# Section 32 Evaluation Report for the Proposed Otago Land and Water Regional Plan

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## Chapter 15: Flood protection and drainage

**This Section 32 Evaluation Report should be read together with the Proposed Otago Land and Water Regional Plan**

Otago Regional Council

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# Abbreviations

| | |
|---|---|
| FMU | Freshwater Management Unit |
| NES | National Environmental Standard |
| NPS | National Policy Statement |
| NPSFM | National Policy Statement for Freshwater Management 2020 |
| ORPS | Otago Regional Policy Statement 2019 |
| pORPS | Proposed Otago Regional Policy Statement 2021 |
| pLWRP | Proposed Otago Land and Water Regional Plan 2024 |
| RPS | Regional Policy Statement |
| RPW | Regional Plan: Water |
| RMA | Resource Management Act 1991 |

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# Flood protection and drainage: Assessment of Provisions

## 1. Introduction

1. The FLOOD – Flood Protection and Drainage chapter manages many works associated with ORC's functions under the Soil Conservation and Rivers Control Act 1941 (SCRCA), the Land Drainage Act 1908, or the Local Government Act 1974.

2. Based on the Long Term Plan 2024-2034, ORC owns and maintains flood protection, land drainage and river management infrastructure which provides flood protection and land drainage to approximately 43,000 hectares of rural and urban land in Otago.

3. The purpose of this chapter in the pLWRP is to establish a regime for ORC to continue to exercise their river control functions as required by other national legislation, while achieving the objectives of the pLWRP. This chapter:

    a. Manages most activities in the bed associated with flood protection and drainage works,[1] including structures, discharges of bed substrate to water, vegetation removal and planting, diversion of water, and off-stream damming, where these activities are undertaken by the ORC; and

    b. Does not manage gravel extraction, drainage maintenance or instream damming.

4. The relevant provisions for this section are those contained in the FLOOD chapter. The FLOOD provisions cross reference specific provisions in the BED and DAM chapters.

## 2. Issues

5. This section outlines the resource management issues that the FLOOD chapter seeks to address. These issues are:

    a. Issues of significance for Kāi Tahu.

    b. Relationship between the higher order direction

6. Additional policy issues with the status quo policy context that the FLOOD chapter seeks to address are outlined in section 3.2 below.

### 2.1. Issues of significance for Kāi Tahu

7. The pORPS sets out the resource management issues of significance to iwi in the region, all of which are relevant to activities in the beds of lakes and rivers. While flood protection and drainage works undertaken by ORC are not specifically referenced, the types of works undertaken, and their resulting effects are emphasised in the following places:

    a. RMIA–WAI–I3 – The effects of land and water use activities on freshwater habitats have resulted in adverse effects on the diversity and abundance of mahika kai resources and harvesting activity.

[1] Also referred to as 'flood works' in this report.

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b. The explanation of this issue notes that there has been a dramatic loss of mahika kai resources since the Treaty of Waitangi was signed. It references activities such as altered flow regimes, reduced water quality and removal of riparian vegetation all impact on access and use of resources, although notes more generally that the effects of land and water use of freshwater habitats degrades mahika kai.

c. RMIA–WAI–I5 – Poor integration of water management, across agencies and across a catchment, hinders effective and holistic freshwater management.

d. The explanation of the issue states that the management of water in Otago is not holistic, referencing two regional council interests in the Waitaki, the role of district councils in managing activities that affect freshwater, and the separation of the coastal and freshwater environments through separate plans.

e. Under RMIA-WAI-I5, the pORPS notes that Kāi Tahu concerns across issues RMIA-WAI-I1 to RMIA-WAI-I5 are interrelated. Some specific concerns relevant to this topic are:

   i. Impacts of activities such as channel maintenance and channel cleaning on water quality and on disruption of species living in the channel and their habitat.

   ii. Impacts of channel reshaping, in particular straightening, on river flow and habitats, and the mauri of the water body.

   iii. The effects of bed disturbance, including suction dredging and gravel extraction, on stream morphology and habitats.

   iv. Impacts of willow removal on water quality, water temperature and mahika kai habitat.

   v. Introduction of exotic weeds through poorly cleaned machinery, and the subsequent effects on bank habitat and water ecosystems.

8. Many of these issues have arisen as a result of the piecemeal approach the RPW takes to managing a range of activities, including those associated with flood protection and drainage works by or on behalf of ORC. The issues identified by Kāi Tahu underscore those identified with the status quo discussed in the section 2.4, and in some cases they may be the outcomes of the issues with the status quo.

## 2.2. Relationship between the higher order direction

9. ORC has functions and obligations under legislation in addition to the RMA, in relation to flood protection and drainage works.

   a. The purpose of the Soil Conservation and Rivers Control Act 1941 is to make provision for the conservation of soil resources and for the prevention of damage by erosion, and to make better provision with respect to the protection of property from damage by floods. The prevention of damage by floods involves a range of works, including strengthening river banks, building and maintaining flood banks, redistributing gravel within the bed, planting and removal of vegetation and the maintenance of drainage networks.

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b. Under the Land Drainage Act 1908 the Council may exercise powers in relation to watercourses, banks and defences against water, including their repair and maintenance, as well as alterations required.

10. The pLWRP is required to give effect to the NPSFM, with the objective to manage resources in a way that first prioritises the health and well-being of water bodies and freshwater ecosystems. The flood protection works under the legislation described above are considered to fall under the third priority of the objective of the NPSFM.

11. Given the nature of flood protection works, there can be a tension between ORC's obligations under the Soil Conservation and Rivers Control Act and Land Drainage Act, and giving effect to the NPSFM, particularly where flood protection works may result in the loss of river extent or value.

12. The pORPS also provides relevant direction, with HAZ-NH-O1 requiring that:

> *Risks to people, communities and property from natural hazards within Otago are maintained where they are acceptable, and managed to ensure they do not exceed a tolerable level.*

13. Specific to flood works, HAZ-NH-P7 directs that the ability of natural and modified features and systems to mitigate the effects of natural hazards and climate change is protected, while HAZ-NH-P9 seeks that the functional needs and operation of hazard mitigation measures are protected.

# 3. Status quo policy context (including operative plan provisions)

## 3.1. Overview of the RPW provisions

14. For flood works that are in the beds of lakes and rivers, the overview of the RPW provisions for the BED chapter is of relevance, and is not repeated here. Of particular relevance to flood and drainage works are:

a. Policy direction to maintain the integrity of existing defences against water, and the consideration for reconstruction or modification of defences against water, [2]

b. Permitted activity rules for the repair or maintenance of defences against water in the bed, and the alteration or reconstruction of defences against water outside the bed.[3]

15. For instream diversions and off-stream dams, the overview of the RPW provisions for the DAM chapter is of relevance, and is not repeated here.

[2] Policies 8.3.3 and 8.5.5

[3] Rules 13.5.1.3 and 14.3.1.1

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## 3.2. Avoiding the loss of a river's extent and values

16. Clause 3.24 of the NPSFM requires the following policy to be inserted into all regional plans:

> *The loss of river extent and values is avoided, unless the council is satisfied that:*
> *(a) 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.*

17. This policy has been inserted into the RPW as policy 5.4.2A, and will be included in the pLWRP as policy IP-P9.

18. Clause 3.24 goes on to set out the requirements for:

a. Information to be included in consent applications for activities provided for in the policy above,

b. The decision-making process for councils to follow when assessing those applications, and

c. Matters to be controlled by consent conditions.

19. This policy direction has been included in the pLWRP as policy IP-P19.

20. All flood works have a functional need to locate in a particular place, given the obligations under other legislation that ORC is required to achieve in their flood protection and drainage works. Where flood works will result in adverse effects on the extent or values of a river, they must be managed by applying the effects management hierarchy. Some flood works, particularly the use, maintenance, alteration and like for like replacements of existing assets are not expected to affect river extent or value, so may be able to be permitted subject to conditions. Where extent or value is likely to be affected, consent is needed to fulfil the council's obligations under the NPSFM. The effects management hierarchy is a significant change for the management of activities in the beds of rivers in Otago, when compared to the existing direction in the RPW, which does not explicitly reference or protect river extent or value.

## 3.3. Providing for fish passage

21. Clause 3.26 of the NPSFM requires the following policy to be inserted into all regional plans:

> *The passage of fish is maintained, or is improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habitats.*

22. This policy has been inserted into the RPW as policy 8.3.5, and is captured by policy IP-P12 in the pLWRP.

23. Clause 3.26 of the NPSFM also requires that all regional plans include policies that identify desired fish species for which in-stream structures must provide passage and the water bodies they occur within, and undesirable fish species whose passage should be prevented. The pLWRP includes guidance on desired and undesirable fish species, including definitions for both terms in relation to fish passage.

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24. The NPSFM direction is particularly relevant for in-stream structures that may affect fish passage, as it is considerably more stringent than the existing direction in the RPW for fish passage. Flood works may restrict fish passage while works are occurring, however these effects are likely to be temporary in nature, and cease when works are complete, given flood works are generally intended to improve flow carrying capacity.

## 3.4. Managing freshwater as part of an integrated response to climate change

25. Policy 4 of the NPSFM requires that:

*Freshwater is managed as part of New Zealand's integrated response to climate change.*

26. This direction is particularly relevant for flood works, which are a tool to support the adaption to, or mitigation of, the effects of climate change. As described in section 6.2.2, the pORPS includes direction which provides for the protection of existing features that mitigate natural hazard effects, and the protection of the functional needs and operation of hazard mitigation measures.

## 3.5. Issues with the status quo

27. There are several issues with the status quo approach for managing flood protection and drainage activities that are categorised as follows:

a. Provisions in the RPW are piecemeal, and do not provide a clear pathway for flood works.

b. Needing to implement new regulatory requirements.

28. The issues with the status quo are discussed in more detail in the following sections.

### 3.5.1. Piecemeal provisions

29. Flood works undertaken by or on behalf of ORC are not currently differentiated in the RPW. This situation causes uncertainty for ORC's river management function, particularly when seeking to authorise river management works. ORC currently holds global consents that authorise instream works and is in the process of replacing these consents.[4]

30. The current provisions in the RPW do not recognise the unique characteristics of flood protection and drainage works, including the legislation under which they are required, their focus on protecting communities rather than third party infrastructure or assets, and the benefits they provide to the communities of Otago. In not recognising these aspects of flood protection and drainage works, the RPW does not provide a clear consent pathway for flood works, both in terms of the rules that apply, and the relevant policy direction.

31. As described in relation to the BED chapter, works in the bed of lakes and rivers are complex, and often include multiple activities spanning several sections of the RMA. However, the RMA does not recognise these connections, managing disturbances and

[4] RM10.408.16, RM10.408.17, RM10.408.18

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associated discharges separately to the activities which they are associated with, such as the use and placement of structures. This can be further exacerbated for flood works, in that these works also include activities outside of the bed, such as maintaining ponding areas for flood flows, training lines and off-stream damming.

### 3.5.2. Needing to implement new regulatory requirements

32. There have been significant changes to the national and regional planning frameworks since the Water Plan became operative. These changes are outlined in Chapter 3 as they affect the whole of the pLWRP and are, therefore, not repeated here.

33. The parts of the NPSFM that direct the way that activities in the beds of rivers must be managed in regional plans including:

a. Avoiding the loss of river extent and values where practicable; and

b. Providing for fish passage; and

c. Managing freshwater as part of an integrated response to climate change.

# 4. Objectives

34. Section 32(1)(b) of the RMA requires an examination of whether the provisions in a proposal are the most appropriate way to achieve the objectives.

35. The objectives that are particularly relevant for this topic are:

a. The following objectives in the IM – Integrated management chapter:

i. IO-O1 Te mana o te Wai

ii. IO-O2 Relationship of Kāi Tahu to freshwater

iii. IO-O3 Long-term visions and environmental outcomes

iv. IO-O4 Ki uta ki tai/integrated management

v. IO-O5 Manahau āhuarangi/climate change

vi. IO-O6 Fish passage

vii. IO-O9 Community well-being

viii. IO-O10 Significant infrastructure

b. FLOOD-O1 – River function in relation to natural hazards.

# 5. Options

## 5.1. Discounted options

36. The status quo is not a reasonably practicable option for the reasons identified above in the ‘Issues with the status quo’ section.

## 5.2. Reasonably practicable options

37. Three reasonably practicable options were identified to achieve the objectives:

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a. **Option 1:** No specific provisions for flood works

b. **Option 2:** Include provisions relating to flood works in the BED chapter, with slightly more enabling provisions, compared to Option 1

c. **Option 3:** A specific FLOOD chapter which provides policy direction and rules for most components of flood protection and drainage works (preferred option)

38. These options were developed alongside the BED chapter, using the status quo as a reference point. The options have been developed to incorporate learnings from the global consent process that ORC is involved in both as the applicant and consent authority, which has grappled with some of the issues identified above.

39. For all options, drain maintenance works, gravel extraction and instream damming will be managed under the BED and DAM topics respectively. This is due to these activities being subject to very specific permitted activities conditions, and otherwise requiring consent.

### 5.2.1. Option 1: No specific provisions for flood works

40. Option 1 adopts the status quo approach to flood works, but with the pLWRP BED provisions, rather than reverting back to the RPW.

41. Option 1 does not include specific policy or rule direction for flood works, on the basis that these works must be managed in the same manner as all other works in the beds of lakes and rivers.

42. This option does not specifically acknowledge the additional legislation under which these works operate, or the specific benefits that flood protection and drainage works provide for communities and natural hazard risks.

### 5.2.2. Option 2: Include provisions for flood works in BED chapter

43. Option 2 utilises the policy direction in the BED chapter, with some additional flood specific direction within that chapter which acknowledges the value of flood works, particularly in terms of climate change and adaptation.

44. Within the BED chapter, Option 2 creates a separate rule pathway for flood works associated with structures, to improve clarity when undertaking flood works. The rule pathway adopts a similar approach to the management of other structures in the bed, where use and maintenance is permitted, small scale alteration and replacement is permitted, and any larger scale works require consent. The rules also use the standard BED permitted activity conditions for managing sensitive sites, and the effects of works (including discharges of bed material). Although this option provides specific rules for flood protection and drainage works on structures, it treats them in a similar way to other works in the BED, with limited additional enabling pathways provided, when compared to other activities in the bed.

45. Option 2 does not make specific provisions for flood protection and drainage works that do not relate to structures per se, including the assets identified in the Flood Protection and Drainage Bylaw 2022, many of which may not meet the definition of a structure included in the pLWRP.

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### 5.2.3. Option 3: FLOOD chapter with specific provisions for FLOOD works (preferred option)

46. Option 3 proposes a specific chapter for flood protection and drainage works undertaken by or on behalf of ORC. This option acknowledges the obligations that ORC has under the SCRCA and the pORPS in relation to natural hazards, while prioritising the health and well-being of water bodies and freshwater ecosystems.

47. This option provides clarity for ORC in carrying out its functions in relation to flood protection and drainage works, by bringing together relevant provisions from the BED and DAM chapters into a single location, to the extent that this is feasible within the overall framework of the pLWRP, and otherwise clarifying links with other chapters, including other relevant rules.

48. In terms of policy direction, Option 3:

    a. Cross references key direction from BED and DAM chapters,

    b. Acknowledges the role of flood assets in reducing natural hazard risks,

    c. Includes enabling policy direction for works that maintain the function of existing flood protection and drainage assets,

    d. Provides clear direction for new structures, including hard protection structures,

    e. Encourages the use of a management plan or plans to manage the adverse effects of flood protection and drainage works.

49. The rule framework for Option 3:

    a. Permits the use of flood protection and drainage assets, provided:

        i. the assets are maintained in a state of good repair,

        ii. the assets are not identified in an action plan as requiring remediation,[5] and

        iii. off-stream dams are managed in accordance with the Building (Dam Safety) Regulations where necessary,

    b. Permits a range of flood protection and drainage works, where they are for the purpose of maintaining, altering or replacing existing assets, or maintaining the flow carrying capacity of rivers and overland flow paths. The permitted activity rules adopts the relevant standard BED permitted activity conditions. A controlled activity rule is provided for works that cannot comply with the permitted activity conditions, followed by a catch all discretionary rule for all other works, including the placement of new structures.

50. Option 3 is likely to reduce the consenting burden for small scale and business as usual flood protection and drainage works, including the ongoing use of structures, and activities that are for the purpose of maintaining flow carrying capacity or maintaining, altering or replacing existing assets, through either the permitted or controlled pathways. Many of these activities have previously required consent due to potential breaches in permitted

[5] As required by clause 3.26(7)(c) of the NPSFM

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activity conditions and have been bundled into a global consent application. For activities requiring consent, the management plan will provide flexibility, and be used in lieu of a Code of Practice, which is not currently available in for flood works Otago.

51. There are some works that will require a discretionary consent, including the placement of new hard protection structures.

52. None of the options specifically require or discourage the use of global consents for river works. However, with a shift to FMU and rohe based outcomes in the pLWRP, any future consent applications may take a rohe or FMU scale approach, rather than the current region wide global consents. A more FMU-focussed approach to the management of flood protection and drainage assets, could ensure that the works to be consented are able to be better defined and tailored to the catchment within which they are occurring, and managed to best protect the FMU or rohe values.

53. Option 3 could be implemented as either provisions within the BED chapter, or a standalone FLOOD chapter, as has been described above. A standalone chapter, with clear cross references has been adopted to recognise the additional legislation that applies to flood works undertaken by or on behalf of ORC, given the unique obligations the current legislative environment places on the Council.

## 5.3. Clause 3 consultation feedback

54. The clause 3 feedback received on the flood protection and drainage works provisions, which most closely reflected Option 2, has been summarised below:

a. Support for the specific policy direction, particularly in terms of managing recovery from natural hazards, and enabling improvements that build resilience.

b. Prefer the use of natural solutions to flood management, such that flood protection and drainage infrastructure is only used where there is a functional need, and no alternatives. Note that nature-based solutions are usually more effective and cheaper than engineered interventions.

c. Ensure that flood works also comply with the NPSFM, work to protect and restore ecosystem health, and improve aquatic habitats.

d. Give priority to improving river function ahead of flood protection works, and ensure that flood protection works provide benefits which are great enough to justify their impact on river function.

e. There is no permitted activity pathway for alteration, placement or replacement of flood protection and drainage assets, which means all such works will require consent.

55. In response to Clause 3 feedback, the specific policy direction and rules for flood works undertaken by or on behalf of ORC have been shifted into the standalone FLOOD chapter, with emphasis added in relation to climate mitigation and adaptation and the use of nature-based solutions. A permitted activity rule has also been drafted specifically for the maintenance, alteration or replacement of existing flood protection and drainage assets, and the maintenance of the flow carrying capacity of rivers and overland flow paths.

56. Feedback from Kāi Tahu ki Otago sought that:

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a. The policy direction specific to flood protection works be expanded to address a wider range of effects, and prioritise soft defence mechanisms in preference to hard protection structures where practicable.

b. The permitted activity conditions should include references to mahika kai, effects on taoka species (outside birds, threatened species and fish passage), and ecosystem health more generally.

57. In response to the feedback received, some changes have been made to:

a. Provide greater recognition of nature based solutions, and encouraging their use in preference to hard protection structures.

b. Improve direction, and management of works during spawning times for indigenous species and salmonids.

## 5.4. Clause 4A consultation feedback

58. The key feedback through clause 4A feedback on the provisions, which most closely reflected option 3, is set out below:

a. Review the provisions to ensure that they address the range of matters in the strategic direction and the environmental outcomes.

b. Include reference to APP9.

c. FLOOD-P3(1) appears to prioritise the objectives of the Soil Conservation Rivers Control Act above the objective of the NPSFM in all circumstances, and a nuanced approach may be more appropriate.

d. Utilise a network consent or network plan, such that works can only be enabled where they are consistent with such a document.

e. Review the permitted activity and controlled activity rules to ensure they address the appropriate range of effects on environmental outcomes.

59. In response to the Clause 4A feedback:

a. No change has been made to the scope of the provisions, given the cross reference to the BED provisions already capture policy direction which covers the range of matters in the strategic direction and the environmental outcomes, in addition to the IM policies. APP9 is also referenced in the BED policies, and in FLOOD-R2-CON1.

b. FLOOD-P3(1) has been amended to require that all works must demonstrate how they will contribute to achieving the environmental outcomes for the relevant FMU.

c. The use of a network plan or consent is not recommended to be adopted, without further direction on the content or intention of such a document. However, some amendments have been made to APP27 – Flood protection and drainage works management plan, to include consideration of alternative approaches to the proposed works, and how the works will contribute to flood protection and drainage management works undertaken in the wider catchment.

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## 5.5. Efficiency and effectiveness assessment

60. Table 3 below identifies and assesses the environmental, cultural, social, and economic benefits and costs anticipated from implementing the options for the FLOOD chapter.

*Table 1: Benefits and costs for FLOOD*

| | BENEFITS | COSTS |
|---|---|---|
| **Option 1** | ▪ The benefits for Option 1 will be similar to those identified for the BED Omnibus Option 1, given this is the framework that flood works would be managed within.<br>▪ Requiring resource consent for all activities may result in better environmental outcomes by allowing ORC to consider a broader range of adverse effects and values and potentially decline resource consent applications.<br>▪ Requiring consent for most flood works would increase ORC oversight of these activities, and improve the ability the compliance, monitoring and enforcement team to monitor them. | ▪ The costs for Option 1 will be similar to those identified for the BED Omnibus Option 1, given this is the framework that flood works would be managed within.<br>▪ Flood protection and drainage works may not always fit well within the BED rules, in particular those that offer a permitted activity pathway, so it is likely that many flood works would require consent, which will come at a financial cost.<br>▪ The ability of ORC to maintain their assets and undertake flood works may become limited due to the cost involved in obtaining consent. Non-notified and limited-notified consent application deposits are $1,750, while publicly notified application deposits are $15,000. These costs do not include the costs associated with the preparation of a consent application, nor any costs associated with the processing of consents beyond the initial deposit.<br>▪ The costs associated with obtaining consents may limit the number and types of flood works able to be completed by ORC, which would have costs for those environments and communities who are protected from the risks and effects of natural hazards including flooding, by the flood protection and drainage assets and works. Consenting some aspects of flood works is likely to be difficult, given Option 1 does not explicitly recognise the value of flood works, nor the legislation in addition to the RMA under which they operate. The costs described in relation to Option 1 for the BED Omnibus sub-topic are of relevance here. |
| **Option 2** | ▪ Compared to Option 1, Option 2 would enable more flood works to occur as permitted activities, particularly maintenance of existing assets, and small-scale alterations and replacements. This will have social and economic benefits for those people and communities who are protected from flood hazards by the flood | ▪ Adverse effects caused or exacerbated by existing flood protection and drainage assets are unlikely to be resolved, particularly where their use, maintenance, alteration or replacement is permitted.<br>▪ Some flood protection and drainage works will continue to require consent, particularly where they are large in scale |

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| | protection and drainage assets and works.<br>▪ Some flood works will have environmental benefits, particularly where they are able to mitigate the adverse effects of flooding, which could otherwise have an adverse effect on the extent and values of rivers.<br>▪ There will be greater clarity for plan users regarding consent requirements for flood works, with provisions in the BED chapter that are identified as applying specifically to flood works.<br>▪ Similar benefits to Option 1 in relation to the benefits of consent processes, compared to permitted activities. | or are not able to comply with the standard BED permitted activity conditions. The costs described in relation to Option 1 for the BED Omnibus sub-topic are of relevance here.<br>▪ As with Option 1, the ability of ORC to maintain their assets and undertake flood works may become limited due to the cost involved in obtaining consent, which would have costs for those environments and communities who are protected from the risks and effects of natural hazards including flooding, by the flood protection and drainage assets and works. |
| **Option 3 (preferred option)** | ▪ Compared to Options 1 and 2, Option 3 would enable more flood works to occur as permitted activities. In many cases, if a consent is required, the controlled activity pathway is likely to provide a cost-effective option for consenting compared to a discretionary or non-complying process, given the control is limited primarily to the flood protection and drainage works management plan, with public notification precluded. The costs of a controlled activity process compared to a discretionary or non-complying process are not able to be quantified, given there are no equivalent controlled activity pathways in the RPW.<br>▪ Enabling flood protection and drainage works is likely to result in improved outcomes for the people and communities who benefit from those works.<br>▪ The direction around encouraging the use of nature based solutions is likely to benefit the environment, and are more consistent with the ethos of letting rivers roam, and working with nature.<br>▪ Flood protection and drainage works may result in ongoing adverse impacts on instream ecology and Kāi Tahu values (for example through modification or loss of physical habitat for freshwater species, including mahika kai species). However, compered to options 1 and 2, option 3 is likely result in improved opportunities for exercising kaitiakitaka and restoring the connection of mana whenua with the water sources through policy direction that encourages the use of nature based solutions.<br>▪ Clear policy guidance around nature based solutions is likely to result in a more straightforward consenting process for such works, when compared to equivalent | ▪ Adverse effects caused or exacerbated by existing flood protection and drainage assets are unlikely to be resolved, particularly where their use, maintenance, alteration or replacement is permitted.<br>▪ Option 3 may limit regulatory oversight of flood protection and drainage works, particularly where they are permitted. This cost is likely to be greater than Options 1 or 2, given Option 3 is likely to permit a larger quantum of flood works.<br>▪ Option 3's enabling approach to flood works may come at some cost to the environment, particularly where new hard protection structures are required to be placed in order to protect people and communities from natural hazard risks. The permitted activity conditions have been drafted to minimise this risk as best possible. The consent costs are not able to be quantified, as it is not clear whether the current 'global consent' approach for authorising flood protection works would continue to be utilised, or whether a shift to catchment or site based consenting would be adopted.<br>▪ Some flood protection and drainage works will continue to require consent, particularly where they are large in scale, which will come at a cost, as discussed in relation to Options 1 and 2. |

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hard protection structures.

- The development of a management plan for flood works through the consent process will assist in improving environmental outcomes and providing certainty for ORC in undertaking these works. A management plan may also be able to transition over time into a code of practice for instream works, which could be adopted more widely across the region, rather than only being specific to flood works undertaken by or on behalf of ORC.
- There will be greater clarity for plan users regarding consent requirements for flood works, with specific FLOOD provisions that sit alongside the provisions in the BED chapter that are marked as applying specifically to flood works.

61. Table 4 below assesses the effectiveness and efficiency of the proposed provisions in achieving the objectives.

*Table 2: Effectiveness and efficiency assessment for FLOOD*

| | **Effectiveness** |
|---|---|
| **Option 1**<br>**Option 2**<br>**Option 3 (preferred option)** | All three options will be effective in achieving the relevant environmental outcomes and objectives in the pLWRP.<br><br>All three options take a different approach to achieving the environmental outcomes, with Option 1 relying on the BED provisions, Option 3 providing specific policies and rule pathways for flood works, while Option 2 sits between these options in terms of enabling some flood works, but also still relying heavily on BED provisions.<br><br>Option 1 is likely to provide the most certainty in its effectiveness, given it does not provide a separate pathway for flood protection and drainage works, so any enabling type provisions are limited. In comparison, Options 2 and 3 both provide some enabling permitted and controlled activity pathways, which while drafted to give effect to the objectives of the pLWRP, will limit the application of the checks and balances provided by a consent process. Options 2 and 3 are however likely to be more effective in achieving the objectives as they relate to the response to climate change and providing for the social, economic and cultural well-being of communities, given their enabling pathways are likely to better enable ORC to undertake its flood protection and drainage works, due to lower consenting costs. |
| | **Efficiency** |
| **Option 1** | Option 1 is not considered to be an efficient method of achieving the objectives, given it will require resource consents for most flood protection and drainage works, which will come at a cost both in terms of consenting, and the cost of some works not being able to be completed, and the natural hazard risks that may be experienced as a result. |
| **Option 2** | Option 2 is considered to be an efficient method of achieving the objectives. Option 2 provides some acknowledgement of the other legislation of relevance to flood protection |

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| | works, and in doing so provides enabling provision for maintenance and small scale alteration or replacement works, which are likely to be applicable to some of the works currently undertaken in a business as usual type capacity. |
| **Option 3 (preferred option)** | Option 3 is considered to be an efficient method of achieving the objectives. Like Option 2, it provides an enabling pathway for a number of activities, with a controlled activity pathway providing a targeted consents pathway for many flood protection and drainage works, which is intended to reduce costs associated with obtaining a consent while still ensuring that these works are managed appropriately. |

62. Section 32(2)(c) of the RMA requires ORC to take into account the risk of acting or not acting if there is uncertain or insufficient information.

63. There is a growing amount of information associated with flood protection and drainage works undertaken by or on behalf of ORC, particularly as record keeping systems improve. In terms of the quantum of works undertaken, this is limited by funding, allocated through the long term planning process. In the Long Term Plan 2024-2034, between 11.191 million and 16.33 million dollars of expenditure is planned for flood protection, drainage & river management works (as part of the climate change and resilience group), with these figures not including expenditure on natural hazards & climate change or emergency management.

64. There is sufficient information about the current water quality issues and the associated environmental, social and cultural impacts in Otago, as well as the inefficiencies associated with authorising flood protection and drainage works under the RPW. In addition, the NPSFM provides clear direction on the management of rivers, and the protection of their extent and value.

65. Overall, the information supporting Options 1-3 is suitably certain and sufficient that there is a minimal risk of acting.

## 5.6. Conclusion

66. The effectiveness and efficiency assessments have shown that overall, Option 3 is a more effective way to implement the national direction and achieve the objectives of the pLWRP than Options 1 or 2. It is acknowledged that Option 2 is also efficient in achieving the objectives of the pLWRP. However, on balance, taking into consideration the legislation outside the RMA that flood protection and drainage works must operate within, Option 3 is the preferred option.

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