

LOWER CLUTHA LIAISON GROUP AGENDA

1. MEETING DETAILS

Date: 6 May 2026

Time: 1pm

Venue: Community Room, Te Pou ō Mata Au

2. WELCOME

Stewart Morrison/Tom Dyer

3. ATTENDANCE AND APOLOGIES

Name	Role	Attending	Apology
Liaison Group Members			
Stewart Morrison	Inch Clutha		
Evan Dick	Kaitangata		
David Botting	Balclutha		
Mike Hurring	Barnego		
Craig Sheppard	Paretai		
Robbie Byars	Councillor		
Kate Wilson	Councillor		
Otago Regional Council Staff			
Tom Dyer	GM Science and Resilience		
Brett Paterson	Manager Engineering		
Dan King	Team Leader Operations & Maintenance		
Nathan Anderson	Team Leader Assets & Delivery		
Kirsten Tebbutt	Team Leader Partnerships & Planning		
Hayley Nicholson	Engagement Specialist		
Otago Regional Council Consultants			
Andy Longman	Rationale		
Jimmy Sygrove	Rationale		
Tom Lucas	Rationale		

4. INTRODUCTIONS

Brett Paterson

5. ASSETS AND DELIVERY UPDATE

Nathan Anderson, Team Leader Assets and Delivery

6. RATES REVIEW

Andy Longman, Jimmy Sygrove and Tom Lucas, Rationale

7. 2026/27 BUDGETS

Brett Paterson, Manager Engineering

8. OPERATIONS AND MAINTENANCE UPDATE

Dan King, Team Leader Operations & Maintenance

9. PLANNING AND REGULATORY UPDATE

Kirsten Tebbutt, Team Leader Planning & Partnerships

10. QUESTIONS ON OTHER PRE-CIRCULATED MATERIALS

11. GENERAL ITEMS

All

12. NEXT MEETING

Date: To be confirmed, likely September/October



**Otago
Regional
Council**

Lower Clutha Liaison Group Report

From: Brett Paterson, Manager Engineering

Meeting Date: 6 May 2026

Title: Introductions

Council staff will be regular attendees at these meetings as key contributors to the Group's discussions. Those expected to attend include:



Tom Dyer
General Manager
Science & Resilience

Tom is the ORC's General Manager across the Science and Resilience teams, which includes the Council's Engineering team.



Brett Paterson
Manager Engineering

Brett leads the Engineering Team, and his areas of responsibility include:

- Protecting Otago's communities, environment, and economy
- Managing, maintaining and improving Otago's flood protection, drainage, and river management infrastructure
- Ensuring the Council's assets remain resilient, effective, and sustainable over the long term.



Dan King
Team Leader Operations and
Maintenance

Dan leads the team responsible for the maintenance and operation of the Flood Protection and Drainage Schemes across Otago, including the Lower Clutha Schemes.

Dan will provide updates to the Liaison Group to identify routine maintenance activities and will provide updates on progress against Annual Plan and Long Term Plan targets.



Kirsten Tebbutt
Team Leader Planning &
Partnerships

Kirsten's team oversees the Engineering Team's regulatory, procurement and engagement activities. Her key role is managing the Team's resource consents along within inputs to third party applications, taking a wider strategic view of the Team's activities and providing inputs across various disciplines to support the Team's role.



Hayley Nicholson
Engagement Specialist

Hayley supports the team's community engagement needs. For the Liaison Group, Hayley will act as its primary point of contact with the Council. As Liaison Officer, Hayley will arrange meetings and ensure that relevant documentation is prepared and circulated prior to scheduled meetings.



Nate Anderson
Team Leader Assets and
Delivery

Nate leads the assets and delivery team. The team is responsible for engineering services related to analysis, design, construction and project management. Nate's team works with other ORC teams to identify project priorities, develop design concepts and ultimately construct improvements to support the continued operation of the flood control scheme.



Otago
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Lower Clutha Liaison Group Report

From: Kirsten Tebbutt, Team Leader Planning and Partnerships
Meeting Date: 6 May 2026
Title: Rates Review

In its deliberations on the 2024-2034 Long Term Plan, the Council requested further rating policy review work for all flood and drainage schemes.

This paper and the associated presentation provide the Liaison Group with a short overview of the general direction of travel and seek early feedback.

Project

Rationale is the consultant firm that is undertaking this review on the Council's behalf, and will be present at the meeting to present their findings.

Rationale and ORC staff will provide a summary of review, its structure, and the options identified. The purpose of bringing this material before the Liaison Group is to seek a general indication of the option preferred by the Group prior to consulting with the community and to provide responses to the questions you may have where possible, and to identify where additional work may be required to provide responses to questions asked.

The Liaison Group is the first to see these options, and sharing them more broadly now may create expectations or discussions outside the planned engagement process, which is designed to ensure that community input is gathered in a consistent and well supported way.

Please note that the presentation and discussion do not represent Council policy, as the project remains in the information gathering and options development phase.



Otago
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Lower Clutha Liaison Group Report

From: Brett Paterson, Manager Engineering

Meeting Date: 6 May 2026

Title: 2026-27 Budgets Report

This paper provides an update on forecast expenditure (as of end of March) against the 2025-26 FY scheme budgets. It also presents the draft 2026-27 budgets included within the draft 2026-27 Annual Plan.

The attached tables provide the detailed budget and expenditures for each of the Lower Clutha Flood Protection and Drainage Scheme.

The table provides:

- 2024/25 budgets and actual financial expenditure for the financial year
- 2025/26 budgets, and forecast end of year expenditure for the financial year
- 2026/27 budgets for the financial year as included in the draft 2026/27 annual plan.

Points of note are

- Personnel related costs are tracking below budget for the scheme, however internal allocation costs are tracking higher than budget. This is a function of how personnel cost are being allocated with more time being allocated as a split across the all ORC operated schemes rather than directly coded to each scheme.
- External operational expenditure (e.g. contractor cost) is contained within the Contract Services and Consultants budget line.
- The overspend within the Contract Services and Consultants budget line is due to flood recovery works including the Puerua Outfall / Training line works. This increase in expenditure is in part offset by a forecast increase in Subsidies and Grant income through Regional Investment Fund income and Contact Energy Limited contributions.

Attachment

Lower Clutha Flood

Operating Budget

	2024-2025 Actuals	2024-2025 Budget	2025-2026 Forecast	2025-2026 Budget	2026-2027 Budget
Revenue					
Rates Revenue	1,225,488	1,220,933	1,297,483	1,301,104	1,301,104
Fees and Charges	371,653	-	28,553		
Lease and Investment Income	183,437	185,760	183,690	185,760	185,760
Subsidies and Grants	10,825	-	1,140,000		468,180
Total Revenue	1,791,403	1,406,693	2,649,726	1,486,864	1,955,044
Expenditure					
Personal Costs	431,513	374,524	404,939	539,941	557,695
Internal Allocations and Charges	518,605	399,332	545,284	398,659	397,972
Contract Services and Consultants	2,013,176	987,000	2,391,659	1,002,582	1,095,880
Other Expenses- Other	188,738	77,000	127,390	78,694	124,597
Depreciation and Amortisation	140,403	161,101	144,502	162,988	130,146
Total Expenses	3,292,435	1,998,957	3,613,774	2,182,864	2,306,291
Surplus/(Deficit)	- 1,501,032	- 592,264	- 964,048	- 696,000	- 351,246

Lower Clutha Flood

Capital Expenditure

	2024-2025 Actuals	2024-2025 Budget	2025-2026 Forecast	2025-2026 Budget	2026-2027 Budget
L Clutha Culverts & Bridges			143,408	204,400	204,000
L Clutha Fish Passage			-	51,100	
RIF2 Puerua Outfalls Culvert (Training Line)			1,100,000	102,200	
L Clutha Pump Station Tech Upgrade			92,200	102,200	156,366
L Clutha Scheme perf & Investigations				153,300	521,220
Drain 222 Bridge Improvements	24,381				
Clutha Flood/Drainage Scheme - Operations	153,074	300,000			
Clutha Flood/Drainage Scheme Event	704,527				
RIF2 Puerua Flood Protection Strengthening			99,857	-	438,600
RIF2 Riverbank Road Flood Risk Mitigation			-		780,300
TOTAL	881,982	300,000	1,435,465	613,200	1,320,186



Lower Clutha Liaison Group Report

From: Dan King, Team Leader Operations and Maintenance
Meeting Date: 6 May 2026
Title: Operations and Maintenance Update

This paper provides an update on the operations and maintenance activities undertaken within the Tokomairiro and Lower Clutha Flood Protection & Drainage Schemes.

Task summary

The number of planned maintenance tasks for the 2025/2026 financial year for Tokomairiro and Lower Clutha area are shown in figure 1 below. Of the 68 tasks in total, 21 relate to the Tokomairiro Drainage scheme, 47 relate to the Lower Clutha Flood Protection & Drainage Scheme.

25/26 Lower Clutha and Tokomairiro Total Maintenance Tasks



Figure 1 – Total Maintenance tasks for 25/26

These tasks involve the work types as shown in figure 2 below.

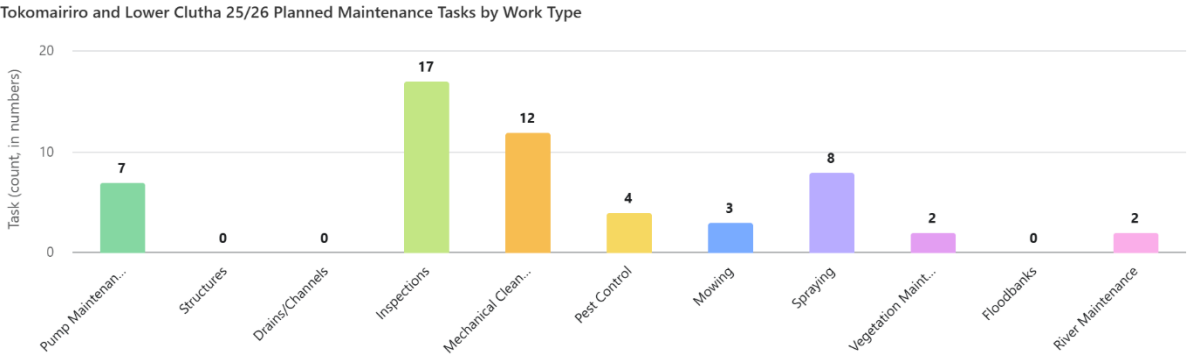
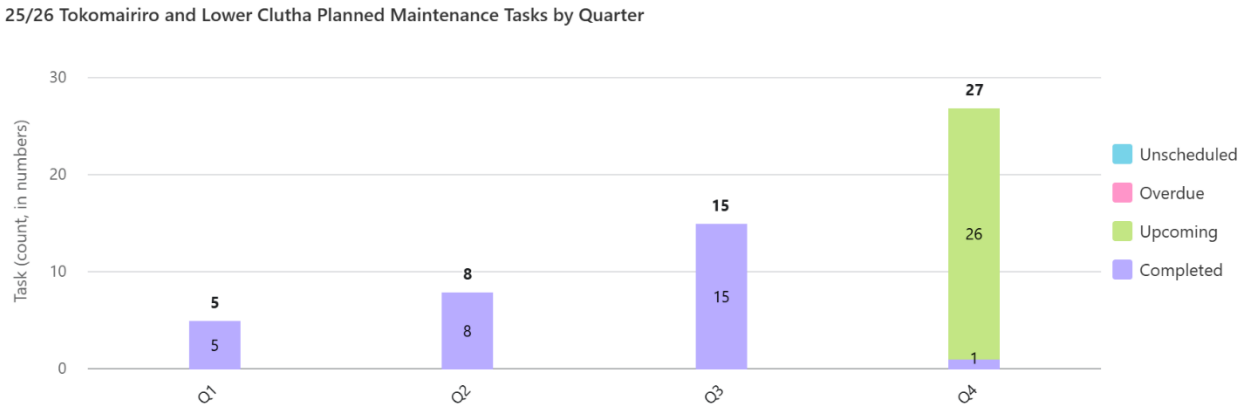


Figure 2 – Maintenance tasks by Work type



Work Progress Summary

Table 1 below provides a summary of progress against some of the significant activities.

Activity	Planned works 25/26	Progress
Spraying - Drain Inverts - Drain Noxious - Floodbank Noxious	• Tokomairiro ○ Drain Inverts – 98 km ○ Drain Noxious – 98 km • Lower Clutha ○ Drain Inverts – 140km ○ Drain Noxious – 140km ○ Floodbank Noxious – 111 km	• Tokomairiro ○ Drain Inverts – 98 km ○ Drain Noxious – 71 km • Lower Clutha ○ Drain Inverts – 80 km ○ Drain Noxious – 45 km ○ Floodbank Noxious – 111 km
Mechanical Drain cleaning	• Tokomairiro ○ Mechanical Drain Cleaning & culvert maintenance 2080m • Lower Clutha ○ Culvert maintenance, and replacement	• Tokomairiro ○ 2080m complete (5 sites complete). • Lower Clutha ○ Culvert maintenance complete, culvert replacement on drain 412 in progress
Significant pump maintenance	• Kaitangata Pump Station – Pump 3, 8YP service. • Paretai Pump Station - Pump 3, 8YP service. • Smith Road Pump Station – Pump 1, 8yp service. • Rutherford Pump Station – Pump 1, 6yp service. • Barnego Pump Station – Pump 1, 6yp service.	• Kaitangata pump reinstalled 8 April • Paretai pump reinstalled 22 April • Smith Road pump reinstalled 22 January • Rutherfords pump reinstalled 5 February. • Barnego service complete 2 December
Vegetation Maintenance	• ORC Vegetation maintenance, Lower Clutha Flood Protection Scheme (trees) • Flail Mowing of selected flood banks to Lower Clutha Flood Protection Scheme	• Tree trimming 80% complete. Kaitangata (Clyde and Crescent sites) to be completed late April/early May 2026. • Second flail mowing cut of the flood banks will be complete late April/early May 2026.
Lower Clutha Flood Banks Pest Control (Rabbits)	• Targeted pest control, 2x targeted control, one full survey of the Lower Clutha Flood Protection Scheme • Second targeted control	• First control, and survey complete by January • Second targeted control scheduled for May 2026 (after duck shooting).

Work Progress Comments

- To date the overall programme is tracking as expected with most of the activities planned to be undertaken over quarter 1, 2 and 3 (July 2025 -March 2026) completed.
 - o The second cut of the flail mowing due to be completed by 31 March 2026, has been rescheduled to late April/May 2026.
 - o Disposal of the tree debris from the tree trimming is due by 30 June 2026.
 - o The agri-chemical spray contract is running to schedule. The first round of the spraying on twice-spray drains was completed in January 2026, with the remaining spraying to be completed in May 2026.
 - o The Lower Clutha Boat & Aerial Survey has been completed.

Weather Event

- A severe windstorm event occurred over several days in October 2025, resulting in a significant amount of tree fall across the Tokomairiro and Lower Clutha Schemes. All urgent repairs were completed within weeks, where the tree fall affected or could potentially affect the flow of the drains in the scheme.
- 9 sites have been identified requiring repair to the drain sides; this work will be scoped and priced, and likely to be completed in Q4.

Activities Looking ahead

- Contracts for the planned work programme including drain cleaning, flail mowing, agrichemical spray of the drains, are nearing completion.
- The completion of the drain repair following the tree fall in the October weather event.

2026 / 2027 Programme

The detailed work programme for the 2026 / 2027 Financial year is underway. The estimate quantities of work for the significant activities provided in table 2 below.

Activity	Estimated 26/27
Spraying - Drain Inverts - Drain Noxious - Floodbank Noxious	Planned works for 26/27FY will be similar to 25/26FY with some small adjustment being likely as this is the first year of the term contract. Estimated lengths are: • Tokomairiro ○ Drain Inverts – 98 km ○ Drain Noxious – 98 km • Lower Clutha ○ Drain Inverts – 140km ○ Drain Noxious – 140km ○ Floodbank Noxious – 111 km
Mechanical Drain cleaning	From 2026/27 onward, drain cleaning will transition to a reactive approach, based on assessed needs to maintain capacity. It is expected the majority of the work will related to drain side protection (rock work) and reprofiling drains following tree debris removal.
Significant pump maintenance	• Kaitangata Pump 2, 5yp service • Rutherfords Pump 2, 3yp service
Vegetation Maintenance	• Trees – 10-15km • Flail mowing – 135m²
Lower Clutha Flood Banks Pest Control (Rabbits)	• 2x targeted control, one survey (including control)



Lower Clutha Liaison Group Report

From: Nathan Anderson, Team Leader Assets and Delivery
Meeting Date: 6 May 2026
Title: Assets and Delivery Update

Puerua Outfall

Scope:

During the weather event in October 2024 in the Clutha area, the training line that helps maintain the mouth opening was under pressure. A decision at the time was made to relieve this pressure by making a cut in the training line. This in the end caused a breach of 70.0m across and the loss functionality.

What is needed:

After multiple discussions with the community and with advice from engineering professionals. It was decided that the training line was to be reinstated and 6x2.5m dia culverts were to be installed. This solution puts the training line back to pre-event condition.

Work date:

Southroads have been contracted for the civil construction work. The missing 70.0m section of the training line has been reinstated with rock and 3 of the 6 replacements culverts are now in place. The remaining 3 are scheduled over the coming months as the tides allow.

Kaitangata drain 222 floodbank

Scope:

Damage was noted in a January 2024 Site Inspection Report. It appeared to have been partially caused by 2022 flooding but may also be from earlier flooding and degradation of the floodbank over time.

What is needed:

Repair approximately 450m of floodbank, to a consistent profile and original design levels.

Repair approximately 160m of return bank, to a consistent profile and original design levels.

Raise road levels on Water Street at the point where the return bank crosses the road, to the same level as the return bank.

This work requires sourcing and transporting appropriate fill material, stripping and excavation as required to the existing floodbank, repairing the floodbank using recycled and imported fill, compaction to specification, finishing and re-grassing of the floodbank and return bank. Also required is raising the level of Water Street that is crossed by the return bank to the specified level.

Work to date:

Halls were awarded the contract for this work and have completed the dog leg section and most of the bank along Drain 222. Due to unfavourable subsoil conditions work is currently on hold while ORC and the engineer perform additional testing.

Drain 222 Sills

Scope:

Bridge 4 on drain 222 has stop logs for the managing of the drain residing on it. Their function is to assist in maintaining consented water levels in lake Tuakitoto up stream. Currently these are manually operated depending on the season or water levels.

What is needed:

A design has been completed in conjunction with the Otago Regional Council field team that replaces the old stops logs with new, that can be raised and lowered by winching from the bridge. They currently get lifted off their mounts manually and left on the bank when not in use.

Due to the site complexity and consenting conditions, a contractor was selected after the tender process and in conjunction with them and the engineer the design is being refined to enhance buildability.

Next steps:

To enable this additional survey is being undertaken on the other side of the bridge and the consent is being altered. This will take a bit of time and due the construction windows in the consent, physical work won't be until 2027.

LC17 repairs (Riverside Road)

Scope:

The TRB of the Clutha Matau Branch near Renton Road has been subject to erosion for many years. Following events in 2018 and 2020, it has been damaged further.

What is needed:

The floodbank and adjacent road will be realigned so that continued erosion will not undermine the structure.

Next steps:

Final design is nearly complete. Consenting and utility coordination is on-going.

Work to date:

While the options are being discussed, sheet piles have been installed in the failure location to hold the line while the solution is decided upon.



Lower Clutha Liaison Group Report

From: Kirsten Tebbutt, Team Leader Planning and Partnerships
Meeting Date: 6 May 2026
Title: Planning and Regulatory Update

Clutha Pumped Hydro Limited

Clutha Pumped Hydro Limited has lodged an application for the referral of its application to construct and operate a large pumped hydro energy scheme at Lake Onslow in Central Otago under the Fast Track Approvals Act 2024. The Minister for Infrastructure has referred the application into this process. There are a number of activities proposed, but it is best summarised by the series of bullet points below:

- Enlarge Lake Onslow to store sufficient water to enable generation of up to 1,000 megawatts (MW) for approximately six months, producing around 4,000 gigawatt-hours (GWh) of electricity.
- Creating an upper reservoir by enlarging Lake Onslow to store water for energy generation when required, with a new minimum operating level of 730 metres above sea level and a maximum operating level of 769 metres (current lake level is approximately 684 metres).
- Inundating approximately 7,100 hectares of land.
- Constructing a new dam on the Te Awa Makarara / Teviot River to increase the size and storage capacity of Lake Onslow.
- Building structures to harvest water from the Mata-au / Clutha River and return water to the river.
- Constructing a buffer reservoir adjacent to the Mata-au / Clutha River to store water for pumping.
- Installing intake and outlet structures within Lake Onslow to transfer water between Lake Onslow and the buffer reservoir.
- Installing intake and outlet structures within the buffer reservoir to connect water between the buffer reservoir and the powerhouse.
- Constructing underground tunnels (waterways) to transfer water between the buffer reservoir and the powerhouse, and between the powerhouse and Lake Onslow.
- Constructing an underground powerhouse to connect the upper and lower water sources, generate electricity as water flows from Lake Onslow to the buffer reservoir and the Mata-au / Clutha River, and pump water back to Lake Onslow.
- Providing supporting infrastructure for construction and operation, including roads, concrete plant, construction equipment, accommodation, transmission lines (excluding grid connection,

which will be addressed separately), relocation of existing infrastructure as required, and water supply systems.

The project is outlined on the maps attached as Attachment A. The Engineering Team provided inputs to the Otago Regional Council's comments in relation to the application for referral, attached as Attachment B. Our specific comments related to:

- Potential impact on the Lower Clutha Flood Protection & Drainage Scheme
- Clarity regarding take and discharge
- Flood characteristics
- Altered flows in the Mata-Au/Clutha River
- Rise and fall impacts on river and flood banks and associated maintenance costs for ORC.
- Cumulative effects
- No consultation has occurred with the Lower Clutha Liaison Group
- Sediment transport and hydrological impacts.

The substantive application had not been lodged at the time of preparing this report.

Copies of all documents associated with this project are here:

<https://www.fasttrack.govt.nz/projects/clutha-pumped-hydro>

Structure Survey across the Lower Clutha Area

This year we have commenced work to identify unauthorised maimais, whitebait stands and related structures between floodbanks and rivers that may impact the Council's flood protection and drainage assets across the Clutha Scheme. For some time, there have been concerns about the potential effects of these and other structures on the overall efficacy of the Scheme.

Our Senior Regulatory and Compliance Specialist has been checking the ORC's assets to record any structures located within these areas. This fieldwork is now largely complete, with a temporary pause in place ahead of the duck-shooting season. Once site visits resume and the full dataset is captured, we will audit the information to understand the extent and nature of any issues, before moving into a phase of seeking applications for affected structures.

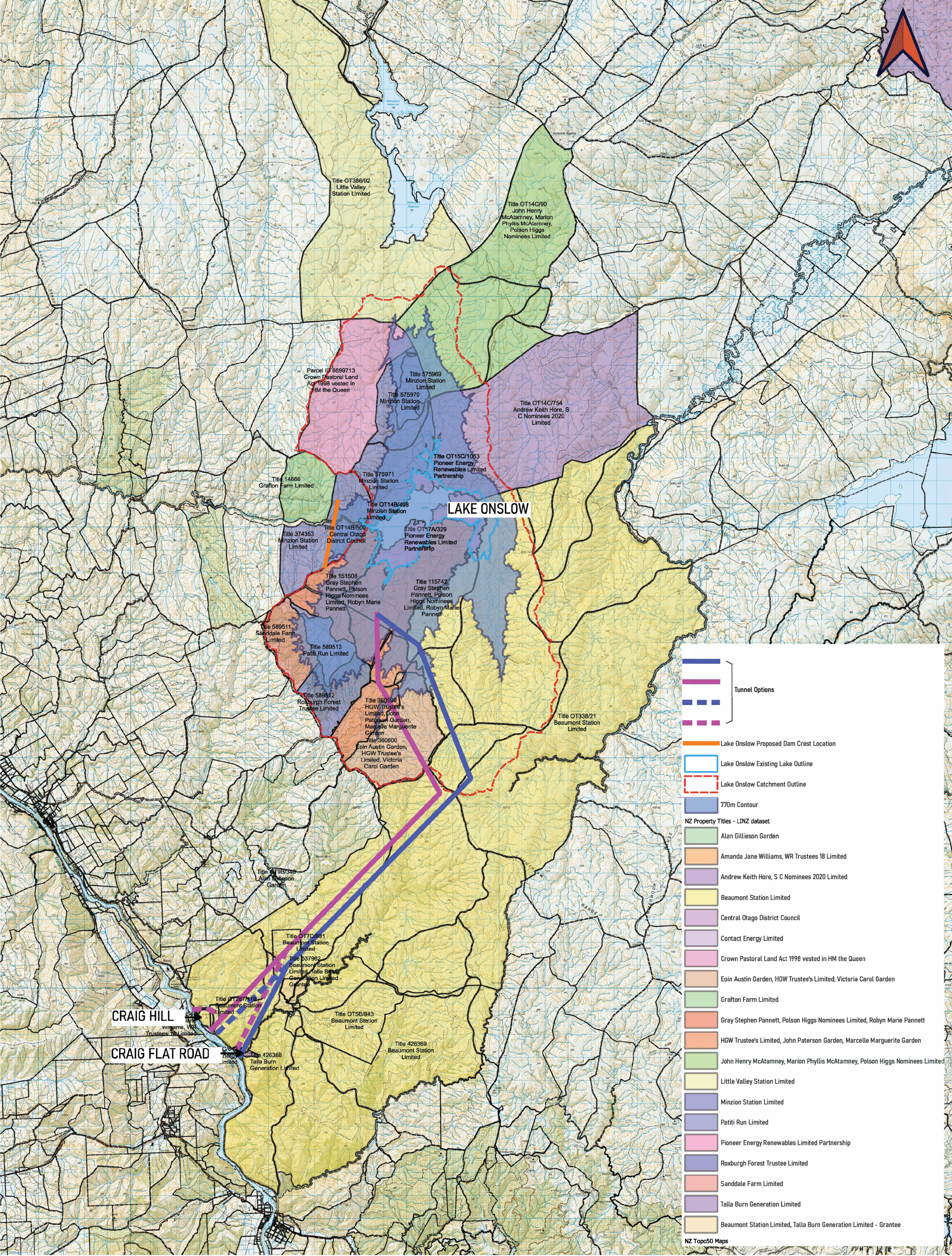
Our approach is intended to prioritise information-gathering and engagement rather than strict enforcement. However, it is foreseeable that some structure owners may be required to re-site their maimai, stand or structure to ensure the integrity of the Scheme is maintained and protected. We will report further progress at the Group's next meeting, and may seek assistance in identifying owners of structures where approvals are required.

Contact Energy Limited

Over the past few years ORC Engineering and Contact have developed an excellent working relationship. We meet monthly or as required to share information and discuss works ongoing or planned. We work together in two areas:

- In respect of its resource consents, Contact contributes to the costs of investigations into river changes, maintenance of riverbank and berm, maintaining of the river mouth training works at the Matau and Koau branches and maintenance to keep the branch river mouths open. All works are undertaken by ORC as required with Contact making financial contributions.
- Contact also meets most of the costs of the operation and maintenance of the Alexandra Flood Protection Scheme (the scheme is managed by ORC).

Despite our differing responsibilities and viewpoints, ORC and Contact have built a collaborative model that supports sound outcomes for the Lower Clutha Scheme. We are confident that having Contact at the Liaison Group table will add a different and useful perspective for the management of the Lower Clutha.



CLUTHA PUMPED HYDRO

PROJECT AREA* (SHOWING TUNNEL OPTIONS AND LANDOWNERS*)

* The project area includes untitled land (and waterbodies) within and adjoining the identified titles, owned or administered by LINZ, DOC and CODC (respectively) for all roading (including the millennium track) and other reserves, including marginal strips and river, lake or stream beds, that are within, between or adjacent to the certificates of title located within or adjoining the mapped area or listed in attachment #3.

REVISION F - 24/11/2025

0 1 2 km

SCALE 1 : 50,000 at A1



Your written comments on a project under the Fast Track Approvals Act 2024

Project name	Clutha Pumped Hydro
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Before the due date, for assistance on how to respond or about this template or with using the portal, please email contact@fasttrack.govt.nz or phone 0800 FASTRK (0800 327 875).

All sections of this form with an asterisk (*) must be completed.

1. Contact Details			
Please ensure that you have authority to comment on the application on behalf of those named on this form.			
Organisation name (if relevant)	Otago Regional Council		
*First name	Joanna		
*Last name	Gilroy		
Postal address	70 Stafford Street Private Bag 1954 Dunedin 9054		
*Contact phone number	s 9(2)(a)	Alternative	0800 474 082
*Email	s 9(2)(a)		

2. Please provide your comments on this application
If you need more space, please attach additional pages. Please include your name, page numbers and the project name on the additional pages.

Note: All comments will be made available to the public and the applicant when the Ministry for the Environment proactively releases advice provided to the Minister for the Environment.

Thank you for your invitation to provide written comments on the application for referral of the Clutha Pumped Hydro project under the Fast-track Approvals Act 2024. This application was reviewed by elected members delegated to participate in the fast-track process and teams across Otago Regional Council (ORC).

Please see our comments on this application and our response to the questions below.

Competing Applications

- 1. Any applications that have been lodged with the Council that would be a competing application or applications if a substantive application for the project were lodged. If no such applications exist, please provide written confirmation.**

ORC confirms it is not aware of any competing applications.

- 2. In relation to projects seeking approval of a resource consent under section 42(4)(a) of the Act, whether there any existing resource consents issued where sections 124C(1)(c) or 165Z1 of the Resource Management Act 1991 (RMA) could apply, if the project were to be applied for as a resource consent under the RMA. If no such consents exist, please provide written confirmation.**

ORC confirms there are no existing resource consents issued where sections 124C(1)(c) or 165Z1 of the Resource Management Act 1991 (RMA) could apply if the project were to be applied for as a resource consent under the RMA.

Other considerations

Please find attached the additional comments on the referral application from ORC in Appendix 1. These comments reflect ORC's feedback on the referral application and outline several matters to be addressed in a substantive application.

Appendix 1 - ORC Referral Application Comments

Introduction

The referral application was circulated to relevant teams in ORC, who have provided the following comments.

Consent Team Comments

The referral application does not contain an assessment of the project against the relevant provisions of the:

- Regional Plan: Water for Otago
- Regional Plan: Waste for Otago
- Regional Plan: Air for Otago
- Relevant national direction

A detailed assessment of these documents will be required within the substantive application.

For the building consent for the dam, detailed plans and assessments will be required in accordance with the Building Act and the Building (Dam Safety) Regulations 2022.

Engineering Comments

The Teviot River and the Mata-Au/Clutha River between Lake Roxburgh and Barnego are not managed by the ORC's Engineering Team. The Lower Clutha Flood Protection & Drainage Scheme (downstream of Barnego) is owned by the Otago Regional Council and managed by the Engineering team.

The information provided is necessarily high level, and further assessments and considerations will be required should the project advance to the next phase. Those considerations relevant from Engineering's perspective include:

- Potential impact on the Lower Clutha Flood Protection & Drainage Scheme. Changes to river morphology could have significant consequences. Understanding these effects under variable conditions requires complex analysis, and interpreting the outcomes is itself a substantial undertaking.
- Clarity regarding take and discharge. There is no clarity as to the quantity or rate of take or discharge. We note that the earlier proposal indicated a maximum harvesting flow and discharge of 250m³/s. Depending on the specific conditions proposed for the take or discharge, this could significantly affect flows in the Lower Clutha (noting that the mean flow appears to be 614m³/s and a 7 day mean annual low flow of 309m³/s). Greater clarity

Otago Regional Council Comment - Clutha Pumped Hydro

regarding this issue will be essential to enable an understanding of the actual and potential impacts of the project on how the Scheme operates.

- Flood characteristics. The referral application does not reflect on the impact of the proposal on flood characteristics in the Lower Clutha, or on the impact of significant river fluctuations resulting from the activity. The absence of any recognition of these potential issues raises concern, particularly for downstream communities that rely on the continued efficacy of flood protection, river management and drainage activities in the catchment
- Altered flows. The Mata-Au/Clutha River will experience altered flow due to the proposed activity. Where project outflows return to the lower Mata-Au/Clutha River, the scheme will cause greater variability and rapid fluctuations in flow, potentially affecting water quality, aquatic ecology, benthic communities, and recreational uses such as angling and boating. Evidence to understand the effect on river morphology, and how this affects the Scheme, will be required. This will require modelling under several scenarios during different stages of pumping and discharge to and from the Clutha.
- Rise and fall impacts on river and flood banks. The impact of the anticipated rapid rise and cyclic fall of the River on its banks should be considered. This results in significant additional maintenance costs for the ORC.
- Cumulative effects. Consideration will need to be given to the cumulative effects of this activity and the existing rise and fall of the Clutha that results from Contact Energy Limited's upstream activities, including potential interactions with existing consent conditions relating to lower Mata-Au/Clutha River flood protection works and coastal erosion.
- Lower Clutha Liaison Group. It does not appear that the applicant has undertaken any consultation with the Lower Clutha Liaison Group (established mid November 2025). The Liaison Group will offer a specific perspective on impacts to the Scheme, and engagement with the Group should be encouraged. It would be appropriate for the applicant to give consideration to the most effective mechanism to engage with the Group.
- Sediment transport and hydrology. Potential effects on sediment transport, natural buffering and hydrology will require detailed analysis.

Natural Hazards Comments:

There is little substantive detail in the proposal at this stage, with only brief discussions of potential natural hazards/geotechnical issues in the referral document and review of adverse effects. It appears that hazards assessments were limited to a desktop review of ORC's natural hazards maps.

Slope stability

Otago Regional Council Comment - Clutha Pumped Hydro

Attachment 3.4 of the referral application notes that slope stability issues around the margins of the reservoir would be a potential occurrence, resulting from fluctuations of up to 70m in lake level. We agree this hazard requires further assessment, as the risk of landslide occurrence into reservoirs is enhanced by the submergence of the slope toe and by rapid drawdown conditions. For example, at Clyde Dam, lake filling was delayed by the need to stabilise large landslides in the very mica-rich schist around the perimeter (<https://www.nzgs.org/libraries/geology-and-the-clyde-dam/>).

Section 4.5.1 of [Module 3 \(Investigation design and analysis\)](#) within the NZSOLD (NZ Society of Large Dams) guidance provides a list of considerations for assessment of reservoir landslide hazards. The NZSOLD guidance also references ICOLD Bulletin 124 (International Commission on Large Dams) as a source of guidelines for the investigation and management of reservoir landslides, comments on possible risk mitigation measures, and discusses requirements and methods for the ongoing monitoring of reservoir landslide performance.

We suggest these guidance documents inform the investigation and management activities which may be required.

Seismotectonic hazards

Three active faults have been mapped in the vicinity of Lake Onslow (see image copied below, from the ORC Natural Hazards Portal):

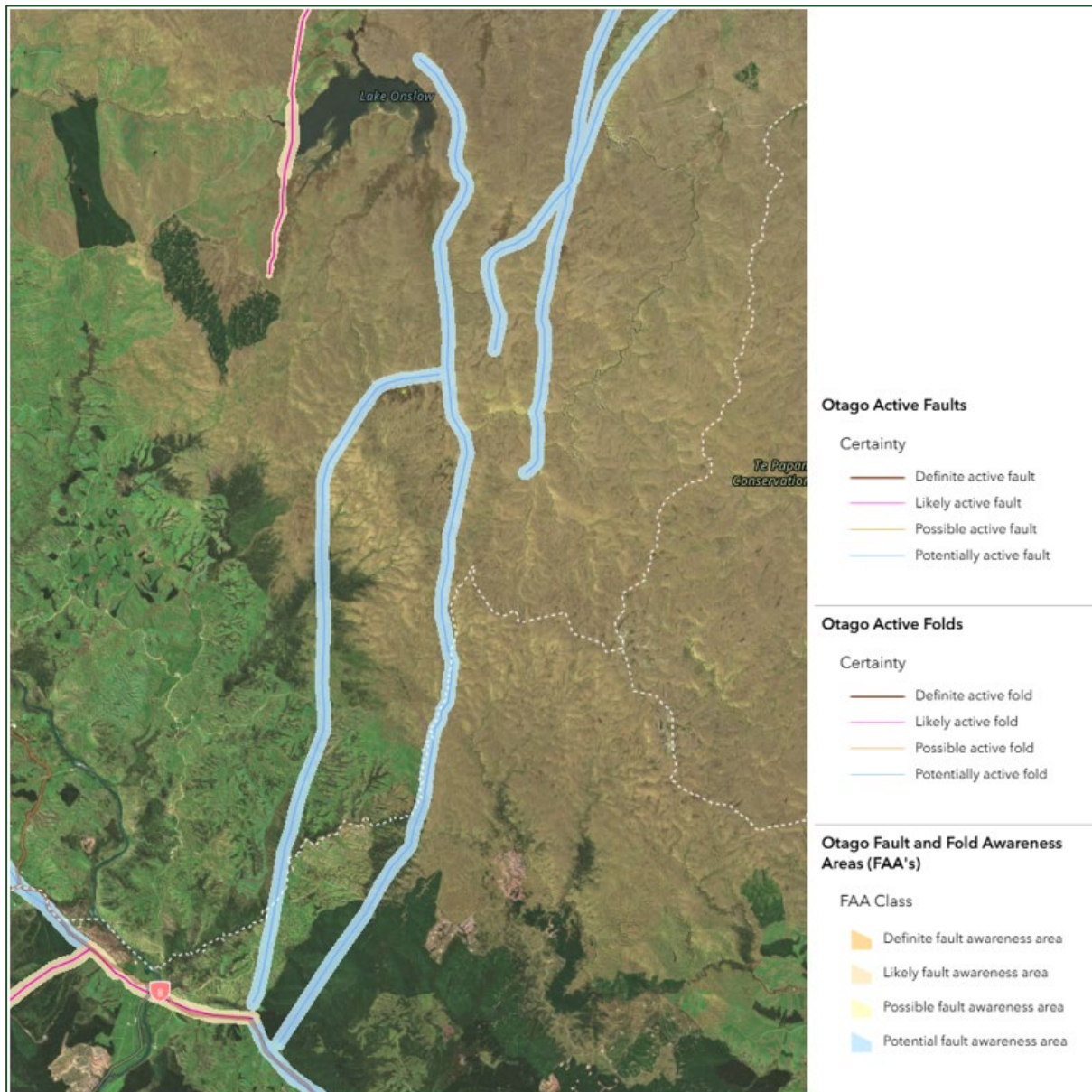
- The Lake Onslow Fault is an active fault is located 800-900m east of the existing lake outlet dam, and within 2km of the proposed new dam location. The fault was mapped by [GNS Science \(2019\)](#), and an updated assessment by [GNS Science in 2025](#) elevated the fault's active status from 'potentially active' to 'likely active', with a RI of 30,000 years.
- The NZ Battery Project feasibility study specifies in Section 16.1.3 that *"The Lake Onslow Fault (shown on Figure 16.2), is located to the immediate west of the Lake body. No geological field investigations of this fault have yet been conducted, features of the fault identified through a desktop review suggest it is 'potentially active' with an assumed recurrence interval of one million years or more."* It is unclear what information this RI estimate is based on, as it is inconsistent with the recent review by [GNS Science \(2025\)](#), which classifies the fault as a 'Likely active fault', with a RI of 30,000 years.
- The Beaumont River and Backbone Faults are inferred on the eastern sides of present-day Lake Onslow and running south towards the Mata-Au/Clutha River, with an RI 50,000 and 35,000 years, respectively.

It is important to note that these fault locations are based only on regional-scale geological mapping (~1:250,000) and are of a generalised nature, and should not be used as evidence to state that there is no active faulting at the dam location.

Additional information regarding the potential fault rupture and strong ground shaking hazards will be required for engineering design and management.

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The map in Attachment 2B indicates that the lower-reservoir and offtake locations are to be located adjacent to the Mata-Au/Clutha River at either Craig Flat Road or at Craig Hill. If the structures associated with the activities are to be located on alluvial terraces or other soft soils, then the potential for occurrence of liquefaction and lateral spreading to impact these structures should be suitably investigated and considered in engineering design.



Ecology Comments

The referral application has been reviewed by the ORC internal biodiversity team who have provided the following comments:

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- The proposal states that there will be a total loss of all existing wetlands that are located below the 770m Contour Lake level. Many of these wetlands are in a relatively pristine state. Fortification Creek wetlands also have landscape values, as it is a meander system.
- Although wetland ecosystems are considered, there tends to be an absence of consideration for wetland birds. This should be included in any future application. Probably limited opportunities to mitigate these losses within the Lake Onslow catchment.
- With the increase in lake levels, this will inundate all of the low-lying creeks. Subsequently, there will be potentially a loss of spawning habitat for salmonids. This should be included in any future application.
- The applicant seeks to offset losses of terrestrial flora and fauna, including geckos and other lizards. To satisfy these offsets any field surveys should use suitability qualified personnel at the appropriate time of year and optimal conditions. This would enable better ecological understanding and target key management actions to ensure mitigation measures are maximised.
- In addition to what is listed in the document [adverse effects], potential adverse effects of the proposal would result in the below which should be considered in any application:
 - Loss of Naturally Uncommon Ecosystems, including Critically Endangered ephemeral wetlands;
 - Loss of type localities for species;
 - Loss of habitat for terrestrial invertebrates, and, in some cases, the loss of habitat of aquatic invertebrates that rely on wetland habitats; and
 - Loss of habitats for other plant species and some distinctive communities, including for non-vascular species, as well as habitats and communities of fungi and lichens.
- This area of Central Otago is prone to severe summer thunderstorm activity, generating intensive rainfall, damaging floods, and debris flows. The application may want to consider the effect of having an expansive high-elevation lake on the local microclimate particularly on storm cell formation.
- The proposed lake extent will be within a few hundred meters of the natural drainage divide in places. It is expected that the substantive application will assess the potential hydrological effects of an elevated water table on adjacent catchments, including any changes to spring flows or stream baseflows. The assessment should also address the potential for subsurface seepage or piping across natural drainage divides, outside the engineered dam structure, including via bedrock fracture networks or similar pathways.
- Fluctuating lake and groundwater levels have the potential to mobilise arsenic from schist bedrock or sediments. The substantive application should therefore assess the risk of arsenic

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mobilisation associated with lake level and water table fluctuations, and the implications for groundwater and surface water quality.

- The effects of this application on freshwater related values are likely to be significant. A good understanding of the existing values and their distribution within the catchment needs to be known and included in the application. This information can then be used to quantify the impacts and be used to target mitigation actions.

Policy Comments

The referral application does not contain an assessment of the project against the relevant provisions of the proposed Otago Regional Policy Statement 2021(pORPS) or the Otago Regional Policy Statement (ORPS) 2019. A detailed assessment is required within the substantive application.

To assist with the assessment of both the ORPS and the pORPS, it is noted that the Clean Appeals Version of the pORPS¹ shows all provisions appealed to the High Court and Environment Court, along with text changes from resolved appeals and Clause 16(2) amendments. In this version, unshaded black text is not under appeal, grey-shaded text is under appeal.

¹ <https://www.orc.govt.nz/media/qt0lk0fl/clean-appeals-version-porps-21-17-october-2025.pdf>