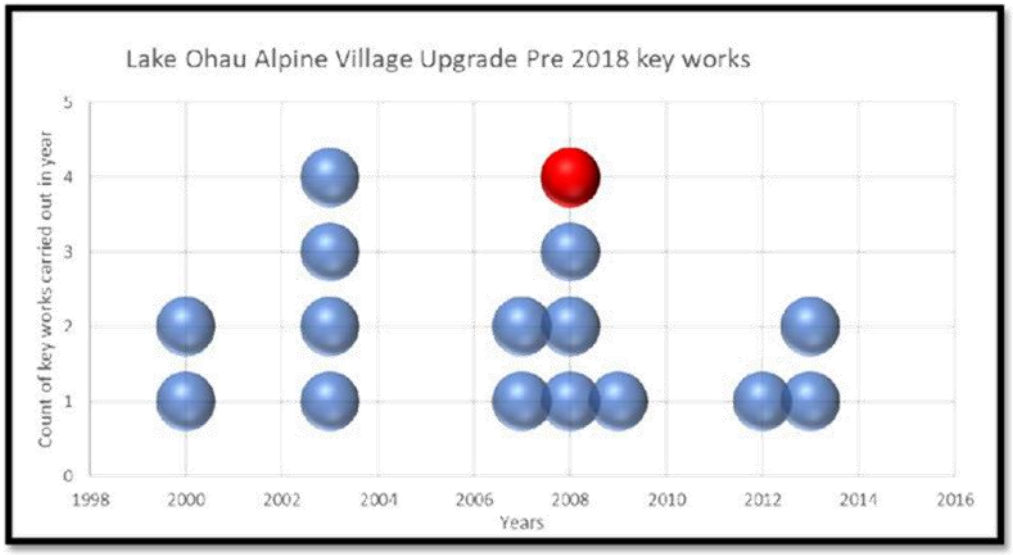
Responsibility for providing safe water and implementing the six principles identified above lay squarely with Council. Further, this responsibility applies equally to all Council Water Supplies.

5 Overview of upgrading history

5.1 2000 to 2018 years

Upgrading of the lake Ohau Water Supply has been mooted since the early 2,000's and budgeted, to some extent, since 2003. Figure 2 shows the concentration of works over the period from 2000 to 2018.

Figure 2 Record of works 2000 to 2018



Each bubble in Figure 2 represents a key body of work or identification of a fundamental upgrade driver. The Red bubble relates to the 2008 Council resolution to upgrade the supply. The following bullet points, identified from Councils records, relate to the bubbles and provide summary information to identify the relevance to the upgrading of the supply:

- **2000 - Insufficient source yield**. 2000/01 "Pump data" report identifies recovery of flows at the source from drought conditions confirming source volume limitations.
- **2000 – Water Upgrade Group established**
- **2003 - Intake relocation and replacement**. 2003/04 Project budget identifies a project to replace and relocate the water intake to ensure secure water supply and improve quality and quantity.
- **2003 - Insufficient source yield**. Memorandum identifies volume limitations causing the supply to "fail".
- **2003 - Supplementary water trench**. Letter identifies the requirement to reinstate a ditch carrying surface water from an adjacent water race to the intake.
- **2003 – Lake water source investigation**. Surface water study using treated lake water as source.
- **2007 – Issues and Options**. Reconsideration of lake water source investigation.
- **2007 – Restricted supply investigation**. Memo identifying connection types and restrictor investigation project.
- **2008 – Resolution to upgrade.**
- **2008 – Scheduled upgrade deferred**. Correspondence identifying deferment of upgrading from 2008 to 2009/10 year.

- **2008 – Property owner survey**. Survey relating to form and volume of supply, source and acceptability of boiling water.
- **2009 – PHRMP**. Draft Public Health Risk Management Plan identifying and assessing supply risks.
- **2009 – Freehold Creek flow**. Flow profile and minimum flow assessment for Freehold Creek.
- **2012 – Issues and Options**. Draft report considering flows and upgrading timeline.
- **2013 – Groundwater source investigation**. Hydrogeologist report on possible groundwater sites.
- **2013 - Issues and Options**. Draft report considering flows, source water upgrading or changing and treatment.
- **2014 – Issues and Options**. Draft report considering flows, source water upgrading or changing and treatment.
- **2014 – Presentation to Residents**. Upgrading presentation to Ohau Village residents and ratepayer's association identifying need and options.

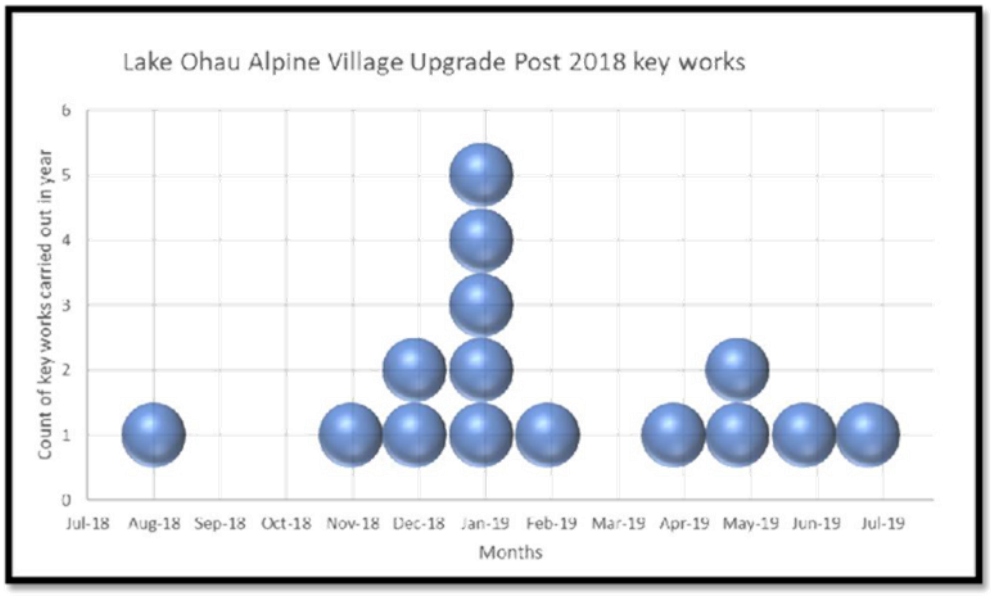
The cluster of works in 2003 relate to a desire to address limitations in source volume. The 2007-09 cluster seek to develop and make real works to upgrade the supply. The 2012-14 works are a further attempt to make real works to upgrade the supply.

5.2 2018 to Present

Efforts over the 2000 to 2018 period failed to gain sufficient momentum as to achieve meaningful upgrade results. The Havelock North water incident provided a strong incentive to revitalise the project and works recommenced in earnest in 2018.

Figure 3 shows the concentration of works over the period from 2018 to present on a monthly basis.

Figure 3 Record of works per month 2018 to present



Each bubble in Figure 3 represents a key body of work or identification of a fundamental upgrade driver. The following bullet points, identified from Councils records, relate to the bubbles and provide summary information to identify the relevance to the upgrading of the supply:

- **Aug 2018 – Issues and Options**. Report considering flows, sources and sub-set of considered upgrading options. This is the output from a substantial block of works looking at preliminary, wide-ranging issues and solutions.
- **Nov 2018 – Stakeholder engagement plan**.
- **Dec 2018 – Upgrade newsletter to residents**. Outlining key issues and pending survey.
- **Dec 2018 – FAQ**. Answers to key questions.
- **Jan 2019 – Public Meeting**. Public meeting to discuss the upgrade project.
- **Jan 2019 – Survey**. Survey of consumer views to chlorine and restricted supply.
- **Jan 2019 – Issues and Options (additional options)**. Memorandum outlining additional options previously considered but not included in the Aug 2018 Issues and Options report.
- **Jan 2019 – Community Task Force created**. Creation of a group of community representatives, who operate separately to the Residents and Ratepayers association, who are the primary contact for discussion on project matters.
- **Jan 2019 – Community Task Force meeting**. Officers meet and discuss option and additional iterations with the Task Force.
- **Feb 2019 – Landowner option.** Landowner identifies option that becomes option 6 and the option is developed.
- **Apr 2019 – Upgrade newsletter to resident's update**. Newsletter providing results of survey.
- **May 2019 – Community Task Force meeting**. Substantial change in Task Force representatives.
- **May 2019 – Issues and Options (additional options)**. Memorandum outlining further additional options.
- **July 2019 – Option evaluation workshop**. Report on evaluation of options by Officers, Advisors and Community Task Force representatives.
- **July 2019 – Issues and Options (community Task Force option)**. Memorandum outlining an option developed by the community Task Force. This option may have been misinterpreted by Officers and resulted in a "RevB" memo.
- **July 2019 – Issues and Options (community Task Force option Augmented)**. Memorandum reconsidering the option developed by the community Task Force to augment the existing source.
- **June 2019 – Alternative option endorsed by landowner**. Correspondence from land-owner outlining preference for no infrastructure on his land, although if no other viable option identified his land could be used subject to constraints.
- **July 2019 – Withdrawal of offer by landowner**. Correspondence from landowner withdrawing previous (June) offer.

The late 2018 works relate to the development of upgrading objectives and measurables, and development and assessment of multiple potential solutions to form the basis of community engagement. The January 2019 works relate to community engagement with the bulk of the balance works being presentation of various iterations of design options in response to community interest, predominantly with the community Task Force.

5.3 Upgrading history conclusion

The project has a long history with the need for upgrading identified through microbial contamination some three decades ago and serious concern relating to yield some two decades ago. Various attempts to progress the project have meet resistance relating to a perception of quality and available yield and suffered from a lack of drive to see the project completed.

An inability to gain sufficient community understanding and support about the substantive issues are the principle reasons behind the protracted, stop/start nature of the project.

This remains an impediment to progressing the project now, although there is a burgeoning understanding of the public health risk associated with the current supply among the community.

6 Community engagement

Attempts over the last two decades to gain traction in upgrading the supply stalled due largely to community resistance. In recognition of this a detailed engagement methodology and plan were set in place to increase the likelihood of successful engagement with the 2018/19 attempt to progress the project. This plan guided engagement activities and has been useful in identifying and clarifying the relatively small range of issues that impede project completion.

6.1 Pre-engagement works

A substantial body of works were completed prior to engaging with the community on the 2018/19 upgrading. These works are summarised below:

1. October 2016. Ohau Water Supply Chronology. Historic works were summarised, and a path forward identified, including the key issues of:
    a. Service level and volume
        i. On-demand
        ii. Restricted and the volume of the restriction
    b. Supply area
        i. Current limitations
        ii. Rural
        iii. Extended to other areas
    c. Source water including;
        i. The current rock-field infiltration source
        ii. Freehold creek
        iii. Lake direct intake
        iv. Lake bank filtration
        v. Lake built filtration
        vi. Groundwater
        vii. Neighbouring supply
        viii. Decision points and engagement

    These works formed the basis for the 2018/19 project development and provided the linkage between historic and current efforts.

1. April to August 2018. Detailed development of issues and options and identification of short-list, most credible, options.
    a. Identification of key decision drivers
    b. Consideration of water sources for volume, flow, treatability, access and risk
    c. Development of flow scenarios
    d. Research and consideration of source options
    e. Preliminary design and costing using a normalised costing basis
    f. Risk assessment
2. August 2018. Issues and options report detailing the best performing technical solution identifying:
    a. Two preferred options (out of more than a dozen preliminary options)
    b. Flow forecasts for on-demand and restricted
    c. Costed options for on-demand and restricted with and without chlorination

    These two preferred options formed the basis of the community engagement.

In hindsight, there may have been merit in providing the community with more clarity around the breadth of options considered, and discounted, prior to presenting the two preferred options.

6.2 2018-19 Community engagement

Community engagement has been both proactive and re-active throughout the period that upgrading has been identified as necessary.

Proactive engagement has consisted of; Liaison with the Ahuriri Community Board; Liaison with the Lake Ohau Alpine Village Residents and Ratepayers Association and their appointed spokespeople; Liaison with the community Task Force; Resident and Ratepayer surveys; Newsletters; Public meetings and Task Force meetings. Re-active engagement has consisted of verbal discussion and response to landowner, resident and ratepayer enquiries.

Significant effort has been made in ensuring that information is available to the community through a dedicated web-portal which is updated with pertinent information including a FAQ (Frequently Asked Questions) paper.

6.3 2018/19 Engagement plan

The 2018/19 engagement commenced with the development of an engagement plan aimed to ensure the community understood the reasons for the upgrade, the solution selected and the impact this will have on levels of service and rates and, further, to provide them with an opportunity to influence negotiable aspects of the upgrade, being landscaping and some level of service aspects.

Stakeholders were grouped according to their level of influence on the project with the two highest levels of influence, Collaborate and Empower, being the domain of the Ahuriri Community Board and Council Assets Committee respectively. The Waitaki residents and the Residents and Ratepayers Association were identified as Inform and Consult respectively.

The engagement plan outlined engagement actions and timings and these are summarised in the following table

Table 1 Engagement actions and timing

Timing	Action	Stakeholders	Purpose	Summary of actions
Sept 2018	Email	Ahuriri CB	Provide opportunity to provide feedback on draft engagement plan	Feedback received
Oct 2018	Assets Committee update	Assets Committee	Update on engagement plan	Update completed
Oct 2018	Email	LOAVRRA	Provide opportunity to review draft engagement plan and consultation documents	Feedback received
Nov 2018	Workshop	Assets Committee LOAVRRA	Provide LOAVRRA opportunity to ask questions on draft engagement plan and consultation documents	Feedback received
Nov 2018	Assets Committee update	Assets Committee	Update on engagement plan	Update completed
Dec 2018	Leaflet mail-out	Residents and ratepayers	Provide relevant information regarding upgrading.	Newsletter developed and circulated outlining the preferred options with and without chlorine and on-demand

Timing	Action	Stakeholders	Purpose	Summary of actions
				or restricted. The newsletter provided advance notice of a public meeting to be held in Ohau to discuss the upgrade.
Jan 2019	Public meeting	Residents and ratepayers	Provide opportunity to ask questions and complete survey.	Meeting held on-site Ohau lodge. Community Task Force, representing both the Lake Ohau Alpine Village Residents and Ratepayers Association and the wider community created to work as the contact point for Council Officers for the sharing of information. LOAVRRA remained main distributor of information to the wider community.
Jan 2019	Survey	Residents and ratepayers	Provide opportunity to feedback on levels of service (on-demand vs restricted) and chlorination.	Survey completed. Strong support for on-demand and not chlorinated.
Target Mar 2019	Report	Assets Committee	Gain resolution on project scope	Not yet complete

Note LOAVRRA is the Lake Ohau Alpine Village Residents and Ratepayers Association.

A substantial tract of additional engagement has flowed from the Engagement Plan works with the Task Force being particularly vocal in relation to technical solutions and individual residents providing commentary and input.

6.4 Engagement with the community Task Force

The community Task Force developed from the January public meeting as representatives of residents and of the Lake Ohau Alpine Village Residents and Ratepayers Association. The Task Force purpose was to help Council investigate and assess options and to answer queries from the community.

The Task Force initially comprised eight members being; Belinda Weir, Craig Ovenden, Gary Stitchbury, Kay Lawson, Martin Heal, Pip, Steve Simmons and Phil Driver. Whilst comprising eight members, Officers only met with Belinda Weir, Craig Ovenden, Gary Stitchbury and Kay Lawson.

Council focussed its liaison directly with the Task Force, as was envisaged, and there seemed to be a growing body of understanding of the issues and the offered solutions. Liaison continued through email and telephone discussion and an on-site meeting in May.

Following this meeting Gary Stitchbury resigned and Belinda stepped back. Pip, Phil Driver and Steve Simmons appeared to join the Task Force at this time. Pip and Phil Driver, assisted Council in the assessment and evaluation of shortlist options at a workshop held on24 June 2019 (refer section 15.3 Option evaluation workshop).

Regrettably, the change in Task Force members delayed project progress as understanding and agreed direction was lost and it was necessary for this to be re-built and certain previously agreed matters to be re-discussed.

The Task Force confirmed by email on the 25th July that the Task Force members are; *"Belinda Weir, Kay Lawson, Helen and Bernie White, Jill and David Stone, Craig Ovenden, Barbara and Norman Mackay, and Steve Simmonds. Phil Driver remains an advisor."*

At hand over of the LOAVRRA submission (31st July) Council were advised that the above Task Force was not correct, and that the Task Force was no longer, and to communicate through Elfrida, LOAVRRA chair.

The communication lines adopted by the Task Force are not always fully clear as they currently do not have a designated spokesperson and it can be somewhat difficult to determine if correspondence from individuals, who are Task Force members, is an individual view or that of the Task Force.

These issues aside, liaison with the Task Force has generally been positive and have identified a range of issues that are important to the Task Force, namely:

1. A view that the current source water is of **very high quality**.
2. A view that the **water sampling results** (of the current source water) showing high frequency of bacterial contamination, are invalid.
3. A view that the current source **has sufficient volume** for current and future needs.
4. A view that had residents known, at the time of the survey, that a **change to on-demand** would result in a flow increase and that this flow increase would impact source water options, then the community may have selected differently.
5. A view that **authority to construct or modify** infrastructure on private land will be able to be gained without undue difficulty.
6. A view that sourcing **ground water is not a viable** option as bores have not yet been sunk and thus bores may not yield sufficient, or any, water.

The task Force holds a strong preference to retain the current water source and have promoted a design solution and submission favouring this.

6.4.1 Task Force submission

There was no submission process intended nor sought in the engagement process and no party nor entity were requested to provide, nor did provide (save the Task Force), a submission. Never-the-less the Task Force developed and submitted a submission to Officers on 31 July 2019 and this is included in Appendix A – Task Force Submission.

The submission, in addition to promoting a specific design solution, did not raise any matters not identified through other processes. It did, however, acknowledge that the supply **must be upgraded** and **must be treated**. Both are significant breakthroughs in understanding and go some way to offsetting their view that water sampling is invalid.

The submission also notes a survey conducted by the Task Force that identified 83% support for the Task Force option. It must be stated that the actual question posed in the survey is not known (only the result was provided), the response numbers were low and that the Task Force acknowledges that the costings for the option were incomplete. It is not clear whether the Task Force made the community aware of the cost, risk, flow limitations and potential for subsequent stages and cost in the survey. As such caution is prudent when considering the results of the Task Force survey.

6.4.2 Task Force and LOAVRRA call for donations

A concerned member of the community forwarded to Officers a request from the Task Force and LOAVRRA (Lake Ohau Alpine Village Residents and Ratepayers Association) for donations to raise funds to support advocacy for the Task Force promoted option.

The call for donations, like the Task Force submission and survey, were not anticipated in the engagement process and there exists concern around the impartiality of these works and the completeness of the information provided to consumers in this request for donations.

6.5 Engagement with LOAVRRA

The community Task Force, as the representative body of LOAVRRA (Lake Ohau Alpine Village Residents and Ratepayers Association) provided the primary point of contact for dissemination and discussion of information. However, direct discussion and correspondence with LOAVRRA chairperson and secretary continued in tandem with Task Force communications.

6.6 Engagement with the community

The January Survey, in addition to seeking community views on levels of service (on-demand vs. restricted; chlorinated vs. non-chlorinated) also encouraged comments from survey respondents and a number of respondents made use of this opportunity. Additionally, some members of the community took the opportunity to directly contact Officers, the Chief Executive and the Mayor to express their views. A synopsis of views is summarised below:

1. **Chlorination and restricted supply**. Some respondents noted apparent allergy to chlorine and others raising concerns with potential chemical attack on copper and other metals used in piping and the like. There is a strong community preference to no chlorination. Some respondents expressed concern over the cost, physical workability of siting tanks on properties and potential liability Council may face should they be required to install tanks for restricted supply.
2. **Upgrading is unnecessary or could be addressed individually.** Some respondents maintain the source water is plentiful and safe, "no one has gotten ill". Some respondents maintain that the water sampling showing frequent e-coli (faecal origin) contamination is flawed and thus invalid. Point Of Entry (POE) treatment was raised as a potential solution by some respondents. However, as there is no compliance pathway for POE treatment within the Drinking-water Standards, it is not a valid, compliant treatment technology. POE was eliminated as an option in the earliest stages of the upgrading project. Equally, some respondents identified that upgrading and treatment were both necessary.
3. **Gravity supply was preferred** by some respondents. Some respondents noted power supply reliability issues at the village and felt gravity supply was more secure and thus the existing source should be maintained.
4. **Linkage to development.** Some respondents drew a link, and opposition, to options involving sources other than the current source as a mechanism to improve the development potential of the land upon which the current source and infrastructure is sited.
5. **Access limitations.** Some respondents queried Councils stance relating to access limitations on private property maintaining that existing rights and easements conferred sufficient authority to undertake any necessary works.
6. **Bore water is unknown.** Some respondents noted that the yield and quality of the as yet undrilled groundwater bores was unknown and that this should discount groundwater as an option. Concern was raised around the impact of the wastewater treatment pond discharge on any groundwater bores.
7. **Visual impact and Water conservation.** A strong desire to minimise the visual impact of any works was expressed by some respondents. Promotion of solutions to the south-west ("behind") the village were seen as mitigating potential impacts. Some respondents expressed a desire to ensure water conservation matters were taken into consideration and

that restricted supplies were preferred to achieve this. Some noted that the existing 600L/day was adequate and tended to encourage, what they deemed to be, favourable behaviours. Conversely, some respondents expressed concerns around physical limitations to retrofitting on-site tanks as would be required for a restricted supply whilst others raised concerns with householder costs associated to the same.

8. **Cost, metering and normalised charging.** Some respondents felt that the costs of upgrading were unaffordable and should be spread district wide. Some respondents supported the implementation of water metering for on-demand users.
9. **Project is being rushed.** Some respondents felt that the project was rushed and insufficient information on technical matters and options had been developed or supplied. Some supported delaying the decision until additional information was gained whilst others favoured a staged upgrading approach.
10. **Task Force views not necessarily representative.** Some respondents expressed support for progressing the project and that the views being most strongly advocated may not be representative of their own view.

6.7 Engagement discussion and findings

Community engagement has been extensive, collaborative and thorough. The engagement, in all its forms, has identified a core set of issues that influence progress on this project, namely:

1. Levels of service – On-demand or Restricted Flow and chlorinated or not chlorinated
2. Quantity and Quality of source water – some reluctance to acknowledge the need to upgrade and a strong desire to retain current source

These two over-arching issues are primary considerations relating to the project and are discussed in the following sections. The balance issues are more typical of technical matters that would have differing implication and risk to differing design solutions. That is to say all options would involve a degree of customisation and scope to accommodate specific demands.

7 Level of service

Level of service is the first over-arching issue of importance to the community.

Two key level of service matters were presented to the community by way of the Council survey; whether the supply should be on-demand or restricted; and whether the supply should be chlorinated or not chlorinated. 71 respondents participated with 71% favouring On-demand and 82% favouring not chlorinated.

7.1 On-demand or restricted

There is strong community support for an on-demand supply.

7.1.1 Understanding restricted and on-demand supplies

A restricted supply is a level of service where water is supplied to the consumers on-site storage tank at a pre-set daily volume. In Ohau this volume is currently 600L per day or around two and a half buckets of water an hour. The consumer withdraws water solely from the tank by either having the tank elevated and using this height as a driving force, or by household pumps. In essence, when the consumer turns on a tap the water comes from the consumers own on-site storage tank and the Council network refills that tank slowly over time. The network needs only be capable of meeting the "sold" daily volume as peaks are accommodated by the consumers on-site tank.

The village water supply was established as a restricted flow supply where each lot was allocated a restricted volume of 100 imperial gallons per day (454L/day)[8]. Whilst a restricted volume of 455L/day was the basis for the supply design, it was not captured in the consent conditions and consequently not applied as a service standard[9]. This has resulted in connections being either not restricted or restricted without the actual restrictor device (the unit that physically limits the volume) fitted. As at 2003, Officers believed that no supply was effectively restricted[10]. The 2003 development of the village, being the Stage III subdivision, brought this issue to focus and connections from this period were generally restricted leading to the current mix of restricted flow and on-demand supply and the resultant varying level of service.

At some stage the restricted volume changed from 455L/day to 600L/day. It is not clear exactly when or why this occurred, but it is highly likely that it was to address the potential for restrictor units to block when the restrictor orifice is smaller than the screen protecting the orifice such as is required for a 455L/day restrictor. Generally speaking, any restrictor providing less than 900 or so L/day is vulnerable to blockage by material that is able to pass the protecting screen.

Today, around half of the consumers receive a restricted supply of 600L/day while the balance are on-demand.

An on-demand supply is a level of service where the water is provided at mains pressure. This pressure drives the water through the consumers pipework negating the need for on-site storage tanks and pumps. In essence, when a consumer opens a tap the water is drawn directly from the Council network. The network needs to be capable of meeting the peak demand of multiple consumers simultaneously.

[8] Development Plan Application16 Dec 1980, Johnston Hatfield Anderson & Partners
[9] J Cuthbertson 18 July 2003 letter to Anderson Lloyd Caudwell
[10] J Cuthbertson 18 July 2003 letter to Anderson Lloyd Caudwell

7.1.2 Impact of changing supply level of service

The primary advantage of a restricted supply is the smoothing of flow profiles by removing peak instantaneous demands allowing smaller, less expensive infrastructure. This impact is most significant when considered for reticulation systems where it is simply un-economic to pipe on-demand flows vast distances. The impact on source water and treatment needs, once buffering with reservoirs is included, is significantly reduced but not eliminated.

To maximise this advantage and ensure equitability, all on-demand consumers would need to convert to restricted.

The primary disadvantage of converting the on-demand consumers to a restricted supply is cost, tank siting ability and reasonable enforceability. Requiring consumers to retrofit tanks and pumps would likely meet substantial consumer resistance and is estimated that the physical works to convert the on-demand consumers would cost in the order of $330,000. Costs involved in liaising and enforcing conversion are not estimated but could be substantial and easily push the cost of conversion to $400,000 or more. It has not been confirmed that Council would have sufficient authority to enforce the conversion of an on-demand connection to restricted flow.

The primary advantage of converting the restricted consumers to on-demand is the avoidance of cost involved in physical works, liaison, development of authority should this be lacking, and enforcing he change. Whereas a restricted supply only functions at its design when all consumers are restricted and utilise on-site storage tanks, an on-demand supply will function equally well whether the consumers retain or remove the on-site storage tanks. Conversion is simply a matter of removing the restrictor unit. The consumer would then have the choice to either retain or remove their on-site storage tank.

The primary disadvantage of converting to on-demand is the requirement for the network to meet higher peak demands. This is of most relevance in the reticulation network but does have an impact on source abstraction and treatment. Analysis has identified that the reticulation network has sufficient capacity to accommodate on-demand supply.

7.1.3 Survey result

There is clear support, 71%, for an on-demand supply. This is consistent with a community survey of the same matter in early 2008 where around half favoured on-demand, a quarter restricted, and the balance either status quo (mix of on-demand and restricted) or having no preference.

Considering the impacts of a decision to adopt an on-demand supply we can identify:

Advantages:

1. Is consistent with the communities wishes.
2. The in-equitability of residents receiving different levels of service is eliminated.
3. The cost of converting the on-demand consumers to restricted, estimated as some $330,000 in physical works costs, is avoided.
4. The risks and costs of enforcing conversion are avoided.
5. Property development costs will reduce as on-site tanks and pumping will not be required.
6. Site usage impediments of on-site tanks will be avoided.

Disadvantages:

1. The instantaneous use will increase as the buffering nature of on-site tanks is removed. Design flows will need to increase to accommodate this.

7.1.4 Conclusion - On-demand or restricted

The advantages of adopting an on-demand supply outweigh those of a restricted supply provided that the costs of providing an on-demand supply do not exceed that of a restricted supply by more than, say, $330,000 to $400,000 and the social implication of imposing a change are tolerable.

7.2 Chlorinate of not chlorinate

Chlorine is an effective disinfectant widely used in water treatment. Chlorine offers advantages over other disinfectants in that it maintains a relatively stable residual and is thus available to address contamination that may be present or reintroduced in the network or consumers systems post treatment. However, other treatment technologies are effective at addressing contamination at the treatment plant although they do not offer the residual disinfection benefits.

There is increasing pressure from the Ministry of Health to chlorinate drinking-water, and whilst not mandatory as yet, the Havelock incident and subsequent enquiry may swing the balance in favour of mandatory chlorination.

7.2.1 Impact of adopting chlorination

Chlorination is a relatively straight-forward and, in the context of the project total, low cost treatment technology. The principle costs relate to minor mechanical equipment such as pumps and injectors and housing the gas storage separate from injection.

Chlorine can alter the corrosivity of water and, depending on the source water, create tastes and odours some find objectionable although these effects can be minimised by flushing and, where necessary, stabilisation of the water.

7.2.2 Survey result

Residents strongly oppose chlorination with 82% preferring a not chlorinated supply.

7.2.3 Conclusion - Chlorinate or not chlorinate

On balance and considering the opposing wishes of the community and the Ministry of Health, it seems prudent to install and test chlorination equipment without turning on chlorination.

Should chlorination become mandatory at some stage then it would be easily turned-on.

8 Quantity and quality of source water

Quantity and quality of source water are the second over-arching issue of importance to the community.

Whilst multiple technical options have been considered through the development of the project these distil down to two fundamentally different sources:

1. Surface water
2. Ground water

8.1 Surface water

Various surface water sources are available in the local vicinity with the most likely for consideration being; Lake Ohau, Freehold Creek and minor un-named tributaries to Lake Ohau such as the current source.

8.1.1 Lake Ohau

Lake Ohau is the most obviously abundant source and water could be abstracted by direct take or built filtration or bank filtration. Preliminary assessment carried out in 2018 identified that direct takes of surface water presented greater cost and risk than sourcing Lake influenced groundwater and thus were not considered further.

No specific water quality monitoring has been completed for Lake Ohau for this project, but the water would be expected to be generally stable with potential for low-level contamination, has increased vulnerability to storm induced turbidity and land use changes, and risk of contamination emanating from boating and recreational activities. Department of Conservation lake water sampling supports this view.

Conclusion. Lake Ohau could be a satisfactory source of water for the supply at vast quantities, however lake influenced groundwater is considered to offer multiple advantages and direct lake water was not considered further.

8.1.2 Freehold Creek

Aside from Lake Ohau, Freehold Creek is the most reasonably adjacent, substantial surface water source.

No specific water quality monitoring has been completed for Freehold Creek for this project, but the water, being an open water course in an uncontrolled catchment would be expected to be subject to reasonable variability with persistent, mostly low-level but fluctuating contamination, and increased vulnerability to storm induced turbidity and land use changes.

2009 investigations into Freehold Creek hydrology[11] identified that, whilst not subject to ongoing flow measurements, exhibited a consistent relationship to the Ahuriri River and it was possible to develop a mathematical relationship between the two surface waters.

[11] Boraman Consultants Ltd Jun 2009. Brief Hydrology of Freehold Creek.

The 2009 work identified a Mean Annual Low Flow as 62L/S and, since Freehold Creek falls under the Waitaki Catchment Water Allocation Regional Plan, the total allowed abstraction by all users on the creek is 10% of Mean Annual Low Flow or 6L/S.

Conclusion. Freehold Creek could be a satisfactory, though variable, source of water able to contribute up to 6L/S provided no other user has attained rights to take water. Significant and potentially rapid variability in water quality would be expected and substantial storage or advanced treatment processes would likely be required to accommodate these. The majority of the time, however, the water would be expected to be treatable with readily available treatment technologies.

8.1.3 Rock field (current source)

The current source for the water supply is described in the March 2003 resource consent application to renew the consent for the taking of water from an unnamed creek (tributary to Lake Ohau), as:

"Water is extracted from the base of a terrace some 300m from Freehold Creek. ~ At the base of the terrace there is a section of small to medium size rock (i.e. 20-150mm diameter) which spars some 3-5m wide and in excess of 100m long. It is through this media that water is captured via way of a 100mm diameter field drain and directed into a manhole structure."

The current source is thus a rock-field on an unnamed creek. It is neither a spring nor is it Freehold Creek even though it is sometimes erroneously referred to as such.

There has been long debate relating to the potential yield and quality of the rock-field source.

Quality.

The presence of animals, both wild and farmed in the catchment, ensures that the risk of faecal contamination is always present and the water sampling (refer section 3 Drivers for upgrading works.) identified a clear pattern of faecal contamination extending for decades. Additionally, the previously completed Public Health Risk Management Plan and Water Safety Plan identify the need for no less than 3 log pathogen removal to address microbial risk.

Water from this source does and would require treatment should it be used for the supply of drinking-water. Its current, untreated, use for drinking-water is inappropriate.

Quantity.

There is significant lack of agreement between Officers and the Task Force on the issue of quantity available from the rock-field.

The Task Force maintain a position that the rock-field has, and has always had, sufficient volume whereas Offices consider the source vulnerable to low yields. A search of Councils records identifies that the position of the Task Force is not able to be supported and that the rock-field is documented as having experienced short-falls in volume.

The records identified that, on a site visit undertaken by Environment Canterbury on 28 June 2001, the supply suffered from insufficient water volume to such an extent that un-identified parties constructed a water channel to divert water from a neighbouring water race to supplement the

supply[12]. Environment Canterbury understood that this was remedied at this time and that the works to divert were unauthorised.

Further correspondence identified that a trench diverting water from the water race continued to exist in 2003 as a written instruction to have it "filled in" and further that filling is was to be by "manual shovel; no excavator is to go to site" being issued in May 2003[13], nearly two years after the identification by Environment Canterbury. It is unclear as to whether the trench was re-dug after the 2001 identification or was never actually filled in. The ditch was filled in on 20 May 2003[14].

The search also identified e-mail[15] correspondence from a resident (Barbara Mackay) stating:

"we certainly remember the reduced water flow from our taps, but Freehold itself never dried up completely. It was low. The branch of Freehold that flows out towards our spring intake area did dry up. At that time the trench someone dug was not created so water was from the spring area only."

This view was further reinforced by Barbara MacKay in a letter to Straun Munroe (WDC councillor).[16]

When considering the volume limitations experienced by the users it should be acknowledged that at this time only the on-demand portion of the current consumers were connected to the supply, being 50% of the current consumer count. Further, the water take allowed a volume of around 2L/S be taken and that this was considered satisfactory for the village at this time. To run short of water at this time would suggest that the rock-field yield dropped below 2L/S.

Source water flow has been measured on two occasions, being February 1987 and again in March of the same year with flows measured as 4.2 and 7L/S respectively[17]. The measurements identify a substantial variation in flow across the one-month period and may not represent the lowest, or highest, experienced flow. It can be confirmed that flows dropped to at least 4.2L/S. It is prudent to acknowledge that these flow measurements were taken some 3 years before the 2000/01 water shortages and as such are unlikely to represent the worst-case source yield.

There seems a clear body of evidence that supports the view that the water quantity available from the rock-field is, or has been, insufficient. It has been measured as low as 4.2L/S and may have experienced difficulty in maintaining 2L/S. there are clearly acknowledged times when the source yield failed.

What is unclear is why the issues with volume that occurred in the 2000-2003 period have not resurfaced. There is insufficient information to accurately and unequivocally state why this may be the case, however, when considering the events that are known to have occurred around this period, being the digging of the trench from the water race to supplement the rock-field and the decision to implement restricted connection on all new developments, being subdivision and dwelling, it is possible to infer:

- The trench, even though backfilled, continues to have a positive benefit on the volume available at the rock-field. This is reasonably likely as the backfilling was carried out by

[12] Environment Canterbury 28 March 2003. Lake Ohau Alpine Village Water Supply Resource Consent CRC001915
[13] J Cuthbertson 13 May 2003. Letter to Whitestone Limited.
[14] J Hardy 22 May 2003. Email to J Cuthbertson.
[15] B MacKay 19 Oct 2003. Email to J Cuthbertson, S Munro, S Perrin (WDC), R Halstead, E McRae (Village residents)
[16] B MacKay 13 May 2004. Letter to S Munroe.
[17] March Construction Ltd 11 May 1987. Water supply restrictor valves.

manual shovel and would not be expected to gain the density of the surrounding ground and would thus remain a less resistant flow path than the surrounding ground.

- The imposition of restricted flow curbed volume growth sufficiently that, in combination with the trench, the source remained adequate for the mix of restricted and on-demand users.

Should the above view prove correct there exists a substantial risk in that the rock-field relies on the water race for supplementation and that this water race is privately owned[18] and operated by parties with whom Council has no agreement for supply.

Conclusion. The Rock-field could be a satisfactory, generally stable, source of water able to reliably contribute perhaps 2L/S in the driest years. Variability in water quality would be expected although this would likely be less than a take from Freehold Creek proper and would likely be able to be addressed with readily available treatment technologies. Storage to accommodate quality variability would likely be required.

8.2 Groundwater

Groundwater is known to exist in the area adjacent to Freehold Creek and Lake Ohau by the existence of a small number of water bores. The location of these bores is shown in Figure 4

[18] Environment Canterbury 28 March 2003. Lake Ohau Alpine Village Water Supply Resource Consent CRC001915

Figure 4 Existing groundwater bores

Figure 4 identifies six bores labelled A to F and denotes the relative yield of each.

The tested abstraction flowrate from each bore, including the high and medium yielding bores is low, at no more than 2L/S. This should not be construed to mean that the potential yield is equally low.

The tested bores were assessed as High, Medium or Low yielding by reference to the bores draw-down at the tested flowrate and the bores specific capacity which is a measure of the calculated flow achievable from the bore that would result in a 1m depression in the bore water level. Neither are an exact predictor of sustainable bore yield but do provide useful guidance. The measured performance of the bores is tabled below:

Table 2 Existing groundwater bore flow testing

Bore	Tested flowrate (L/S)	Drawdown at tested flow rate (m)	Specific capacity (L/S/m)	Comment
A	2	Nil	4.5	At 2L/S no measurable drawdown occurred
B	1	14	<0.1	To produce 1L/S the water level in the bore depressed by 14m
C	1	10	<0.1	To produce 1L/S the water level in the bore depressed by 14m
D	2	2	0.7	To produce 2L/S the water level in the bore depressed by 2m

Bore	Tested flowrate (L/S)	Drawdown at tested flow rate (m)	Specific capacity (L/S/m)	Comment
E	1	Nil	9.7	At 1L/S no measurable drawdown occurred
F	nil	-	-	Bore was dry

Bore E, being the bore closest to Lake Ohau, indicates favourable yields. It would be expected that bores at this location would be influenced by lake water to a large degree. Bore A also indicates favourable yields, and this could be due to its siting within the Freehold Creek alluvial outwash. Bore D indicates moderately favourable yields but does incur some drawdown at modest flows.

The balance three bores are either low yielding or failed to find water.

Quantity.

Actual yield from as yet un-drilled bores is unknown and it is necessary to rely on the guidance of hydrogeologists regarding siting and potential yield. Guidance to date indicates that a per bore yield of between 2.5-5L/S should be achievable for carefully sited bores.

It is not possible to guarantee yield until bore(s) are drilled and developed.

Quality.

The groundwater would be expected to have the potential for faecal contamination, much as is expected from the overlaying surface waters. As such it will require similar treatment.

Ground water does not offer a source that can be used as drinking-water without treatment.

Unlike surface waters, groundwater has substantial "inbuilt" quality buffering potential. Where a surface water will show rapid response to storm events with increased turbidity and associated elevated bacterial contamination (due to the run-off picking up faecal matter), groundwater will not exhibit the same rapid response. In most instances the response will be difficult to observe due to the very slow passage of water through the aquifer (surface waters move at metres per second where groundwaters move at metres per day) and the resultant die-off of microbes.

This buffering has significant advantages in the treatability of the water as it is far easier to treat a stable, consistent raw water than a highly variable one.

This buffering effect can be observed in water monitoring results and while no results are available to compare the Ohau surface waters to the Ohau groundwaters directly, the following two figures, kindly provided by the Queenstown Lakes District Council, provide a useful illustration.

Figure 5 Shotover river and Shotover bore e-coli

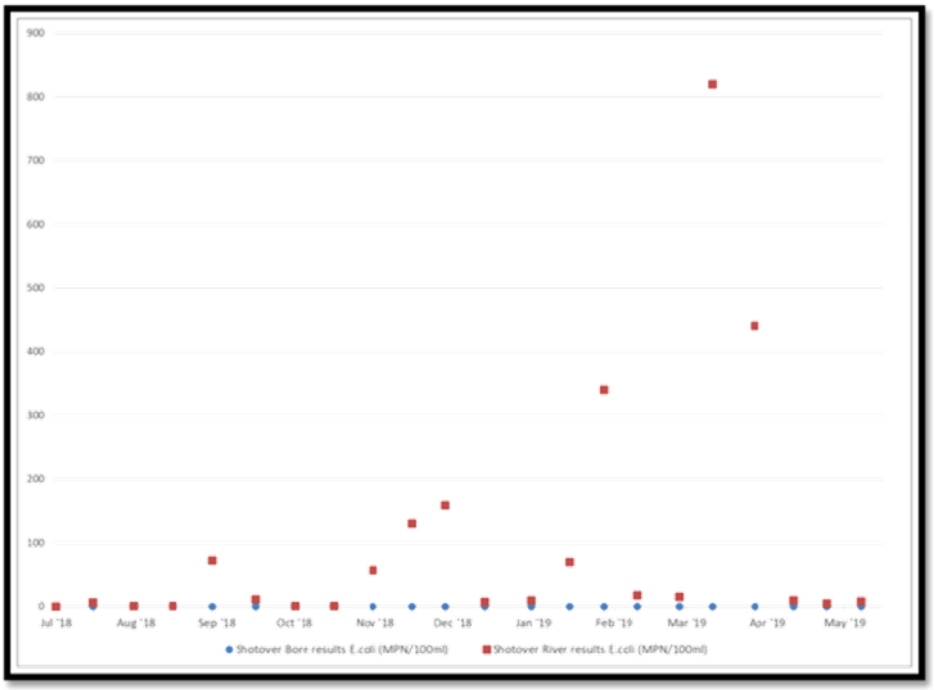


Figure 5 shows, as red squares, variable and often very elevated levels of e-coli in the surface water of the Shotover river between July 2018 and May 2019. The frequency and variability of e-coli in the surface water is readily apparent. Conversely, Figure 5 also shows, as blue dots, stable (nil) e-coli in the ground water of the Shotover bore over the same time period.

Figure 6 Shotover river and Shotover bore turbidity

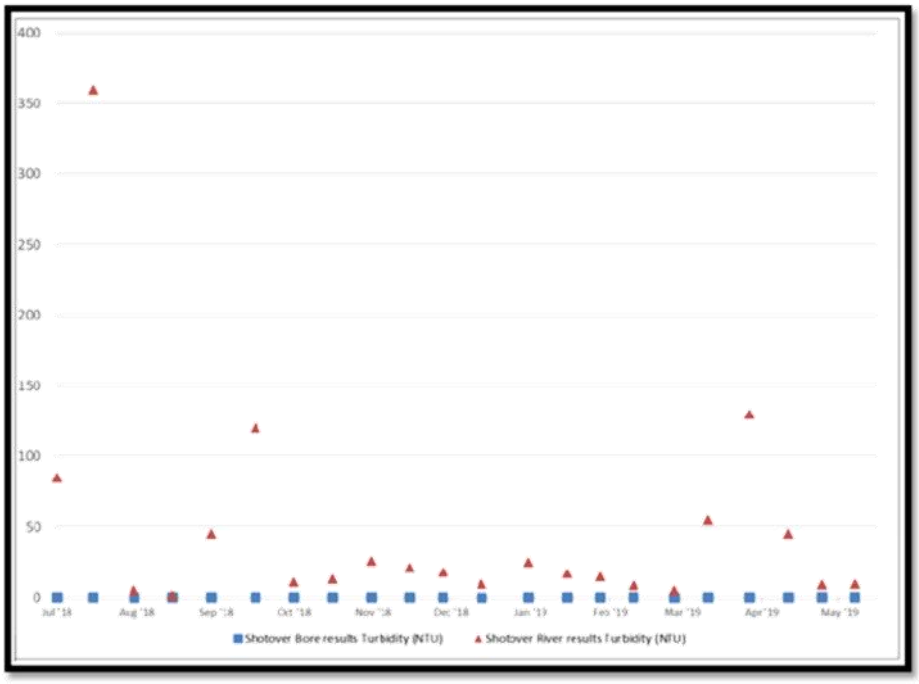


Figure 6 shows a similar relationship between surface and groundwater for turbidity as is evident in Figure 5 for e-coli.

Groundwater provides substantially increased water quality and stability, but the risk of contamination exists, and the water must be treated to address this risk.

Conclusion. Groundwater could be a satisfactory, stable, source of water able to reliably contribute some 2-5L/S per bore. Limited variation in water quality would be expected.

8.3 Quantity and quality discussion

Both surface and ground water sources have the potential to supply useful volumes of treatable water.

Groundwater has the highest potential yield (excepting direct lake water), expected quality and stability but carries a risk associated to exploration and location of a suitable source. This risk can be mitigated by careful bore site selection but is difficult to completely eliminate without encroaching onto the lake itself.

Both surface water sources considered, Freehold Creek and the Rock-field, are impacted by yield limitations and in the case of the Rock-field these limitations are significant. As surface waters the water quality is often low and is subject to a higher degree of variability than that of a groundwater.

8.4 Conclusion - quantity and quality

On balance and considering the existence of functional bores in the general vicinity, the yield and treatment advantages of groundwater make groundwater the preferred water source.

9 Design volume

Design flows have been determined by Fluent Solutions and are included as Appendix C – Design Flow.

Design considered growth impacted future flows for both restricted and on-demand flow scenarios and identified that, adopting a restricted flow of 1,000L/day (increased from the current 600L/day), the design daily flows are:

- Restricted: 188m^3/day being 2.2L/S over 24hours
- On-demand: 352m^3/day being 4.1L/s over 24hours.

Restricted supplies use the consumers on-site storage to smooth out peaks and the 24hour flow, 2.2L/S in this case, can be considered the treatment design instantaneous flow rate although there is merit in allowing water production over less than the full 24hours to accommodate system outages and maintenance.

On-demand supplies, however, experience substantial peaking in flows and these have been estimated to be 12.7L/S as a peak instantaneous flow rate. Typically, peaks are attenuated by treated water storage (a reservoir or collection of tanks functioning as a reservoir) and this returns the treatment design instantaneous flow rate to the 24hour flow or 4.1L/S in this case. Again, there is merit in allowing for outages and repairs.

Without treated water storage (reservoir) the treatment plant must accommodate the peak instantaneous flow, 12.7L/S.

9.1 Conclusion – Design volume

The minimum design flowrate to the water treatment system is:

- Restricted: 2.2L/S
- On-demand: 4.1L/S where treated water (reservoir) storage is provided.
- On-demand: 12.7L/S where treated water (reservoir) storage is not provided.

10 Design Solutions

Multiple design solutions have been developed throughout the course of the project and these are included as Appendix D – Design Reports and Memos.

All options were conceptualised and estimated commensurate with the available detail that is typical for optioneering. Significant "P&G (Preliminary and General) and Contingency costs were allowed in the estimates to reflect not only the design uncertainty, assumptions, engineering and administration necessary to deliver a constructed product, but also to reflect the significant tract of pre-works necessary to identify a preferred option and gain decisions. There is a very high likelihood that these costs are underestimated as project costs have already surpassed $130,000 and no design has yet been agreed.

The objective of costing for optioneering purposes is to provide an even and fair basis for assessment of options for comparison purposes while providing reasonable indication of the completed project cost. For this reason, base assumptions and allowances are applicable across options, that is to say that the confidence and detail of costing for each option is comparable.

From the many design options, four solutions were short-listed and are considered further:

1. Option 2 (revA) – Groundwater adjacent to the lake.
2. Option 6 – Groundwater on Edwards property.
3. Option 8 – Groundwater behind village.
4. Option 9.1 – Existing source with selective abstraction, stage-able.

The four options were assessed for risk at an option evaluation workshop comprising Officers, Fluent Solutions and Task Force representatives and the results were subject to a sensitivity analysis and calibration. This is included as Appendix E – Option evaluation workshop.

11 Option 2 (revA) – Groundwater adjacent to the lake.

This is one of the two options proposed by Officers and advised to the community in January of this year.

This option utilises local groundwater resources and is not substantially different to other groundwater options save the location of the groundwater source and siting of the treatment infrastructure.

In this option the groundwater source is adjacent to the lake and treatment infrastructure is located in the trees behind the campground.

This option broadly consists of:

1. Abandonment of the current source
2. Groundwater bores
3. Water treatment plant
4. Closed pressure pump system
5. Treated water storage
6. Back-up generator
7. On-demand supply

The selection of the site location for this option places the works upon reserve land with easy access and proximity to established infrastructure for construction and operation. Approvals for works within the reserve will be required. The bore site is less secluded than options with siting behind the village although bore infrastructure is predominantly below-ground save the wellhead. The trees and sloping topography will provide screening for the remotely located treatment and storage infrastructure.

The location has a highest likelihood of sourcing the required groundwater volumes.

11.1 Cost

This option has an estimated capital cost of $1.24M.

The abandonment of the current source allows access to depreciation funding which moderates the rate charge impact.

11.2 Source

The water is proposed to be sourced from groundwater from new bores. Siting adjacent to the lake increases the likelihood of sourcing the required volumes.

11.3 Level of service

This option is designed for on-demand supply and as such meets the wishes of the community.

11.4 Staging

No staging is proposed although additional bores could be added over time to accommodate growth (should the yield prove marginal).

12 Option 6 – Groundwater on Edwards property.

This option was promoted by the landowner (Mr Edwards) whose land contains the existing intake, pipeline and water storage.

The option is essentially identical to option 8 except the location of the infrastructure is on Mr Edwards property and thus some small distance further remote from the village.

Mr Edwards has maintained a preference to not having infrastructure on his land and this option was promoted by him as an option he would, were no other options viable, accept.

However, Mr Edwards has now withdrawn this offer and advised that ***"any option to have third party infrastructure on my property will be actively resisted."***[19]

This option has an increased likelihood of failure. The following sections are, however, provided for completeness.

12.1 Cost

This option has an estimated capital cost of $1.43M.

The abandonment of the current source allows access to depreciation funding which moderates the rate charge impact.

12.2 Source

The water is proposed to be sourced from groundwater from new bores. There is increased uncertainty that suitable water volumes will be found at this location.

12.3 Level of service

This option is designed for on-demand supply and as such meets the wishes of the community.

12.4 Staging

No staging is proposed although additional bores could be added over time to accommodate growth (should the yield prove marginal).

[19] D Edwards 23 Jul 2019. Email M Goldingham (WDC)

13 Option 8 – Groundwater behind village.

This option utilises local groundwater resources and is not substantially different to other groundwater options save the location of the groundwater source and siting of the treatment infrastructure.

In this option the groundwater source and treatment infrastructure are located on private property behind the village.

This option broadly consists of:

1. Abandonment of the current source
2. Groundwater bores
3. Water treatment plant
4. Closed pressure pump system
5. Treated water storage
6. Back-up generator
7. On-demand supply

The selection of the site location for this option places the works upon private property with reasonable access and proximity to established infrastructure for construction and operation. Landowner approvals would be required for the works. The site is more secluded reducing visual impact although this carries increased uncertainty that suitable water volumes will be found at this location.

13.1 Cost

This option has an estimated capital cost of $1.09M.

The abandonment of the current source allows access to depreciation funding which moderates the rate charge impact.

13.2 Source

The water is proposed to be sourced from groundwater from new bores. There is increased uncertainty that suitable water volumes will be found at this location.

13.3 Level of service

This option is designed for on-demand supply and as such meets the wishes of the community.

13.4 Staging

No staging is proposed although additional bores could be added over time to accommodate growth (should the yield prove marginal).

14 Option 9.1 – Existing source with selective abstraction.

This is the option promoted by the Task Force and included in their submission, attached as Appendix A – Task Force Submission. In their submission they refer to this option as Option 10 even though there is no apparent difference. For the purpose of maintaining continuity the option is referred to as Option 9.1 throughout this report and appendices.

This option broadly consists of:

1. Selective abstraction from the Rock-field (existing source)
2. Portable, and thus relocatable, water treatment unit
3. Gravity supply through treatment units before pumping
4. Treated water storage
5. Retain current mix of restricted and on-demand
6. Future conversion to on-demand
7. Potential for supplementation with bores in the future
8. Supplementation

The Task Force promotes the benefits of a gravity solution in terms of power saving and resilience to power outage, and the installation of a pump and storage only as required or as an option in their submission. However, the submission clearly references and appends the Apex Environmental solution where pumping and treated water storage is clearly identified. Accordingly, it is assumed that the Task Forces references to the benefits of a gravity supply and the associated power saving benefits are an error, and the option is evaluated on the bases outlined by Apex Environmental.

This option varies from other options in four significant ways:

1. Cost - It appears substantially lower cost
2. Source - It utilises the existing rock-field source
3. Level of service - It retains the mix of restricted and on-demand supply
4. Supplementation – supplementary bores can be added resulting in a dual source supply

14.1 Cost

The Task Force acknowledge that there will be other costs associated with their promoted option but have not provided an indication of the magnitude of these. Fluent Solutions reviewed the option and identified a raft of works not included in the Apex Environmental costing. Estimates were developed by Fluent and discussed and agreed with Apex Environmental[20] to ensure reasonability and to confirm that no omissions or doubling up was occurring.

While estimated costing provided by the Task Force in its submission was $0.47M. Allowing for the excluded items this option, as agreed with Apex Environmental, is estimated to have a project cost of $0.82M excluding any groundwater supplementation.

This option, without supplementation, has insufficient capacity to supply an on-demand level of service.

It should be recognised that this option is identified as being able to be supplemented and that supplementation would attract additional costs estimated to add:

[20] S Kroening 31 Jul 2019. Email response to M Stevenson, Fluent Solutions

- $0.22M to provide supplementary groundwater sourced behind the village, and
- $0.69M to provide supplementary groundwater from adjacent to the lake.

The total project cost is dependent on whether or not supplementation is required.

This is the only option that retains the current intake and infrastructure, and as such does not release depreciation funding to off-set the project costs. This has a significant impact on the rate funded portion of the project.

14.2 Source

This option uses the existing Rock-field water source.

As previously noted, the yield from this source is the most limited of all sources considered. It is unlikely to prove sufficient to meet the needs of an on-demand supply for the current connected users let alone have the capacity for future on-demand growth. There are serious concerns about the ability of this source to satisfy the current mix of on-demand and restricted plus any future growth even if that growth was also restricted.

The source is on private land and whilst Council has sufficient authority to operate and maintain the supply it may not have authority to develop and construct the proposed selective abstraction infrastructure.

14.3 Level of service

This option retains the status-quo mix of on-demand and restricted supply and, due to source yield limitations would not be able to satisfy on-demand flows.

This is inconsistent with the wishes of the community as expressed in the Council survey.

14.4 Supplementation

This option is considered stage-able by the Task Force but in reality, the stages amount to contingency steps in the event identifiable risks eventuate, principally the lack of sufficient yield at the Rock-field source.

There is considered a high likelihood that supplementation will be required within a short period of project completion, especially were the communities wishes to become on-demand actioned.

For consistency in evaluation this option is presented as:

- **9.1 Current source**
- **9.1+GW(i) Current source + groundwater behind village**

The further sub-option **9.1+GW(ii) Current source + groundwater adjacent lake** was not considered further as it does not offer benefits, save reduced risk in sourcing adequate groundwater, over 9.1+GW(i). Additionally, there is no reasonable, cost effective way to allow the two physically separated sources to supply raw water to the treatment plant without extending substantial tracts of pipework. This would obviously add cost further increasing the total project capex.

9.1 relies solely on the current source to meet all current and future needs to the level of service required by the community. This is unlikely to be realisable.

9.1+GW(i) Current source + groundwater behind village is ultimately the same as option 8 but it retains the current source. This involves the development of groundwater bore behind the village to supplement the current source. This offers the "best case" groundwater supplementation of the current source. Both sources would work in parallel to supply the required volume of water. This has the effect of increasing capital cost whilst not releasing deprecation funds. This increases the rates funded portion of the works and thus the users annual charge.

15 Assessing the options

Four options were considered in detail, although one option, being option 6 (and promoted by the landowner) has now had landowner approval withdrawn. As this withdrawal of approval occurred after the assessment and workshop detailed below the option is retained for completeness.

15.1 Summarising the options

The options are discussed briefly in sections 11, 12, 13 and 14 and are tabled below;

Table 3 Summary of options

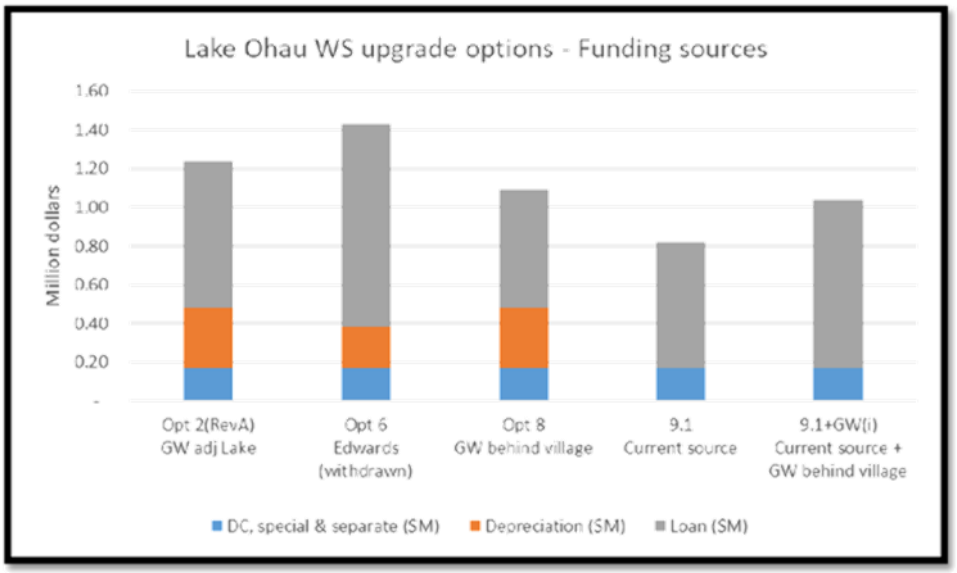
Option	Brief description	Capex (M$)	NPV 20yrs
2(revA)	Groundwater adjacent lake	$1.24M	$1.60M
6	D Edwards option (now withdrawn)	$1.43M	$1.89M
8	Groundwater behind village	$1.09M	$1.51M
9.1	Current source	$0.82M	$1.62M
9.1+GW(i)	Current source + groundwater behind village	$1.04M	$1.47M

Detailed descriptions of the options are included in Appendix D – Design Reports and Memos.

15.2 Funding and rates impact

All options except option 9.1 and its subsequent stages, involve the abandonment of existing infrastructure and this reduces the loan burden as illustrated below:

Figure 7 Summary of funding sources



This has a direct impact on the uniform annual charge as illustrated below:

Figure 8 Summary of rates charge

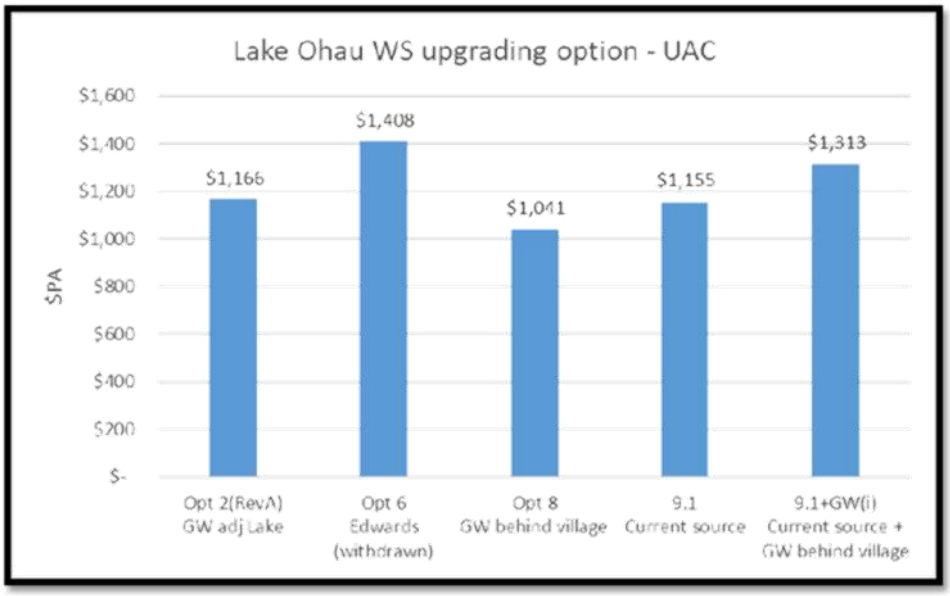


Figure 7 and Figure 8 identify that:

1. Option 9.1 Current source has the least capital cost estimate and the second lowest annual charge. The impact of the additional stage to supplement the supply, Option 9.1 +GW(i) Current source + GW behind village, increases both capital and annual charge costs. Without this supplementation this option does not meet on-demand supply needs.
2. Option 8 is the lowest annual charge option and offers the lowest capital cost for an option that does not retain the current source.
3. Option 6, now withdrawn from consideration by the owner, has capital and annual charge costs higher than the balance options.
4. Option 2(RevA) GW adjacent lake, carries a higher capital and user rate charge than the comparable option 8 GW behind village.

While the current source option is the least capital cost, it does not have the least annual rate impact and it does not meet the on-demand level of service.

15.3 Option evaluation workshop

The four short-listed options were evaluated at an option Evaluation Workshop involving Officers, Fluent Solutions and the Task Force. The Option Evaluation Workshop report is included in Appendix E – Option evaluation workshop.

The Task Force representatives were active participants in the discussion and assessment.

The evaluation considered five criteria; cost, water safety, location, environment and futureproofing/resilience and these were subjected to a structured risk assessment. The five individual criteria were defined, weighted and scored collaboratively by workshop participants and the results were then subjected to a sensitivity analysis and calibration.

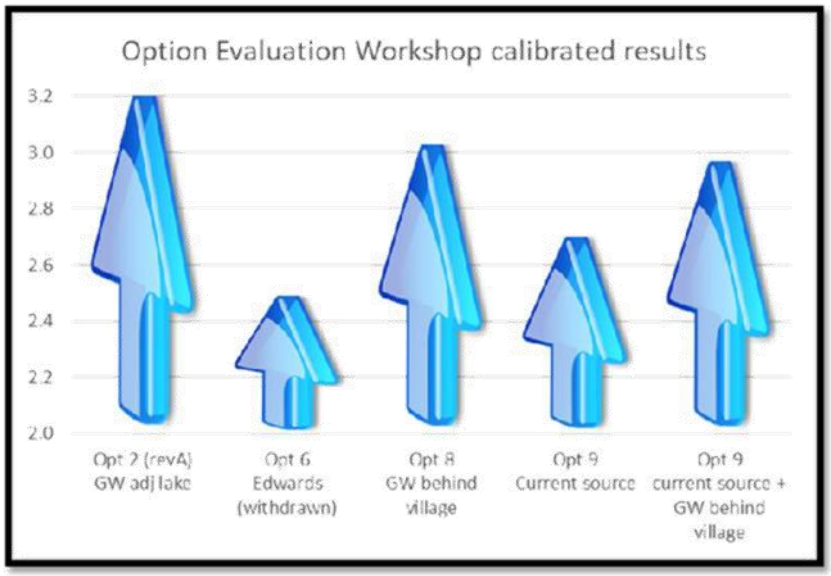
The final agreed weighted scores of the options, taking due consideration of the five criteria and the impact of sensitivity analysis and calibration are:

- Highest ranked with a weighted score of 3.21: Option 2(revA) Groundwater adjacent to lake
- 2nd highest ranked with a weighted score of 3.03: Option 8 Groundwater behind village
- 3rd highest ranked with a weighted score of 2.7: Option 9.1 Current source
- 4th highest ranked with a weighted score of 2.49: Option 6 Edwards (withdrawn)

The ranking of option 9.1 Current Source, when considered as option 9.1(i) Current source + groundwater behind village, improves to a weighted score of 2.97 although this does not improve its ranking.

Graphically the weighted scores of the options are shown in Figure 9 where the **best** performing option has the **taller arrow**.

Figure 9 Weighted scores of options



16 Conclusion and recommended option

Option 2(revA) Groundwater adjacent to the lake is the preferred option.

It offers the best balance between performance, risk and cost, including annual rates cost. This option benefits from increased likelihood of satisfactory yield and stable, treatable water, and satisfies the communities desire for fully on-demand supply.

Option 8 groundwater behind the village is a reasonable performing option but is not preferred as it carries additional risk around sourcing sufficient water for the future and potential security of the water, and this was reflected in the lower weighted score gained at the workshop.

Option 9.1 was a generally low performing option primarily due to concerns around yield and water security. Staged steps to address this improve the option to reasonable performance but have a significant impact on cost. Option 9.1 by utilising surface water is somewhat in tension with **Principle 2: Protection of source water** and **Principle 4: Change precedes contamination** and **Principle 6: Apply a preventive risk management approach** of the fundamental principles of drinking-water safety in New Zealand. More stable and protected sources subject to less change and lower risk are available and the principles would encourage the embracing of these sources.

Option 6 Edwards (withdrawn) was the lowest performing option that has subsequently been withdrawn from consideration.

16.1 Recommendation

Option 2(revA) Groundwater adjacent to the lake is the recommended option.

17 Appendix A – Task Force Submission

18 Appendix B – Task Force call for donations

19 Appendix C – Design Flow

20 Appendix D – Design Reports and Memos

Appendix D includes the following reports and memorandums that relate to this project:

Fluent Solutions documents:

1. 18 Jan 2019 Ohau Water Supply Upgrade – Further Options (DRAFT) memo
2. 17 May 2019 Ohau Water Supply Upgrade – Further Information (DRAFT) memo
3. 21 May 2019 Ohau Water Supply Upgrade – Additional options (DRAFT) memo
4. 1 Jul 2019 Ohau Water Supply Upgrade – Staged Option (Rev A) memo
5. 11 Jul 2019 Ohau Water Supply Upgrade – Staged Option (Rev B) memo
6. Aug 2018 Ohau Village Water Supply Issues and Options Report

21 Appendix E – Option evaluation workshop

4.5 SALE OF ENDOWMENT LAND

Author: **Rachel McNeill, Property Officer**

Authoriser: **Neil Jorgensen, Assets Group Manager**

RECOMMENDATION

That the Assets Committee recommends:

That Council approves the sale of the fee simple estate in Oamaru Endowment (residential) land at 31 Test Street, Oamaru (Lot 1 DP12820 Block XIII Town of Oamaru) to the current lessee, subject to financial criteria being met.

DECISION OBJECTIVE

To consider selling a piece of endowment land, with the proceeds from the sale then available for other Oamaru Endowment purposes.

SUMMARY

It is proposed that the Assets Committee recommends that Council considers the sale of the fee simple estate in Oamaru Endowment land at 31 Test Street, Oamaru to the current lessee.

SUMMARY OF DECISION-MAKING CRITERIA

	No/Moderate/Key		No/Moderate/Key
Policy/Plan	No	Environmental Considerations	No
Legal	Key	Cultural Considerations	No
Significance	No	Social Considerations	No
Financial Criteria	Key	Economic Considerations	No
Community Views	No	Community Board Views	No
Consultation	No	Publicity and Communication	No

BACKGROUND

The leaseholder wishes to purchase the fee simple estate in the Oamaru Endowment land at 31 Test Street, Oamaru.

Council has powers to sell or exchange endowment land, subject to “the proposed use of the proceeds of sale of the property, or of the property received in exchange, is consistent with the purpose of the endowment”.

This report is to consider the sale, subject to the financial criteria being on acceptable terms to Council.

The commercially sensitive information, including the financial and lease details, will be deliberated in a separate report to the Public Excluded session of this Assets Committee Meeting (refer to Public Excluded Agenda Item – Sale of Endowment Land PE).

SUMMARY OF OPTIONS CONSIDERED

Option 1 – Sell at not less than registered valuation subject to financial criteria being met (recommended)
This option means that in principle Council will sell the land to the current lessee. The proposed financial criteria are contained in a separate public excluded report to this meeting, in order to protect the commercial sensitivity ahead of any land sale negotiations.

Option 2 – Do not sell
This option means that Council does not wish to sell the land at this time.

ASSESSMENT OF PREFERRED OPTION

Option 1 is the preferred option.

The land is not of strategic value to Council. Selling the land will mean that funds from the sale will be added to the Oamaru Endowment fund which is then available for other purposes.

Appendices
Appendix 1 – Additional Decision Making Considerations
Appendix 2 – Photographs of 31 Test Street

APPENDIX 1 - ADDITIONAL DECISION-MAKING CONSIDERATIONS

The following matters have been considered in making the decisions.

Outcomes
The decision contributed to the following Council outcomes;

- We keep our district affordable
- We understand the diverse needs of our community.

Appendix 2 – Photographs of 31 Test Street

31 Test Street, Oamaru – Land Parcel Map

31 Test Street, Oamaru – Street View

5 MEMORANDUM REPORTS

5.1 ASSETS GROUP ACTIVITY REPORT

Author: **Unit Managers**

Authoriser: **Neil Jorgensen, Assets Group Manager**

RECOMMENDATION

That the Assets Committee receives and notes the information.

PURPOSE

The purpose of this memorandum is to inform the Assets Committee about strategic matters and outcomes.

ASSETS GROUP FOCUS AREAS

Water Services and Waste
Maintaining or improving service levels
Customer Service From 1 July 2019, 254 CRMs had been resolved by officers and SouthRoads, with 94% being resolved within the required timeframes. **Water** Additional membranes for the filtration cells at the Oamaru Water Treatment Plant are scheduled to arrive in September. These will help improve treatment capacity while recent issues with membrane fouling are being addressed and will also increase long-term treatment capacity. Advertising for a 3 Waters GIS Analyst closed on 16 August. Applications were received from several experienced applicants with local government GIS backgrounds. This role will make an important contribution to effective asset management planning for 3 Waters. The contract for renewing and upgrading several Oamaru Water Supply water mains over the next four years was recently tendered. This was awarded to SouthRoads and work will commence in September. This work will improve the network's resilience and reduce supply interruptions.
Protecting people, places and the environment
Water An upgrade options report on the Lake Ohau Alpine Village Water Supply has been prepared for the Assets Committee. This follows a workshop held with the Committee earlier this month and extensive engagement with community representatives on all possible upgrade solutions. This project is to ensure supply of safe drinking water and compliance with the Health Act and is a priority for the team. Officers will be working with Corriedale Water Management Limited to develop Water Safety Plans for the four water supplies, as none of the supplies have approved plans. Public Health South has issued a letter to Council (as owner of the supplies) requiring Water Safety Plans to be developed. A Water Safety Plan for Tokarahi is the highest priority due to supply serving a population greater than 500 people. This is required to be submitted to Public Health South by 31 October 2019.

The team completed the Annual Drinking Water Compliance Survey earlier this month. Preliminary feedback from the Drinking Water Assessor indicates most supplies had bacterial compliance. Indications of protozoal non-compliance on some small supplies were expected as these are awaiting upgrades to meet the Drinking Water Standards.

Supplier: Waitaki District Council

Awamoko Failed Health Act Failed Standards Population: 399

The water supply uses surface water and is chlorinated.

Awamoko failed to comply with the Health Act section 69ZF: remedial actions (action taken was inadequate).

Awamoko met the chemical Standards, but failed the bacteriological Standards for the whole supply (remedial actions) and the protozoal Standards for the whole supply (Comply not attempted).

Kauru Hill Failed Health Act Failed Standards Population: 197

The water supply uses surface water and is chlorinated. Temporary boil water notice issued.

Kauru Hill failed to comply with the Health Act section 69S: adequate provision.

Kauru Hill met the bacteriological and chemical Standards, but failed the protozoal Standards for the whole supply (Comply not attempted).

Kurow Complied Health Act Met Standards Population: 330

The water supply uses groundwater and is chlorinated and treated by UV.

Lower Waitaki, Rural Complied Health Act Met Standards Population: 778

The water supply uses groundwater and is chlorinated and treated by UV.

Oamaru Complied Health Act Met Standards Population: 15,561

The water supply uses surface water and is chlorinated and treated with ozone.

Omarama Complied Health Act Failed Standards Population: 270

The water supply uses groundwater and is chlorinated.

Omarama met the bacteriological and chemical Standards, but failed the protozoal Standards for the whole supply (Comply not attempted).

Otematata Complied Health Act Failed Standards Population: 195

The water supply uses groundwater and is chlorinated and treated by UV.

Otematata met the bacteriological and chemical Standards, but failed the protozoal Standards for the whole supply (Turbidity levels).

Tokarahi/Livingstone Failed Health Act Failed Standards Population: 573

The water supply uses surface water and is chlorinated.

Tokarahi/Livingstone failed to comply with the Health Act section 69Z: Water Safety Plan (draft plan only).

Tokarahi/Livingstone met the bacteriological and chemical Standards, but failed the protozoal Standards for the whole supply (Comply not attempted).

Waihemo Complied Health Act Met Standards Population: 1,357

The water supply uses groundwater and is chlorinated and treated by UV.

Windsor Failed Health Act Failed Standards Population: 137

The water supply uses surface water and is chlorinated.

Windsor failed to comply with the Health Act section 69S: adequate provision.

Windsor met the bacteriological and chemical Standards, but failed the protozoal Standards for the whole supply (Comply not attempted).

Wastewater

The Omarama wastewater disposal upgrade is progressing. The works to install the new disposal field were tendered and awarded to Specialised Services and have commenced. Tendering has commenced for the next phase of work to build the infrastructure from the treatment plant to the disposal field. This upgrade will ensure compliance with more stringent resource consent requirements.

Supporting economic development and growth
Water and Wastewater Work has recommenced on capacity studies for Oamaru's water and wastewater. This will inform asset management and planning for upgrades to ensure there is capacity to support and promote growth over the long term.

Community Outcome Focus

'We maintain the safest community we can'
Regulator and Health Act Compliance The Government recently announced the establishment of a new regulator which will focus on improving compliance with legislative requirements across New Zealand's 3 Waters activities. Further announcements are expected soon on who will act as the regulator. In addition, changes to the Health Act regarding drinking water compliance have come into effect. These changes will have implications for all 3 Waters service providers.

Roading

Maintaining or improving service levels

Customer Service
June was the quietist month officers have seen for some time, with only 40 CRMs recorded to SouthRoads. Alternatively, due to some rain in July, a slight increase was experienced. Some rural landowners continue to create a hazard by leaving mud on the roads.

Maintenance Contract
The maintenance contract successfully met its budget requirements to the end of June. This was a great result considering the impact the November rain event had on the programme and the lack of resources and skilled staff across the industry.

During July, the maintenance construction crew is focusing on low shoulder works and has completed McPherson, Ferry and Coal Pit Roads. Other works completed include the installation of a lane-separating island and pedestrian refuge in Wear Street to increase pedestrian safety and separate traffic; milling on Main Street Weston, which removed several trench lines creating a noise nuisance to residents; the approaches to the Weston bridge to smooth the transition; and to Steward Street, to repair surface defects. The team is investigating a different colour scheme for refuges in more historic areas and the Oamaru town centre.

Forward works programmed include installing 26 Heritage bollards along Tyne Street. Locations include the corner of Itchen and Tyne Streets, outside the Criterion Hotel, and on each corner at the Tyne / Wansbeck Street roundabout. This is the combining of three bollard projects, the new roundabout, outside the Criterion and a resolution into safety concern regarding the bell locations. The bulk order has meant a saving of $300 per bollard. A new footpath is to be constructed behind the recently installed rail crossing bells at the Tyne / Itchen Streets corner. The installation of these signals created a hazard for users of the footpath, but discussions with the Oamaru Rail and Steam Society have resulted in agreement to cross the rails towards Humber Street. All this work is able to be funded through the minor improvement budget as safety improvements and will attract a New Zealand Transport Agency (NZTA) contribution.

Lichen is again finding the weather conditions to its liking, resulting in increased growth in shaded areas of roads and footpaths. The conditions to control lichen need to be right and, with those conditions in place now, our contractor is out treating the footpath network. A programme to treat the sealed carriageways is being prepared and will be exercised at the next opportunity when conditions allow.

Projects
The joint funded work to seal Tutu Hill Road from Parsons Road to the new development of the Pukeko subdivision has been completed. The developers contributed $33k, with Council funding the remaining $66k of the seal cost. Other works were also completed in the area. This resulted in a road seal width of six metres from Parsons Road to the existing seal extension, new drainage, and filling of the dip prior to Parsons Road.

Two Low Cost Low Risk projects have gone out to tender. The projects are seal widening of Weston Ngapara Road between Battersby and Finlays Roads (estimated to cost $620,000) and Island Cliff Road at the start and towards Grants Road (estimated to cost $750,000). Tenders are due to close in late August / early September. The Low Cost Low Risk budget for the 2019-20 period is $1.9m and is a mix of seal widening, bridge component renewals, tractions seals and other approved minor safety works.

Two Lake Ohau bridges are to be upgraded this season, one at the Maitland Stream and one at Temple Stream. There are special conditions attached to consents from ECAN which include protection of nesting birds, relocation and management of indigenous geckos (lizards), and limits to any work on the site to 16 weeks. The tender is expected to be released in August, with work to begin in December.

The Footpath renewal contract has been released for tender. This contract period has been changed from annual, to a three-year contract. This will allow the successful contractor a larger window to complete the tasks in each year, but also adds a guarantee of work for three years allowing for investment into plant and upskilling of staff to complete the task. The estimate for the contract is $1.2m for the three years and is co-funded by the NZTA.

Protecting people, places and the environment

Flume socks have been added to six culverts on Beach Road between the golf course and Awamoa Central Road. The culverts were contributing to localised erosion of the cliff face. Placement of the socks, which extend the outlets down to the beach, will eliminate flow across the ground and any continued erosion.

The annual bridge report has been received and includes a list of maintenance works to attend to in this next year around bridges and bridge culverts. Works include minor repairs, relining of large culverts, and rip rap protection.

The iron bridge on Bridge Street (Maheno) has been removed from the HMPV approved route due to deterioration. The bridge is one of two sections (the other section is on Kauru Road) of an old State Highway structure which was moved to this location when the State Highway bridge was replaced at Maheno. The structure is steel (iron), with the main components bolted together. Crossing larger vehicles across this structure puts stress on the bolts and causes them to slacken off, which in turn puts stress on other components. A plan to improve the structure will be created. Meanwhile, the alternative route to Kakanui Valley Road is via Roundhill and Gemmels Crossing Roads.

Supporting economic development and growth

The Roading team has met with the Holmes Hill Estate developers regarding their proposed subdivision consent application. The developer agreed to changes requested as they relate to vehicle access ways and how to access the site during construction (reducing any effect on Glendale Crescent). The developer is proposing concrete footpaths and vehicle access ways. There will be a grass berm each side of the footpath. Other information required to be supplied by the developer is a stormwater management plan, which will assess the impact of stormwater run-off to Glendale Crescent and the waterway which feeds the Awamoa Creek and floods Stonewall Road. This information is to be available before the next stage of the consent process and will inform and direct further consent requirements. Management of stormwater discharge is an improvement focus to mitigate environmental impacts of development.

Community Outcome Focus

'We maintain the safest Community we can'

Road Safety Auditor Elton Crane teamed up with Opus to complete Project Safety Audits on road projects completed during the past four years. Twelve (12) sites required audits and visits were completed during June. Reports with recommendations have now been received and are being reviewed. Safety audits are an NZTA requirement of major road projects.

Property

Maintaining or improving service levels

Customer Service
As of 14 August 2019, 25 CRMs had been resolved by officers, with 100% being resolved within the required timeframes.

Community Housing
Community housing upgrades are underway at Usk Street, Reed Street, Swale Street and College Street (carpet only). One unit at Usk Street had a split pipe in the wall which caused damage to the wall, carpet and floor.

Reception Area at 20 Thames Street
The refurbishment of the reception area at the Waitaki District Council office building (20 Thames Street) has commenced and is going well. The flooring, lighting and reception counter have been installed. Furniture, soft furnishings and greenery is still to be installed.

The interview room (furniture still to come)

Protecting people, places and the environment

Dog Pound Upgrade

Construction work commenced on the upgrade of the Dog Pound in Chelmer Street on 5 June. The exterior claddings have been completed and work has commenced on the internal linings. It is still on track to be completed towards the end of September.

Dog Pound exterior

North Otago Museum

The refurbishment of the North Otago Museum is progressing well. Building work is planned to be completed in September. All walls and ceilings have now been painted, and final fit out of electrical, data, HVAC and security services is underway.

North Otago Museum interior

Harbour Dredging
The second stage of dredging utilising the suction hopper dredge from Port of Otago was expected to arrive on the 16 August, weather and tide permitting. It was expected to take ten working days to complete the dredging. This follows the first stage which required the use of a 40 tonne long-reach digger to excavate a big enough channel for the "New Era" dredge to be able to enter the harbour.
Unfortunately, work was unable to be programmed before 30 August, which is when the dredging was to be completed to prevent the spread of the marine algae Undaria Pinnatfida. The dredge will now return in March 2020.

Breakwater
A variation to the resource consent has been submitted to the Otago Regional Council to request public access be reinstated to the Breakwater.

Supporting economic development and growth

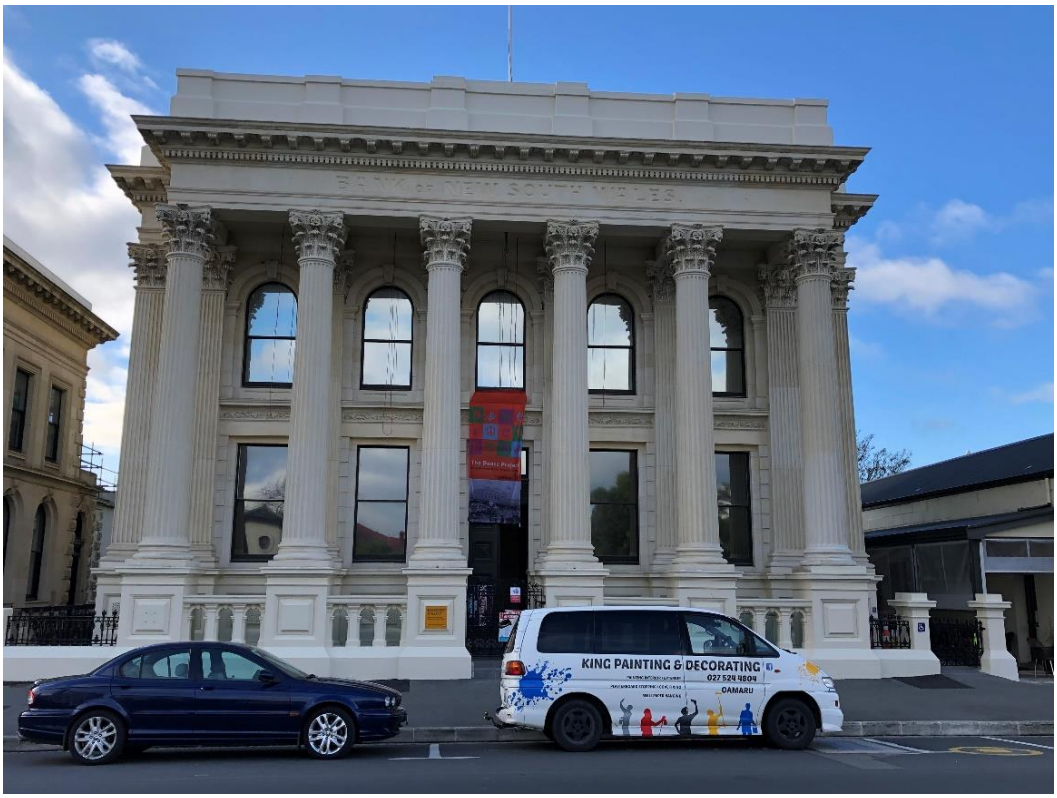
Enquiries
The team has been responding to various enquiries for leases and development in the Waitaki area.

Prospects for a dairy skills training organisation to set up at Oamaru Airport by March 2020 are looking positive. Council's Property and Economic Development teams have assisted the training organisation with respect to consenting processes, introductions to airport and local farmers, building locations etc.

We maintain the safest community we can

Forrester Gallery

The building work is progressing well. The exterior of the building has been repointed and repainted to the lower portion. The rear addition has been demolished, and reinstatement of the Oamaru Stone, which was compromised as a result of the building addition circa 1916, is currently in the process of being repaired. This is the only scaffold that remains. The interior refurbishment is ongoing, with most of the work now completed. The consent has now been issued for heating, ventilation, and the air conditioning system (HVAC), and fire rating upgrades.



Forrester Gallery

Rear of Forrester Gallery showing the building addition has been removed

Forrester Gallery new switchboard

24 Thames Street (Gold Fox)

Maintenance to the exterior of 24 Thames Street has been completed. The exterior has been painted in the Resene paint colour “Oamaru Stone”.

External maintenance work and trails underway at 24 Thames Street

Recreation

Maintaining or improving service levels

Tracks and Trails

Alps to Ocean
Lincoln University has advised that it will be able to support research into the economic impact of the Alps to Ocean and a contract and scope for this work is now being prepared.

A report requesting a funding variation for construction of the section of trail between Sailors Cutting and Benmore Dam has been submitted by MBIE officers for consideration by the Minister.

The majority of repair work resulting from last year's November storm damage has been completed, with remaining work to be completed by the end of August. Once that has been done, focus will shift to work on the trail between Aviemore Dam and Kurow, with the aim of completing that by the end of November.

As part of refining the Partnership Programme, Tourism Waitaki will update brand guidance for partners to support increased focus on monitoring and enforcement of the partnership programme and Brand protection.

MBIE has approved an additional $635,000 to enable the Alps to Ocean to be extended along the marginal strip from Sailors Cutting to Benmore Dam. This will provide a great experience and be a feature of the cycle trail while removing the safety concerns about cycling over Otematata saddle.

Bike Parks
Both the clay and asphalt areas of the Bike Parks in Kurow and Palmerston are open and receiving positive comments from the community.

Palmerston Walkway
A Sale and Purchase agreement for a 'land swap' that would enable a suitable walking track connecting District Road and Ronaldsay Street has been signed and a Resource Consent application submitted.

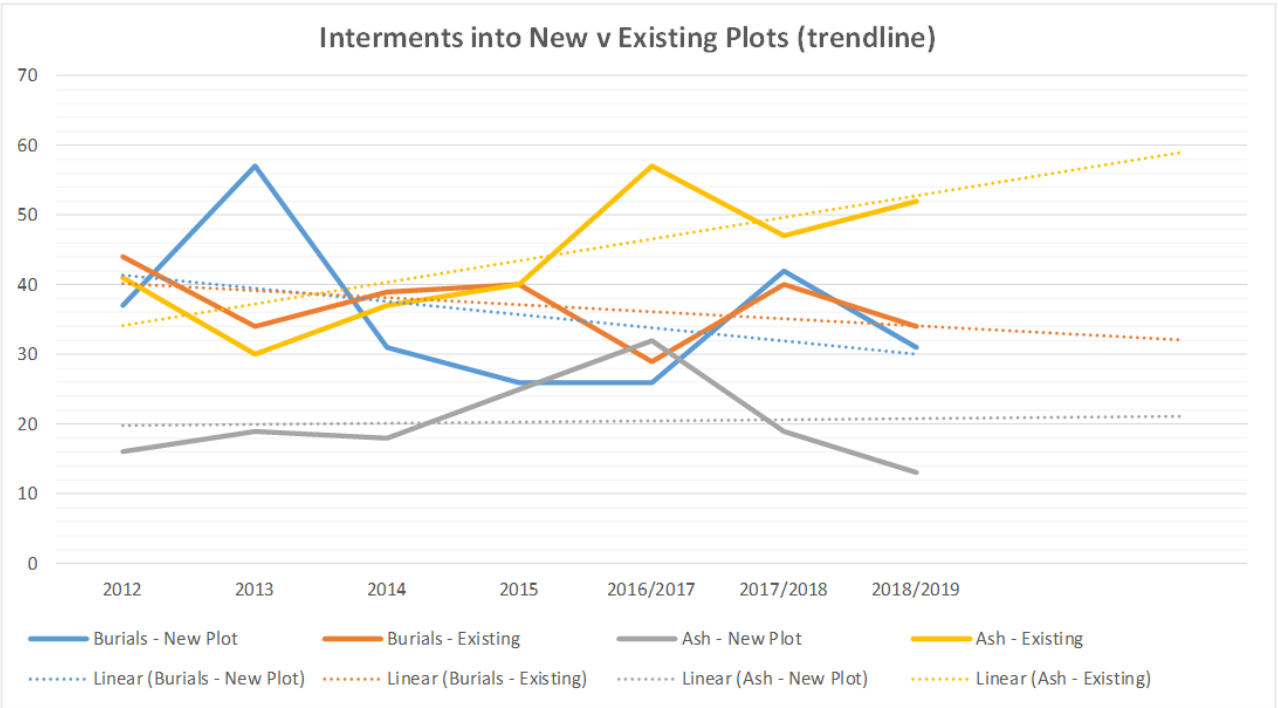
Parks
Mavis Shaw Reserve
The Kurow Duntroon Irrigation Company has finished installing its pipe through Mavis Shaw Reserve, and officers are working with community representatives and our contractor on a landscape plan for reinstatement.

Old Ground Cemetery Signs
Remembrance signs for the Oamaru Old Cemetery general ground have been installed. This is the result of some fantastic work by Geoff Pye and volunteers at the Museum to research and drive this.

New Remembrance Signs

Cemetery Interments

A review of Cemetery interments showed increasing ash interment, with the majority of these being into existing plots and decreasing burials. This is as expected and consistent with national trends. Over the coming year, officers will be looking at the demand and options for providing 'Natural Burials' in Waitaki.



Secondary Schools Mountain Bike Champs

Once again, Mountain Bike North Otago will be hosting the Aoraki secondary school's mountain bike champs on Cape Wanbrow in September. Due to clashes with other users last time, Mountain Bike North Otago has requested a closure of Cape Wanbrow while the event takes place. Officers have asked Mountain Bike North Otago to contact other known user groups to advise them of the closure.

Cape Wanbrow Pines
With successful plantings of natives and natural regeneration of some areas of Cape Wanbrow, officers consider it necessary to remove some self-seeded and planted pine species. This is expected as part of the original concept to revegetate Cape Wanbrow. Officers intend to identify community groups that might be interested in selling Christmas trees as a fundraiser. Only areas that are successfully regenerating will be considered.

BMX Carpark Layout
In conjunction with the BMX club, it is proposed that access to the BMX track carpark would be better to come off Bushey Beach Road directly into the carpark rather than off Selwyn Street and along the walking track as previously planned.

Protecting people, places and the environment

Council's application to the Tourism Infrastructure Fund (TIF) for replacement toilets at Campbell's Bay and Moeraki was successful, with MBIE contributing $300,000 to these projects. Community feedback on the locations of these facilities is presented in a separate agenda report to this meeting.

Whitestone Contracting is expected to complete works to connect the existing toilet facilities to the previously installed settlement/storage tanks at Sailors Cutting Campground by the end of August. Council officers will monitor usage over the next camping season to determine whether removal of waste offsite is a better option long-term, as an alternative to installing the new treatment/discharge field.

Whitestone Contracting was the successful tenderer for installation of the Palmerston Dump Station at Mill Domain. Construction is expected to be completed by the end of October.

Recent tides have uncovered another historic tipping site along Awamoa Beach. Officers have requested advice from the Otago Regional Council on requirements for this site.

Community Outcome Focus

'We enable opportunities for new and existing businesses'
Canoe Polo Tournament During 9-11 August, the Waitaki Aquatic Centre once again hosted the secondary schools' Canoe Polo tournament. 26 Teams (including from as far away as Nelson and Invercargill) competed. The tournament last year attracted an estimated 780 visitors to Waitaki, contributing approximately $150,000 to $200,000 to the Waitaki economy. *Ranfurly Shield* North Otago challenged Otago for the Ranfurly Shield on Friday 26 July. Event organisers reported a crowd of 4,000 people at the game, including 2,500 visitors who came to Waitaki specifically for it. Unfortunately, Otago took the shield home, but it was a great game to watch and an awesome opportunity for local players to measure themselves against the professional players.

Tenders recently let
This table shows tender let over the last few months and will be kept as a six-monthly rolling schedule.

Contract No.	Name of Contract	Date Contract Let	Tenders received	Awarded to	Tender value (ex GST)	Range of tenders received	Engineers Estimate	Start Date	Date of Completion
692	Sailors Cutting	5 June 2019	4	Whitestone Contracting Ltd	$78,824.95	Negotiated scope with lowest tender.	$75,000.00	05/06/2019	30/08/2019
708	Palmerston Dump Station	18 July 2019	1	Whitestone Contracting Ltd	$94,708.00	Only tender received	$90,000.00	18/07/2019	31/10/2019
717	Oamaru Water-mains Renewals 2019-2023	19 June 2019	5	SouthRoads Ltd	$2,488,172.68	$2,488,172.68 to $4,002,155.89	$3,939,883.99	02/08/2019	30/06/2023

6 RESOLUTION TO EXCLUDE THE PUBLIC

RECOMMENDATION

That the public be excluded from the following parts of the proceedings of this meeting.

The general subject matter 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 of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48 for the passing of this resolution
7.1 – Sale of Endowment Land PE	s7(2)(i) – the withholding of the information is necessary to enable Council to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations)	s48(1)(a)(i) – the public conduct of 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 would exist under section 6 or section 7
7.2 – Request to Purchase Leasehold Land PE	s7(2)(i) – the withholding of the information is necessary to enable Council to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations)	s48(1)(a)(i) – the public conduct of 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 would exist under section 6 or section 7
7.3 – Improvements to Airport Houses PE	s7(2)(a) – the withholding of the information is necessary to protect the privacy of natural persons, including that of deceased natural persons s7(2)(b)(ii) – the withholding of the information is necessary to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information	s48(1)(a)(i) – the public conduct of 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 would exist under section 6 or section 7

7 PUBLIC EXCLUDED SECTION

8 RESOLUTION TO RETURN TO THE PUBLIC MEETING

RECOMMENDATION

That the Assets Committee resumes in open meeting and decisions made in public excluded session are confirmed and made public as and when required and considered.

9 RELEASE OF PUBLIC EXCLUDED INFORMATION

10 MEETING CLOSE