Assessment of Environmental Effects

Otago Regional Council

Drain maintenance in the 2026/2027 works season

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Limitations

The report has been prepared for Otago Regional Council according to their instructions, to support a resource consent application. This report has been prepared on the basis of information provided by various other consultants. Incite has not independently verified the provided information and has relied upon it being accurate and sufficient for use by Incite in preparing the report. Incite accepts no responsibility for errors or omissions in the provided information.

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Introduction

1. This assessment is provided in accordance with the requirements of Section 88 of the Resource Management Act 1991 and the Fourth Schedule to the Act. It is in support of this resource consent application made by Otago Regional Council (ORC or Council) for a consent to undertake maintenance activities in waterbodies that form part of the ORC managed drainage networks. The maintenance activities comprise the mechanical removal of sediment, redistribution of aggregate and mechanical removal of vegetation.
2. Resource consent is required for maintenance of these waterbodies as they are considered to be rivers, rather than drains or artificial watercourses.
3. Resource consent is required under the Regional Plan: Water for Otago (RPW) as a discretionary activity.
4. A consent duration of 1 year is sought for this resource consent, on the basis that the proposed works are one-off maintenance works, intended to be carried out within the 2026/2027 works season between October and April (inclusive).

Background

Council functions

5. The Council has responsibilities under the Soil Conservation and River Control Act 1941 (SCRCA) to protect properties from damage caused by floods (amongst other things). The purpose of the SCRCA is to promote soil conservation, prevent and mitigate soil erosion and prevent damage by floods.
6. River and waterway management works are carried out by ORC through its Engineering function. The purpose of river management activities is primarily to maintain river and stream channel capacity.
7. The Council owns river control assets, and manages several drainage networks. These assets and networks are identified in the ORC Flood Protection Management Bylaw 2022 (the Bylaw).
8. The works sought to be authorised under the proposed consent are in part to enable the Council to meet their obligations under the SCRCA, in relation to protecting properties from damage caused by floods. The primary purpose of the proposed work is to prevent the loss of any channel capacity, so that should a flood event occur, waters can flow without undue obstruction.

Reason for consent

9. The Council currently holds global network consent RM21.073, which authorises most 'business as usual' activities associated with their river management assets.
10. In accordance with the Environmental Management Plan, which is a keystone of the consent, RM21.073 does not authorise channel clearing or maintenance of the ORC managed drainage networks, nor drains (artificial watercourses) outside of this network. The EMP specifies that the clearance of drains will either be authorised as a permitted activity under the RPW (undertaken in accordance with the permitted activity conditions) or otherwise authorised via site-specific consents.

11. In 2025, Council obtained RM25.552, which authorised the removal of accumulated sediment and vegetation from Drain M5 in the East Taieri Drainage Scheme. This consent was granted for a 1 year term.

12. In preparing the drain maintenance programme for the 2026/2027 works season, ORC has identified that five waterbodies within the drainage network where maintenance works are required are likely to be classified as rivers, rather than drains. The proposed works in these waterbodies therefore do not meet the conditions of the relevant permitted activity rules, so resource consent is needed to carry out works.

13. Drain maintenance is carried out on a regular and targeted basis, with the aim to restore and maintain the original drain configuration (cross section and long section) and restore the hydraulic capacity of the drain. When removing sediment and vegetation, care is taken not to dig invert levels lower than their design height, as this will encourage bank instability (degradation), which would require additional work to remediate. Some drain maintenance works also involve the removal of vegetation on the banks of the waterbodies, particularly where this vegetation limits access to the drain, overhangs the drain, or blocks flow carrying capacity.

Description of the Proposal

Plans and Documentation

14. The following plans and documentation are attached as appendices:

    - Appendix A – Location plans and photos of current state of work areas

The Site and Surrounds

15. Drain maintenance work will be undertaken in three general areas, within the Lower Clutha Flood Protection and Drainage Scheme, and the Tokomairiro Drainage Scheme.

16. All of the waterbodies where works will occur are identified in the First Schedule of the ORC Flood Protection Management Bylaw.

17. The location of the works is shown in Appendix A, alongside photos showing the current state of the work areas. Table 1 below provides further detail on the works to be undertaken.

Table 1: Summary of proposed works

Drain	Scheme	Length of waterbody	Length of work area	Upper and lower limit of works (NZTM 2000)	Nature of, and need for works	Most recent drain maintenance
Drain 420 Barrata Creek	Lower Clutha Flood Protection and Drainage Scheme	883 m	883 m	E1350595 N4860972 to E1350874 N4861786	Mechanical cleaning to remove built up sediment, grasses and wind damaged trees restricting flow, and obstructing the drain profile and invert, resulting in water flowing out of drain channels and into paddocks. Works will restore flow and capacity, including shaping sides as required.	More than seven years ago
Drain 421		1349 m	1349 m	E1349597 N4861495 to E1350874 N4861786		
Drain S Salmond Creek	Tokomairiro Drainage Scheme	7472 m	500 m	E1367065 N4889212 to E1366693 N4889083	Mechanical redistribution of aggregate within the bed to minimise erosion and restore flow and capacity. These works are a continuation of works completed in 2025/2026 season upstream of the current work area.	500 m upstream of work area in 2025 season
			2500 m	E1367722 N4889087 to E1369846 N4888669	Mechanical removal of vegetation, including crack willow and gorse, shrubs, aquatic weeds and storm debris. Vegetation is spread out over affected reach, as shown by mapped locations of works in Appendix A.	More than seven years ago
			2 x 20 m sections over 100 m reach	E1367575 N4889040 to E1367589 N4889034 And E1367711 N4889084 to E1367715 N4889087	Mechanical redistribution of aggregate at two locations within the bed to minimise erosion and restore and maintain the original drainage configuration and capacity.	More than seven years ago
Drain S2 Tributary of Salmond Creek		1025 m	100 m	E1367654 N4888950 to E1367692 N4888916	Mechanical removal of trees, shrubs, aquatic weeds and storm debris from the bed, for the purpose of restoring flood capacity.	More than seven years ago
S0		6808 m	150 m	E1360167 N4882608 to E1360135 N4882736	Mechanical removal of trees, shrubs, aquatic weeds and storm debris from the bed, for the purpose of restoring flood capacity.	More than seven years ago

Methodology

18. Works will be undertaken in accordance with the methodologies set out below. Where possible, the same practices as required in the Environment Management Plan (EMP) for RM21.073 have been adopted, given the EMP was the subject of review by both technical experts and key partners and stakeholders, and is able to be updated and improved over the life of the global consent.

19. The general good practice type requirements are presented first, followed by the specific methodologies for the works to be completed.

General practices

20. All machinery will be operated from land adjacent to the drains, and will not enter water. Access to the drains will be from the banks of the drains, with no access or tracking of vehicles and machinery in, through or along the beds of the drains.

21. Machinery and vehicle refuelling will not occur within 10 metres of a waterway, and any onsite fuel storage will also be more than 10 metres from a waterway.

22. Works that require bed disturbance will be undertaken when drains are dry, or flows are low, where possible, to limit the mobilisation of sediment.

23. Works will be carried out in a downstream direction, starting at the most upstream extent.

24. Where bed disturbance will be required while there is flowing water in the drain, works will only be undertaken once a suitable sediment trap has been established downstream of the works site to capture suspended sediment in downstream flows. Sediment traps will be established and managed in accordance with section 3.9 of the EMP, which requires that they:

    - Will be appropriately anchored to the bed or bank to ensure they will not be washed out with normal flows.
    - Will be removed in anticipation of high rainfall or flood events that may result in a wash out.
    - Shall be monitored daily during works to ensure they are secure and functioning as intended.

Fish salvage protocol

25. For works involving sediment removal, there is the potential for fish to be entrained in sediment when it is removed from the bed. While best efforts will be made to ensure fish are not entrained as per the methods below, sediment will be inspected upon removal to ensure that any entrained fish can be safely returned to the waterway.

Bucket submersion during sediment removal

26. For each bucket of material removed, the bucket shall be left submerged in the drain for a short period to provide an opportunity for any fish or invertebrates to escape.

27. While a minimum bucket submersion time has not been specified as the ability of fish to be returned to water is reliant on a number of factors, the following matters will be taken into consideration:

- In general, most fish swim out of harm's way (so will not be picked up), and those that are picked up may seek cover within the collected material and therefore may not escape even if the bucket is submerged for a longer period. For this reason, the active searching of excavated material is important.
- For waterbodies where trout and larger eels may be present, a submersion of at least 3 seconds should be implemented, followed by slowly raising the bucket, as this may encourage them to swim out of the material and return to the river.
- In all cases, it is important to ensure that the bucket is tipped out in a way that material that was at the top of the bucket is at the top of the pile, so as not to bury any fish on the surface.

Searching of removed sediment

28. Excavated material shall be actively searched for any fish, kākahi (freshwater mussel) or large invertebrates such as kōura (freshwater crayfish).

29. To enable searching, the top 0.5 metres of material will be spread out in a thin layer for inspection. Fish or invertebrates recovered will be handled and released according to the New Zealand Freshwater Fish Sampling Protocols,[1] in particular those protocols relating to Fish Welfare (Section 3.9) to reduce the risk of injury or stress to captured fish. Fish shall be handled with wet hands or gloves to reduce the risk of injury. Prior to release, recovered individuals are to be photographed, counted and numbers recorded. Records should also be kept of any mortality.

30. In addition to spreading the top 0.5 metres of material to allow searching, the remaining excavated material shall be distributed along the bank of the waterway rather than in mounds, to maximise the opportunity for any eel to return to the water by their own means.

Management of captured fish (excluding Perch and Tench)

31. Found or captured fish, kōura and kākahi shall be temporarily held in a bucket(s) containing water from the watercourse. Fish will be held in containers for as short a time as practicable, up to a maximum of one hour. Captured fish will be released immediately if they show any signs of stress.

32. Containers shall not be overstocked, and large eels (>500 mm) and kōura shall be kept in separate containers to other captured fish to avoid injury or predation.

33. Prior to release, recovered individuals are to be photographed, counted and numbers recorded. Records should also be kept of any mortality.

34. Fish, kōura and kākahi will be relocated to suitable habitats within the same stream system with similar flow conditions and similar or better habitat. To avoid further permitting requirements, fish must be able to move between sites on their own (i.e. sites must not be separated by any natural or man-made barriers). All fauna shall be released upstream of the affected section of

[1] https://webstatic.niwa.co.nz/static/web/New_Zealand_Freshwater_Fish_Sampling_Protocols.pdf

waterway, or, where this is impractical (e.g., appropriate upstream release sites cannot be easily accessed), in a downstream section of the waterway that is below the mixing zone and does not have elevated levels of suspended sediment – to avoid exposing fauna to sediment-induced anoxia (lack of oxygen) when returned to the water.

35. Upon release, fish shall be distributed over a similar length of stream as they were caught, with small fish released first. Large numbers of fish shall not be released in one location to minimise the risk of short-term overstocking or predation.

36. The release of fish will be managed to ensure they are not moved beyond any natural or physical barriers that would inhibit their natural movement and migration.

37. Any pest fish captured will be euthanised.

38. For the purpose of the EMP, pest fish are considered to be those species managed under the New Zealand Invasive Fish Management Handbook 2015,[2] and are identified as:

- Koi carp (*Cyprinus carpio*)
- Brown bullhead catfish (*Amerius nebulosus*)
- Gambusia (*Gambusia affinis*)
- Orfe (*Leuciscus idus*)
- Rudd (*Scardinius erythrophthalmus*)
- Goldfish (*Carassius auratus*)

Management of captured Perch (Perca fluviatilis) and Tench (Tinca tinca)

39. Any perch or tench discovered during works will be relocated from the works site to an area where they are known to be present, or as far downstream in the same waterbody where they were discovered as is practicable.

40. Advice from the Department of Conservation and the relevant Fish and Game Council may be sought to confirm known areas where perch or tench are present.

41. Where perch or tench are discovered in a waterbody, this discovery will be notified to the Department of Conservation and the relevant Fish and Game Council, with the intention that these parties and the ORC Science team will collaborate on a broader removal strategy for that species in the specified waterbody, if removal is deemed to be necessary.

Removal of sediment and weedy vegetation

42. Vegetation and sediment will be removed from the bed using a digger with a cleaning bucket or weed bucket.

43. Works will be managed to disturb the banks as little as possible, to avoid potential effects on the stability of the bank.

44. Vegetation and sediment will be removed from the banks and wetted sides, up to 1 metre from the drain invert, as shown on **Error! Reference source not found.** below. Works will be managed to ensure that material is not removed from the below the natural invert level of the drain.

2 https://www.doc.govt.nz/Documents/conservation/threats-and-impacts/animal-pests/nz-invasive-fish-management-handbook.pdf

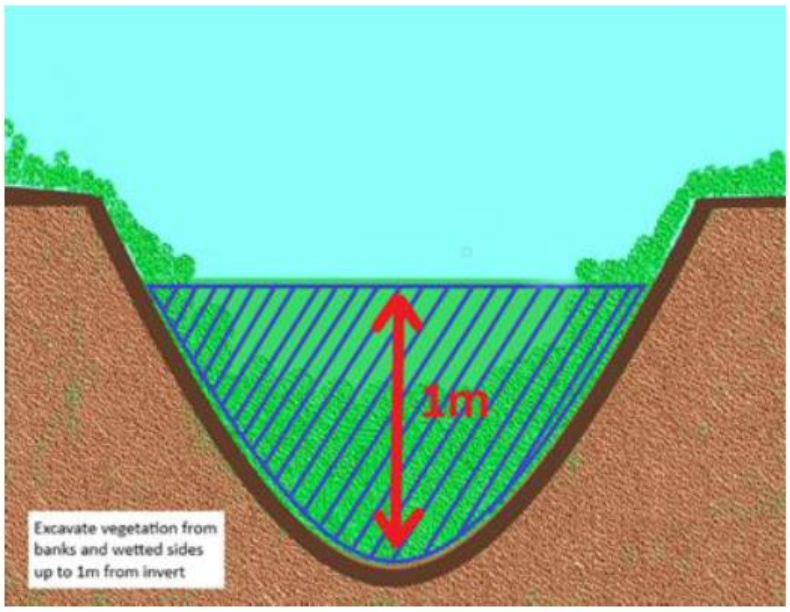


Figure 1: Diagram showing intent of removal up to 1m from the drain invert

45. Where reprofiling of the drain side will occur, care will be taken to match the original profile.

46. On completion, the long section surface of the drain must be smooth.

47. If works are undertaken when there is water in the drain, sediment controls will be implemented to limit the impact of any sediment mobilised during works. These are likely to include the installation of silt fences downstream of the works site, and will be managed in accordance with Section 3.9 of the EMP, as detailed above.

48. Once the fish salvage protocols detailed below have been completed, excavated material will not be stockpiled or placed within 4 metres of the banks of the drain. Spoil (excavated material) will be placed or removed as follows:

    - Where landowner permission has been granted, spoil is to be placed neatly alongside the cleaned drain, maintaining the existing land profile and drainage function. If the landowner requests spoil to be relocated elsewhere on their property, this can be accommodated.
    - If landowner permission is not granted, all spoil is to be carted from the site and disposed of appropriately.

Removal or trimming of large or woody vegetation

49. Large or woody vegetation that obstructs the clearing of the drain, or the flow of water through the drain, will either be trimmed or removed in its entirety. An example of this type of vegetation is outlined in red in Figure 2 below, with further photos provided in Appendix 1 of the actual work sites.

50. Trimming and removal will be done using:

    - An excavator with a grapple saw or shears
    - An excavator with root rake, for scrubby vegetation such as gorse and broom
    - Handheld tools

51. Any trimming of hedges will be done in the vertical plane.



Figure 2: Example of overgrown or obstructing vegetation

52. For tree removal:

- Where a tree is located on the banks, the stump and roots will generally be left in place, to aid in stabilising the banks.
- Where a tree located in the bed is felled, the entire tree and stump will be removed, and the roots removed, where removal does not impact the stability of the drain.
- Established native trees will not be removed, unless they are having a significant impact on the flow carrying capacity or stability of the drain.

53. Care will be taken to ensure that removed vegetation does not fall into the drain, or is retrieved from the drain as soon as practical. Removed vegetation will not be stockpiled or placed within 4 metres of the banks of the drain. Removed vegetation will be placed or removed as follows:

- Where landowner permission has been granted, vegetation will placed in an agreed location on the landowner's property, but not within 4 metres of any waterway.
- If landowner permission is not granted, all vegetation will be removed from the site and disposed of appropriately.

Redistribution of sediment and aggregate

54. Sediment and aggregate will be redistributed within the affected reaches using a digger with a bucket. Built up aggregate is removed from the bed of the waterbody in one location, and deposited into another reach of the same waterbody.

55. All material initially removed from the bed will be deposited into the same waterway, such that overall, no material will be removed from the bed on completion of the redistribution works.

56. Material will be redistributed in a manner that resolves the existing flow carrying capacity, flooding and/or erosion issues while not causing or exacerbating those issues elsewhere, including where the material is redistributed to.

57. On completion, a smooth contour must be achieved between the existing bed and areas where material has been removed and redistributed.

58. Where possible, any natural aspects of the waterway will be maintained, including leaving logs or woody debris or rock obstructions, provided they do not create an obstruction or diversion that may promote erosion.

Proposed conditions

59. ORC has not provided a set of proposed conditions, but would be agreeable to the following types of conditions, noting that these are broadly consistent with the conditions granted on drain maintenance consent RM25.552.

- Limiting works in accordance with the methodology described above, including extent, nature and timing of works, refuelling of vehicles and fish salvage.
- Pre-start and post works notification and photos to be provided to the consent authority.
- General good practice type conditions for works in the bed.
- Discharge to not cause:
  - A conspicuous change to the colour or clarity, or water after reasonable mixing.
  - Conspicuous oil or grease films, scums, foams, or floatable or suspended material after reasonable mixing.
- Work to not result any flooding, erosion, scouring, land instability or property damage.
- Minimising and avoiding the spread of pest species.
  - It is noted that pest species are unlikely to be present in the subject drain.
- Leaving the sites in a tidy condition following works.
- Accidental archaeological discovery protocol, and associated guidance from the Heritage New Zealand Pouhere Taonga Act 2014.

60. In accordance with s107G(1)(a) of the RMA, ORC request that a copy of the recommended conditions be provided to us for review, prior to the substantive decision being made.

The Site and Surrounds

61. Table 2 below includes a description of the drains, their values, and their surroundings. The details included in Table 1 are not repeated here.

Table 2: Site specific description of the affected environments

Drain	Drains 420 and 421		Drains S and S2	Drain S0
Description of the affected reach(es)	Drain 420 is approximately 2 m wide, with a depth of 1 m. Flow rate is approximately 0.1 m^3/s.	Drain 421 is approximately 4 m wide, with a depth of 1 m. Flow rate is approximately 0.2 m^3/s.	Both drains ultimately flow into the Tokomairiro River. Drain S is 8 m wide and Drain S2 is 208 m wide, with water typically 0-10 cm deep over summer. Anticipated flows of 0.003 m^3/s to 0.080 m^3/s. Both drains have a gravel bottom.	Drain S0 ultimately flows into the Tokomairiro River. Drain S0 is 0.6 to 1 m wide, with water typically 10-15 cm deep but potentially dry during works period. Anticipated flows of 0.006 m^3/s to 0.060 m^3/s.
Structures within and near the affected reach	Bridges immediately up and down stream of work areas, on Port Molyneux Road, and at confluence of drains (into Drain 419) at Waituti Road.		Bridge across Drain S on Back Road. Private culvert across Drain S at 300 Back Road. Private bridge and culvert across Drain S2 at 252 Back Road.	Bridge across Drain on Elliotvale Road, immediately upstream of works area.
Nearby consents	3530C, authorising the diversion of the full flow of Barrata Creek for the purpose of flood protection.		None	None
Catchment	Puerua River		Tokomairiro River	Tokomairiro River
Aquifer	Inch Clutha Gravel Aquifer on eastern edge of site.		Not applicable	Not applicable
Scheduled RWP values/layers	Schedule 1A: No natural or human use values noted Schedule 1AA: See threatened species and fish observation and habitat detail below Schedule 1B: No water supply value Schedule 1C: No registered historic places. Schedule 1D: Drains not identified, but wider area within which the drains are located (Clutha Mata-Au from Balclutha to sea) noted as having values associated with: • Kaitiaki tanga • Mauri • Waahi tapu and/or Waiwhakaheke • Waahi taoka		Schedule 1A: No natural or human use values noted Schedule 1AA: See threatened species and fish observation and habitat detail below Schedule 1B: No water supply value Schedule 1C: No registered historic places Schedule 1D: Drains not identified, but wider area within which the drains are located (Lower Tokomairiro River main stem) noted as having values associated with: • Kaitiaki tanga • Mauri • Waahi tapu and/or Waiwhakaheke • Waahi taoka • Mahika kai • Kohanga • Trails	

	• Mahika kai • Kohanga • Trails • Cultural materials Schedule 9: The wetland complex associated with the Puerua River/Clutha River – Koau Branch is a regionally significant wetland and is 1600 m east of the site. The drains have no or limited natural character, amenity and public access value, given their highly modified state.	• Cultural materials Schedule 9: No wetlands identified. The drains have no or limited natural character, amenity and public access value, given their highly modified state.	Schedule 7: Drain is within area sensitive to suction dredge mining
FMU	Lower Clutha Rohe within the Clutha Mata-Au FMU	Dunedin & Coast FMU	Dunedin & Coast FMU
Natural inland wetlands	The Otago Wetlands Mapping Project has identified a number of marsh and ephemeral natural inland wetland areas near these drains, as shown on the maps in Appendix A.	None identified	None identified
Threatened species habitat[3]	None in these drains or connected waterbodies	None in work areas. Salmond Creek 670 m upstream of works site is threatened species habitat for Taieri Flathead Galaxias	None in this drain or connected waterbodies.
New Zealand Freshwater Fish Database (NZFFDB)	Observations of īnanga, longfin eel, common bully, and 'unidentified eel' within the work areas. No spawning areas within works area, though Barrata Creek upstream was brown trout spawning habitat 1100 m upstream	Observations of longfin eel, upland bully, flathead galaxias and kōura in the final 300 m upstream extent of vegetation removal work areas, and extending further upstream. There are also observations of brown trout upstream of the works area, and downstream observations of brown trout, upland bully, common bully, longfin eel. 790 m of the upstream most extent of vegetation removal is located within spawning habitat for Taieri Flathead Galaxias and brown	No observations in this drain, nearest observations in connected waterbodies are 5000 m downstream.

[3] As per the Draft Otago Land and Water Regional Plan

		trout. There is also brown trout and redfin bully spawning habitat downstream of the work areas.	

Rule assessment

62. The Plan rule interpretation in this application is that of Incite and is not in substitution of the Council's own assessment of the proposal, nor is it a restriction on the matters resource consent is being sought for. Resource consent is applied for the proposal described in the "Description of the Proposal" section, including any plans and other information submitted. Resource consent is applied for the rule infringements described in this application, and any other resource consents necessary, whether specifically identified or not, to allow the proposal to be established, maintained and operated.

National Environmental Standards

63. The National Environmental Standards for Freshwater (NESF) contains rules that manage works within and near natural inland wetlands, so is relevant for the works in Drains 420 and 421, where the drains are within 10 m of natural inland wetlands. Drains 420 and 421 themselves are not identified as natural inland wetlands. The NESF is not relevant for any of the works within the Tokomairiro Scheme, as there are no identified natural inland wetlands within or near the work areas.

64. The drains, and the proposed maintenance works, meet the definition of *specified infrastructure* under the National Policy Statement for Freshwater Management (NPSFM), as the works are drainage works carried out:

- By or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1941.
- For the purpose of drainage by drainage districts under the Land Drainage Act 1908.

65. Regulation 46 of the NESF provides a permitted activity pathway for vegetation clearance, earthworks and land disturbance within, or within 10 metres of a natural inland wetland, where it is for the purpose of the maintenance and operation of specified infrastructure and other infrastructure. The relevant conditions, and compliance with them, are described in Table 3 below.

66. In accordance with Regulation 46(4)(a), as the works are drainage works that are specified infrastructure, Regulations 55(2), (3)(b) to (d), and (5) do not need to be complied with and have not been assessed.

Table 3: Assessment against the NESF

Regulation	Regulation wording or summary	Compliance
46(4)(b)	*the activity must not be for the purpose of increasing the size, or replacing part, of the specified infrastructure or other infrastructure unless the*	Complies – Works are for the purpose of improving carrying capacity, and any change in

	increase or replacement is to provide for the passage of fish in accordance with these regulations	size or nature of the drains will be limited to reinstating the original profile, rather than any increase in drain profile.
46(4)(c)	*the activity must not result in the formation of new pathways, boardwalks, or other accessways; and*	Complies – Works will not create new structures.
46(4)(d)	*if the activity is vegetation clearance, earthworks, or land disturbance, the activity must not occur over more than 500 m^2 or 10% of the area of the natural inland wetland, whichever is smaller*	Complies – The extent of works in wetlands will be minimised as far as practicable, such that these area limits will be met.
46(4)(e)	*if the activity is earthworks or land disturbance,—* *(i) trenches dug (for example, to maintain pipes) must be backfilled and compacted no later than 48 hours after being dug; and* *(ii) the activity must not result in drains being deeper, relative to the natural inland wetland's water level, than they were before the activity*	Complies – Works will not result in the digging of trenches, and the removal of material from drains will be managed to ensure it does not extend below the natural invert level of the drain, such that the drains will not be deepened.
55(3)(a)	*the activity must not result in the discharge of a contaminant if the receiving environment includes any natural inland wetland in which the contaminant, after reasonable mixing, causes, or may cause, 1 or more of the following effects:* *(i) the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials:* *(ii) a conspicuous change in colour or visual clarity:* *(iii) an emission of objectionable odour:* *(iv) the contamination of freshwater to the extent that it is not suitable for farm animals to drink:* *(v) adverse effects on aquatic life that are more than minor*	Complies – Works will be managed to ensure any resulting discharges comply with these limits.
55(3)(e)	*debris and sediment must not be placed—* *(i) within a setback of 10 m from any natural inland wetland; or*	Complies – All spoil from works will be placed away from the natural inland wetlands.

	(ii) in a position where it may enter any natural inland wetland.	
55(7)	*The general condition relating to earth stability and drainage is that the activity must not create or contribute to—* *(a) the instability or subsidence of a slope or another land surface; or* *(b) the erosion of the bed or bank of any natural inland wetland; or* *(c) a change in the points at which water flows into or out of any natural inland wetland; or* *(d) a constriction on the flow of water within, into, or out of any natural inland wetland; or* *(e) the flooding or overland flow of water within, or flowing into or out of, any natural inland wetland.*	Complies – Works will be managed to ensure that they do not cause or contribute to instability, subsidence or erosion. The works will not impact in- or out-flows to the nearby wetlands, nor constrict flows of water. Works are for the purpose of improving channel capacity and flood flows, so will reduce any existing impacts of flooding or overland flow associated with wetlands.
55(8)	*The general conditions on earthworks, land disturbance, and vegetation clearance are as follows:* *(a) during and after the activity, erosion and sediment control measures must be applied and maintained at the site of the activity to minimise adverse effects of sediment on natural inland wetlands; and* *(b) the measures must include stabilising or containing soil that is exposed or disturbed by the activity as soon as practicable after the activity ends; and* *(c) the measures referred to in paragraph (b) must remain in place until vegetation covers more than 80% of the site; and* *(d) if the activity is vegetation clearance, it must not result in earth remaining bare for longer than 3 months.*	Complies – Sediment controls will be in place where works are in water, and on completion, work areas will be stabilised to minimise ongoing sediment loss or erosion. Works outside the bed are unlikely to result in significant reductions in vegetation cover, such that 80% cover will be readily achievable.
55(9)(a)	*only indigenous species that are appropriate to a natural inland wetland (given the location and type of the natural inland wetland) may be planted in it; and*	Complies – The works will not involve any planting.
55(9)(b)	*the activity must not result in the smothering of indigenous vegetation by debris and sediment; and*	Complies – Works will be managed to avoid the smothering of indigenous

		vegetation by debris and sediment.
55(9)(c)	*the activity must not disturb the roosting or nesting of indigenous birds during their breeding season; and*	Complies – Works will be managed to ensure that indigenous birds will not be disturbed.
55(9)(d)	*the activity must not disturb an area that is listed in a regional plan or water conservation order as a habitat for threatened indigenous fish; and*	Complies – The work areas within Drains 420 and 421 are not identified as habitat for threatened indigenous fish.
55(9)(e)	*the activity must not, during a spawning season, disturb an area that is listed in a regional plan or water conservation order as a fish spawning area.*	Complies – The work areas within Drains 420 and 421 are not identified as a fish spawning area.
55(10)	*The general condition relating to historic heritage is that the activity must not destroy, damage, or modify a site that is protected by an enactment because of the site's historic heritage (including, to avoid doubt, because of its significance to Māori), except in accordance with that enactment.*	Complies – There is no known historic heritage within or near the work areas.
55(12)(a)	*machinery, vehicles, and equipment used for the activity must be cleaned before entering any natural inland wetland (to avoid introducing pests, unwanted organisms, or exotic plants); and*	Complies – Machinery, vehicles and equipment will be cleaned prior to works within or near wetlands.
55(12)(b)	*machinery that is used for the activity must sit outside a natural inland wetland, unless it is necessary for the machinery to enter the natural inland wetland to achieve the purpose of the activity; and*	Complies – Access in or through the wetlands will be avoided where possible, and otherwise minimised to the extent possible.
55(12)(c)	*if machinery or vehicles enter any natural inland wetland, they must be modified or supported to prevent them from damaging the natural inland wetland (for example, by widening the tracks of track-driven vehicles or using platforms for machinery to sit on); and*	Complies – Machinery or vehicles will be modified or supported as necessary to ensure damage to natural inland wetlands is prevented.
55(12)(d)	*the mixing of construction materials, and the refuelling and maintenance of vehicles, machinery,*	Complies – There will be no refuelling or maintenance within 10 m of wetlands.

	and equipment, must be done outside a 10 m setback from any natural inland wetland.	
55(13)(a)	*the activity must be undertaken only to the extent necessary to achieve its purpose; and*	Complies – The extent and duration of drain maintenance works will be minimised to the extent possible.
55(13)(b)	*the activity must not involve the use of fire or explosives; and*	Complies – Fire or explosives will not be used.
55(13)(c)	*if there is existing public access to a natural inland wetland, the activity must not prevent the public from continuing to access the natural inland wetland (unless that is required to protect the health and safety of the public or the persons undertaking the activity); and*	Complies – Works will be managed to ensure that existing public access is maintained, except where exclusion is required for health and safety purposes.
55(13)(d)	*no later than 5 days after the activity ends,—* *(i) debris, materials, and equipment relating to the activity must be removed from the site; and* *(ii) the site must be free from litter.*	Complies – The work areas will be left tidy on completion.

67. Overall, the proposed drain maintenance in Drains 420 and 421 will comply with permitted activity regulation 46 of the NESF.

68. No other parts of the NESF are relevant to the proposal, such that consent is not required under the NESF.

Regional Plans

69. The Regional Plan: Water for Otago (RPW) is the relevant regional plan for these works.

70. Two rule chapters are of relevance, being Chapter 13 (Land Use on Lake or River Beds or Regionally Significant Wetlands) and Chapter 14 (Land Use other than in Lake or River Beds).

71. Of the potentially relevant permitted activity rules in section 13.5 of the RPW:

- 13.5.1.2 is not relevant, as some, but not all, of the vegetation to be removed is likely to have accumulated as a storm event. In addition, alluvium will also be removed, which is not managed by this rule.
- 13.5.1.1 and 13.5.1.3 are not relevant as the works do not relate to structures or defences against water. While there are structures in the drains that are likely to benefit from the

drain maintenance works, the primary purpose of the works is not to safeguard the function or structural integrity of those structures.

- 13.5.1.4 is not relevant as no bank reinstatement will be occurring.
- 13.5.1.6 is not applicable, as some removal is likely to occur within the wet bed.

72. Given none of the permitted activity rules are applicable to the proposed works or cannot be complied with, the works within the beds of the drains have been assessed as:

    - Restricted discretionary under Rule 13.5.2.1, where works involve the extraction (removal) of alluvium.
    - Discretionary under Rule 13.5.2.1, which provides for the alteration of the bed of any lake or river, and is considered to capture the redistribution of alluvium, as well the removal of vegetation.

73. Chapter 14 of the RPW does not contain any relevant rules that manage the removal of vegetation from the banks or riparian margins of waterbodies. As such, consent under Chapter 14 of the RPW, and therefore a s9 land use consent, for the removal of vegetation outside the beds is not required. However, for completeness, this activity has been captured in Table 1 and Table 2 above, and in the effects assessment, as some vegetation removal from the margins may result in bed disturbance, such that Rule 13.5.2.1 will be relevant.

74. In relation to discharges associated with the drain clearance, we understand that since 2010, the consent authority (ORC Regulatory) has changed their interpretation in relation to discharge permits. This means that, where the discharges come from disturbing or redistributing material that is already in the river, a discharge consent is not required as we will not be introducing sediment to the waterway. As this will be the only cause of discharges for the proposed works, consent is not considered to be required for any discharges associated with the works.

Summary

75. Overall, consent is required for the proposed works in the bed as a discretionary activity under the RPW, with consent not required under the NESF, or for works outside of the bed.

76. No other consents are considered to be required under the RPW or any other regional plans in Otago, nor under the Clutha District Plan.[4]

Assessment of Environmental Effects

77. Overall, the proposed works are a discretionary activity under the Regional Plan: Water. In accordance with Section 104B of the RMA, Council is unrestricted in its ability to consider any actual and potential effects of the development. The assessment below covers those effects relevant to the proposal and is guided by the relevant policies in the RPW.

[4] Rule RRA.8 of the Clutha District Plan permits earthworks within 10m of a river for maintenance of defences against water, and removal of undesirable weeds or plants.

Effects on the Hydraulic Capacity and Flow Characteristics

78. All instream works have the potential to affect the particular hydraulic properties of the waterway in which they occur, including by reducing flow resistance, increasing flow velocities, and changing flow paths. Changes to the physical or hydraulic properties of waterways have the potential to result in adverse effects on flooding, erosion, scouring and land instability.

79. The primary purpose of the drain maintenance works is to reinstate the hydraulic capacity and physical stability of the identified drains, as this has been reduced as a result of a build-up of vegetation and sediment.

80. All sediment removal and aggregate redistribution works will be managed to retain the existing profile of the drain. The removal of vegetation and sediment no lower than 1 m above the drain invert will maintain the existing integrity of the drain inverts, with no changes to the overall width or depth of the drain.

81. Any vegetation clearance within the bed will be subject to the same limits as above for sediment/alluvium in relation to retaining the existing profile and avoiding removal below the drain invert. The removal of vegetation from the banks will further support improvements in hydraulic capacity and flow, by removing low or overhanging branches that block flows, and removing vegetation that is causing, or may cause, capacity issues in time.

82. All removed material will be placed well away from the drains and natural wetlands, such that it does not pose an ongoing risk (i.e. being mobilised during a flood event).

83. While works are occurring, there may be temporary disruptions to flows in the drains. However, any such disruptions will be limited and are unlikely to result in short-term flooding or similar issues, as:

    - Works in the bed will be undertaken when there are no, or low flows in the drains where possible.
    - The deposition of vegetation into the drains will be avoided where possible, and removed as soon as practicable where it occurs.
    - Weather forecasts will be monitored prior to, and during works, and works avoided during weather events that may result in high flows in the work areas.

84. ORC agrees to a condition requiring that the works do not cause or exacerbate flooding, erosion, scouring, land instability or property damage.

85. Overall, given the purpose of the proposed works, and the limits around the extent and impact of the works, it is considered that the works will have a positive effect on hydraulic capacity and flow characteristics of the drains.

Effects on Aquatic Ecosystems

86. The disturbance of waterbodies has the potential to have adverse effects on aquatic ecosystems supported by those waterbodies, and any downstream receiving waters.

Fish habitat and spawning

87. As described in the Site and Surrounds section of this report, assessment:

- There are recorded observations of īnanga, longfin eel and common bully in Drains 420 and 421 within the Lower Clutha Scheme, with brown trout spawning habitat 1100 m upstream of the Barrata Creek work area. These drains are not mapped as Threatened Species Habitat under the draft Otago Land and Water Regional Plan.
- There are recorded observations of longfin eel, upland bully, flathead galaxias and kōura within the upstream most extent of the work areas in Drain S, as well as mapped spawning habitat for brown trout and flathead galaxias. Outside the upstream 790 m extent of works, there are no other observations or mapped habitats with the work areas in Drain S. Up and downstream of the work areas, there are observations of longfin eel, flathead galaxias, kōura, upland bully and brown trout. There is mapped Threatened Species Habitat upstream approximately 670 m upstream of the work area, which extends upstream for more than 2500 m along Upper and Lower Narrowdale Streams (tributaries to Salmonds Creek).
- There are no observations, mapped spawning habitat or mapped Threatened Species Habitat within Drains S2 and S0.

88. The NZFFD data suggests some presence of aquatic species within Drains 420, 421 and S. In combination with the draft Threatened Species Habitat layer prepared for the Draft Otago Land and Water Regional Plan, and the highly modified nature of these waterbodies, it is suggested that the aquatic ecosystem values provided by these waterbodies may be limited, with better habitat areas up and/or down stream of the work areas.

89. While it is anticipated that the presence of fish in the work areas is likely to be limited, in accordance with the NIWA Fish Spawning and Migration Calendar for the species that may be present:[5]

- For galaxiids, the peak spawning period is typically May to September (inclusive) for large variants, and August to November (inclusive) for non-migratory variants.
- For īnanga, the peak spawning period is typically March to June.
- The spawning period for common bully has a range of August to February, with no peak identified.
- The peak spawning period for upland bully is October to December.
- The spawning period for longfin eels is not relevant, as they spawn in off-shore waters.
- For kōura, the peak spawning season is December to April.
- The typical spawning period for salmonids (including brown trout) is generally accepted as being April to September (inclusive).

[5] Freshwater Fish Spawning and Migration Periods, prepared by NIWA for the Ministry for Primary Industries, November 2014.

90. Based on the timing of consent lodgement, it is likely that works would be occurring in December at the earliest, but are more likely to occur in early 2027. This means that works can be managed to avoid the peak spawning periods for most of the relevant species present, being galaxiids, īnanga and salmonids.

91. The exceptions to this are the spawning periods for common and upland bully, and kōura, which occur through the key summer works season. While it would preferable to avoid works during their spawning seasons, prioritising works to occur outside of summer would likely result in higher flows in the work areas, and the potential for disturbance during the spawning seasons of other species, such as galaxiids and īnanga. It is possible that the works may result in the disturbance of spawning habitat for common bully, upland bully, and/or kōura. However, based on the extent of these species through the up and downstream extents of Drains 420, 421 and S and surrounding waterbodies, and their 'not-threatened' conservation status, it is expected that any impacts on spawning habitats will be less than minor, with undisturbed habitat area up and/or down stream of the work areas.

92. Works will be undertaken in a manner that limits disturbance of all work areas, including undertaking works when the drains are dry or have as low a flow as possible, using equipment and methods appropriate for the intended works, and ensuring vehicles and machinery do not enter the bed.

Fish salvage

93. For effects on aquatic ecosystems more generally, the fish salvage protocols are described in the Methodology section of this report, with salvage protocol included for all indigenous and introduced species that may be encountered during works, that are consistent with the requirements in the Global Consent EMP.

94. The proposed works areas represent a relatively small portion of the wider connected drainage networks, although it is acknowledged that this varies by site.

- For example, the clearance in Drains 420 and 421 comprises the entire extent of the mapped drains under the Bylaw. However, both waterbodies have upstream reaches that are not managed under the Bylaw and are longer than the proposed work areas, while downstream they flow into Drain 419, which drains into the Puerua River. All of these connected areas will remain undisturbed.
- In the case of Drain S and S2, while the total work areas comprise approximately 2500 metres, the actual length of bed disturbance will be less than this, with sustained works in a total length of approximately 520 m, alongside vegetation removal along the margins.
- In comparison, the works in Drain S0 represent a very small portion of the overall extent of Drain S0, particularly when looking at the wider connected drainage network.

95. In addition, across the connected drain and waterway networks where the works will occur, undisturbed refuge and recovery areas up and down stream of the work areas will remain.

Downstream of the work areas, these refuge habitats may also act as natural sediment traps to limit the downstream loss of sediment from disturbed upstream sections.

Potential benefits

96. The removal of vegetation and sediment may provide some benefits for aquatic ecology in these drains, particularly where excess sediment may smother habitat or reduce water clarity and visibility, or where vegetation growth reduces oxygen, or outcompetes native species. The limit around removal in relation to the invert of the drain will limit the disturbance of instream aquatic habitat, while enabling the removal of excess sediment and vegetation.

Fish passage

97. Works are unlikely to provide a barrier to fish passage, given machinery to be placed outside of the bed, and no damming or diversion of water within the drains proposed. The existing build-up of sediment and vegetation may hinder fish passage, such that the removal of this material may provide a benefit to fish passage.

Natural inland wetlands

98. While the works are classified as discretionary overall, the works in Drains 420 and 421, which will occur within 10 m of mapped natural inland wetlands, will comply with the relevant permitted activity regulation in the NESF.

99. In accordance with s95D(b) and 95E(2)(a) the consent authority may disregard adverse effects of the activities if a rule or national environmental standard permits an activity with that effect. Given the works within and near wetlands are permitted under the NESF, in accordance with the permitted baseline concept, the effects of the proposed works in Drains 420 and 421 have not been considered further as part of this proposal.

100. For the works in the other drains, there are no mapped natural inland wetlands, and no regionally significant wetlands in the vicinity, such that the works will not result in any adverse effects on wetlands.

Summary

101. Based on the limited aquatic values in the drains, the ability to avoid key spawning periods of threatened and at-risk species, and the practices proposed around the management of works more generally, the effects on aquatic ecosystems will be less than minor.

Effects on River Values

102. The works in the drains could have potential adverse effects on natural character, amenity, heritage, cultural and public access values.

103. As described in the Site and Surrounds assessment, there are no known or listed natural character, amenity, heritage, public access or cultural values associated with the drains to be

cleared. All drains subject to this application are highly modified watercourses that form part of their respective ORC drainage networks, are located in predominantly rural areas, and have previously been subject to maintenance works.

104. Any natural character or amenity values, including recreation or public access, associated with the drains are likely to be improved by the proposed works as a result of the removal of sediment and vegetation, given the benefits this work will have for both the function of the drains, and their general appearance. For the existing structures that provide access across the drains, the removal of vegetation and clearance of sediment may improve their function and structural integrity.

105. There are no known heritage or cultural values associated with the drain, although wider cultural values are acknowledged within the catchments these drains are located in. ORC agrees to the standard Accidental Discovery Protocol condition, should any discoveries of an unidentifiable archaeological site be made during works.

106. Overall, the effects on river values are considered to be less than minor, with some potential positive effects once works are completed.

Effects on Other Water Users

107. The works in the drains could have potential adverse effects on other water users, particularly those downstream of the works sites.

108. The works may have a temporary adverse effect on water quality associated with the disturbance of sediment. There are no consented water takes from any of the drains where works will occur, and no known permitted takes (although we acknowledge that this does not mean there are none). Any effects on water quality on downstream users associated with the disturbance of sediment are likely to be temporary in nature, and less than minor.

109. In relation to water quantity, the proposed works may result in a change in flow dynamics downstream of the work areas, as a result of the likely improvements to hydraulic capacity. ORC agrees to a condition requiring that works do not cause flooding, erosion, scouring, land instability or property damage, which would also capture any potential effects on instream structures within and immediately up and down stream of the affected reaches.

110. Based on the scale and extent of works, the effects on other water users are considered to be less than minor.

Cumulative Effects

111. The effects of the proposed works, in comparison to the wider drainage networks within which the drains exist, are likely to be relatively small, and have limited downstream effects. Given the consent is only authorising works in the specified locations, and only for the 2026/2027 season, the contribution of these activities to cumulative effects in the wider drainage networks will be limited, and likely to be smaller in scale than the ongoing maintenance of artificial watercourses

able to be carried out as permitted activities under the RPW across the networks. Based on the discussion, the cumulative effects are considered to be less than minor.

Consideration of Alternative Methods

112. There are limited alternative methods to alleviate the problems associated with sediment and vegetation build-up in the subject drains.

113. Based on the scale and extent of the proposed works, it is considered that the proposed methodology is the most appropriate to manage the present issues in these waterbodies.

114. The removal, rather than trimming or maintenance of vegetation on the banks, such as gorse and crack willow will reduce the need for similar works in the future, and may also reduce downstream damage from broken vegetation entering the watercourses.

115. In relation to the long-term management of sediment, land management practices to avoid the loss of sediment to waterways are integral, with recognition of these in Catchment Action Plans and guidance on good practice for farming and forestry activities.

Statutory Assessment

Part 2 Matters

116. In accordance with recent caselaw,[6] decision makers are no longer obliged to consider Part 2 of the RMA when considering a resource consent application. This includes Section 5: Purpose, Section 6: Matters of National Importance, Section 7: Other Matters and Section 8: Treaty of Waitangi. While decision makers are not prevented from considering specific sections under Part 2, they are no longer obliged to consider these unless the plan is invalid, has incomplete coverage or is uncertain.

117. The Otago Regional Policy Statement and the Regional Plan: Water for Otago, coupled with the relevant National Policy Statements, are both valid planning documents, have complete coverage over the proposed activities and anticipated effects, and are of sufficient certainty to not require an assessment of the activity against Part 2 matters.

118. As a **Discretionary Activity**, a consent authority may grant or refuse a consent and if it grants the application, may impose conditions.

National Policy Statement for Freshwater Management (NPSFM)

119. The NPSFM provides national level direction on the management of freshwater resources across New Zealand. It includes an objective, 15 policies, and a number of implementation directions which are primarily required to be implemented by regional councils by way of changes to their

[6] *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

regional plan(s). Outside inserting some compulsory direction from the NPSFM, ORC has not changed or replaced the RPW to give effect to the NPSFM.

120. Table 4 below sets out the relevant provisions from the NPSFM, and an assessment of the proposed works against those provisions. An assessment against the objective has not been included, as this is specifically precluded under s104(2F) of the RMA.

Table 4: Assessment against the NPSFM

NPSFM Provision	Assessment
Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.	The proposed works will be managed in a way that prioritises the health and well-being of freshwater, while providing benefits to surrounding landowners in relation to flood mitigation provided by the drainage network. The proposed works may also provide longer-term benefits to freshwater and ecosystem health through the removal of weeds and sediment.
Policy 2: Tangata whenua are actively involved in freshwater management (including decision-making processes), and Māori freshwater values are identified and provided for.	Details of the proposal have been provided to Aukaha and Te Ao Marama Incorporated, and we are awaiting a formal response. Any response will be forwarded to the Consent Authority on receipt.
Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.	The wider ORC managed drainage networks are managed in an integrated way that considers the catchments within which they are located, including the receiving environments. The need for the proposed works has been identified with this lens.
Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.	The maintenance of the ORC drainage networks as proposed is likely to support their resilience, and the resilience of surrounding land owners to the impacts of climate change.
Policy 5: Freshwater is managed (including through a National Objectives Framework) to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.	As described in the assessment of effects, the proposed work will support the improvement of the health and well-being of the subject waterbodies. The National Objectives Framework as codified in the NPSFM has not yet been implemented in Otago.
Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.	The works on Drains 420 and 421 will occur near natural inland wetlands. As described elsewhere in this report, the works will be

	managed to avoid and minimise any impacts on the wetlands, and will not result in a loss of extent or value of the wetlands.
Policy 7: The loss of river extent and values is avoided to the extent practicable.	The proposed work will not result in the loss of river extent or value, and may provide some improvements to river values that may have been impeded by the excess sediment and vegetation.
Policy 9: The habitats of indigenous freshwater species are protected.	For Drains 420 and 421, īnanga, longfin eel and common bully are all indigenous freshwater fish, that have been observed in the drains. The works will result in some temporary disruption to the habitat of these species, however the resulting removal of sediment and vegetation may be of benefit to these species in the longer term. A number of indigenous species have been observed in the upstream extent of Drain S, with the observations extending further upstream beyond the work areas. Works will be managed to limit the damage to any potential habitats. There are no observations of freshwater fish species (indigenous or otherwise) in Drain S0.
Policy 10: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.	There are no records of salmonids being present in the work areas, with brown trout noted in Salmond Creek (Drain S) upstream of the work areas, and brown trout spawning habitat downstream. Works will not occur during the spawning season for salmonids, and will be managed to limit the damage to any potential habitats.
Policy 13: The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.	ORC, in their drain management capacity, monitors the condition of the drainage networks, to ensure they are operating effectively, and take action as needed.
Policy 15: Communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement.	The proposed work will provide benefits to surrounding landowners in relation to flood mitigation and the function of instream structures, where this has been impeded by excess vegetation and sediment.

121. The proposal is considered to be consistent with the NPSFM.

National Policy Statement for Infrastructure (NPSI)

122. The NPS provides direction on the management of infrastructure. It recognises infrastructure as an interconnected network which serves the public good, and is intended to provide clear direction for development, maintenance and upgrades.

123. Flood control and protection works carried out by or on behalf of a local authority are considered to be *additional infrastructure* under the NPSI, and are therefore captured by the definition of *infrastructure*. While the terminology used in the NPSI does not specifically reference council drainage networks, the NPSI has been assessed on the basis that those networks are captured within the definitions above.

124. Table 5 below sets out the relevant provisions from the NPSI, and an assessment of the proposed works against those provisions.

Table 5: Assessment against the NPSI

NPSI Provision	Assessment
Objective: *(1) The objective of this National Policy Statement is to:* *(a) ensure the national, regional and local benefits of infrastructure are provided for;* *(b) enable infrastructure to support the social, economic and cultural wellbeing of people and communities and their health and safety;* *(c) enable infrastructure to support the development and change of urban and rural environments to meet the diverse and changing needs of present and future generations;* *(d) ensure infrastructure is well-functioning, resilient and compatible, as far as practicable, with other activities; and* *(e) ensure infrastructure is delivered in a timely and efficient manner while managing adverse effects from or on infrastructure*	The proposed works are intended to support the surrounding rural environments, and downstream urban environment from flood hazards, and ensure the relevant parts of the drainage networks continue to be well-functioning.
Policy 1: Providing for the benefits of infrastructure	This policy is primarily aimed at decision-makers. However, the proposed drain maintenance works will support the function of surrounding urban and rural environments by reducing risk from natural hazards.

Policy 2: Operational need or functional need of infrastructure to be in particular locations and environments	The maintenance works have a functional need to occur within and adjacent to the waterbodies.
Policy 4: Enabling the efficient and timely operation and delivery of infrastructure activities	The proposal seeks to maintain/improve the level of service provided by the drains through maintenance. Works are intended to be completed within the 2026/2027 works season.
Policy 6: Recognising and providing for Māori interests	Details of the proposal have been provided to Aukaha and Te Ao Marama Incorporated, and we are awaiting a formal response. Any response will be forwarded to the Consent Authority on receipt.
Policy 7: Assessing and managing the effects of proposed infrastructure activities	The effects of the proposal have been discussed earlier in this report. The works are temporary in nature, are intended to improve the operation of the affected drains, and will be managed to minimise adverse effects where possible.
Policy 8: Operation, maintenance and minor upgrade of existing infrastructure	

125. The proposal is considered to be consistent with, and supported by the NPSI.

Otago Regional Policy Statement 2021 (ORPS)

126. The operative ORPS provides direction on the management of resources across the region. Given the ORPS was notified, and became operative after the RPW, the RPW does not give effect to the ORPS, so a specific assessment against the ORPS is considered warranted.

127. Table 6 below sets out the relevant provisions from the NPSFM, and an assessment of the proposed works against those provisions.

Table 6: Assessment against the ORPS

ORPS Provision	Assessment
MW-O1 – Principles of Te Tiriti o Waitangi **MW-P1** – Treaty obligations **MW-P3** – Supporting Kāi Tahu hauora	The proposed activity will be managed in a way that supports Kāi Tahu hauora, to minimise effects on water quality and indigenous species and their habitats. Details of the proposal have been provided to Aukaha and Te Ao Marama Incorporated, and we are awaiting a formal response. Any response will be forwarded to the Consent Authority on receipt.
IM-O1 – Long term vision (mō tatou, ā, mō kā uri ā muri ake nei) **IM-O2** – Ki uta ki tai **IM-O3** –Sustainable impact	The purpose of drain maintenance works is a third priority under Te Mana o te Wai and LF-WAI-P1.

IM-O4 – Climate change **IM-P1** – Providing for mana whenua cultural values in achieving integrated management **IM-P3** – Managing environmental interconnections **IM-P4** – Managing uncertainties **IM-P6** – Effects of climate change **IM-P9** – Managing cumulative effects **LF-WAI-O1** – Te Mana o te Wai **LF-WAI-P1** – Prioritisation **LF-WAI-P2** – Mana whakahaere **LF-WAI-P3** – Integrated management/ki uta ki tai **LF-WAI-P4** – Giving effect to Te Mana o te Wai	The proposed work will be managed in a way that prioritises the health and well-being of freshwater, while providing benefits to surrounding landowners in relation to flood mitigation. The wider ORC managed drainage networks are managed in an integrated way that considers the catchments within which they are located, including the receiving environments. The need for the proposed works has been identified with this lens. The maintenance of the ORC drainage networks is likely to support their resilience, and the resilience of surrounding land owners to the impacts of climate change.
LF-FW-O2 – Visions set for each FMU and rohe **LF-FW-O3** – Clutha Mata-au FMU vision **LF-FW-06** – Dunedin & Coast FMU vision	The proposal is consistent with the region wide vision, which seeks that *the form, function and character of water bodies reflects their natural characteristics and natural behaviours to the extent reasonably practicable*. While the drains are classified as rivers, they has been highly modified. Works will be managed to maintain the existing profile of the drains.
LF-FW-O8 – Fresh water **LF-FW-09** – Wetlands **LF-FW-O10** – Natural character **LF-FW-P7** – Transitions over time **LF-FW-P8** – Fresh water **LF-FW-P11** – Managing wetlands **LF-FW-P14** – Preserving natural character and instream values **LF-FW-P15** – Restoring natural character and instream values	While the drains are classified as rivers, they have been highly modified, so are considered to have limited natural character and instream values. Works will be managed to maintain the existing profile of the drain. Some of the works will occur near wetlands, and will be managed to ensure wetland values are not lost, and there is no reduction in ecosystem health, hydrological function, amenity, extent or water quality once works are complete.
ECO-O1 – Indigenous biodiversity **ECO-P7** – Maintaining indigenous biodiversity **ECO-P8** – Restoration and enhancement **ECO-P10** – Resilience to climate change	As described earlier in the report, the drains have limited indigenous biodiversity values, and none are considered to meet the *significant natural areas* threshold. However, works will be managed to limit adverse effects on indigenous biodiversity.
EIT-INF-O1 – Provision of infrastructure	The definition of regionally significant infrastructure under the RPS 2021 includes

EIT-INF-O3 – Protecting infrastructure with national or regional significance **EIT-INF-P2** – Recognising resource requirements **EIT-INF-P3** – Upgrades and development **EIT-INF-P4** – Locating and managing effects of infrastructure, nationally significant infrastructure and regionally significant infrastructure outside the coastal environment	ORC's hazard mitigation works including drainage schemes. The proposed work is intended to maintain the function of the existing drainage network, and will be managed to limit the adverse effects associated with the works.
HAZ-NH-O1 – Natural hazards **HAZ-NH-P8** – Protecting features and systems that provide hazard mitigation	The maintenance of the ORC drainage network is likely to support their resilience, and the resilience of surrounding land owners to the impacts of natural hazards.

128. The proposal is considered to be consistent with the ORPS.

Regional Plan: Water for Otago

129. The RPW is the regional plan of relevance to this proposal.

130. Table 7 below sets out the relevant provisions from the RPW and includes an assessment of the proposed works against those provisions.

Table 7: Assessment against the RPW

RPW Provision	Assessment
Objective 5.3.1 – *To maintain or enhance the natural and human use values, identified in Schedules 1A, 1B and 1C, that are supported by Otago's lakes and rivers*	There are no known scheduled natural or human use values associated with the drains to be maintained.
Objective 5.3.2 – *To maintain or enhance the spiritual and cultural beliefs, values and uses of significance to Kai Tahu, identified in Schedule 1D, as these relate to Otago's lakes and rivers*	The proposed activities will be managed in a way that supports Kāi Tahu hauora, to minimise effects on water quality and indigenous species and their habitats. None of the drains are specifically identified in Schedule 1D.
Objective 5.3.3 – *To protect the natural character of Otago's lakes and rivers and their margins from inappropriate subdivision, use or development*	Due to their highly modified state, the drains are considered to have limited natural character, and this will not be eroded by the proposed works.
Objective 5.3.6 – *To provide for the sustainable use and development of Otago's water bodies, and the beds and margins of Otago's lakes and rivers*	The proposed works are part of ORC's ongoing commitment to maintaining drainage networks in the Lower Clutha/Mata-Au and Tokomairiro areas.

Objective 5.3.8 – *To avoid the exacerbation of any natural hazard or the creation of a hazard associated with Otago's lakes and rivers.*	The proposed works are intended to improve the function of the drains, so are not expected to create or exacerbate natural hazard risks.
Policy 5.4.2 – For activities in the beds of rivers, effects for which the priority should be to avoiding, in preference to remedying or mitigating.	The proposed works are not expected to cause any of the effects listed in clause (1), nor cause or exacerbate flooding, erosion, land instability or property damage. Any sedimentation of the drains will be short term, and limited to the duration of works, with no new material to be discharged to the bed.
Policy 5.4.2A – *The loss of river extent and values is avoided, unless the council is satisfied:* *(a) That there is a functional need for the activity in that location; and* *(b) The effects of the activity are managed by applying the effects management hierarchy*	As described in relation to Policy 7 of the NPSFM, the proposed works will not result in the loss of river extent or value and may provide some improvements to river values that may have been impeded by the excess sediment and vegetation.
Policy 5.4.3 – For activities in the beds of rivers, prioritise avoiding adverse effects on existing lawful uses and priorities for use	There are no known existing lawful uses of the drains where works will be carried out, outside of their function as managed drains. There are several existing crossings over the drains, which will not be adversely affected by the proposed works.
Policy 5.4.4 – *To recognise Kai Tahu's interests in Otago's lakes and rivers by promoting opportunities for their involvement in resource consent processing*	An overview of the proposal has been provided to Aukaha and Te Ao Marama Incorporated for comment.
Policy 5.4.6 – Restriction of legal public access to and along the margins of rivers	Public access will only be restricted as needed for health and safety reasons during works. The removal of excess vegetation may enhance access.
Policy 5.4.8 – Features to have particular regard to when considering adverse effects on their natural character.	Due to their highly modified state, the drains are considered to have limited natural character, aesthetic value and recreational opportunities. Any such values that are present will not be eroded by the proposed works.
Policy 5.4.9 – Have particular regard to aesthetic values and recreational opportunities when considering effects on amenity values.	
Policy 5.4.10 – *In the management of any activity involving surface water or the bed or margin of any lake or river, particular regard will be given to the heritage value of any site, building, place or area*	There are no known heritage values associated with the work areas. However, ORC agrees to include an accidental discovery protocol as a

	condition of consent should anything of interest be found during works.
Objective 8.3.1 - *To maintain:* *(a) The stability and function of existing structures located in, on, under or over the bed or margin of any lake or river;* *(b) The stability of the bed and bank of any lake or river; and* *(c) The flood and sediment carrying capacity of any lake or river.*	There are several structures within and near the work areas that may be affected by the proposed works. The works are likely to have a positive effect on these structures, through the removal of excess vegetation and sediment. The proposed works will be managed to maintain or improve the stability of the drains, and maintain or improve their flow carrying capacity.
Objective 8.3.2 – To minimise reduction in water clarity caused by bed disturbance.	Works will be managed to minimise bed disturbance.
Policy 8.4.1 – Managing changes in the nature of flow and sediment processes	The proposed works are intended to improve flow and sediment processes, which have been inhibited by excess sediment and vegetation at the work areas.
Policy 8.6.1 – Adverse effects to have regard to when managing the disturbance of the bed of any river.	The effects set out in policy 8.6.1 have been considered as part of this proposal, and the adverse effects concluded as being less than minor.
Policy 8.6.2 – *To promote best management practices for activities that occur within or adjacent to the bed of lakes and rivers in order to avoid, remedy or mitigate any adverse effect.*	The proposed works are intended to be carried out in accordance with best management practices as relevant, although it is noted that there is no Otago specific code of practice or similar document for drain maintenance. The Environmental Management Plan associated with the global consent held by ORC for river works is likely to be the closest such document.

131. The proposal is considered to be consistent with the RPW.

Te Rūnanga o Ngāi Tahu Freshwater Policy Statement (Ngāi Tahu FPS)

132. The Ngāi Tahu FPS focuses on the management of freshwater resources, and describes:

- Kāi Tahu's association with freshwater resources;
- The ways in which Kāi Tahu, as tangata tiaki, want to participate in freshwater management; and, most importantly
- The environmental outcomes sought.

133. Key objectives from the Ngāi Tahu FPS that are relevant to this proposal are:

- To afford total protection to waters that are of particular spiritual significance to Kāi Tahu;
- Restore, maintain and protect the mauri of freshwater resources;
- To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity; and
- To promote collaborative management initiatives that enable the active participation of Kāi Tahu in freshwater management;

134. We consider the proposal is generally in-keeping with the above policy direction, and note that engagement with Rūnaka is ongoing.

Kai Tahu ki Otago Natural Resource Management Plan 2005 (Kāi Tahu NRMP)

135. The Kāi Tahu NRMP is the principal planning document for Kāi Tahu ki Otago, and provides:

- Information, direction and a framework to achieve a greater understanding of the natural resource values, concerns and issues of Kai Tahu ki Otago.
- A basis from which Kāi Tahu ki Otago participation in the management of the natural, physical and historic resources of Otago is further developed.
- The basis, but not substitute, for consultation and outline the consultation expectations of Kāi Tahu ki Otago.

136. Section 5.3.3 contains the Wai Māori General Objectives, the following of which are relevant to the proposal:

- The spiritual and cultural significance of water to Kāi Tahu ki Otago is recognised in all water management;
- The waters of the Otago Catchment are healthy and support Kāi Tahu ki Otago customs; and
- Contaminants being discharged directly or indirectly to water are reduced.

137. Section 5.3.4 contains the Wai Māori Policies, the following of which are relevant to the proposal:

- Policy 1: To require an assessment of instream values for all activities affecting water.
- Policy 4: To protect and restore the mauri of all water.
- Policy 31: To require that fish passage is provided for at all times, both upstream and downstream.
- Policy 32: To oppose all river and instream work if near a nohoaka site during the months of August to April.
- Policy 33: To require that buffer zones are established and agreed upon with the Papatipu Rūnaka between the flowing water and the site of any river or instream work.
- Policy 34: To require that any visual impacts at the site of the activity are minimal.
- Policy 36: To require that any works be undertaken either before or after spawning season of potentially affected species as identified by the affected Papatipu Rūnaka.

- Policy 37: To require that all practical measures are taken to minimise sedimentation or discharge of sedimentation.
- Policy 38: To require that all practical measures are undertaken to minimise the risk of contamination to the waterway.
- Policy 39: To require that work is done when the water level is naturally low or dry.
- Policy 40: To require that machinery enters the dry bed of the waterway only to the extent necessary, to carry out as much of the work as possible, using one corridor for entering and exiting.
- Policy 41: To discourage machinery operating in flowing water.
- Policy 42: To require that all machinery is clean and well maintained before entering the work site; refuelling is to be done away from the waterway.
- Policy 43: To discourage activities on riverbanks that have the potential to cause or increase bank erosion.
- Policy 44: To encourage the planting of indigenous vegetation from the local environs to help reduce continual erosion of the edge of rivers.
- Policy 45: To oppose ad-hoc remediation initiatives where erosion is already occurring. A planned approach based on investigation that recommends initiatives that take account of and blend into the landscape are preferred rather than, for example, the dumping of rocks to "patch" an eroded area.
- Policy 46: To require before and after photos of the site that show the work carried out.
- Policy 48: To require that any bed disturbance is limited to the extent necessary to remove the vegetation and that all reasonable steps are taken to minimize the release of sediment to water.
- Policy 50: To require that the consent holder will carry out ongoing maintenance by managing re-growth so that future disturbance of the beds and banks is minimised.

138. We consider the proposal is generally in-keeping with the above policy direction, and note that engagement with Rūnaka is ongoing.

Te Tangi a Tauira, Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 (Te Tangi)

139. Te Tangi is the principal planning document for Ngāi Tahu ki Murihiku , and is intended to assist Rūnaka in effectively participating in national resource and environmental policy and planning. We understand that Murihiku hold shared interest with Kai Tahu ki Otago in areas south of the Clutha River, which in the case of this proposal includes the works in Drains 420 and 421.

140. The works area has been assessed as fitting best within section 3.5 Te Rā a Takitimu Southland Plains of Te Tangi, the following provisions being of particular relevance to the proposal:

- Policy 3.5.11.1: Promote catchment management planning (ki uta ki tai).
- Policy 3.5.11.3: Management of rivers must take into account that each waterway has it's own mauri.

- Policy 3.5.11.5 Adopt a precautionary approach for dealing with waterways where there is an absence of detailed knowledge.
- Policy 3.5.12.1, 3.5.13.5: Avoid the use of water as a receiving environment for discharges of contaminants.
- Policy 3.5.12.2: Assess discharge to water proposals on a case by case basis.
- Policy 3.5.12.3: Consider any discharge activity in terms of the nature of the discharge, and the sensitivity of the receiving environment.
- Policy 3.5.13.3: Require cumulative effects assessments for an activity that may have adverse effects on water quality.
- Policy 3.5.12.8, 2.5.13.11: Require monitoring of discharge permits.
- Policy 3.5.15.16: Require that short term effects on water quality are mitigated during flood works construction.
- Policy 3.5.18.1: Avoid drainage or modification any existing wetland areas.
- Policy 3.5.19.1: Promote riparian zone establishment and management.

141. We consider the proposal is generally in-keeping with the above policy direction, and note that engagement with Rūnaka is ongoing.

Notification and Consultation

Public Notification

142. Section 95A of the RMA sets out the steps to be taken by the consent authority in deciding whether to publicly notify an application.

Public Notification Assessment

(Step 1) Mandatory Public Notification in Certain Circumstances	
• The applicant requests public notification; or • Public notification is required under Section 95C; • The application has been made jointly with an application to exchange recreation reserve land.	None of these matters are triggered by this application.
(Step 2) If not required by Step 1, Public Notification precluded in Certain Circumstances	
• A rule or national environment standard precludes public notification of the application; • The activity is a controlled activity; • The activity is a restricted discretionary, discretionary, or non-complying activity (boundary activity only).	None of these matters are triggered by this application.
(Steps 3 and 4) Therefore, public notification is only required if:	

• A rule or national environmental standard requires public notification; • The consent authority decides, in accordance with Section 95D, that the activity will have, or is likely to have adverse effects on the environment that are more than minor; or • Special circumstances apply.	None of these matters are triggered by this application. There are no special circumstances in relation to this application.

143. The application is for a discretionary activity, and there are no rules requiring or precluding public notification. The activity is not likely to have adverse effects on the environment that are more than minor, therefore, public notification is not required.

Limited Notification

144. Section 95B relates to limited notification of a consent application and sets out the steps to be taken by the consent authority when deciding whether to limited notify an application. As detailed in the table below, limited notification is not required because the adverse effects on any person as a result of the proposed activity will be less than minor.

Limited Notification Assessment

(Step 1) A consent authority must determine whether there are certain affected groups and affected persons	
• Affected protected customary rights groups; or • Affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity); or • Land subject to a statutory acknowledgement.	None of these matters are triggered by this application.
(Step 2) If not Required by Step 1, Limited Notification is Precluded in Certain Circumstances	
• The activity is subject to a rule or national environmental standard that precludes limited notification; or • The application is for a controlled activity under the district plan (except subdivision), or a prescribed activity.	None of these matters are triggered by this application.

(Step 3) If Not Precluded by Step 2, Certain Other Affected Persons Must be Notified	
In deciding if a person or group is affected: • A person is affected if the adverse effects of the activity on that person are minor or more than minor (but not less than minor). • Adverse effects permitted by a rule in a plan or national environmental standard (the permitted baseline) may be disregarded. • The adverse effects on those persons who have provided their written approval must be disregarded.	The permitted baseline has been applied in respect of effects on natural inland wetlands, related to Drains 420 and 421. None of the remaining matters are triggered by this application.
(Step 4) Further Notification in Special Circumstances	
The consent authority must determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification.	There are no special circumstances in relation to this application.

145. It is considered that this application can proceed on a non-notified basis, as the adverse effects of the activity are considered to be less than minor and able to be adequately mitigated through conditions of consent and design solutions.

Consultation

146. We notified Fish and Game, the Department of Conservation, Aukaha and Te Ao Marama Incorporated of the proposed works on 1 October 2026. Any correspondence will be forwarded on to the Consent Authority.

147. Where access to the sites is required over, or works will occur on, private property, landowner permission will be sought, with written records saved in the Council's electronic records system. This is consistent with the approach set out in Section 2.9 of the EMP.

Conclusion

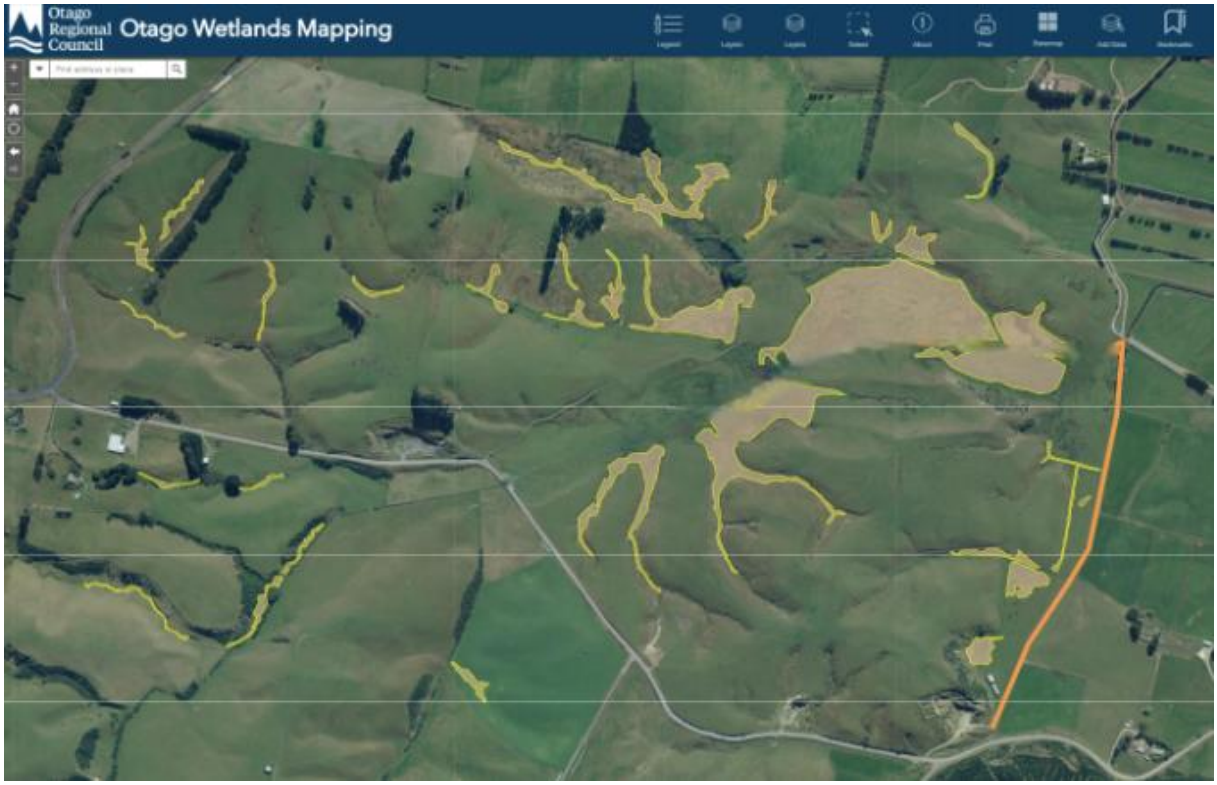
148. The applicant seeks resource consent as a discretionary activity under the RPW for consent to undertake works in the beds of rivers for the purpose of drain maintenance. The assessment of effects on the environment has demonstrated that the adverse effects on the environment are no more than minor, and no persons will be adversely affected by the proposed drain maintenance works.

149. Accordingly, it is considered appropriate that this application be processed in a non-notified manner in terms of section 95 of the Resource Management Act 1991.

Appendix A

Location plans and photos of the current state of sites

Drain 420



Mapped natural inland wetlands are shaded and outlined in yellow.
Works area is outlined in orange.





Upstream and downstream ends of the works area

Drain 421



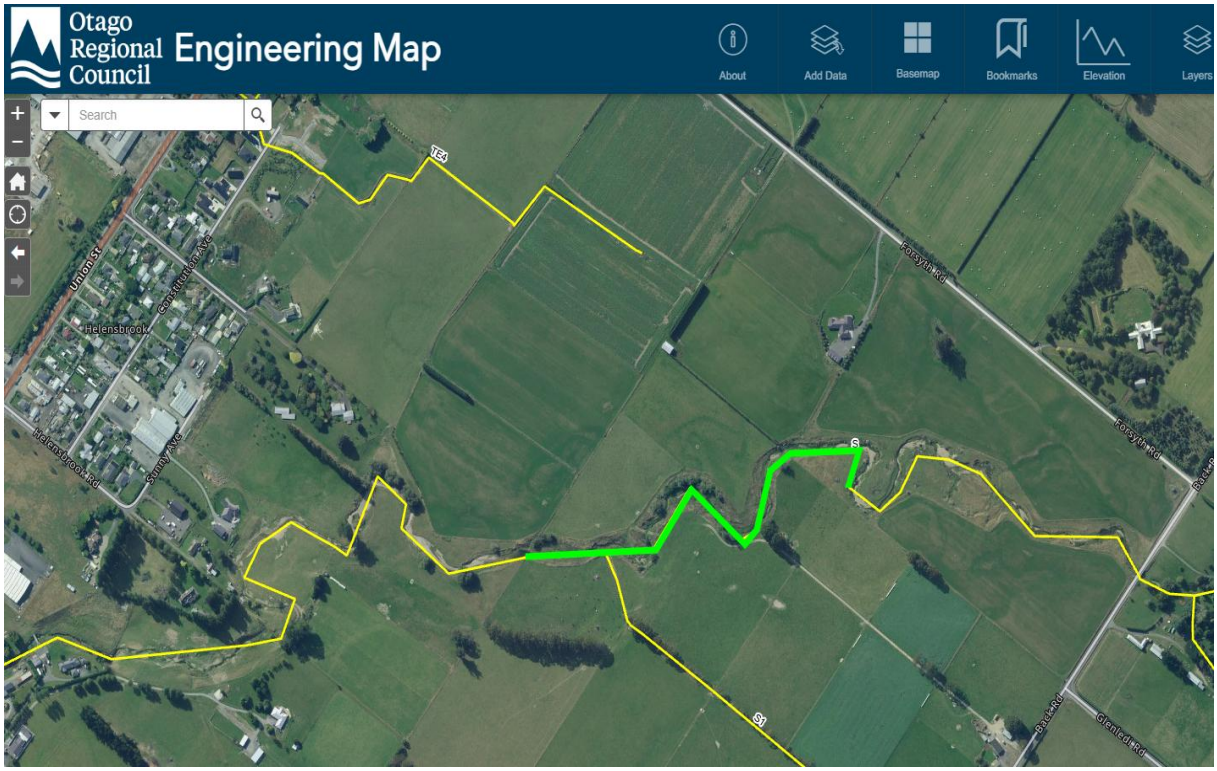
Mapped natural inland wetlands are shaded and outlined in yellow.
Works area is outlined in orange.





Upstream and downstream ends of the works area

Drain S (500 m reach for redistribution of alluvium)



Yellow lines show the extent of drainage networks managed under the Flood Bylaw.
Green section shows work area.

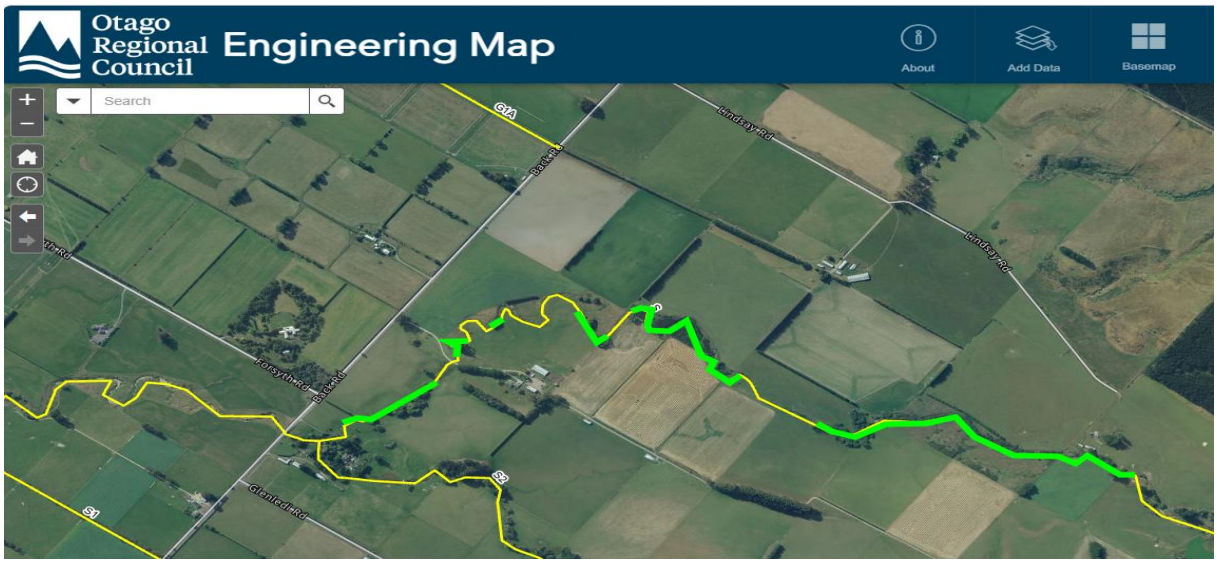








Drain S (2500 m reach for vegetation removal)



Yellow lines show extent of drainage networks managed under the Flood Bylaw.
Green sections show work areas.









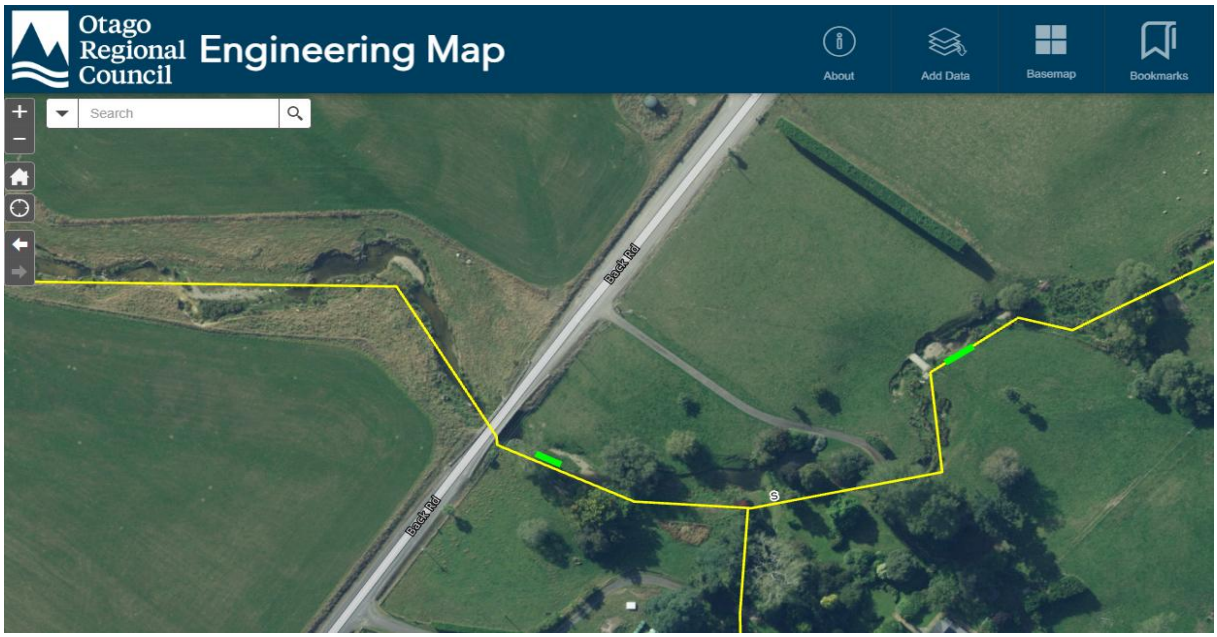








Drain S (2 x 20 m reaches for redistribution of alluvium)



Yellow lines show the extent of drainage networks managed under the Flood Bylaw.
Green sections show work areas.

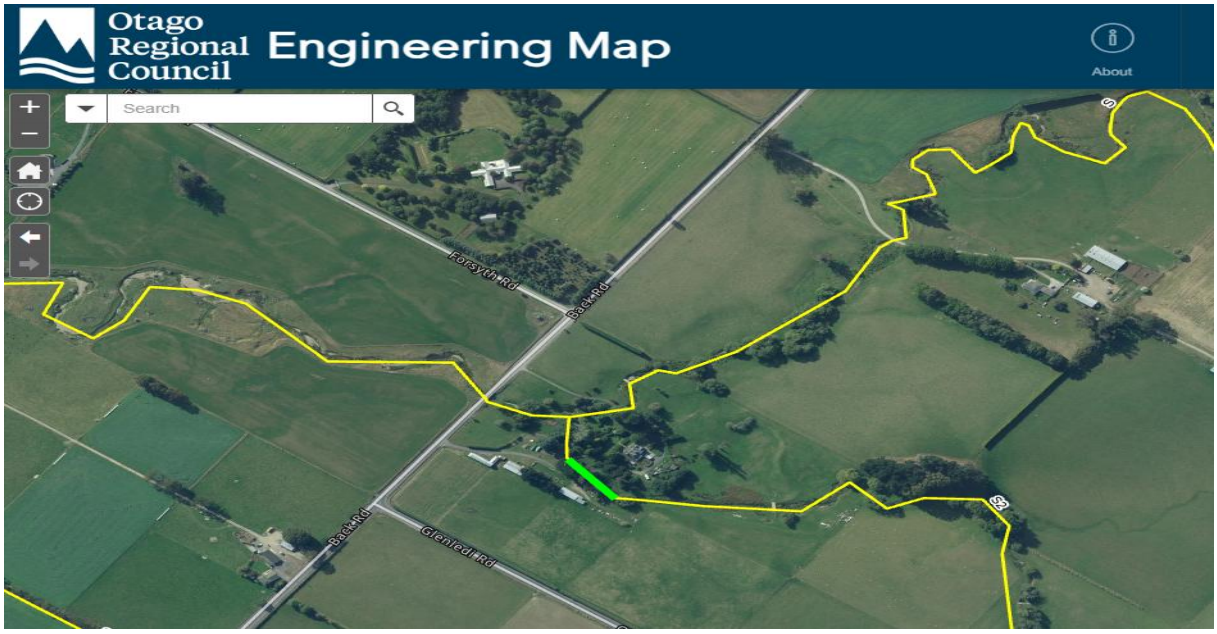








Drain S2



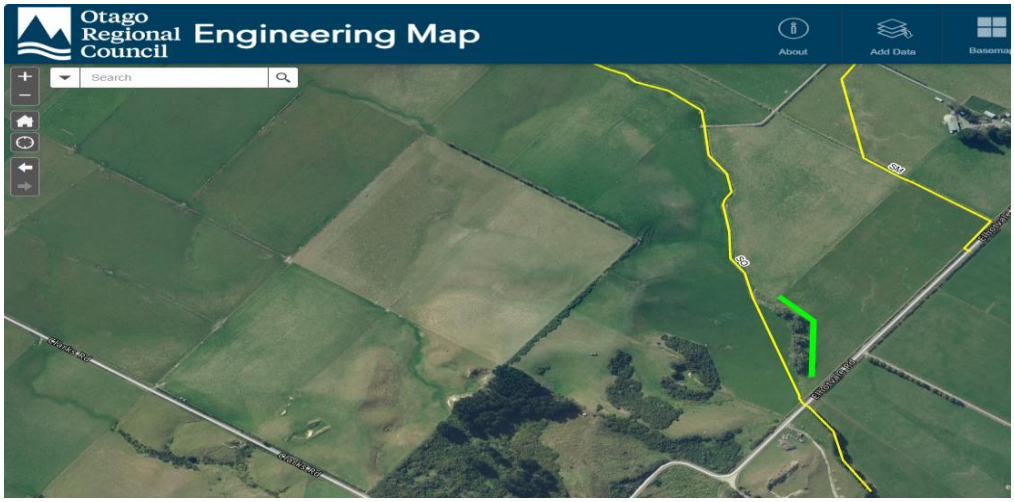
Yellow lines show the extent of drainage networks managed under the Flood Bylaw.
The green section shows the work area.







Drain S0



Yellow lines show the extent of drainage networks managed under the Flood Bylaw.
The green section shows the work area.

The Bylaw-mapped drain alignment here is incorrect; the drain flows along the work area identified above.





