

BEFORE THE CANTERBURY REGIONAL COUNCIL

UNDER THE

Resource Management Act 1991

AND

IN THE MATTER

of application CRC190445 by the Christchurch City Council for a comprehensive resource consent to discharge stormwater from within the Christchurch City area and Banks Peninsula settlements on or into land, into water and into coastal environments

**STATEMENT OF
EVIDENCE OF JANE SUSAN WEST FOR CHRISTCHURCH CITY COUNCIL
Dated 15 October 2018**

CHRISTCHURCH CITY COUNCIL
PO BOX 73015
Christchurch 8154
Solicitor Acting: Brent Pizzey
Tel 64-3-9415550
Brent.Pizzey@ccc.govt.nz

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INTRODUCTION

1. My full name is Jane Susan West.
2. I hold the qualification of Bachelor of Resource Studies from Lincoln University. I am a full member of the New Zealand Planning Institute and have 20 years' experience in the field of resource management and planning in New Zealand.
3. I am currently the Director and Senior Planner of JWest Ltd, an environmental planning and resource management consulting firm, and have been in this role since July 2017. My previous roles include, Senior Planner at Golder Associates (NZ) Ltd, Senior Planner and Principal of Davis Ogilvie and Partners Ltd and District Planner for the Grey District Council.
4. Throughout my planning career, I have carried out a range of planning related tasks under the Resource Management Act 1991 (**the Act**). This includes the provision of planning related advice, policy development, resource consent Application preparation and the preparation and presentation of planning evidence at Council hearings and before the Environment Court. I was involved in a planning role and presented evidence at the Council hearings for the Christchurch City Council's (**Council**) stormwater discharge permit applications for the South West (CRC120223) and Pūharakekenui/Styx (CRC131249) catchments.
5. With respect to the matter before the Hearing Commissioners, I was engaged by Council to present planning evidence for the resource consent Application, which I helped prepare. I have also been involved in the discussions that have taken place with Canterbury Regional Council (**Environment Canterbury**) staff before and after the resource consent Application was lodged.
6. I confirm that I have read and agree to comply with the Code of Conduct for expert witnesses contained in the Environment Court Practice Note (dated December 2014). I confirm that the issues addressed in the statement of evidence are within my area of expertise. I have not knowingly omitted to consider facts or information that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

7. My evidence covers planning matters as they relate to resource consent Application CRC190445 to discharge water and contaminants (stormwater) to land and to water in the district of Christchurch City including Te Pātaka o Pākaihautū/Banks Peninsula settlement areas. The definition of the areas covered, and the discharges that are included and excluded from this consent has been discussed in the evidence of **Mr Harrington** and **Mr Norton**. The proposed discharges, stormwater treatment systems, the effects of the activity, modelling and monitoring requirements have been discussed in the evidence of **Mr Harrington**, **Dr Margetts**, **Mr van Nieuwkerk**, **Mr Parsons**, and **Mr Callander**. For this reason my evidence does not describe the activity or its effects in detail, as I draw on the evidence and conclusions of these experts in assessing the activity against the planning framework established under the Act.
8. In preparing my evidence I have reviewed the following documents:
 - 8.1 The resource consent Application, including the assessment of effects on the environment;
 - 8.2 Submissions on the resource consent Application;
 - 8.3 The evidence of **Mr Adamson**, **Mr Harrington**, **Dr Margetts**, **Mr Norton**, **Mr Cantrell**, **Ms Beaumont**, **Mr Callander**, **Mr Van Nieuwkerk**, **Mr Kennedy**, **Ms Valigore**, **Mr McEntee**, **Mr Parsons**, **Mr Tipper**, **Mr Pinner**, **Mr Harris** and **Mr Pauling**;
 - 8.4 The relevant parts of the Resource Management Act 1991 (the Act), Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations (Drinking Water NES), Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations (Contaminated Soils NES), National Policy Statement for Freshwater Management (NPSFM), New Zealand Coastal Policy Statement (NZCPS), Canterbury Regional Policy Statement (RPS), Canterbury Land and Water Regional Plan (LWRP), Waimakariri River Regional Plan (WRRP), Canterbury Regional Coastal Environment Plan (RCEP), Lyttleton Port Recovery Plan (LPRP), Te Rūnanga o Ngāi Tahu Freshwater Policy Statement and Mahaanui Iwi Management Plan (MIMP), Canterbury Water Management Strategy (CWMS), and Christchurch District Plan.

8.5 The s42A Officer's Report (the **Officer's Report**).

9. My evidence covers the following matters:

- 9.1 Overview of the Application;
- 9.2 Resource consent requirements;
- 9.3 Overview of assessment of effects on the environment; including comment on the Christchurch Contaminant Load Model (C-CLM);
- 9.4 The Act, namely Part 2 matters and considerations arising from sections 104, 104B, 104D, 105, 107 and 123;
- 9.5 Statutory plan policy considerations;
- 9.6 Other matters including: the Lyttleton Port Recovery Plan, Te Rūnanga o Ngāi Tahu Freshwater Policy Statement, and the MIMP;
- 9.7 Proposed consent conditions.

10. Throughout my evidence, I address matters arising from the Officer's Report and specific matters raised in submissions where these specifically relate to planning considerations and/or have not been covered by Council's other technical experts in their evidence.

11. A table showing proposed changes to draft consent conditions that are being considered by Council is provided as **Attachment A**. I note that the conditions table is a working document which is likely to be amended further prior to the hearing, and I expect that an updated version will be tabled at the hearing. A copy of relevant statutory objectives and policies referred to in my evidence is provided in **Attachment B**.

SUMMARY OF EVIDENCE

12. The purpose of the Application document is to apply for a discharge permit to provide for the discharge of stormwater from the Council's network under one comprehensive resource consent, and to replace the existing global and catchment resource consents held by Council ('global' consents CRC000315 and CRC090292, CRC120223 South West Christchurch, and CRC131249 Pūharakekenui/Styx).

13. I consider that the Application and the proposed consent conditions demonstrate the commitment of Council to progressively improve the quality of stormwater discharge over time as required by key LWRP Policy 4.16. This is achieved through a package of management measures including:
- a. modelling the load of key stormwater contaminants and their reduction through stormwater treatment facilities (the C-CLM), including a requirement to achieve percentage reductions over the term of the consent (**Condition 16**);
 - b. flood modelling used for development of stormwater infrastructure, flood risk assessment and to demonstrate achievement of target water levels (Schedule 7) in Christchurch waterways;
 - c. monitoring the receiving environment and the requirement to achieve receiving environment objectives and attribute target levels through reference to Schedules 3 to 7 of the proposed consent conditions and the environmental monitoring programme (EMP);
 - d. The ongoing development and review of stormwater management plans (SMPs) including engagement with key stakeholders;
 - e. The development of the Implementation Plan that is reviewed every 3 years to align with Council's Long Term Plan (LTP);
 - f. The adaptive management of the consent through proposed consent conditions requiring responses to modelling and monitoring results, along with the review and update of SMPs, the Implementation Plan, and the EMP to respond to modelling and monitoring results, or other information such as changes in technology.
14. In my opinion this approach provides for appropriate management of the comprehensive stormwater discharge consent and provides consistency and certainty for the community in the way that Council will manage stormwater discharged from its network. It will also simplify the administration of stormwater discharges for Council and Environment Canterbury with one set of consent conditions under which to operate.
15. Based on all the evidence, and in the context of the existing environment, I consider that the adverse effects of the proposed stormwater discharge on the various receiving environments will be minor in terms of both water quality and quantity.

16. The integrated management of stormwater in Christchurch, in accordance with SMPs developed and reviewed under the proposed consent conditions is, in my view, consistent with the LWRP, the RCEP, the WRRP, the RPS and the NPSFM. The objectives and policies in these statutory documents generally aim to maintain or improve water quality over time. The adaptive package of modelling, monitoring, and reporting, and the receiving environment objectives and attribute target levels to be achieved through the consent conditions have been proposed to achieve this. It is my opinion that the proposed activity promotes sustainable management and is consistent with the relevant provisions of the Act.

OVERVIEW OF THE PROPOSAL

17. Council has applied for resource consent to discharge stormwater from its network (which is defined in the proposed consent conditions), to land and water (including coastal water) in Christchurch City, and within the settlement areas within Te Pātaka o Pākaihautū/Banks Peninsula. This is the activity for which Council are seeking resource consent and I refer to this as ‘the Application’ throughout my evidence. This consent will replace the Council’s current global consents CRC000315 and CRC090292, as well as the consents to discharge stormwater from the South West and Pūharakekenui/Styx catchments (CRC120223 and CRC131249).
18. As described in more detail by **Mr Harrington**, the Application sets out the ways in which Council deals with stormwater discharged from the Council network, including current and future stormwater management facilities and devices. It provides for the C-CLM to assist with determining improvements in stormwater quality over time, and environmental monitoring (through the EMP) of the receiving environment. Council also proposes to investigate methods to provide an understanding of causes and effects between contaminant load reduction, and environmental outcomes.
19. The Application also commits Council to actions around advocacy and the development of programmes for better stormwater contaminant ‘source control’. I note that **Mr Cantrell’s** evidence is that effective source control is a cost effective way

to enhance waterway ecology, and **Mr Kennedy's** evidence is that significant water quality changes may be seen based on contaminant source reduction. Stormwater contaminant reductions are required to be achieved by the proposed conditions of consent (**Condition 16**) and measured through the C-CLM.

20. The proposed consent conditions provide for the adaptive management of stormwater through modelling, monitoring, feedback and reporting of environmental outcomes. The SMPs are a key element for managing the discharge of stormwater from a reticulated network, as required by Policy 4.16 and Rule 5.93 of the LWRP. The Application identifies that SMPs are to be developed through cycles of review involving key community stakeholders and considering the outcomes of the ongoing C-CLM and environmental monitoring. The Implementation Plan will give effect to the SMPs on a three yearly review cycle that will align with Council's LTP to identify whether adequate funding is in place to deliver the required programme of works.
21. The SMPs will also implement the Stormwater Management Protocol, which is an agreed protocol between Council and Environment Canterbury outlining how stormwater will be managed in Christchurch. It includes agreed principles and practices to guide the development of SMPs. **Mr Norton** has discussed the Stormwater Management Protocol in his evidence and it is also discussed in the **Officer's Report** [paragraph 17].
22. The extent of the mitigation of effects of the discharge activity will be measured against receiving environment objectives and attribute target levels established within the conditions of consent (as proposed in **Conditions 19 – 22** in **Attachment A**). The receiving environment objectives and attribute target levels have been set using relevant guidelines based on the water quality outcomes standards and limits in the LWRP where available. Where other standards are used, I understand that the proposed attribute target levels (and the EMP) have been discussed with and reviewed by Environment Canterbury scientific staff. As discussed in **Dr Margetts'** evidence the proposed attribute target levels are considered to be appropriate for stormwater discharge into the Christchurch receiving environments.

23. The **Officer's Report** describes the process of the Application from lodgement in 2015, requests for additional information and clarification, and submission of an amendment to the Application that was subsequently notified as a new Application. In my opinion that is an accurate description of the process. The **Officer's Report** confirms the receipt of additional information that provides clarification on the C-CLM approach, and a letter of non-opposition from Ngā Rūnanga, however this information was not able to be considered during the drafting of the s42A report. I consider that this additional information provides clarity on some of the points raised within the **Officer's Report** and to this end it has been addressed in the evidence of others, as well as within my evidence where necessary.

RESOURCE CONSENT STATUTORY REQUIREMENTS

Overview

24. The relevant statutory planning documents are the LWRP, the WRRP for the purposes of the Ōtukaikino catchment and the Pūharakekenui/Styx River catchment (for Pūharakekenui/Styx, the water quantity rules only), and the Canterbury Regional Coastal Environment Plan RCEP.
25. I agree with the **Officers Report** [paragraph 93] that overall the proposal is to be considered a non-complying activity.

Land and Water Regional Plan

26. The LWRP contains Rules 5.93A to 5.97 that provide for the discharge of stormwater within the region. I discuss the applicability of the LWRP rules, where relevant to this Application, in the following paragraphs of my evidence.
27. Rules 5.93 and 5.94 specifically provide for the discharge of stormwater from a reticulated stormwater system onto or into land or into surface water. Rule 5.93 provides for stormwater discharges from reticulated systems onto or into land, into groundwater or into water as a restricted discretionary activity, provided that the three conditions of the rule are met. Where these conditions cannot be met, the discharge

of stormwater from a reticulated system becomes a non-complying activity in accordance with Rule 5.94.

28. The conditions attached to Rule 5.93 (restricted discretionary activity) are as follows:
1. *For a discharge that existed at 11 August 2012, an application for a discharge permit is lodged prior to 30 June 2018, or at a later date as agreed between the reticulated stormwater system operator and the CRC; and*
 2. *A stormwater management plan has been prepared to address the management of stormwater in the catchment and is lodged with the application; and*
 3. *The discharge will not cause a limit in Schedule 8 to be exceeded.*
29. The proposed discharges do not fully comply with Conditions 2 and 3. Not all of the required SMPs were lodged with the Application. Proposed Condition 4 sets out the timing of those SMPs that are yet to be completed. **Mr Callander** considers that, with the exception of *E. Coli*, the stormwater infiltration discharge described in this Application would not cause any breach of the Schedule 8 region-wide water quality limits for groundwater. He expects that any impact from *E. Coli* on groundwater quality to be of localised extent and would not affect any public water supply bores. As discussed by **Dr Margetts**, the LWRP Schedule 8 region-wide water quality limits (nitrate toxicity) for rivers was achieved at all monitoring sites in 2017. There are no discharges from Council's network directly into Te Waihora/Lake Ellesmere or Te Roto o Wairewa/Lake Forsyth.
30. As the stormwater discharge is not provided for as a restricted discretionary activity under Rule 5.93, Council requires a discharge permit in accordance with Rule 5.94, for the discharge of stormwater to land and surface water as a non-complying activity.
31. The **Officer's Report** [paragraph 85] also discusses Rules 5.95 and 5.96 with regard to those discharges that Council have determined to accept into the network but which under the LWRP definition would not first enter the 'reticulated stormwater system'. The confusion here arises by way of the differing definitions of the 'stormwater system' within the LWRP by Environment Canterbury or 'stormwater network' from the

proposed conditions of consent by Council. Environment Canterbury's definition of a 'reticulated stormwater system' as provided in the LWRP, and the Council definition of the 'stormwater network' in the July application (I note that **Mr Norton** is recommending a change to this) are as follows:

LWRP reticulated stormwater system

means a network of pipes, swales, drains, kerbs and channels owned or operated by a network utility operator that collects stormwater within areas used or proposed to be used for urban-residential, commercial or industrial purposes and conveys that stormwater to any device, wetland, retention or detention pond or infiltration basin for the treatment of stormwater, prior to a discharge to land, groundwater or surface water. It excludes any drainage system that has been constructed for the primary purpose of collection, conveyance or discharge of drainage water.

Council stormwater network

means waterways identified in a SMP and also includes the reticulated piped network, kerb and channel, sumps, pipes, manholes, rapid soakage chambers and any stormwater conveyance and mitigation system for which Christchurch City Council are responsible for operation and maintenance.

32. The Environment Canterbury definition (which applies for the purposes of determining rule application) makes a clear distinction between constructed stormwater conveyance and treatment systems and surface waterbodies themselves. However, Council's definition takes responsibility for surface waterbodies as part of the stormwater network throughout the city.
33. In my view, regardless of the differing definitions, the Application seeks consent for both discharge of stormwater from the network/system that Council operates and manages and for discharges into waterbodies from privately owned and operated systems (whilst not taking on responsibility for the systems themselves). Through this Application process Council has undertaken to take responsibility for discharges from the network as part of its operation and maintenance.

34. Council has sought a resource consent Application that requires consent as a non-complying activity in accordance with Rule 5.94 for all stormwater discharges from Christchurch City and the settlement areas of Banks Peninsula. This reflects an overarching approach to the City's stormwater discharges.
35. Sub-regional Section 9 of the LWRP covers the Christchurch – West Melton Zone. The rules in this sub-regional section of the LWRP are generally concerned with water allocation limits with little focus on managing stormwater discharges apart from Rules 9.5.17 and 9.5.18. Rule 9.5.17 provides for the discharge of stormwater into a river, lake, wetland, or artificial watercourse in the Ōtākaro/Avon or Ōpāwaho/Heathcote catchments as a discretionary activity where it is not either: authorised by a consented stormwater management plan; or into a reticulated stormwater system. Rule 9.5.18 provides for the discharge of stormwater into a river, lake, wetland or artificial watercourse in the Huritini/Halswell Catchment that is not authorised by a consented stormwater management plan and the discharge did not occur before 5 December 2013 as a discretionary activity.
- The SMP for the Huritini/Halswell has been completed and was partially consented through the South West Christchurch stormwater discharge permit held by Council.
 - The Ōtākaro/Avon SMP was lodged with this Application so is not yet consented.
 - The discharges did occur before 5 December 2013, SMPs are in place and the discharges are into a reticulated stormwater system as defined by the LWRP (which is also the Council stormwater network under their definition).
36. Therefore in my view Rules 9.5.17 and 9.2.18 are not relevant to this Application. The general rules rather than the sub-regional rules apply.

Waimakariri River Regional Plan

37. On 23 May 2012, pursuant to Section 27 of the Canterbury Earthquake Recovery Act 2011 (CER Act), the Minister used his powers to amend the WRRP that applies to the Pūharakekenui/Styx River catchment. The amendments made the Pūharakekenui/Styx River catchment subject to the water *quality* rules in the NRRP,

whereas water quality in that catchment had previously been managed under the WRRP.

38. This requirement has carried over to the LWRP, however, the section 27 amendment did not include any mention of water *quantity* rules, and so these remain under the management of both the LWRP and the WRRP. Further, the amendment only covered the Pūharakekenui/Styx River catchment, and so the Ōtukaikino catchment is still subject to the provisions of the WRRP.
39. The WRRP deals with water quantity at Chapter 5, and Rule 5.2(b) is the relevant rule for the discharge of water into the Waimakariri River or its tributaries or any wetland. It provides for the discharge of water, including stormwater, as a discretionary activity. In regard to water quantity matters for discharges in the Pūharakekenui/Styx and Ōtukaikino catchments, it is my view, based on the evidence of **Mr Harrington**, that the effects will be consistent with the environmental results anticipated by Rule 5.2(b) of the WRRP. The **Officer's Report** [paragraph 90] and I agree that the activity is a discretionary activity under Rule 5.2(b).
40. For the Ōtukaikino catchment stormwater is discharged to surface water and to land and the water quality provisions of the WRRP also apply. The relevant WRRP rules are Rules 6.1 (discretionary activity) and 6.2 (non-complying activity). Rule 6.1 provides for the discharge of contaminants into surface water bodies in the Waimakariri River Catchment as a discretionary activity subject to complying with standards and terms for the water class in the location of the discharge. Where the standards and terms of Rule 6.1 cannot be met, the discharge becomes a non-complying activity under Rule 6.2.
41. As has been addressed by **Dr Margetts** the environmental objectives and attribute target levels are set out in the Schedules to the proposed consent conditions. **Dr Margetts** has discussed the WRRP standards in her evidence. She concludes that although the attribute target levels do not directly match the standards in the WRRP, she considers the attribute target levels to be more measurable and conservative than the WRRP standards and are therefore appropriate to assess the effects of the discharge of stormwater on the receiving environment. Given that the proposed

standards are not in accordance with the WRRP standards Council requires consent under Rule 6.2 as a non-complying activity.

Canterbury Regional Coastal Environment Plan

42. Turning to the RCEP, Rules 7.1(b) and 7.1(f) specifically provide for the discharge of stormwater into water, or into land in the Coastal Marine Area (CMA) as a permitted activity subject to conditions. **Dr Margetts** has discussed in her evidence the receiving environment objectives and attribute target levels, which encompass those for coastal waters. I understand that these have been developed using the RCEP, and where other standards are used these have been discussed with and reviewed by Environment Canterbury scientific staff. **Dr Margetts** has explained that not all of the RCEP standards represent the best method of monitoring, which means the evidence to support meeting those standards is not available. Therefore, full compliance with the standards set out under Rules 7.1(b) and (f) cannot be proven.
43. Rule 7.2 then provides for the discharge of stormwater within the CMA as a discretionary activity if it complies with the rule's standards and terms, and with the water quality classes set out in Schedule 4. As with the standards under Rules 7.1(b) and (f), given the attribute target levels proposed, compliance with the requirements of the water quality classes of Schedule 4 cannot be proven, and Council requires consent for a non-complying activity.
44. Rule 10.27 of the RCEP, as added through the Lyttleton Port Recovery Plan (LPRP), provides for discharge of stormwater within the operational area of the port as a permitted activity provided certain conditions are met, including:
- no scouring or erosion of the foreshore or seabed that is not erased by wind, tidal or wave action within 24 hours;
 - after reasonable mixing the discharge shall not give rise to certain changes in colour or visual clarity;
 - any discharge shall not give rise to various effects such as production of oil or grease films, scums or foams, or floatable material, objectionable odour, reduction of dissolved oxygen, change in temperature or capability of causing

any significant adverse effects on aquatic life or the capability of causing a significant loss of indigenous biological diversity;

- material or debris in stormwater shall be intercepted and as far as practicable, removed before the stormwater enters the CMA, and
- any stormwater network shall incorporate hydrocarbon interceptors and/or gross pollutant interceptors.

45. As with the standards under Rules 7.1(b) and (f), and Schedule 4 discussed above, given the attribute target levels proposed, compliance with the requirements of Rule 10.27 cannot be proven, and therefore the discharge of stormwater at the port becomes a discretionary activity under the 'catch-all' Rule 10.34.
46. Given the above analysis, I have assessed the Application as requiring consent for a non-complying activity under Rule 7.5 and as a discretionary activity under Rule 10.34 of the RCEP. In conclusion resource consent is being sought under Rule 5.94 of the LWRP, Rules 5.2(b) and 6.2 of the WRRP and Rules 7.2 and 10.34 of the RCEP.

OVERVIEW OF ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

Overview

47. Stormwater has the potential to cause adverse effects on the receiving environments into which it discharges. The discharge of stormwater throughout Christchurch enters the receiving environments of groundwater via soil infiltration, surface water and the coastal environment. The Council network is made up of pipes, channels, sumps, manholes, drains, swales and basins, and these have been constructed and used over time as the city has developed. **Mr Harrington** and **Mr Norton** have discussed past stormwater management throughout Christchurch. Rivers and tributaries are also part of the Council stormwater network. This is due to the wider Council responsibility to manage waterway values, and in acknowledgement of the thousands of discharges from private stormwater systems that discharge directly into waterways (as discussed in **Mr Norton's** evidence).

48. One of the approaches to measuring stormwater contaminant reduction proposed in this Application is the use of the C-CLM to model the load of key stormwater contaminants, and the removal of those contaminants through treatment systems. Details of stormwater treatment systems and source control measures will be included within SMPs, which will be promulgated through the Implementation Plan that is required to align with Council's LTP under **Condition 12**. **Mr Van Nieuwkerk** has described the C-CLM and the ways in which treatment systems achieve reductions in the concentration of those contaminants. **Mr Kennedy** has explained the applicability of using the C-CLM, and **Mr Cantrell** has also provided some insight as to the advantages of using a tool such as the C-CLM. This includes that over time through the implementation of the requirements of the consent (as provided for within the proposed consent conditions), improvements in the quality of stormwater discharged from the Council network as a whole are anticipated. The proposed consent conditions require Council to achieve modelled stormwater contaminant removal rates and requires investigation and remediation where the stipulated contaminant removal percentages are not achieved (i.e. copper, TSS and zinc) (**Conditions 16 and 49**). (Note that **Condition 49** is in addition to the Council simply being in breach of **Condition 16** of the consent and possibly subject to enforcement by the consent authority.)
49. As well as the C-CLM **Mr Harrington** has discussed Council's hydrological information systems in order to plan and manage stormwater flows and flooding, and computer flood models to simulate the flow of water after it arrives as rainfall on the land. Flood models are used to correctly size the stormwater treatment and detention facilities associated with new urban development and redevelopments feeding into the Council's stormwater network. These information systems and models are explained in the evidence of **Mr Harrington** and the proposed consent conditions require water quantity attribute target levels (Schedule 7) to be met for various receiving environments.
50. An ongoing assessment of the city's stormwater discharges throughout the term of consent will be provided for through the EMP, which is based on monitoring that has been undertaken by Council for decades (as discussed in **Dr Margetts'** evidence) and which includes monitoring of a range of attributes including those attribute target levels in Schedules 4 and 5 of the proposed consent conditions. The proposed consent

conditions require the extent of the mitigation of effects to be measured against the receiving environment objectives and attribute target level monitoring results. Council will be required to investigate and remediate where necessary if the attribute target levels (for copper, lead, TSS and zinc) are not achieved (**Conditions 20 and 51**).

51. The proposed conditions require Council to carry out stormwater quality investigations (**Condition 37**) in order to further enhance the current understanding on how to mitigate the effects of stormwater on receiving environments.
52. The **Officer's Report** [paragraph 206] recommends the use of a technical advisory panel (TAP) to carry out the audit and certification of SMPs when they are submitted to Environment Canterbury. As discussed by **Mr Adamson** the use of a TAP is not supported by Council. This is due to the technical reviews already in place within Council's operations, and the proposed consent conditions that require input to SMPs from Zone Committees and Community Boards. However, **Mr Adamson** proposes the addition of a peer review condition to provide assurance of suitable SMP outcomes and this is included in the proposed consent conditions table at **Attachment A**. The use of a TAP was also recommended in the **Officer's Report** [paragraph 510] with regard to the certification of feasibility studies proposed under **Conditions 37 and 38**. This recommendation was made in the **Officer's Report** due to 'loose' wording within **Conditions 37 and 38** and a concern that many of the actions may not progress beyond feasibility studies. I agree that the wording within proposed **Conditions 37 and 38** could be 'tightened' to provide more certainty around the actions to be taken following feasibility studies, and that this is a more workable solution than introducing a TAP for review of each feasibility study to be undertaken. The conditions table in **Attachment A** provides amended wording for **Conditions 37 and 38**.
53. Some submissions have questioned whether the adverse effects will be minor, suggesting instead that given the current state of the environment, adverse effects must be considered more than minor. I disagree with this on the basis that the Application must be considered in the context of the existing environment, which has been established in case law, is discussed in Appendix 10 to the **Officer's Report** and is to be discussed in the legal submissions of **Mr Pizzey**. The discharges into the environment authorised under the 'global', Styx and South West consents already

exist and therefore are contributing to the current state of waterways. The existing state of the waterways is the result of all lawful historic discharges up to the date that this consent is granted. Furthermore many factors other than stormwater affect the state of the city's waterways. Notwithstanding these facts, through implementation of the consent, Council intends to make improvements to stormwater quality, including targeting 'hot spots' through industrial audits (as discussed by **Ms Valigore**), and continuing to implement the construction of stormwater treatment facilities and devices.

54. The **Officer's Report** [paragraph 991] considers that there is still a question around whether the expired 'global' resource consent CRC090292 forms part of the 'existing environment'. **Mr Pizzey** will address this in his legal submissions. Section 124 of the Act provides for a consent holder to continue to operate under an existing consent until a new consent is granted or declined, so long as the application for the new consent was made within the required timeframes. It is my understanding that section 124 of the Act applies to the current Application, and therefore the consent holder is legally continuing to operate under the 'global' resource consent CRC090292. Further, I do not consider it would be feasible to separate the effects of the discharge of stormwater under the 'global' resource consent CRC090292 from those effects of other legally established discharges of stormwater into Christchurch receiving environments over the years, however, in my opinion there is no need to do so. In my view, the existing environment includes the city's existing discharges of stormwater which are inherently linked with the nature of development within the city.
55. The following assessment provides a brief discussion on the potential adverse effects of the proposed stormwater discharge, based on the conclusions of other expert witnesses, and taking into account the existing environment and the package of mitigation measures required through the proposed consent conditions. This assessment uses the same headings as those within the **Officer's Report** [paragraphs 243 – 608] for ease of reference and addresses key issues raised throughout the assessment. I do not repeat detailed assessments against all points raised by the **Officer's Report** as this detailed assessment has been undertaken by the appropriate expert witnesses. Potential effects as a result of the changing administration of stormwater discharges under LWRP Policy 4.16A are also assessed as well as a brief discussion on the C-CLM.

Effects During Construction and Development

56. Effects during construction and development has been addressed in the evidence of **Mr Norton** and **Mr Tipper** whereby effective Erosion and Sediment Control (ESC) is considered important in controlling stormwater run-off.
57. The **Officer's Report** [paragraph 247 – 248] describes the Application as excluding certain development areas from the scope of the consent (those listed under proposed **Condition 2**) up until 31 December 2024, and that from 1 January 2025 all construction phase stormwater will be included in the consent, except that construction phase discharges onto and into land from 'high risk' HAIL and industrial sites will continue to be excluded post-2025. The **Officer's Report** [paragraph 254 – 256] discusses the receiving environment objectives and attribute target levels contained in Schedule 4 to the proposed conditions and notes that a TSS limit would be a helpful means to measure compliance of discharges from individual sites.
58. The **Officer's Report** is concerned with how construction phase stormwater discharges will be managed post-2025, specifically discharges from high-risk sites during site development, but acknowledges that the Applicant has until 2025 to develop a strategy around this. **Mr Tipper** has provided information around Council's ESC requirements along with intended improvements to ESC processes to lessen adverse effects of construction phase stormwater discharges. This includes an additional condition requiring Council to impose a TSS limit on construction phase discharges (shown in the conditions table in **Attachment A**). **Mr Norton** has discussed Council's proposed strategy around the management of sites post-2025 including an amendment to proposed **Condition 3** that requires a process to be followed, as well as required minimum environmental outcomes.
59. I consider that the amended proposed **Condition 3** provides a basis for the management of stormwater discharges from construction phase sites post-2025 and provides scope for the refinement of this process as solutions around specific criteria and auditing pathways are developed. I am in agreement with the **Officer's Report** [paragraph 267] that this approach should be developed in collaboration between the two Councils, with input from both Council and Environment Canterbury experts.

60. I acknowledge the reasoning behind Environment Canterbury wishing to set a TSS limit and support the initiative for Environment Canterbury to have the ability to commence enforcement proceedings against an individual discharger, rather than Council, as consent holder. I also agree with the **Officer's Report** [paragraph 271] that this might be best achieved through an update to the Joint Stormwater Management Protocol. On the matter of setting a TSS limit, **Mr Norton** has discussed why he considers it inappropriate to apply a single TSS limit to all sites, being that there are so many variables that would warrant higher or lower limits. Instead he considers that TSS limits are better applied on a site by site basis and recommends that this would be best incorporated into a risk matrix, as recommended by the **Officer's Report** [paragraph 268] and within proposed **Condition 3**. As noted above, **Mr Tipper** recommends that a TSS limit should be imposed by Council on construction phase discharges into the stormwater network and this is proposed in the conditions table at **Attachment A**. Further, **Mr Norton** recommends that a new condition be added (**Condition 41**) that references the risk matrix under Condition 3 for construction phase discharges.
61. Given the approach provided through proposed **Condition 3**, and the evidence from Council with regard to ESC management and improvements, along with the proposal to include a TSS limit as part of the risk matrix developed by Council and as an requirement on construction phase stormwater discharges into Council's network, I consider that any adverse effects from the discharge of stormwater from construction and development sites will be adequately avoided or mitigated.

Effects of Operational Discharges from HAIL and Industrial Sites

62. As with construction phase stormwater discharges, the **Officer's Report** [paragraph 276] describes the Application as excluding certain development areas from the consent (those listed under proposed **Condition 2**) up until 31 December 2024, and that from 1 January 2025 those excluded stormwater discharges will be included in the scope of the consent, except that stormwater discharges into land within individual sites from existing industrial and commercial hardstand areas will continue to be excluded post-2025. The **Officer's Report** [paragraph 280 – 281] discusses the potential adverse effects on the receiving environment from operational stormwater

discharges from these sites once Council accepts them into the consent post-2025 (or when the individual discharge permit for a site expires or is surrendered). The potential adverse effects are described as varied due to the range of activities undertaken on 'high risk' sites. The **Officer's Report** [paragraph 314 - 315] recommends that prior to 2025 a process/strategy is developed by the Applicant to provide certainty around the management of existing 'high risk' sites that will fall within the scope of the consent post-2025¹. **Mr Norton** has discussed the amendments to proposed **Condition 3** that implement this recommendation through the requirement for a process to be developed, and for environmental outcomes to continue to be achieved.

63. The **Officer's Report** [paragraph 282 – 285] discusses the receiving environment objectives and attribute target levels and focusses on whether all contaminants of concern are included (although there is general agreement on the approach). **Dr Margetts** has addressed the attribute target levels in her evidence and the reasoning behind those chosen to be monitored. **Mr Callander** has discussed the matter with regard to the effects on groundwater quality.
64. An existing Memorandum of Agreement (MOU) between Council and Environment Canterbury outlines the current process of determining whether a site poses a high or low risk under the terms of the existing resource consents held by Council for the discharge of stormwater. If a site is considered to pose a low risk it can be accepted by Council to discharge stormwater into the network. If a site is considered 'high risk' stormwater discharges from the site will require an individual or site-specific resource consent from Environment Canterbury. The **Officer's Report** [paragraph 290 – 292] suggests that the MOU provides a good framework for decision-making to manage the risk posed by stormwater discharges from 'high risk' sites, and **Mr Norton**, in his evidence, agrees that the MOU is a good starting point from which to develop a process for the transition of the management of 'high risk' sites from Environment Canterbury to Council.
65. I consider that **Condition 3**, as now proposed, provides an appropriate basis to deal with the process for the transition to Council of sites post-2025 while ensuring that the

¹ This is due to the operation of Policy 4.16A of the LWRP, which is discussed below in my evidence.

adverse effects will be managed to at least the same extent as is currently achieved under the individual resource consents issued by Environment Canterbury. Amendment of the existing MOU prior to 2025 is a decision that can be taken between Council and Environment Canterbury if considered necessary to further assist with that process.

66. On the matter of industrial site audits that have been proposed by Council under **Condition 41**, the **Officer's Report** [paragraph 297] suggests that 30 audits per year should be carried out rather than the 10 proposed by Council. This has been suggested on the basis that 30 audits per year were required under the 'global' consent (CRC090292). **Ms Valigore** has discussed the current industrial audit programme and the resourcing commitment made by Council to mitigate the impacts of stormwater discharge and to reduce point source pollution from industrial sites. She explains the audit programme and the collaboration with Environment Canterbury, along with improvements to Council processes, which includes education to help improve environmental practices and clarify expectations for industrial sites. **Ms Valigore** explains why she considers that continuing to conduct a minimum of 10 audits per year at the highest risk sites is appropriate.
67. The **Officer's Report** [paragraph 305] notes that there is a risk to stormwater management if there is no mechanism to exclude sites that are particularly 'high risk', and that Council should be able to revoke or not grant authorisations to discharge, requiring individual site dischargers to obtain separate resource consent from Environment Canterbury, including post-2025. Although I see some merit in Council having the ability to exclude sites post-2025, in my opinion this ability is not reflected through Policy 4.16A. However, in my opinion if the ability to exclude certain sites remained post-2025, the requirement for resource consent for individual sites could be considered by Environment Canterbury under Rule 5.97 of the LWRP.
68. Based on the evidence provided by **Mr Norton**, **Mr Tipper**, and **Ms Valigore** along with the recommended changes to proposed **Conditions 3** and **41**, I consider operational discharges from 'high risk' sites are able to be appropriately managed both pre and post-2025, and the adverse effects on the existing environment from these discharges will be minor.

Effects on Soil Quality

69. In regard to soil contamination, **Mr Callander** and **Mr Norton** discuss the importance of Council's maintenance of infiltration basins to minimise clogging that would adversely affect the basin's performance.
70. The **Officer's Report** [paragraph 323] raises a concern regarding the potential adverse effect of the accumulation of contaminants in infiltration media and soils underlying stormwater infiltration devices that are designed to detain and treat stormwater through infiltration to land. No specific environmental objective or attribute target level is proposed for soil quality. The **Officer's Report** [paragraph 326] agrees with this approach, considering that this is an operation and maintenance matter for Council that is covered under **Condition 33**, and acknowledging that six stormwater infiltration systems are selected to be monitored under Table 2 of the EMP. However, questions are raised in the **Officer's Report** [paragraph 327] around the number of infiltration facilities to be monitored, the parameters to be sampled under the EMP, and whether an additional condition should be required that better details the maintenance processes for infiltration devices.
71. **Mr Callander's** evidence is that he does not expect this issue to pose much risk of groundwater contamination as the contaminants that build up tend to remain bound to the sediments. He considers that the EMP covers this through relevant guideline monitoring, and that if unacceptably high concentrations were found this can be remedied if necessary through stripping and removing contaminated soil. **Mr Norton** discusses the EMP requirement to monitor soils for contaminants in six infiltration basins at five yearly intervals for the purpose of ensuring that contaminants do not exceed recreation standards for human contact.
72. Given the detail around Council processes for operation and maintenance of infiltration facilities, the monitoring proposed in the EMP discussed by **Mr Norton**, and **Mr Callander's** opinion on the limited potential for adverse effects to arise, I consider that adverse effects on soil quality will be sufficiently mitigated by the proposed consent.

Effects on Groundwater Quality and Quantity and Users

73. **Mr Callander** has discussed the geological setting of Christchurch and Te Pātaka o Pākaihautū/Banks Peninsula, and the groundwater effects anticipated as a result of the discharge of stormwater under the consent and concluded that adverse effects will be no more than minor. Where stormwater is infiltrated to groundwater it contributes to the quantity of the groundwater resource based on the amount of infiltration that occurs and it affects groundwater quality due to the chemistry of the rainwater and how that chemistry changes as it infiltrates through the ground surface. **Mr Callander** discusses the way in which stormwater is managed, as this will influence the long-term effects of urban development on the groundwater resource and the spring-fed headwaters of the urban streams.
74. **Mr Callander** also gives consideration to localised mounding of the water table around the infiltration area of a stormwater basin and the potential for contaminants to be mobilised if the basin is sited on contaminated land.
75. **Mr Callander** explains that properly sited and designed infiltration systems provide an opportunity to slowly dispose of a large quantity of water without causing flooding in, or erosion to, local drains and streams and lower areas of the catchment. He also discusses the water quality benefits as the infiltration basin can act as a filter, trapping contaminants in the soil of the basin, and may promote groundwater recharge to maintain or enhance groundwater levels and baseflows to streams. On the matter of the groundwater balance for the Christchurch aquifer system, **Mr Callander** considers that Council's approach of using stormwater infiltration systems, where ground conditions allow, will help to minimise adverse effects of a change from natural recharge rates to the groundwater system, and will not create a significant change in groundwater levels, or significant adverse effects from the slow release of groundwater to spring-fed streams.
76. The **Officer's Report** [paragraph 333-335] describes the potential for the discharge of stormwater onto and into land to affect groundwater quality if contaminants entrained in, or mobilised by, the discharge reach groundwater, including the potential for localised mounding effects around the infiltration device.

77. The **Officer's Report** discusses the potential for adverse effects on drinking water supplies (particularly *E Coli*) and the recommended setback distances between a stormwater infiltration device and a domestic drinking water supply well [paragraph 356]. It suggests that **Condition 30 (a)** be amended to provide an additional 500 m separation between a stormwater infiltration device and a domestic water supply well. In addition, it recommends that both domestic and community water supply wells be covered under the separation distances of **Condition 30**. Any increase in *E Coli* is also suggested as a matter to be added to the proposed 'Responses to Monitoring' conditions of the consent.
78. The **Officer's Report** makes recommendations around the proposed groundwater quality monitoring proposed in the EMP including the addition of dissolved cadmium as a monitoring parameter. With respect to groundwater quantity effects the **Officer's Report** considers [paragraph 371] that potential water quantity mounding effects around the location of stormwater facilities are likely to be minor [paragraph 379], and that it is appropriate to deal with those effects through SMP development. To this end proposed **Condition 5** includes a requirement for these effects to be avoided, remedied or mitigated. The **Officer's Report** also assesses the proposed groundwater monitoring programme, raises questions around its effectiveness, and recommends changes [paragraph 376].
79. With regard to proposed **Condition 6 (j)** that requires SMPs to include consideration of any effects of the diversion and discharge of stormwater on baseflow in streams and springs, the **Officer's Report** [paragraph 383] considers the appropriate assessment that should be undertaken, to be direct local effects, as well as cumulative effects. **Mr Callander** has provided a response to this in his evidence and concludes that the Council's philosophy towards promoting infiltration systems where ground conditions permit results in cumulative effects that are not greatly different to what occurs in the pre-development scenario at a catchment scale. On that basis he considers that a detailed cumulative effects assessment is not required, and **Condition 6 (j)** does not need to be reworded.

80. On the matter of groundwater quality, **Mr Callander** discusses the sources of groundwater recharge (65% of which is from Waimakariri River seepage) that provides the drinking water supply for the city. He considers that *E. Coli* faecal coliforms represent the most significant groundwater quality issue with reference to the Drinking-water Standards for New Zealand and the LWRP Schedule 1 separation distances between infiltration basins and water supply bores, and he discusses the modelled potential transport distance for a typical stormwater basin discharge. **Mr Callander** concludes that the approaches to defining separation distances specified in proposed **Condition 30** are conservative and does not expect any contamination from a stormwater infiltration basin to arise at a water supply bore outside the separation zone.
81. **Mr Callander's** evidence considers the comments and recommendations of the **Officer's Report**, including comment on the receiving environment objectives and attribute target levels proposed, the matter of whether cadmium should be included, the recommended EMP amendments, and amendments to proposed conditions, contingency measures where a drinking water supply well is within separation distances, and potential groundwater quality effects. **Mr Callander** has agreed that an increase in *E Coli* should be considered as a response to monitoring under **Condition 51(b)**.
82. **Mr Callander** discusses the proposed EMP and considers that the adaptive management approach proposed is the most pragmatic and effective way to manage any uncertainties regarding the effects of the change in recharge patterns arising from city wide stormwater management systems. He concludes that with the proposed consent conditions along with the Council's Infrastructure Design Standard and engineering approval process, his expectation is that any effects on groundwater will be no more than minor.

Effects on Surface Water Quantity and Flooding Effects

83. **Mr Harrington** describes the flood modelling undertaken by Council and its use in the investigations to develop the stormwater infrastructure within the current SMPs, to assess flood risk, and as a means of demonstrating that target water levels in Christchurch waterways (Schedule 7 of the proposed consent conditions) can be met

by the design of existing and proposed stormwater infrastructure. He discusses the modelling in flood-prone areas across the city and areas where the earthquakes have increased flood risk, and that the completion and updating of SMPs will introduce the latest appropriate modelling techniques to refine infrastructure design and flooding estimates and ensure confidence in the hydraulic design of the stormwater network.

84. The **Officer's Report** discusses the flooding effects raised through submissions on the Application and assesses the attribute target levels described in Schedule 7 of the proposed consent conditions. The **Officer's Report** [paragraph 402] considers that a receiving environment objective should be added to Schedule 7 to be in accordance with Policy 4.17 of the LWRP. **Mr Harrington** considers that this addition would present difficulties and discusses the Styx floodplain and hill catchments as examples to demonstrate his opinion. He considers Policy 4.17 is important as a guide that needs to be worked through for each catchment as part of the development of SMPs. I consider that this is appropriate, and that Policy 4.17 provides the necessary guide, without requiring it to be repeated within Schedule 7.
85. The flood modelling and mitigation, and surface water quantity monitoring proposed in the Application has been reviewed in the **Officer's Report** and there are a number of areas where there is not complete agreement between the Council experts and those engaged by Environment Canterbury. **Mr Harrington** has provided his opinion on each of these matters and has explained where he does not support the **Officer's Report** recommendations.
86. With regard to surface water quantity monitoring the **Officer's Report** recommends amendments to proposed Condition 22 [paragraph 453]. **Mr Harrington** has also addressed these recommendations in his evidence and concludes that in principle he can support the requirement at paragraph 453 (d), which is to measure the extent of mitigation required by implementing measures that result in achieving the attribute target levels for water quantity. **Mr Harrington** clarifies that he does not support changes to Schedule 7.
87. The Pūharakekenui/Styx area is also covered in **Mr Harrington's** evidence. He has discussed the concerns of some submitters with regard to flooding effects in this area,

and the nature of base and peak water flows (as distinct from water levels relative to ground level), as well as analysing the effects of weed growth and Council's weed harvesting.

88. In terms of the WRRP, the discharges within the Pūharakekenui/Styx SMP area are currently authorised by CRC131249. **Mr Harrington** has explained that the Pūharakekenui/Styx and the Ōtukaikino both discharge into the tidally dominated areas of the lower Waimakariri and therefore will have no impact on the braided character of the Waimakariri as required by the WRRP. He also clarifies that the flows from these rivers are already a very small percentage of the flows in the Waimakariri so any minor flow variations (if they were to occur) in the Styx and Otukaikino will have no effect on the Waimakariri. In regard to water quantity matters for discharges in the Pūharakekenui/Styx and Ōtukaikino catchments, based on the evidence of **Mr Harrington, Mr Norton** and **Mr Callander**, it is my view that the effects will be consistent with the environmental results anticipated by the WRRP.
89. **Mr Harrington** concludes that Council is well placed, through its hydrological information collection, management and modelling systems to understand and manage stormwater flows under the proposed consent. He explains that all significant new developments will have best practice stormwater mitigation applied and considers that flooding effects within Christchurch District as a result of the discharge of stormwater will be minor.

Effects on Freshwater Quality, Coastal Water Quality and Aquatic Ecology

90. **Dr Margetts** has discussed how the discharge of stormwater has the potential to adversely affect surface water quality. The quality of surface waterways impacts on the aquatic ecosystems supported by the waterbody as well as other uses and users of water such as for the gathering of mahinga kai, and for recreation. She also discusses the philosophy of the proposed consent conditions and the EMP, and how she considers these will provide certainty around the effects of stormwater discharges on waterways and coastal waters.

91. The LWRP requires the water quality limits and receiving water standards to be achieved. Stormwater discharges authorised by this consent are to be measured against those limits and standards, where appropriate. The environmental results anticipated in the WRRP include that discharges of contaminants to water are provided for where appropriate standards are met and where practicable alternatives to direct discharges are not available. **Dr Margetts** has described the attribute target levels proposed against which water quality will be monitored and has explained why these are appropriate in the context of this Application for stormwater discharges. It is the intent through implementing this consent, to achieve an overall improvement in the quality of stormwater discharged, and in turn contribute toward achieving those attribute target levels.
92. The evidence (particularly of **Dr Margetts** and **Mr Norton**) describes the existing environment, the legacy stormwater network, and the adverse effects experienced over time, some of which is contributable to the discharge of stormwater. **Dr Margetts** has discussed the likely recovery of the receiving environment as a result of ongoing reductions in contaminant loads that is required by the proposed consent conditions. She discusses this also in terms of the likely timing of that recovery (potentially a decade or more) that supports the appropriateness of a 25 year duration, as applied for by Council.
93. The **Officer's Report** [paragraph 460 – 466] provides an overview of the potential adverse effects of stormwater discharge on freshwater quality and aquatic ecology and summarises the submissions received on the matter. It assesses the proposed receiving environment objectives and attribute target levels and recommends the use of QMCI targets however, it also recognises that it will take more than a reduction in stormwater contaminant loads for QMCI target to be achieved. The inclusion of mana whenua monitoring values is supported, but as those values are yet to be formalised, no further assessment is provided in the **Officer's Report**. However, on the matter of the inclusion of 'high risk' sites post-2025 it recommends an additional receiving environment objective to address contaminants from 'high risk' sites. **Dr Margetts** discusses this matter in her evidence and recommends that this is best addressed through the risk matrix for 'high risk' sites assessment/management proposed under **Condition 3**, and discussed in the evidence of **Mr Norton**.

94. The **Officer's Report** [paragraph 483 – 486] includes a review of the C-CLM and provides recommendations to improve areas of concern. The evidence of **Mr Van Nieuwkerk** explains the C-CLM in detail, including clarification on matters where the experts engaged by Environment Canterbury appear to have misunderstood the use and workings of the C-CLM. **Dr Margetts** and **Mr Cantrell** have also provided evidence around the difficulty in showing a causative link between modelled reductions in stormwater contaminants discharged to outcomes in the receiving environment, and it is for this reason that a stormwater quality investigation is proposed within **Condition 37** of the proposed consent conditions.
95. On the monitoring proposed under the EMP, the **Officer's Report** is generally supportive of the EMP as an appropriate and comprehensive tool to monitor whether the receiving environment objectives and attribute target levels are being met but recommends additions and changes, such as more targeted monitoring for 'hotspot' source areas, and changes to wet and dry weather monitoring and sites. The matter of the receiving environment objectives and target levels is considered to be well aligned with the LWRP outcomes and standard, however the **Officer's Report** raises a concern around when outcomes might be achieved [paragraph 527 (d)]. With regard to the proposed conditions on 'Responses to Monitoring' the **Officer's Report** [paragraph 502 (d)] points out that there are no timeframes associated with when an investigation or reporting would take place. I agree that the inclusion of a timeframe in the proposed 'Responses to Monitoring' (and for that matter the 'Responses to Modelling') conditions would provide more certainty around the required response depending on the monitoring and modelling results. **Dr Margetts** has agreed that 12 months is an appropriate timeframe to include in **Condition 51** and that reference to this condition is added to the annual reporting condition (**Condition 53**). As mentioned, **Dr Margetts** has discussed the likely recovery of the receiving environment and timing of that as a result of ongoing reductions in contaminant loads.
96. On the matter of freshwater ecology, the **Officer's Report** [paragraph 520 - 521] discusses the need for additional mitigation measures to protect the values of sites with high ecological value and suggests that this be added as an additional matter to be covered in SMPs. I agree with this approach and this requirement is already part of the proposed conditions (**Condition 6 (d)(v)**).

97. There are many areas of agreement between Council expert **Dr Margetts**, and the Environment Canterbury experts, particularly around the receiving environment objectives and attribute target level approach taken in the consent [paragraph 479], and around the ability to update the EMP and target levels in time as provided for under proposed **Conditions 45 and 46** [paragraph 472]. In those areas where there is disagreement, **Dr Margetts** has discussed her opinion in light of the comments and recommendations in the **Officer's Report**, and in other cases has recommended amendments to the EMP and/or proposed consent conditions where appropriate.
98. On the matter of effects on coastal water quality and aquatic ecology, the potential adverse effects of discharges into coastal water is described by the **Officer's Report** [paragraph 531 – 535] and the receiving environment objectives and attribute target levels are discussed [paragraph 538 – 542]. It recommends amendments to the receiving environment objective for TSS [paragraph 540], and questions whether ANZECC values should be used in some areas. It also considers that where the existing conditions are already met and are below the attribute target levels, the goal should be to maintain the quality of the existing receiving environment, and to ensure there is no degradation in the future. **Dr Margetts** has addressed these recommendations in her evidence, and has provided commentary around the recommendations made in the **Officer's Report** [paragraph 547] on the EMP.
99. **Dr Margetts** concludes that given the proposed consent conditions, and amendments as proposed, along with the content of the EMP, adverse effects over and above the existing environment, on waterways and coastal waters will be minor.

Effects on Amenity and Recreation

100. The **Officer's Report** [paragraph 559] considers that the receiving environment objectives and attribute target levels for water quantity and quality for both freshwater and coastal water are suitable for managing the potential effects of stormwater discharge on amenity and recreation. It acknowledges that stormwater discharges are unlikely to be a significant source of pathogens in waterways, and although it considers that *E Coli* should be monitored and compared to guideline values, compliance with the standard would not be necessary due to other contaminant

sources of *E Coli*. The **Officer's Report** [paragraph 576] acknowledges that stormwater is not the primary source of faecal contamination and recommends that educational programmes would help reduce contaminant sources, such as from domestic animals. I recommend an additional community education initiative be added to the 'Other Actions' table within **Condition 38** of the proposed conditions to educate pet owners with regard to faecal matter.

101. For coastal water the **Officer's Report** [paragraph 567] considers the proposed faecal bacterium indicator, enterococci is appropriate to assess water quality for contact recreation. However, it raises questions around the existing available data with regard to the effects on stormwater discharges on coastal water quality. With regard to shellfish gathering in Akaroa Harbour (where the RCEP classification is Coastal SG) the **Officer's Report** [paragraph 573] makes recommendations around the inclusion of additional guidelines in the EMP with regard to monitoring for the activity of shellfish gathering.
102. **Dr Margetts** discusses these recommendations in her evidence and points out what she considers appropriate levels of monitoring required under a resource consent to discharge stormwater.

Effects on Cultural Values

103. An agreement is now in place between Council, Te Rūnanga o Ngāi Tahu (**Ngāi Tahu**), and Mahaanui Kurataiao Limited (**Mahaanui**) (on behalf of the six Papatipu Rūnanga) that sets out their non-opposition to the Application, the reduced term of the proposed consent of 25 years, funding with regard to the appointment of water quality and mahinga kai specialists, regular reporting by Council to Mahaanui, and regular meetings between the parties. **Mr Pauling** has explained his understanding around the agreement and the ongoing collaboration through the proposed conditions of consent. **Dr Margetts** has discussed the development of the mana whenua values monitoring targets and how these will be incorporated into the EMP. CIAs have been completed for each of the four SMPs that are complete.

104. The **Officer's Report** considers the matter of cultural effects and acknowledges that no submission from Ngā Rūnanga was received on this Application [paragraph 580]. It also acknowledges the proposal to continually engage and collaborate with Papatipu Rūnanga in the implementation of the consent, and the requirement for CIAs to be required as part of the development of SMPs. Four CIAs have been completed to date, for the Ōtākaro/Avon, Pūharakekenui/Styx, Huritini/Halswell and Ōpāwaho/Heathcote catchments.
105. Given that the mana whenua values have not yet been finalised, and due to the absence of all the CIAs (given that all of the SMPs are not yet complete) the **Officer's Report** does not reach a conclusion on the effects of the Application on cultural values. The proposed conditions include mana whenua values monitoring within the receiving environment objectives and attribute target levels, and in response to the **Officer's Report** [paragraph 586] I recommend that proposed **Condition 47** includes a timeframe for completion.
106. Given the proposed conditions of consent that have been agreed with Ngāi Tahu and Papatipu Rūnanga, along with the agreement described above, and the requirement to continue to complete CIAs as part of the development of SMPs, I consider that cultural values have been adequately considered through this Application, and the process represents successful collaboration between the parties to find appropriate solutions. I discuss the MIMP later in my evidence under the heading 'Other Matters'.

Effects on Property, Persons and Organisations

107. The submissions that identified potential adverse effects with regard to property, persons and organisations are listed in the **Officer's Report** [paragraph 591] as Christchurch International Airport (CIAL), New Zealand Steel Limited (NZ Steel), Lyttleton Port Company (LPC) and Styx residents. In response to CIAL's submission, the **Officer's Report** recommends that the risk of bird strike be included in a SMP where it covers land within 3 kilometres of the airport. I agree that this is appropriate and it is intended to be included in proposed **Condition 6**.

108. **Mr Norton** describes recent discussions with LPC, and the agreements reached with regard to the discharges of stormwater from the various LPC facilities. He also explains why it is not proposed to separate the Te Pātaka o Pākaihautū/Banks Peninsula SMP from the Lyttleton Harbour settlements catchment area. **Mr Norton** has also addressed the concerns raised by NZ Steel in his evidence. In my opinion the use of zinc/aluminium roofing and cladding products will not be precluded through development of SMPs. The reduction in the contaminants from these surfaces are only a part of the solution to overall stormwater contaminant reduction. However, the presence of metals such as zinc as a key stormwater contaminant to be reduced is, in my view, appropriately acknowledged through Council's proposed consent conditions.
109. The concerns raised by the Styx residents relate to the potential for flooding effects, particularly post-earthquakes. This has been addressed in the evidence of **Mr Harrington** and discussed above under the heading 'Effects on Surface Water Quantity and Flooding Effects'.
110. Given the need to effectively manage stormwater throughout Christchurch District, the evidence presented and the proposed conditions, I consider that the adverse effects on property, persons and organisations as a result of the discharge of stormwater from Council's network will be minor.

Effectiveness of the C-CLM

111. The C-CLM has been discussed in detail in the evidence **Mr Van Nieuwkerk**, and **Mr Kennedy**. **Mr Van Nieuwkerk** discusses the use of the C-CLM to evaluate a relative reduction of contaminant loads representing a 'Best Practice Infrastructure' scenario. In this case the C-CLM models the key contaminants in stormwater specifically linked to urban land use types: total suspended solids, total zinc and total copper.
112. The C-CLM is a tool within the package of stormwater management tools. It models the stormwater contaminant inputs from various urban sources, such as road surface, building roofs and walls, industrial sites and other impervious surfaces (pavements, driveways, parking areas). Stormwater treatment infrastructure throughout the city,

are inputs into the model. The C-CLM calculates the reduction of the key stormwater contaminants expected as a result of stormwater treatment infrastructure prior to stormwater discharging to the receiving environment.

113. In my view the C-CLM assists in the demonstration of Council's commitment to improve the quality of stormwater over time. **Condition 16** requires percentage target reductions in stormwater contamination to be achieved through the C-CLM, and these targets have been calculated based on the treatment facilities that the Council intends to construct. The Council will be in breach of the consent if it does not achieve the modelled reductions in proposed **Condition 16**; also, **Condition 49** requires investigation, remediation and reporting where necessary.

Effects Arising from Policy 4.16A of the LWRP

114. Policy 4.16A of the LWRP requires that Council, as the operator of the reticulated stormwater system, implements methods to manage the quantity and quality of all stormwater directed to and conveyed by the reticulated stormwater system, and from 1 January 2025 Council account for and are responsible for the quality and quantity of all stormwater discharged from that reticulated stormwater system. It is in response to this policy that the Council has proposed **Condition 3** to acknowledge the changing scope of the consent from 1 January 2025.
115. Currently if Council considers a new or redevelopment site to be 'high risk' Council will exclude it from its existing stormwater discharge consents and may add the site to the Schedule 1 list (excluded sites). It also currently has the ability to do so for existing activities, although I understand that none have been excluded in that manner. The operators of discharges from 'high risk' sites must then apply for resource consent to discharge stormwater through separate application to Environment Canterbury. The effect of Policy 4.16A is that there will be a transition of responsibility for the administration of stormwater discharges from 'high risk' sites from Environment Canterbury under separate resource consents, to Council under this comprehensive stormwater discharge consent. This transition will occur after 1 January 2025, or at the expiration of those separately held Environment Canterbury resource consents.

116. Policy 4.16A takes effect on 1 January 2025 and the granting of this consent will not change the current situation with regard to 'high risk' sites. However, come 1 January 2025, in accordance with Policy 4.16A proposed **Condition 3** requires that the scope of the consent will include 'high risk' sites, including those currently listed on Schedule 1.
117. **Mr Norton** has provided evidence on the number of sites where this is the case and has explained Council's proposed strategy to the transition of management of these sites after 1 January 2025. It is important to note that this is a process of managing a sub-set of existing 'high risk' stormwater discharges. It does not mean that come 1 January 2025 there will be numerous new stormwater discharges from 'high risk' sites throughout the city. Monitoring of the receiving environment as described in **Dr Margetts'** evidence already includes all of these stormwater discharges. Put simply, giving effect to Policy 4.16A of the LWRP through the proposed conditions will, in my opinion, have no material effect on the quality of the receiving environment as a result of stormwater discharges, provided that the Council appropriately manages those discharges from the changeover date. It is an administration issue that I believe needs to be well-handled, but in and of itself, does not represent a new, or exacerbate an existing, adverse effect on the environment. It is important to the smooth operation of this comprehensive consent that the transition under Policy 4.16A is appropriately managed in order to avoid any adverse effect on the environment.
118. It is also important to note that the separate resource consents currently held by operators of 'high risk' sites have different expiry dates and will not all be immediately handed over to Council for administration on 1 January 2025 (albeit that the operators of those sites are able to surrender their Environment Canterbury resource consents at that time if they wish). Finally, I note that the LWRP does not include rules or other methods to specifically implement Policy 4.16A and therefore I consider it is important for the two Councils to work together to achieve a smooth transition of responsibility and to provide certainty to existing operators of 'high risk' sites. The **Officer's Report** [paragraph 267] agrees that the approach to the transition should be developed in collaboration between the two councils.

119. I have already discussed the **Officer's Report** [paragraph 305] consideration around retaining a mechanism to exclude sites that are particularly 'high risk', and that Council should be able to revoke or not grant authorisations to discharge, requiring individual site dischargers to obtain separate resource consent from Environment Canterbury, including post-2025. Although this does not seem to be the intent of Policy 4.16A, I consider there may be advantages to this approach. In my view it is important that this is also undertaken through collaboration between the two councils to determine a process that ensures satisfactory environmental outcomes, whilst also providing certainty for dischargers of stormwater from 'high risk' sites.

Positive Effects

120. The **Officer's Report** comments on the potential positive effects resulting from the implementation of the new discharge permit sought, including the development of the remaining SMPs, the Implementation Plan, and the demonstration of a commitment to progressively improve the quality of stormwater discharge toward achieving the proposed receiving environment objectives and attribute target levels. It also acknowledges the operation of a long term functioning stormwater system providing treatment of stormwater and flood mitigation for large parts of the city, and that Council maintains natural and artificial water bodies within the city. The **Officer's Report** [paragraph 606] considers that this existing infrastructure has contributed significantly to general social and economic wellbeing. I agree with this, and also consider that this includes positive effects on cultural values, especially through implementation of the consent as proposed which includes ongoing engagement with Papatipu Rūnanga.
121. An approach to the process of transitioning the management of stormwater discharges from 'high risk' sites post-2025 has been proposed by amendment to proposed **Condition 3**. I consider this approach provides the basis for a clear and robust process and will have flow-on positive effects with the two councils working together to achieve appropriate effects mitigation, and positive environmental outcomes.

Effects Conclusion

122. I consider that the potential adverse effects of the proposed stormwater discharges on the environment are minor. This is based on the evidence and conclusions of **Dr Margetts** with regard to effects on surface and coastal waters, **Mr Callander** with regard to effects on groundwater, **Mr Harrington** with regard to flood modelling and management, and other witnesses with regard to the management of the consent under the proposed conditions, the reduction of contaminants in stormwater, and the overall improvement of the quality of the stormwater discharge over time, as well as having consideration of the matters raised in the **Officer's Report**.

THE RESOURCE MANAGEMENT ACT 1991

Overview

123. The **Officer's Report** [paragraph 948 – 976] discusses sections 5, 6 7 and 8 of the Act and concludes that with the recommendations made throughout the s42A report, the Application achieves the purpose of the Act (section 5), recognises and provides for matters of national importance (section 6), has had particular regard to the relevant other matters (section 7), and takes into account the principles of the Treaty of Waitangi (section 8).

Part 2 of the Act

124. The Court of Appeal has recently released its decision in *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316. **Mr Pizzey** will discuss the detail of this decision in his legal submissions. Of relevance to the planning assessment is that the Court of Appeal found that the High Court erred when it determined that the Environment Court was “*not able or required to consider Part 2 of the Resource Management Act 1991*” when undertaking its decision-making role in accordance with section 104 of the Act. This means that decision-makers can, again, have recourse to Part 2 of the Act, where it is appropriate and necessary to do so.

125. Part 2 includes the purpose of the Act, set out in section 5 as being to promote the sustainable management of natural and physical resources. The purpose of the Application is to provide for the treatment and disposal of stormwater necessary to sustain and to provide for the growth of Christchurch City, to provide for the wellbeing of people and communities, whilst recognising the contribution of the natural values of the area to people's culture, heritage and amenity.
126. Based on the evidence of **Dr Margetts** and **Mr Callander** it is my view that the life-supporting capacity of the water and soil receiving environments, and the associated ecosystems will be safeguarded, and that any adverse effects on the environment can be avoided, remedied or mitigated through the adaptive management of stormwater discharges promoted through the proposed consent conditions. Accordingly, the proposed discharges will not reduce the potential of the natural and physical resources of Christchurch to meet the reasonably foreseeable needs of future generations. In my opinion the proposal promotes sustainable management and is therefore consistent with the purpose of the Act.
127. Section 6 of the Act identifies matters of national importance to be recognised and provided for. In my opinion the following section 6 matters are relevant to the activity:
- a) *"The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
 - d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
 - e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:"*
128. In my view and based on the evidence of **Dr Margetts** and **Mr Pauling**, the measures proposed will ensure that the relevant section 6 matters have been recognised and provided for by the Application. In relation to section 6 (a) many of the waterways are largely urban and modified to some extent, and the proposal to enhance stormwater discharge quality over time, in conjunction with Council strategies for waterways discussed by **Ms Beaumont**, ensure that the existing natural character of waterways is protected. The actions proposed will help preserve the existing natural character of

the coastal environment, estuarine areas, lakes, and rivers, tributaries and margins, as well as providing and enhancing public access, as addressed by **Mr Harrington**.

129. Various detention and treatment devices are proposed throughout the city to provide for the removal of sediment and contamination within the network prior to discharge and this has been discussed in the evidence of **Mr Norton**.
130. In my view the treatment of stormwater prior to discharge, along with the ongoing contaminant load reduction, monitoring and reporting required by the proposed conditions will help to maintain and enhance the water quality of the receiving environments. This in turn provides mana whenua the ability to retain their relationship with waterways, lakes, estuarine and coastline areas. Cultural values have been taken into account during the preparation of the Application and proposed conditions, through consultation with the local Papatipu Rūnanga and Mahaanui, the cultural consultant group appointed by Council for the purpose of ongoing consultation and feedback to and from the Papatipu Rūnanga and Ngāi Tahu. These consultation processes have been discussed in the evidence of **Mr Adamson, Mr Harrington, and Mr Pauling**.
131. In my view, the improvements in stormwater discharge quality achieved through reductions in stormwater contaminant load required through the proposed consent conditions, and ongoing monitoring of waterways, along with the commitment by Council to continue to collaborate with Papatipu Rūnanga on cultural matters demonstrates a willingness to provide for the relationship of Māori in terms of section 6 (e).
132. Section 7 of the RMA includes the following relevant other matters to be given regard to when considering resource consent Applications:
 - a) *“Kaitiakitanga.*
[aa)The ethic of stewardship]
 - b) *The efficient use and development of natural and physical resources.*
 - c) *The maintenance and enhancement of amenity values.*
 - d) *Intrinsic values of ecosystems.*

- f) Maintenance and enhancement of the quality of the environment.*
- g) Any finite characteristics of natural and physical resources.*
- h) The protection of the habitat of trout and salmon.*
- i) the effects of climate change.”*

133. In my view particular regard has been given to the relevant section 7 matters. Kaitiakitanga and the ethic of stewardship has been given particular regard through engagement with papatipu rūnanga, as well as through the CIAs completed for all four catchments with a completed SMP. In my view engagement throughout the Application process has demonstrated Council’s commitment to an ongoing partnership with Papatipu Rūnanga with their involvement in the development and review of SMPs and the Implementation Plan, as well as during concept design stage for the installation of stormwater treatment facilities, having regard to wāhi tapu and taonga.
134. Based on the evidence of **Dr Margetts**, **Mr Callander**, and **Mr Harrington**, the effects on amenity values, ecosystems, and the quality of the environment (surface water, groundwater and coastal waters), including the habitat of trout and salmon are expected to be minor as a result of stormwater discharges. This is in part due to the acknowledgement of the existing adverse effects that stormwater discharges have had within Christchurch over many years. When compared to the existing environment, the reductions in stormwater contaminants required by the proposed consent conditions, and the Council’s commitment to improve stormwater quality over time, will improve overall water quality compared to the current situation, and the actual and potential adverse effects of the discharges will be minor.
135. I consider that the continued use of land and water for stormwater treatment and disposal is an efficient use of natural and physical resources that will maintain existing amenity values and the quality of the environment, and enhance them over time. Particular regard has been given to climate change, and in particular the effects of predicted sea level rise on potential flood risk. **Mr Harrington** has discussed this in his evidence.

136. Given the evidence provided on the effects of the proposed activity on cultural values, and that consultation and ongoing collaboration with Papatipu Rūnanga is proposed through conditions of the consent, it is my view that the principles of the Treaty of Waitangi have been taken into account, as required by section 8 of the RMA.
137. In my view the Application is consistent with Part 2 of the Act.

Section 104 and 104B

138. Section 104(1) of the RMA outlines the matters that the consent authority must have regard to, subject to Part 2, when considering resource consent applications, including any actual and potential effects on the environment, the relevant provisions of any applicable policy statements or plans, and any other relevant matter.
139. The NZCPS, the NPSFM and the RPS are relevant to the proposal. The relevant regional plans are the LWRP, WRRP and the RCEP. I have provided an assessment against the objectives, policies and regulations of the relevant plans below. The Drinking Water NES and the Soil Contaminants NES are also relevant and are discussed later in my evidence. I also note that there are a number of relevant non-statutory planning documents, and these have been discussed later in my evidence.
140. The relevant experts have assessed the effects of the Application and I have provided an overview of their conclusions, and other relevant assessments earlier in my evidence. Discussions around effects of the activity on surface water quality, coastal waters, groundwater quality, water quantity and flooding effects, and discharges from industrial sites are collectively contained in the evidence of **Dr Margetts, Mr Callander, Mr Harrington, and Ms Valigore**, and adequately address concerns raised within the **Officer's Report**.
141. Section 104B provides for a consent authority, after considering an application for a resource consent for a non-complying activity to grant or refuse the application, and if granted, may impose conditions under section 108 of the Act.

142. In my view the proposal, including the adaptive management approach that will lead to improvements in stormwater quality over time, presents a sustainable solution to the comprehensive management of stormwater from urban and settlement areas throughout Christchurch district.

Section 104D

143. The proposed discharge of stormwater is classified as a non-complying activity.
144. Section 104D of the RMA requires that when considering an application for a non-complying activity, a consent authority may grant a resource consent only if it is satisfied that either:
- The adverse effects of the activity on the environment will be minor, or
 - The Application is for an activity that will not be contrary to the objectives and policies of the relevant plan.
145. At least one of the 'gateways' of section 104D must be passed in order for a resource consent for a non-complying activity to be granted.
146. In this case I have concluded, based on the evidence provided by expert witnesses that the adverse effects on the environment will be minor. The **Officer's Report** [paragraph 981] considers that there is potential for more than minor effects on freshwater and coastal water quality. I consider that the evidence of **Dr Margetts** has addressed the matters of concern raised throughout the **Officer's Report** and based on that evidence I consider that the potential adverse effects are minor. Accordingly, in terms of section 104D(1)(a) the proposal passes the first of the two gateways and there is no impediment to the consideration and granting of consent.
147. The **Officer's Report** [paragraph 982] concludes that the Application not contrary to the objectives and policies of the relevant plans (in this case LWRP, WRRP and RCEP). It is also my opinion that the activity is generally consistent with (and not contrary to) the objectives and policies of the relevant plans, and I discuss these later in my evidence under the heading 'Statutory Plan Policy Considerations'.

148. It is my opinion that the activity is consistent with key LWRP Policy 4.16, which sets out the policy approach to managing the effects of reticulated stormwater discharges in urban areas. This is due to Council, as the stormwater network owner and operator, demonstrating by 2025 a commitment to progressively improve stormwater quality toward the targets set in the LWRP, using monitoring techniques and parameters that have been discussed with and reviewed by Environment Canterbury scientific staff, and that are considered appropriate by **Dr Margetts** in the context of this Application for stormwater discharge. I discuss Policy 4.16 in more detail later in my evidence.
149. In my opinion the activity passes both gateways of section 104D of the RMA and therefore there is no barrier to granting the discharge permit being sought by Council.

Section 105

150. Section 105 of the RMA requires that regard be had to:
- a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
 - b) the applicant's reasons for the proposed choice; and*
 - c) any possible alternative methods of discharge, including discharge into any other receiving environment.*
151. The nature of the discharge has been discussed by **Mr Harrington**, and the sensitivity of the receiving environment has been addressed through the development of the attribute target levels by **Dr Margetts**. The **Officer's Report** [paragraph 997] notes the need for the proposed discharge along with the scale of the established infrastructure and acknowledges that there are little to no alternatives as to where stormwater is discharged. I agree with these statements.
152. Council has a responsibility to manage discharges of stormwater from its network. It does not have a choice as to whether to manage those discharges. It is also important to note that stormwater is discharged via a legacy network that has been developed over many years and through decisions made by previous Councils as well as the current one. The stormwater network is an important physical resource for the

community. The existing stormwater network has value both environmentally, socially and economically as it provides a mechanism for the management of stormwater generated and associated with the development of the city. Changes and upgrades to the network are expensive and take time, as discussed in the evidence of **Mr Harris**. However, through the implementation of the proposed consent conditions, this Application seeks to progressively improve the quality of stormwater discharged over time and this commitment has financial implications for Council.

153. **Mr Norton** has provided evidence around the main sources of stormwater contamination, and that the SMP for each catchment is required to detail the mitigation methods and the locations of water quality and quantity mitigation facilities and devices. Further, the proposed consent conditions require SMPs to identify the most appropriate discharge method in each catchment. As an example, I understand that in the Pūharakekenui/Styx catchment the most appropriate discharge method for stormwater is discharge via treatment facilities to surface water. The alternative of discharging to ground is not the preferred option given the location of much of the area over the LWRP Christchurch Groundwater Protection Zone.
154. Finally, in my opinion, it is important to acknowledge that this is an application for resource consent for existing and future discharges from the existing stormwater network within Christchurch District. Given the location of the city itself, there are no feasible alternatives to discharge to a different receiving environment.
155. I consider that the Application has had regard to section 105 of the Act.

Section 107

156. Section 107 of the RMA restricts the granting of certain discharge permits, including permits for the discharge of a contaminant to water, or to land in circumstances where contaminants may enter water. Under section 107 a discharge permit shall not be granted if the discharge, after reasonable mixing, is likely to give rise to any of the effects listed in section 107 (1) (c) to (g):

(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials

(d) any conspicuous change in the colour or visual clarity

(e) any emission of objectionable odour

(f) the rendering of fresh water unsuitable for consumption by farm animals

(g) any significant adverse effects on aquatic life

157. Section 107 (2) provides for a consent authority to grant a discharge permit that may allow any of the effects described in subsection (1) if it is satisfied that exceptional circumstances justify the granting of the permit (section 107 (2) (a)), or the discharge is temporary in nature (section 107 (2) (b)), or the discharge is associated with necessary maintenance work (section 107 (2) (c)).
158. The Application and the evidence of **Dr Margetts** has described the existing state of waterways, lakes and coastal waters, as well as the potential adverse effects of the discharge of stormwater. It is important to note that all of the existing discharges within Christchurch already find their way to the receiving environment, and so the monitoring work for which **Dr Margetts** has been involved includes all those stormwater discharges from the network as well as those that originate from industrial or potentially high-risk sites for stormwater contaminant run-off.
159. **Dr Margetts** considers that any effects under section 107 (1) (c) to (g) are temporary in nature, and that once the proposed 'mitigation toolbox' is implemented across each catchment under the proposed conditions of consent, it is unlikely that the stormwater discharges will give rise to the effects on a permanent basis after reasonable mixing.
160. I agree with **Dr Margetts** on the temporary nature of the effects, and consider that this is a case for which section 107 (2) (a) and (b) apply.
161. This is an application for the discharge of stormwater from the Council network across all of Christchurch District. Therefore, it includes stormwater discharged from those areas with long standing existing development (including industrial development) where treatment options are limited. It includes more recently developed areas where larger scale stormwater treatment facilities are in place. Runoff also occurs from hill

areas that contribute sediment in the form of fine loess material. This Application is for stormwater discharge that cannot be 'turned off'. The networks in the city and the various sites within it, and in the other settlement areas across the district exist and stormwater discharges currently occur. Council, through this Application, is proposing a package of mitigation and management, using reasonable endeavours, to minimise the adverse effects of stormwater discharge. This includes modelling the stormwater contaminant load, monitoring of the receiving environment, and investigations to better understand the correlation between stormwater discharges and waterway ecological health. This work then informs Council with regard to the detail of management and mitigation required in response to the findings. As described by **Mr Norton**, and **Ms Valigore** this may include retro-fitting some developed areas, it may require improved or better maintained greenfield stormwater treatment, or encouragement and assistance of the management of industrial sites considered as 'high risk' through Council's audit process.

162. This is not an application for a single stormwater source where solutions exist to mitigate any risk of the effects described in section 107 (1) (c) to (g) from occurring. I consider that exceptional circumstances exist in this case, that the consent authority may grant consent under section 107 (2) (a), and that it is consistent with the purpose of the Act to do so.

Section 123 - Consent Duration

163. The matter of the duration of the consent has been raised in many of the submissions, and within the **Officer's Report**. This matter has also been addressed in much of the other evidence presented and will be discussed in **Mr Pizzey's** legal submissions. As I understand it, there is a reasonable body of case law with regard to matters that are relevant to consent duration and I am guided by **Mr Pizzey** as follows:

- 1. The actual and potential effects of the activity on the environment*
- 2. Relevant provisions of the applicable plans*
- 3. The nature of the discharge*
- 4. The sensitivity of the receiving environment*
- 5. The applicant's reasons for the application*

6. *Any possible alternative methods of discharge, including into another receiving environment*
7. *Whether conditions can be imposed requiring adoption of the best practicable option*
8. *Uncertainty for the applicant if a short term is imposed, and the applicant's need for as much certainty as is consistent with sustainable management*
9. *The value of the investment*
10. *Whether a review condition is more appropriate than a short term to ensure that conditions remain relevant*
11. *Whether there is any expected future change in the vicinity*
12. *Whether there is uncertainty about the effectiveness of conditions to protect the environment*
13. *Whether there is considerable public disquiet with the existing operation*
14. *Whether adverse effects could vary or increase during the term*
15. *When a re-evaluation of the consent is required*

164. Council applied for a consent duration of 35 years in the 2015 application. Since that time and through consideration of the submissions, and negotiations with Papatipu Rūnanga, Council now request a duration of 25 years.

165. The actual and potential effects of the activity on the environment have been discussed and concluded to be minor and the relevant provisions of the applicable plans have been addressed. The nature of the discharge is for existing and future stormwater from the Council network; discharges occur whenever there is a rainfall event. The measurement of potential adverse effects on the receiving environment through operation of the proposed consent has been discussed by **Dr Margetts**. Importantly the Application, and actions to be undertaken by Council through operation of the consent, seeks to improve the quality of stormwater discharged over time, which is to be measured through modelling of contaminant loads, and continued monitoring of the receiving environment.

166. The reasons for the Application have been set out in the evidence of **Mr Harrington** and others. Granting the Application as sought will give Council the ability to put in

place the proposed modelling and monitoring regimes to inform actions to achieve an overall improvement in stormwater quality. The proposed conditions of consent will continue to require appropriate stormwater treatment and attenuation through the ongoing development and review of SMPs to mitigate any potential effects.

167. I have discussed the legacy stormwater network that Council manages, the existing nature of stormwater discharges, and the commitment of Council to improve the quality of the stormwater discharge over time. However, given that the discharge of stormwater from the Council network already exists there are no immediate reasonable alternatives than the current regime of discharge to land and to water via treatment systems. The proposed consent conditions require reductions in the stormwater contaminant load, for which Council will need to invest in additional stormwater treatment facilities and devices, including retrofitting in existing areas of development. **Mr Harris** discusses the costs of stormwater treatment and the efficiency of contaminant removal, and also assesses the costs (capex and opex) of stormwater management and the impact of that on rates. In addition to these operational measures, the proposed consent conditions would also require Council to invest in non-infrastructure measures such as source control advocacy, community education and awareness, and funding of further research and investigation as discussed by **Mr Harrington**. **Mr Harrington** also explains that a short duration has the potential to create uncertainty within Council and undermine the case for securing resources to implement retrofit projects, which are a key initiative to reduce contaminants entering waterways.
168. Conditions are proposed that require Council to use 'reasonable endeavours' to achieve the required mitigation and ultimately an improvement of stormwater quality over time through a framework of modelling, monitoring, reporting and review. The use of the term 'reasonable endeavours' has also been raised in submissions from Ōpāwaho Heathcote River Network, Ōtākaro/Avon Heathcote Estuary / Ihutai Trust, and Southshore Residents Association Inc. I understand that Council decided on 'reasonable endeavours' as the appropriate measure because, as described in **Mr Harrington's** evidence, it represents a balance of practicality, affordability, opportunity and ambition. It encompasses the potential measures detailed in the Application and available to Council (the practicality and opportunity), balanced

against Council's strategies and policies implemented through the LTP (the affordability and ambition).

169. Council as applicant, as well as representing Christchurch ratepayers and the wider community, requires the certainty afforded with a longer duration so that sustainable management can be achieved through long term planning. **Mr Adamson** has discussed the Council's intent to achieve a workable balance between resources and funding. **Mr Harrington** has estimated the consent processing costs alone to be in excess of \$0.5 million. The costs of re-consenting the same activity in five to 10 years would, in my opinion, be significant, and I understand this to be part of the reason that Council decided on a comprehensive consent for all of Christchurch, rather than continuing with consenting stormwater discharges on a catchment by catchment basis. What is proposed is for Papatipu Rūnanga and other key stakeholders to be involved in the development and review of SMPs, and for the responses to modelling and monitoring to be reported on an annual basis so that constant review and improvements can be made over the duration of the consent.
170. The value of the investment in the resource consent process and in the implementation of stormwater facilities and devices has been discussed in the evidence of **Mr Adamson**, **Mr Norton** and **Mr Harris**. The proposed conditions also require advocacy, and research and investigation, with additional associated costs. I consider that adaptive management and review conditions are more appropriate and responsive to any changes through the proposed analysis and reporting of modelling and monitoring results than a short duration consent.
171. In my view the most likely change to be expected over the term of the consent is improved best practice and technology that will be able to be incorporated into the consent via review and updates of SMPs that are subject to engagement with key stakeholders. In my opinion the conditions provide the necessary certainty for protection of the environment given the commitment of Council to improve the quality of stormwater discharges over time. However, any uncertainty around the effectiveness of the conditions can be rectified through the proposed adaptive nature of the consent, and through review of the consent conditions if necessary. Further, I consider that the outcomes of planned water quality research and investigations have

the potential to provide additional certainty around the causes and effects of stormwater discharges on environmental outcomes.

172. There are a number of submissions that raise concerns about the Application, and many that are concerned with the existing stormwater discharges from Council's network. These are acknowledged and have been addressed throughout the evidence presented. As discussed adverse water quality effects from stormwater discharges are not expected to increase over the requested term of the consent, given the mitigation and measures proposed, as well as the commitment to improve the quality of stormwater discharged over time through the adaptive management approach proposed. Based on **Mr Callander's** conclusions, adverse water quantity effects are also not expected to increase over time. Any re-evaluation of the consent is, in my view, best completed through review conditions as provided for by section 128 of the RMA.

STATUTORY PLAN POLICY CONSIDERATIONS

Overview

173. The **Officer's Report** [paragraph 653] sets out the statutory plans considered to be relevant, and addresses the objectives and policies considered relevant under each. I have provided an assessment of the objectives and policies that I consider relevant in the following paragraphs. There are many areas of agreement between the assessment in the **Officer's Report** and my own, and in general terms we are both of the opinion that the Application is not contrary to the relevant objectives and policies. However, my assessment generally considers more areas of consistency with the relevant objectives and policies, whereas the **Officer's Report** finds more areas of potential inconsistency.

National Environmental Standard for Sources of Human Drinking Water

174. The purpose of the Drinking Water NES 2007 is to reduce the risk of human drinking water sources becoming contaminated and sets out what regional councils must do to comply with the standard. The Drinking Water NES covers the requirements for

issuing water and discharge permits where they have the potential to affect drinking-water supplies. Regulation 7 of the Drinking Water NES requires that a regional council must not grant a discharge permit for an activity that will occur upstream of an abstraction point (for a registered drinking water supply), where the drinking water concerned meets the health quality criteria, if the activity is likely to introduce or increase contaminants in the drinking water to the extent that it would no longer meet the health quality criteria, or would exceed the guideline values.

175. The Council does not propose to add additional stormwater to groundwater or surface water where it has the potential to affect community drinking water supplies. **Mr Callander** has described the groundwater environment and the potential effects of the discharge of stormwater and does not expect there to be any adverse effects on drinking-water supplies as a result of the discharges associated with this Application. A condition is proposed that requires specific setbacks of stormwater discharge points from domestic drinking water supply wells and **Mr Callander's** evidence explains why he believes this separation distance to be conservative (**Condition 30**).

National Environmental Standard for Assessing and Managing Contaminated Soil for the Protection of Human Health

176. The Contaminated Soils NES provides planning controls and soil contaminant values to ensure that land affected by contaminants in soil is appropriately identified and assessed (and if necessary remediated) prior to development, as appropriate to protect human health. The NES is an additional tool in understanding the location and implications of HAIL sites and requires the identification of HAIL sites as part of any proposal to disturb soil over a prescribed amount, to subdivide, or change the use of land.
177. In terms of the current Application the responsibility lies with Council to assess requests from dischargers, including an assessment under the NES. However, this is an ongoing requirement of Council and is not fundamental to the Application itself. The **Officer's Report** [paragraph 729] points out the potential for the discharge of stormwater into land to result in contamination of soils, and this has been discussed above under the heading, 'Effects on Soil Quality'. When stormwater treatment and

detention facilities are constructed, Council will need to take into account the provisions of the NES prior to disturbing soil.

National Policy Statement for Freshwater Management

178. The NPSFM has recently been reviewed and amendments took effect on 7 September 2017. The NPSFM sets out the objectives and policies for freshwater management under the RMA and directs regional councils to change plans and policy statements to be consistent with the NPSFM. Environment Canterbury has made recent amendments to the LWRP policies to reflect changes in the NPSFM 2017, and my understanding is that other amendments are to be made through the ongoing development of the sub-regional sections of the LWRP including setting limits for each freshwater management unit (FMU). At present I understand that although FMUs are not currently included in the LWRP, they are reflected through the water quality classes under Schedule 5 of the LWRP, with which the Application accords, where appropriate.
179. It is my assessment that the Application is consistent with the NPSFM, particularly: Policy A7 requiring regional councils to consider how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits; Objective C1 to improve integrated management of freshwater and the use and development of land in whole catchments; and Policy D1 whereby local authorities shall take reasonable steps to involve iwi and hapū in the management of freshwater, work with iwi and hapū to identify tāngata whenua values and interests, and reflect tāngata whenua values and interests in the management of, and decision-making regarding freshwater.
180. The **Officer's Report** [paragraph 660 – 661] considers Objective AA1 and associated Policy AA1 with regard to Te Mana o te Wai, which requires regional councils to make or change regional policy statements and plans to consider and recognise Te Mana o te Wai, the connection between water and broader environment, and noting that values identified through engagement and discussion with the community, including tangata whenua, must inform the setting of freshwater objectives and limits. The **Officer's Report** considers that although the LWRP and WRRP frameworks were developed prior to Objective AA1 and Policy AA1, the plans do provide for the health

of the environment, freshwater and people, incorporating values of tangata whenua and the wider community. I agree with that opinion and consider that the Application also gives effect to Te Mana o te Wai through the consultation and engagement with Papatipu Rūnanga, the agreements reached, and the ongoing engagement required through the proposed consent conditions to help ensure the health of the environment, waterbodies, and people.

181. As described by **Dr Margetts** the standards and targets in the LWRP already set higher water quality targets than those required by Policy A6(b) of the NPSFM. The LWRP gives effect to the NPSFM as required by section 67 of the RMA. Therefore through Council committing to work toward the LWRP targets, along with other agreed targets as appropriate, I consider the Application to be consistent with the NPSFM.

182. For completeness I have provided a brief assessment of the Application against the relevant amended policies of the LWRP in response to the NPSFM. Under section 55 of the RMA, in accordance with the direction within the NPSFM, Environment Canterbury have amended Policy 4.8A of the LWRP to align with Policy A4 of the NPSFM, as follows²:

1. *“When considering any application for a discharge the consent authority must have regard to the following matters:*
 - a. *the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and*
 - b. *the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.*
2. *When considering any application for a discharge the consent authority must have regard to the following matters:*
 - a. *the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their contact with fresh water; and*

² National Policy Statement for Freshwater Management 2014 amendments

b. the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge would be avoided.”

183. Evidence provided by **Dr Margetts** discusses the extent to which the proposed mitigation methods (through SMPs, the C-CLM, other actions and investigations, and responses to monitoring) would avoid contamination that will have an adverse effect on the life-supporting capacity of freshwater and the health of people and communities through their contact with freshwater. She also discusses the continued improvement of stormwater quality over time through the implementation of the consent, which I consider is consistent with Policy 4.8A. The **Officer’s Report** [paragraph 819] also considers that the Application is generally consistent with this policy.
184. The **Officer’s Report** [paragraph 690] considers that the Application does not currently meet Policy CA2, which requires regional councils to develop freshwater objectives in discussion with communities including tāngata whenua. This is due to Environment Canterbury having not yet set all specific sub-regional outcomes and limits in accordance with the National Objectives Framework, including those for the Christchurch West Melton sub-region. Environment Canterbury has a Progressive Implementation Programme, provided for through the NPSFM, and I understand that the Christchurch West Melton sub-regional section provisions are intended to be notified in 2022. I do not consider that Environment Canterbury’s timeframes for this work is implicit in the level of consistency of this Application with Policy CA2. I also consider that through the proposed consent conditions the Council will be required to have regard to sub-regional section provisions when reviewing SMPs. However, I support the **Officer’s Report** recommendation to add a review condition to the proposed consent conditions to provide for a review within 5 years of the Christchurch West Melton sub-regional section being notified.
185. I consider that the reduction in stormwater contaminant load, the efforts to reduce key stormwater contaminants, and to treat stormwater prior to discharge indicates a commitment by Council for progressive improvement in the quality of stormwater, and this has the potential to reduce adverse water quality effects of stormwater discharges.

New Zealand Coastal Policy Statement

186. The NZCPS 2010 sets out policies to achieve the purpose of the RMA in relation to the coastal environment of New Zealand.

187. The objectives of the NZCPS aim to:

- safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems including maintaining coastal water quality and enhancing it where it has deteriorated from what would otherwise be its natural condition, because of discharges associated with human activity (Objective 1);
- to preserve the natural character and features and landscape values (Objective 2);
- to take account of the principles of the Treaty of Waitangi, recognise the role of tāngata whenua as kaitiaki and provide for tāngata whenua involvement in management of the coastal environment (Objective 3);
- to maintain and enhance public open space qualities and recreation opportunities (Objective 4);
- to ensure that coastal hazard risks are managed, and take into account climate change (Objective 5);
- to enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use and development whilst recognising the values of the coastal environment, and requires recognition that the protection of values of the coastal environment does not preclude the use and development in appropriate places and forms, and within appropriate limits (Objective 6); and
- to ensure that management of the coastal environment recognises and provides for New Zealand's international obligations (Objective 7).

188. The Application specifically aims to manage stormwater discharges as a result of human activity and provide a framework for detention and treatment prior to discharge. It will allow Council to better control the quality and quantity of stormwater being discharged into the stormwater network, and ultimately into the receiving environment. The consent provides the framework under which there is potential to enhance water

quality over time and requires modelling of reductions of stormwater contaminants in the discharge and monitoring to continue to gauge water quality.

189. Policy 1 recognises that the extent and characteristics of the coastal environment vary from locality to locality and the issues that arise may have different effects in different localities. Policy 2 of the NZCPS requires that account is taken of the principles of the Treaty of Waitangi and kaitiakitanga in relation to the coastal environment, including: the cultural relationships that tāngata whenua have with the coastal environment; that iwi authorities be consulted with and involved in the process of regional policy statements and plans, and applications for resource consents; and to take into account relevant iwi resource management plans or other relevant planning documents recognised by the local iwi authority to the extent that its content has a bearing on resource management issues in the district. I consider that the varying characteristics of the coastal environment has been recognised through the Application and the proposed modelling and monitoring will provide a framework under which the stormwater discharge quality is proposed to be improved over time. I consider that cultural values have been taken into account through the Application, and the ongoing engagement with Papatipu Rūnanga through the proposed consent conditions. Consultation included a series of hui to identify key issues, analysis of relevant iwi management plan policies and preparation of CIAs.

190. Policy 4 provides for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment, with particular consideration to be given to situations where:

- subdivision, use, or development and its effects crosses the line of mean high water springs; or
- public use and enjoyment of public space is affected; or
- development or land management practices may be affected by physical changes to the coastal environment including as a result of climate change; or
- land use activities affect water quality in the coastal environment and marine ecosystems through increasing sedimentation; or
- significant adverse cumulative effects are occurring or can be anticipated.

191. This general policy framework for integrated management is also reflected in the NPSFM, the RPS, WRRP, LWRP and the RCEP. The Application provides for the integrated management of stormwater in Christchurch, which ultimately finds its way to the coastal environment. The development of the various SMPs will provide for the detention and treatment of stormwater prior to discharge into waterways, and into the coastal environment. The consent will provide the framework under which there is potential to enhance water quality over time and manage sedimentation. Monitoring is proposed to gauge water quality in the coastal environment over time.
192. Policy 22 requires sedimentation to be assessed and monitored, and for sediment loadings to be reduced in runoff and in stormwater systems through control on land use activities. **Dr Margetts** has discussed potential effects of stormwater discharge on receiving environments. With regard to coastal waters she explains that early indications following a pilot study in 2015 are that levels of total suspended solids are low during both dry and wet weather at the location of stormwater outfall. In addition, the Application includes the requirement to reduce stormwater contaminant loads, including total suspended solids, which includes sediment. I consider that this, along with the ongoing monitoring of coastal waters proposed in the consent demonstrates consistency with Policy 22.
193. Policy 23 requires the management of discharge of contaminants, and Policy 23(4) specifically deals with the discharge of stormwater and requires steps to be taken to avoid adverse effects of stormwater discharge to water in the coastal environment, on a catchment by catchment basis by various means, including:
- avoiding where practicable cross contamination of sewage and stormwater systems;
 - reducing contaminant and sediment loads through treatment and land use controls;
 - promoting integrated management of catchments and stormwater networks; and
 - promoting design options that reduce flows to stormwater systems at source
194. The consent will require the detention, treatment and disposal of stormwater from the Council network prior to its discharge into the receiving environment, which includes

the coastal environment. **Mr Harrington's** evidence describes the separation from the sewage network, and through the SMPs appropriate treatment and detention systems will control flood flows and sediment loads, and provide the potential to improve water quality over time.

195. I note that the submission received from the Director General of Conservation (Department of Conservation (**DOC**)) identifies Policies 3, 6, 7 and 11 as relevant. For completeness I have discussed these policies briefly below.
196. Policy 3 is concerned with a precautionary approach where the effects of an activity on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse. In this case, all effects from the discharge of stormwater on the coastal environment are currently occurring. As described earlier, **Dr Margetts** discussed the pilot study undertaken in 2015 that showed low levels of total suspended solids in both dry and wet weather at the location of stormwater outfall. She considers Council is taking a conservative approach to coastal environment monitoring through the proposed monitoring parameters, for example through the attribute target levels that require no statistical increase in total suspended solids. It is **Dr Margetts'** opinion that more monitoring of the coastal environment is required, as is proposed through the consent conditions and the EMP, and that the effects of the proposed discharge on the existing environment will be minor.
197. Policy 6 deals with activities in the coastal environment and in my opinion is more related to new activities, development and growth in the coastal environment than stormwater discharge into coastal waters. Policy 6 (2) (c) requires recognition of activities that have a functional need to be located in the CMA. The Application does not propose to locate particular structures in the CMA, however there are existing elements of public stormwater infrastructure that have an effect on coastal processes, for example, the outlets from Sumner village which discharge into the sea.
198. Policy 7 sets out the strategic planning required when preparing regional policy statements and plans. The proposal has been applied for under the relevant regional plans that must give effect to the NZCPS under section 67 (3) (b) of the Act.

199. Policy 11 seeks the protection of indigenous biological diversity. This matter is also raised in the submission received from the DOC with regard to the New Zealand Biodiversity Action Plan 2016 - 2020. **Dr Margetts** has discussed the minor adverse effects of the discharge when compared to the existing environment, and considers that through the proposed conditions, particularly the attribute target levels, biodiversity will be protected. To the extent that the reduction in stormwater contaminant loads will lead to an improvement of the quality of stormwater discharged, I consider the Application is generally consistent with the high level goals and targets within the New Zealand Biodiversity Action Plan.
200. The Application specifically aims to manage stormwater discharges as a result of human activity and provide a framework for detention and treatment prior to discharge. In my view it will allow Council to better control the quality and quantity of stormwater being discharged into the coastal environment via the stormwater network. The consent will provide the framework under which there is potential to enhance water quality over time and requires monitoring to gauge ongoing water quality in coastal waters.
201. Based on the expert evidence provided, I consider that the proposal is consistent with the relevant objectives and policies of the NZCPS.

Canterbury Regional Policy Statement

Overview

202. The RPS 2013, with changes becoming operative in 2017, provides an overview of the significant resource management issues facing the region and sets out how natural and physical resources are to be managed in an integrated way with the aim of sustainable management. I consider that the LWRP gives effect to the RPS, but for completeness have provided an assessment of the Application against the relevant chapters (Chapters 2, 4, 5, 7, 8, 17 and 18) below.

Tāngata Whenua

203. Chapter 2: Issues of Resource Management Significance to Ngāi Tahu, and Chapter 4: Provision for Ngāi Tahu and their relationship with resources are relevant to the Application.
204. Chapter 2 provides a list of outcomes desired by Ngāi Tahu, including the recognition of Ngāi Tahu as kaitiaki and to engage with Ngāi Tahu in the spirit and intent of the Treaty and the RMA. This entails the facilitation and engagement at operational and political levels, the implementation of iwi management plans, the use of CIAs as part of AEEs, appointment of Ngāi Tahu commissioners on hearings, and establishment of collaborative and constructive relationships with other stakeholders. With regard to freshwater the outcomes include: to prioritise efficiency of use of water and restoration of riparian areas to improve water resource management; establish sustainable environmental flow regimes that prioritise waterway health; avoid discharges to water and those discharges to land where such discharges will have adverse effects on the mauri of the land; water quality is maintained, and where required, enhanced; and to use mana whenua values monitoring to monitor the health of waterways.
205. Chapter 4 sets out the relationship of Ngāi Tahu with resources, and provides for good working relationships with regional authorities, including again, the appointment of tāngata whenua as commissioners on resource consent hearings, the use of CIAs as part of AEEs, including tāngata whenua on stakeholder committees, and the use of mana whenua values monitoring tools for state of the environment monitoring.
206. **Mr Adamson** and **Mr Harrington** have discussed the relationship between Council and Papatipu Rūnanga, the consultation that Council has carried out with Mahaanui and local rūnanga over many years, and the agreement reached regarding mana whenua attribute target levels within the consent conditions, a reduced duration of consent, and the non-opposition of Papatipu Rūnanga to this Application.
207. CIAs have been completed for the South West, Pūharakekenui/Styx, Huritini/Halswell, Ōpāwaho/Heathcote and Ōtākaro/Avon catchments, which advise that the Council's approach to provide for the discharge of stormwater under one comprehensive resource consent, is seen as an appropriate way to improve consistency in the

management of stormwater across the city, and provide more certainty for the wider community in the way that stormwater, and any associated issues, will be managed. CIAs have not been prepared for those catchments where the SMPs have not yet been completed. However, in my view the absence of CIAs for those catchments does not equate to a lack of consistency with the RPS. I believe that there is general consistency with these parts of the RPS, for reasons set out below.

208. The waterway receiving environment objectives and attribute target levels prioritise the sustainable management of the water resource and provide a workable framework for enhancing water quality (including coastal waters) and in-stream health over time. **Mr Harrington** and **Dr Margetts** have described the working relationship with Papatipu Rūnanga and the intention to develop mana whenua attribute target levels into the monitoring framework for the consent.
209. Conditions are proposed by Council to provide for consultation with Papatipu Rūnanga in the development and updates to SMPs (**Conditions 4 and 7**), and in the development of implementation plans and receiving environment objectives and attribute target levels for the enhancement of mana whenua freshwater values within the EMP (**Condition 15**). In my view the proposal is consistent with the objectives and policies of Chapters 2 and 4.

Land Use and Infrastructure

210. Chapter 5 deals with land use and infrastructure and Objective 5.2.1 sets out guidelines for development in the region. Of particular relevance in supporting this objective are Policies 5.3.5 and 5.3.6. Policy 5.3.5 requires that developments are appropriately serviced for sewage and stormwater disposal, and requiring these services to be designed, built, managed or upgraded to maximise on-going effectiveness. Policy 5.3.6 seeks to avoid development that constrains the on-going ability of existing infrastructure (including stormwater) to be developed and used, and to enable the development and use of stormwater infrastructure provided adverse effects can be avoided, mitigated or appropriately controlled.
211. The **Officer's Report** does not specifically address Chapter 5 of the RPS. Based on the evidence of Council witnesses regarding the approach to stormwater servicing of

new and existing development areas, in my view the proposal is consistent with the objectives and policies of Chapter 5.

Freshwater

212. Chapter 7 deals with water quantity and quality issues. Objective 7.2.1 promotes the sustainable management of freshwater to enable people and communities to provide for their economic and social wellbeing provided that:

- The life supporting capacity/mauri of the water is safe-guarded
- Natural character values are preserved
- Requirements for community and stockwater supplies and customary uses are provided for

213. Objective 7.2.4 promotes the integrated management of freshwater resources within and across catchments.

- In terms of water quantity Policy 7.3.5(1) seeks to avoid, remedy or mitigate adverse effects of land uses on the flow of water in surface water bodies by controlling the diversion of rainfall run-off over land, and change in land uses, site coverage or land drainage patterns that will adversely affect the quantity or rate of water flowing into surface water bodies.
- Policy 7.3.6 deals with freshwater quality and requires minimum water quality standards for surface water resources considering: the values associated with maintaining the life supporting capacity of the water body; any current and reasonably foreseeable requirement to use the water for drinking water or stockwater, customary uses or contact recreation; the cultural significance of the water body; and any other current or reasonably foreseeable values or uses.
- Policy 7.3.9 requires integrated solutions to freshwater management.

214. Policy 7.3.11 recognises and provides activities which involve substantial investment in infrastructure but requires reductions in adverse environmental effects of the activities, where appropriate. Policy 7.3.13 promotes the resolution of freshwater management issues through the involvement of people and communities, including tāngata whenua as kaitiaki, in the management of freshwater. This includes providing

opportunities for consent holders to take greater stewardship of freshwater resources through consent conditions. One method given for achieving this is through consent conditions which provide for self-monitoring, auditing and reporting within the set of environmental thresholds.

215. The submission from DOC also raises the Conservation Act 1987 with regard to disturbance or damage to freshwater fish spawning sites which may include new stormwater infrastructure and/or the retrofitting of existing infrastructure.
216. **Mr Harrington** and **Mr Norton** have discussed stormwater facilities and devices. Any proposal to locate new infrastructure in freshwater would require consideration under Rules 5.135 to 5.141B of the LWRP and may require separate resource consent. The substantial investment in stormwater infrastructure has been discussed by **Mr Adamson**, **Mr Norton** and **Mr Harris**. The proposed consent conditions require reductions in stormwater contaminants discharged into Council's network, consistent with Policy 7.3.11. In terms of DOC's submission point regarding fish passage, I consider that this is also a matter that will be relevant if and when Council proposes to locate infrastructure within waterways, at which time the effects of that will need to be appropriately addressed.
217. In my opinion the consent promotes integrated management of the freshwater resource through the proposed treatment of stormwater and the ongoing requirement to improve stormwater discharge quality over time. This is achieved through many processes, including advocacy and education programmes to provide better source control of stormwater contaminants, installation of additional treatment facilities, and investigations to better understand the correlation between discharges from stormwater networks and waterway ecological health.
218. **Mr Harrington** and **Mr Parsons** have discussed the water quantity, land drainage and flow controls within the Application. **Dr Margetts** has discussed the water quality effects, and the maintenance and improvement to the freshwater resource expected over time through implementation of the consent. The intent is to manage flooding and other water quantity effects and reduce the stormwater contaminant load (thereby improving the quality of the stormwater discharge) to maintain and enhance water

quality while seeking to meet the water quality standards of the LWRP. I consider this to be consistent with Policies 7.3.5 and 7.3.6.

219. I consider the approach set out in the proposed conditions, where Council engage with Papatipu Rūnanga (as well as community boards and the zone committee), self-monitor, audit and report within set environmental targets is consistent with Policy 7.3.13.

Coastal Environment

220. Chapter 8 includes objectives that discuss matters such as: increasing knowledge of the coastal environment (Objective 8.2.1); the preservation, protection and enhancement of the coastal environment (Objective 8.2.4); providing for appropriate use and development (Objective 8.2.2); protecting regionally significant infrastructure and maritime facilities (Objective 8.2.3); providing for access (Objective 8.2.5); and, the protection and improvement of coastal water (Objective 8.2.6). Of relevance to the discharge of stormwater is Policy 8.3.7 – Improve water quality in degraded areas, and Policy 8.3.8 – Discharge of contaminants to coastal water that is in a natural state.
221. Policy 8.3.7 seeks to improve the quality of Canterbury's coastal waters in areas where degraded water quality has significant adverse effects on natural, cultural, amenity and recreational values. Policy 8.3.8 seeks to manage discharges of contaminants into the CMA to maintain coastal water quality that is currently in its natural state. To implement these policies, the RPS identifies methods that include the setting of water quality standards for coastal water and managing land-use and surface water quality where it directly or indirectly affects coastal water, and to engage with Ngāi Tahu as tāngata whenua to achieve this.
222. The Application covers the discharge of stormwater into the coastal environment from existing land use and development and provides a framework under which the ongoing monitoring and review of the effects of the discharges will be undertaken. In my view this will contribute knowledge and information in accordance with Objective 8.2.1. Water quality standards are set under the proposed consent conditions, whereby over time it is expected that through an improvement in the quality of stormwater discharged, any existing effects on coastal water quality as a result of stormwater will

be better managed. Engagement with Ngāi Tahu as tāngata whenua is proposed to continue through proposed consent conditions.

Contaminated Land

223. Chapter 17 deals with the management of contaminated land, and Objective 17.2.1 seeks the protection of people and the environment from the adverse effects of contaminated land. Policy 17.3.2 requires that where a new subdivision, use or development is proposed on potentially contaminated land, or where there is a discharge of a contaminant from that land, a site investigation is to be undertaken, and if contamination is found, then measures are to be taken to avoid, remedy or mitigate against further significant adverse effects.
224. I consider that these provisions reflect the NES requirements in respect of the risk to human health and are part of a necessary process for dealing with contaminated land, a process that will not be altered as a result of this Application. The policies also require the adverse effects of (in this case) stormwater run-off from contaminated land to be managed to avoid, remedy or mitigate potential adverse effects on the receiving environment.
225. Policy 17.3.4 is to promote an integrated approach to the management of contaminated land and determines that this will be achieved as a result of regional and territorial authorities working together to identify and consolidate information on contaminated land. Council intends to take responsibility for the discharge of stormwater from sites considered 'high risk' that discharge to the Council network (by definition, including into the receiving waterways). This is being done to accord with Policy 4.16A of the LWRP, and I discuss that policy in more detail later in my evidence.
226. The transition of the management of sites is scheduled to occur through the LWRP and proposed conditions on this consent (from resource consents permitting discharge issued by Environment Canterbury, to permission to discharge into the network issued by Council). I believe it is crucial for Environment Canterbury and Council to work together, and this is reflected in the proposed condition that deals with the transition of responsibility under Policy 4.16A (**Condition 3**). The auditing of

industrial sites as part of the proposed conditions of consent and as discussed by **Ms Valigore** will, in my view, also assist with this process.

Hazardous Substances

227. Chapter 18 identifies the issue of adverse effects from hazardous substances. Objective 18.2.1 and Policy 18.3.2 are to avoid, remedy or mitigate adverse effects on the environment from the storage, use, disposal and transportation of hazardous substances.
228. Consent is sought for existing stormwater entering the Council network, which already includes existing activities from some industrial sites. The matter of 'high risk' sites has been discussed by **Mr Norton**, as well as the matter of Council taking responsibility for additional 'high risk' sites post-2025 in accordance with LWRP Policy 4.16A. The modelling of predicted reductions in stormwater contaminants discharged, including ongoing improvement in the quality of stormwater over time takes account of these discharges as currently consented. A condition has been proposed to manage the transition of currently excluded sites to the responsibility of Council under the consent, but the same remains true. Discharges from industrial sites are taken account of through relevant stormwater contaminants modelled by the C-CLM and through the monitoring of the receiving environment.
229. Policy 18.3.3 promotes an integrated approach to hazardous substance management within the region. It is the intention of Council to work closely with Environment Canterbury to provide for the necessary audit and information requirements as discussed by **Ms Valigore**. It is also the Council's intent to continue to work closely in the transition of stormwater from sites currently administered through Environment Canterbury consents over to Council management through this consent. This process is described in proposed **Condition 41** which ensures that the control of stormwater discharges from those sites must be managed to the same extent, or better than currently managed under Environment Canterbury resource consents for stormwater discharge.
230. In my opinion the proposal is consistent with the objectives and policies of the RPS.

Canterbury Land and Water Regional Plan

231. The purpose of the LWRP is to provide direction on the management of land and water in order to meet community aspirations for water quality in both urban and rural areas.
232. Section 3 contains a number of objectives to address six key issues including the competing demands for water in Canterbury, the need for integrated and consistent management of water and land uses, issues arising from interconnected water and land resources, natural hazards, and managing new and existing activities. The objectives in Section 3 and Policies 4.1 – 4.6 form the ‘freshwater objectives’ as described by the NPSFM, including the newly amended Policies 4.8A to align with Policy A4 of the NPSFM 2017.
233. Section 4 of the LWRP sets out strategic policies that implement the Objectives in Section 3 and are to be read in their entirety and considered together. Strategic Policy 4.1 relates to lakes, rivers, wetlands and aquifers meeting the freshwater outcomes set in the sub-regional sections of the LWRP within the specified timeframes. If outcomes have not been established for a catchment, as is the case within the Christchurch-West Melton Zone, then each type of lake, river or aquifer should meet the outcomes set out in Table 1 by 2030. I agree with the **Officer’s Report** [paragraph 805] that Council is working towards meeting freshwater outcomes. The consistency with Policy 4.1 may be limited given that the outcomes of Table 1a are not expected to be met by 2030, however, I understand from **Dr Margetts** that Table 1a relates to many parameters that are not always contributable to stormwater, or solely stormwater. This is why the receiving environment objectives and attribute target levels have been developed as the appropriate parameters against which to assess compliance of the proposed consent.
234. Section 9 is the Christchurch-West Melton sub-regional chapter, and in terms of freshwater outcomes Section 9.3 refers to objectives in Section 3 and Policies 4.1, 4.2, 4.3 and 4.4. In addition to the objectives, and the strategic policies, the relevant policies regarding stormwater within Chapter 9 are Policies 9.4.9, and 9.4.10, as follows:

Policy 9.4.9

“To accommodate geological alterations to the land and its relationship with surface water bodies within Christchurch City, resulting from the recent seismic events, and to prevent any increase in inundation of land in the lower catchments, the discharge to surface water of any stormwater in the Avon/Otakaro or Heathcote catchments that is not within an area covered by a consented stormwater management plan will require specific evaluation, including of downstream flooding potential, through a resource consent process.”

Policy 9.4.10

“To prevent any increase in inundation of land in the Halswell River/Huritini Catchment, the discharge to surface water of any stormwater or drainage water in the Halswell River/Huritini Catchment that is not within an area covered by a consented stormwater management plan will require specific evaluation to ensure hydraulic neutrality through a resource consent process.”

235. **Mr Harrington** and **Mr Parsons** have addressed the issues around flooding effects and drainage due to the discharge of stormwater throughout Christchurch, and **Mr Harrington** has discussed issues arising, and proposed works to prevent an increase in inundation, in light of the Canterbury earthquakes. The Huritini/Halswell and Ōtākaro/Avon SMPs have been completed as part of this and previous resource consenting processes and include options around flooding and inundation of land. In my view the Application is consistent with Policies 9.4.9 and 9.4.10.
236. Turning back to the strategic policies, Policy 4.2 requires the management of lakes, rivers and aquifers to take account of freshwater outcomes, water quality limits and the individual and cumulative effects of land uses, discharges and abstractions to meet the water quality limits set in the sub-regional sections or Schedule 8. The Te Pātaka o Pākahautū/Banks Peninsula sub-regional section does include freshwater outcomes, however there are no direct discharges of stormwater into Wairewa/Lake Forsyth. The Christchurch-West Melton sub-regional section sets environmental flow and allocation limits but does not set specific water quality limits or freshwater outcomes. Schedule 8 therefore applies.

237. Policy 4.7 requires that resource consents for new or existing activities will not be granted if the granting would cause a water quality or quantity limit to be breached (in this case the limits in Schedule 8). However, replacement consents, or new consents for existing activities may be granted to:

“a) allow the continuation of existing activities at the same or lesser rate or scale, provided the consent contains conditions that contribute to the phasing out of the over allocation (water quality and/or water quantity) within a specified timeframe; or

b) exceed the allocation limit (water quality and/or water quantity) to a minor extent and in the short-term if that exceedance is part of a proposal to phase out the over-allocation within a specified timeframe included in Section 6 to 15 of this Plan.”

238. This Application is for consent for the existing and future discharge of stormwater. Consent conditions are proposed to bind the consent holder to the improvement of stormwater quality over time, and to mitigate the effects of the discharge of stormwater on water quantity.

239. **Mr Adamson, Ms Beaumont and Mr Harrington** have discussed the approach that Council is taking to the management of waterways. **Dr Margetts** has discussed the existing receiving environment and the objectives and attribute target levels against which the consent will be monitored. She, along with **Mr Cantrell**, also consider inputs to the receiving environment other than stormwater, with discussion around the difficulty of managing the outcomes within the receiving environment when the consent holder does not control all inputs. The Application proposes to reduce the stormwater contaminant load, and through the C-CLM take account of the effects of land use prior to discharge of stormwater via treatment systems. Therefore, I consider that the Application is generally consistent with Policies 4.2 and 4.7.

240. Policy 4.3 requires that surface water bodies are managed so that various effects do not occur, such as: rendering water bodies unsuitable for recreation or human or animal drinking-water; fish rendered unsuitable for human consumption; natural colour of water, or natural frequency of hāpua, coastal lakes, lagoons and river openings is

not altered; passage for migratory fish species is maintained; reaches of rivers are not induced to run dry, and variability of flow, including floods and freshes is maintained; and the exercise of customary uses and values is supported. Policy 4.4 deals with the management of groundwater requiring that overall water quality in aquifers does not decline.

241. Policy 4.5 sets a first and second priority for the management of water, as follows:

“Water is managed through the setting of limits to safeguard the life-supporting capacity of ecosystems, support customary uses, and provide for community drinking-water supplies and stock water, as a first priority and to meet the needs of people and communities for water for irrigation, hydro-electricity generation and other economic activities and to maintain river flows and lake levels needed for recreational activities, as a second priority.”

242. **Dr Margetts** and **Mr Callander** have discussed the effects on the existing receiving environment through the continued discharge of stormwater, with regard to surface water and groundwater respectively, and both consider that adverse effects will be minor based on the current state of the receiving environment. Based on their evidence and conclusions I consider that the life-supporting capacity of ecosystems and the provision of community drinking-water supplies and stock water, as well as the continued support for customary uses will be effectively managed by improving the quality of stormwater discharges over time, whilst also meeting the ongoing needs of people and communities to use water for economic and recreational activities. I consider that the Application is generally consistent with Policies 4.3, 4.4 and 4.5, due to the evidence discussed above, along with the management and mitigation of stormwater discharges through the proposed conditions.

243. Policies 4.8A and 4.8B have been discussed earlier in terms of the recent amendments to the NPSFM.

244. The **Officer’s Report** [paragraph 875 – 878] discusses the relevance of LWRP Plan Change 5 (PC5) Policy 4.11 in the context of the duration that should be assigned to this consent. Policy 4.11 of PC5 reads as follows:

“The setting and attainment of catchment specific water quality and quantity outcomes and limits is enabled through:

- (a) limiting the duration of any resource consent granted under the region-wide rules in this Plan to a period not exceeding five years past the expected notification date (as set out in the Council's Progressive Implementation Programme) of any plan change that will introduce water quality or water quantity provisions into Sections 6 – 15 of this Plan; but*
- (b) allowing, where appropriate, a longer resource consent duration for discharge permits granted to irrigation schemes or principal water suppliers under the region-wide nutrient management rules in this Plan, provided those permits include conditions that restrict the nitrogen loss from the land and enable a review of the consent under section 128(1) of the RMA.”*

245. PC5 Policy 4.11 seeks to provide Environment Canterbury with the ability to limit the duration of resource consents in situations where a sub-regional section of the LWRP has not yet been notified. This is the case for the Christchurch-West Melton Zone. I acknowledge the **Officer's Report** [paragraph 1019] highlights the significant investment of time and money spent by Council on this Application to date. I agree, and this is one of the reasons why I consider a short term resource consent duration would not represent an efficient use of rate payers' money if it is spent on repeating a resource consent process that has only recently been completed.

246. I note that the **Officer's Report** focusses on subsection (a) of Policy 4.11, whereas I consider that Policy 4.11 (a) and (b) need to be read together. Subsection (a) refers to water quality or water quantity provisions of a sub-regional section, and subsection (b) focusses on water allocation and nutrient management, rather than discharges of stormwater. In my view this make sense given that PC5 is primarily concerned with managing the diffuse loss of nutrients from farming activities. Policy 4.11(b) specifically provides for longer duration discharge permits to be granted to irrigation schemes or principal water suppliers. I consider that with regard to the ongoing management of the discharge of stormwater from an existing reticulated network, Council should be treated in a manner similar to principal water suppliers under PC5

Policy 4.11. In my view this Application can be considered as a situation where a longer resource consent duration is appropriate, and where a review of the consent is provided for in the proposed consent conditions under section 128 of the RMA (**Condition 55**). Further I recommend that a reporting item be added to **Condition 53** that requires reporting on the alignment of consent outcomes with Christchurch West Melton sub-regional section development.

247. **Ms Beaumont** has described the way in which Council are working with the Christchurch-West Melton Zone Committee in developing the sub-regional section of the LWRP. Also, it is **Mr Harrington's** opinion that the monitoring and science involved in the investigations for this Application will be relied upon for the sub-regional planning process. It is important to note that it is not unusual for plans to change where the change might affect an activity for which resource consent has already been issued. Further, if as a result of the notified Christchurch-West Melton sub-regional policies and rules, it is determined that changes to SMPs or to the conditions of this consent are required, section 128 of the RMA and also proposed **Condition 55** of the consent provide for Environment Canterbury to review the consent conditions if appropriate.
248. I consider that the concerns raised by the **Officer's Report** [paragraph 1021] regarding uncertainties around the C-CLM, and the management of 'high risk' sites post-2025, have been adequately considered and provided for in the evidence, along with proposed consent **Condition 3** with regard to management of sites post-2025.
249. Policies 4.15 to 4.17 are specific to discharges from stormwater and community wastewater systems. Policy 4.15 requires that in urban areas, the adverse effects on water quality, aquatic ecosystems, existing uses and values of water and public health from the cumulative effects of discharges, including stormwater discharges, are avoided by stormwater being discharged to land or into a reticulated system, and being discharged in accordance with a stormwater management plan where one has been consented. Policy 4.16 is a key policy with regard to the discharge of stormwater from a reticulated system and reads as follows:

“Any reticulated stormwater system for any urban area is managed in accordance with a stormwater management plan that addresses the following matters:

- (a) the management of all discharges of stormwater into the stormwater system; and*
- (b) for any reticulated stormwater system established after 11 August 2012, including any extension to any existing reticulated stormwater system, the discharge of stormwater being subject to a land-based or designed treatment system, or wetland treatment prior to any discharge to a lake or river; and*
- (c) how any discharge of stormwater, treated or untreated, into water or onto land where it may enter water meets or will meet, the water quality outcomes and standards and limits for that waterbody set out in Table 1, Schedules 5 and 8 and Sections 6 to 15, (whichever applies); and*
- (d) The management of the discharge of stormwater from sites involving the use, storage or disposal of hazardous substances, and*
- (e) Where the discharge is from an existing local authority network, demonstration of a commitment to progressively improve the quality of the discharge to meet condition (c) as soon as practicable but no later than 2025.”*

250. **Dr Margetts** has considered the existing receiving environment, and the minor adverse effects of the discharge of stormwater from the Council’s network through the mitigation and monitoring proposed. **Mr Harrington** and **Mr Van Neuwkerk** have described the modelling proposed to measure the reduction of stormwater contaminants being discharged, and **Condition 16** requires Council to achieve specific reductions over the term of the consent. This is intended to achieve an improvement in the quality of stormwater discharged, thereby reducing the potential for additional cumulative effects of the continued discharge of stormwater. Based on that evidence, I consider that adverse effects on water quality, aquatic ecosystems, and existing uses and values will be reduced over time.

251. The discharge of stormwater under this consent will be carried out in accordance with SMPs. Two SMPs are already consented, those for the Pūharakekenui/Styx and Huritini/Halswell catchments (the Huritini/Halswell SMP is a portion of the consented

South West stormwater discharge permit). The SMP for the Ōtākaro/Avon catchment is completed and has been submitted to Environment Canterbury. The Ōpāwaho/Heathcote SMP is in draft form. The remaining SMPs are in the process of being prepared and stormwater will be managed in accordance with them once completed. The proposed consent conditions set out the matters to be addressed in the SMPs, including those matters set out in Policy 4.16.

252. The **Officer's Report** considers that there is not full consistency with subsections (c) and (e) of Policy 4.16. Subsection (c) requires a stormwater management plan to address how the discharge of stormwater will meet water quality outcomes, and subsection (e) requires a stormwater management plan to demonstrate a commitment to progressively improve the quality of the discharge to meet condition (c) as soon as practicable but not later than 2025.
253. In terms of Policy 4.16 (c) **Dr Margetts** has described the receiving environment objectives and attribute target levels against which the consent will be measured, and how these align with the LWRP water quality outcomes and standards, wherever appropriate. She discusses where parameters are used that do not align with standards in the LWRP, RCEP or WRRP, and explains the rationale behind these choices, which have been discussed and reviewed with her technical counterparts at Environment Canterbury. The SMPs are required to address how the discharge will meet the water quality outcomes, standards and limits. Although the water quality outcomes of Table 1 in Schedule 8 will not be met by 2030 (as required by LWRP Policy 4.1), the SMPs will address compliance with the conditions of the consent (**Condition 6(d)**) (which includes the receiving environment objectives and attribute target levels), and so I consider there is some consistency with Policy 4.16 (c).
254. In terms of Policy 4.16(e) the proposed discharge is from an existing local authority network. The evidence presented has described the Council's commitment to progressively improve the quality of the stormwater discharge over time, through amongst other things:
- modelling the reductions in stormwater contaminants;
 - ongoing monitoring of the receiving environment;

- measures promoted for source control of contaminants that end up in stormwater;
- additional investigations to support an understanding of causes and effects in regard to stormwater contaminants in the receiving environment;
- responses to the results of modelling and monitoring;
- consultation, reporting and feedback on all of the above.

255. I note the **Officer's Report** [paragraph 838] interpretation of Policy 4.16 (e) is for Council to demonstrate its commitment by 2025. In my opinion Council has, through the evidence presented, demonstrated a commitment to improve the quality of the discharge over time, and this commitment has occurred prior to 2025. Clarification has been provided on the matters of the C-CLM and the management of 'high risk' sites post-2025. I consider that the Application is generally consistent with Policies 4.15 and 4.16.

256. Policy 4.16A requires that operators of reticulated stormwater systems implement methods to manage the quantity and quality of all stormwater directed to and conveyed by the reticulated stormwater system, and from 1 January 2025 network operators account for and are responsible for the quality and quantity of all stormwater discharged from that reticulated stormwater system. It is in response to this policy that Council have proposed amendments to **Condition 3** to acknowledge the changing scope of the consent from 1 January 2025, and consequently the inclusion in the consent of sites that were otherwise excluded through Schedule 1 to be attached to the consent.

257. A concern is raised in the **Officer's Report** [paragraph 844], and within some of the submissions³ as to how the transition will be managed between Environment Canterbury and Council as the responsibility for consents for previously excluded sites shifts from Environment Canterbury to Council, and how stormwater discharges from those sites will continue to be managed without increasing the potential for adverse effects on the environment. **Mr Norton** has addressed this matter in his evidence,

³ Oil Companies, Ravensdown, Avon Heathcote Estuary/Ihutai Trust, Southshore Residents Association Inc, Avon Ōtākaro Network, Ōpāwaho Heathcote River Network, DOC, Katherine Snook

and an amended consent **Condition 3** is proposed that sets out the requirements for the strategy that Council must provide for taking over the responsibility for those sites.

258. The **Officer's Report** [paragraph 845] discusses the potential need for Council to have the ability to continue to exclude some 'high risk' sites in certain circumstances. I have already discussed my opinion that although this doesn't seem to reflect the intent of Policy 4.16A, I agree that it may be beneficial, and this can be agreed between Council and Environment Canterbury through the process described in **Condition 3**.
259. I consider that the inclusion of 'high risk' sites within the bounds of the consent, along with the industrial site auditing that has been discussed by **Ms Valigore** is appropriate. It accords with Policy 4.16A of the LWRP and takes account of all applicable stormwater discharges that already occur across the city. A process has been put forward in the proposed conditions to manage the transfer of 'high risk' sites from the control of Environment Canterbury through individual resource consents, to Council through administration of this consent. As discussed earlier, I consider it is important to the smooth operation of this comprehensive consent that the transition under Policy 4.16A is appropriately managed in order to avoid any adverse effect on the environment.
260. Policy 4.17 requires that stormwater run-off volumes and peak flows are managed so that they do not cause or exacerbate the risk of inundation, erosion or damage to property or infrastructure downstream or risks to human safety. Potential water quantity, flooding and drainage effects have been covered by **Mr Harrington** and **Mr Parsons** describing how these effects have changed over time taking into account matters such as sea level rise, the Canterbury earthquake sequence, and how Council continues to manage these effects.
261. Policy 4.18 requires avoidance or minimisation of the discharge to water of sediment or sediment-laden water and other contaminants from earthworks, land development or construction. The **Officer's Report** [paragraph 852] questions the Council process with regard to Erosion and Sediment Control and recommends amendments to the proposed conditions in order to consider the Application as consistent. **Mr Tipper** describes the Council's Erosion and Sediment Control processes and requirements.

Amendments to the proposed conditions (**Condition 3**) are proposed to ensure an ongoing robust process is in place to minimise the potential for adverse effects both pre and post-2025.

262. Policy 4.23 deals with protecting sources of drinking water from any discharge of contaminants. **Mr Callander** has discussed the potential effects on community drinking water supply sources of the continued discharge of stormwater from Council's network and conditions are proposed to ensure appropriate separation is maintained between stormwater infiltration facilities and community and domestic drinking water supply wells (**Condition 30**).
263. Policies 4.24 to 4.26 deal with hazardous substances and hazardous activities. The proposal does not include the specific discharge of hazardous substances. However, **Ms Valigore** has described the process of auditing of industrial sites being carried out by Council, which includes sites that operate potentially hazardous activities. **Mr Norton** has set out the process for Council management of sites under this consent that are currently managed under Environment Canterbury resource consents, and this is set out in proposed **Condition 3**.
264. Policies 4.81 and 4.84 relate to wetlands and riparian margins, and require that discharges do not adversely affect the significant values of wetland, hāpua, coastal lakes and lagoons (Policy 4.81), and that wetlands and riparian planting is developed as part of land drainage and stormwater discharge systems to reduce effects on water quality and to enhance amenity (Policy 4.84). Policy 4.92A enables catchment restoration activities that protect springheads, establish or enhance riparian margins, create restore or enhance wetlands, and remove nuisance macrophytes and fine sediment from waterways. Given that the Application proposes to improve stormwater discharge quality over time, and based on the evidence from **Dr Margetts** on the potential effects on the existing environment, I consider that the Application will not adversely affect the significant values of wetland, hāpua, coastal lakes and lagoons. **Ms Beaumont** has described Council's Integrated Water Strategy whereby the importance of water to the life of the community of Ōtautahi/Christchurch is recognised, and this includes improving water quality and waterway health. She also discusses the public planting days and the education resource facilities to be used at

public, community and school events as part of the draft Integrated Water Strategy. I consider the Application is consistent with Policies 4.81, 4.84 and 4.92A.

265. The Application and proposed consent conditions require modelling, monitoring and reporting to demonstrate Council's commitment to progressively improve the quality of stormwater discharge. The proposed conditions require responses to modelling and monitoring that represents adaptive management and will ensure that adverse effects arising from the discharge of stormwater will be appropriately mitigated. In my view this Application provides for the comprehensive management of stormwater discharge from the Council's stormwater network and is generally consistent with the objectives and policies of the LWRP.

Waimakariri River Regional Plan

266. The WRRP promotes the sustainable management of rivers, lakes and hydraulically connected groundwater, and river and lake beds in the Waimakariri River catchment; to maintain and enhance the environment, and to achieve integrated management of resources. As discussed earlier, the water quantity provisions of the WRRP are relevant to the Pūharakekenui/Styx and Ōtukaikino catchments, with the water quality provisions relevant to the Ōtukaikino catchment alone.
267. Water quantity matters are covered in Objective 5.1, enabling present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River Catchment, while safeguarding and protecting a number of other matters such as, drinking water, life-supporting capacity of the water, mahinga kai and wāhi tapu, natural character and amenity values. Policy 5.1 of the WRRP seeks to set and maintain water flow, water level and water allocation regimes and control the taking, use, diversion, discharge and damming of surface water, and the taking of water from hydraulically connected groundwater. This is to ensure the protection of the braided character of the Waimakariri River, the ecosystems and amenity that it supports, as well as the aquatic ecosystems and habitats, wetlands and amenity based on the Ōtukaikino Creek, and Pūharakekenui/Styx River systems.

268. **Mr Harrington** has discussed the discharges within the Ōtukaikino catchment and has confirmed that the braided character of the Waimakariri River will not be affected by stormwater discharges in the Pūharakekenui/Styx and Ōtukaikino catchments. **Dr Margetts** and **Mr Callander** have discussed the potential adverse effects on surface water and groundwater quality respectively. Based on that evidence I consider that the proposal is consistent with the relevant sections of Objective 5.1 and Policy 5.1, in that the activity will protect the braided character of the Waimakariri River, and in turn the aquatic ecosystems and habitats, amenity and groundwater recharge.
269. Turning to water quality matters, Objective 6.1 aims to enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River catchment while safeguarding their existing value, life-supporting capacity, value for mahinga kai, protection of wahi tapu, preserving natural character maintaining and enhancing amenity values. Policy 6.1 seeks to set and maintain water quality standards for, and control discharge of contaminants into surface water bodies in accordance with the standards and terms of the classes shown on Figure 6. In this case it is the WAIM-TRIB and OUT/GROYNES classes that are relevant.
270. With regard to water quality, Objective 6.1 and Policy 6.1 give directions that include to:
- protect the natural state of the water in lakes and rivers upstream of the confluence of the Waimakariri with the Ōtukaikino Creek;
 - ensure water quality is suitable for drinking water for animals, contact recreation, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water or cultural values in the mainstem of the Waimakariri River downstream of the confluence with the Ōtukaikino Creek;
 - ensure water quality is suitable for drinking water for animals, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water, in Ōtukaikino Creek downstream of the Groynes picnic area;

- ensure that in the Ōtukaikino Creek and its tributaries at, and upstream of, the Groynes picnic area: water quality is suitable for drinking water for animals, fisheries, fish spawning, and aquatic ecosystems; the natural water quality with respect to organisms of public health significance is maintained; and water quality is suitable aesthetically and visually for contact, and other forms of recreation.

271. **Dr Margetts** has addressed the water quality standards that the activity is to be measured against, and how the attribute target levels differ from the WRRP standards but are appropriate for the measurement of stormwater discharge. In my view the parameters to be used to monitor water quality in the Ōtukaikino catchment have been demonstrated by **Dr Margetts** to be sufficient to achieve consistency with the relevant water quality objectives and policies of the WRRP.

Canterbury Regional Coastal Environment Plan

272. The purpose of the RCEP is to promote the sustainable management of the natural and physical resources of the CMA and the coastal environment and to promote the integrated management of that environment. It sets out issues relating to the protection and enhancement of the coast, water quality, controls on activities and structures, and coastal hazards.

273. Objective 7.1 aims to enable present and future generations to gain cultural, social, recreation, economic, health and other benefits from the quality of the water in the CMA, while:

- “(a) *Maintaining the overall existing high natural water quality.*
- (b) *Safeguarding the life-supporting capacity of the water.*
- (c) *Safeguarding, and where appropriate, enhancing its value for providing mahinga kai for Tangata Whenua;*
- (d) *Protecting wahi tapu and wahi taonga of value to Tangata Whenua.*
- (e) *Preserving natural character and protecting outstanding natural features and landscapes.*
- (f) *Maintaining, and where appropriate enhancing, amenity values.*

(g) *Recognising the intrinsic values of ecosystems and the finite characteristics of the coastal environment.”*

274. Policy 7.1 requires that in areas of the CMA where water quality classes have not been established the granting of a resource consent to discharge shall not unreasonably restrict existing lawful uses of the coastal water, or have any more than a minor adverse effect on the quality of water existing prior to the granting of resource consent. Although there are areas where water quality classes have not been established, I agree with the **Officer’s Report** [paragraph 888] that given the proposal to at least maintain existing coastal water quality, with over all improvements in the quality of stormwater discharged, the proposal is consistent with Policy 7.1.
275. Policy 7.2 seeks to establish water quality classes, set water quality standards and control the discharge of contaminants and water with regard to various water quality areas, and the uses for which they are to be managed such as: the maintenance of aquatic ecosystems; contact recreation; and shellfish gathering.
276. Policy 7.4 requires that before being granted a resource consent for a point source discharge in circumstances where the discharge, after reasonable mixing, would not achieve the water classification purposes for the water quality standards set in the RCEP, the applicant must satisfy Environment Canterbury that:
- exceptional circumstances justify the granting of the consent; or
 - the discharge is of a temporary nature; or
 - the discharge is associated with necessary maintenance work; or
 - practicable alternatives to avoid such discharges are not available.
277. **Dr Margetts** has described the attribute target levels proposed against which water quality will be monitored and has explained why these are appropriate in the context of this Application to authorise the City’s stormwater discharge. I agree with the **Officer’s Report** [paragraph 892] that the proposal is likely to be consistent with the policy. I acknowledge that **Dr Margetts** has accepted many of the recommendations of the **Officer’s Report** and has explained where she has not considered recommended changes to be appropriate.

278. Policy 7.6 sets out the considerations for determining a reasonable mixing zone when setting conditions on a resource consent to discharge a contaminant or water into water, or onto or into land in the CMA. Policy 7.8 requires that significant adverse effects should not arise after reasonable mixing of a discharge. Policy 7.10 promotes measures that avoid, remedy or mitigate the adverse effects of point and non-point source discharges of contaminants outside the CMA where the discharge can adversely affect the quality of water in the CMA. **Dr Margetts** has discussed the parameters to be measured with regard to discharges with the potential to affect coastal waters. It is my understanding that there has been discussion and review between **Dr Margetts** and the experts at Environment Canterbury on those monitoring parameters, which take account of the location of stormwater discharges and includes consideration of appropriate mixing zones.
279. Policy 7.7 seeks to ensure that discharges avoid significant adverse effects on cultural or spiritual values associated with sites. There is now an agreement between Ngā Rūnanga and Council that includes the appointment of mana whenua experts within Mahaanui that will also help develop mana whenua values monitoring within the EMP. This agreement includes a 25 year consent duration as proposed and confirms the position of Ngā Rūnanga in not opposing this Application. **Mr Harrington** and **Mr Pauling** have discussed the consultation undertaken with Papatipu Rūnanga, and the ongoing engagement required within the proposed consent conditions through development and review of SMPs, Implementation Plans, and reporting.
280. The Lyttleton Port Recovery Plan (LPRP) made amendments to the RCEP. The key policy is Policy 10.1.13 and this is discussed below.
281. The proposed conditions of consent include targets to be met as part of the monitoring and reporting of contaminants in coastal waters. **Dr Margetts** has discussed the potential effects on the receiving environment, which includes coastal areas, as a result of the discharge of stormwater from Council's network. The matters set out in Objective 7.1 reflect many of the objectives and policies of the NZCPS. **Dr Margetts** has described the attribute target levels proposed against which water quality will be monitored and has explained why these are appropriate in the context of this Application. The 2015 pilot study, that is described in more detail in **Dr Margett's**

evidence, was undertaken specifically in relation to stormwater outfalls, and indicates that attribute target levels will be met, but **Dr Margetts** has confirmed that additional monitoring over the long term through the proposed conditions of consent will provide more clarity on the effects of stormwater. Based on that evidence and given the monitoring and reporting that is proposed through the conditions of consent, I consider that the Application is generally consistent with the relevant objectives and policies of the RCEP.

Christchurch District Plan

282. The **Officer's Report** [paragraph 906 – 915] assesses the Christchurch District Plan objectives with regard to the subdivision, use and development of land (Objective 3.3.6), the benefits of infrastructure (Objective 3.3.12), and the importance of water (Objective 3.3.17). It also considers Policy 8.2.3.4, which seeks to avoid any increase in sediment and contaminants entering water as a result of stormwater disposal, and Policy 5.2.2.1.4, which seeks to ensure that subdivision, use and development do not transfer or create unacceptable natural hazard risk to other people, property, infrastructure or the natural environment.
283. In my opinion these objectives and policies are relevant to potential developments that trigger the need for resource consent for a subdivision or other land use and that need to be taken account of as part of those processes, rather than being directly related to this application for resource consent required under the regional plan framework. However, I agree with the **Officer's Report** that the Application is generally consistent with the intent of those objectives and policies.

OTHER MATTERS

Lyttleton Port Recovery Plan

284. The submission from Lyttleton Port Company has raised the matter of the Lyttleton Port Recovery Plan (LPRP) and its importance with regard to the recovery and future development of the Lyttleton Port. The purpose of the LPRP is to enable Lyttleton Port to recover from damage received during the Canterbury series of earthquakes

during 2010 and 2011. The LPRP makes amendments to the RCEP that are relevant to stormwater discharges. Policy 10.1.13 of the RCEP seeks to manage the quality of stormwater generated within the operational area of Lyttleton Port and discharged into the CMA, by ensuring that: impervious surfaces are designed to capture and direct rainfall to a stormwater network; any stormwater network constructed or repaired includes hydrocarbon interceptors; as far as practicable, cargo is handled on wharves or hard standing areas that contain hydrocarbon interceptors or gross pollutant interceptors; and any earthworks are appropriately managed to minimise as far as practicable the discharge of sediment into the CMA.

285. The submission from the Lyttleton Port Company acknowledges that stormwater provisions that include the use of hydrocarbon interceptors and/or gross pollutant interceptors were added to reflect the desire of Lyttleton Port Company together with local rūnanga to improve the quality of stormwater discharges. **Mr Norton** met with representatives of the Lyttleton Port Company to discuss their submission including the relevance of proposed Condition 1(a) in relation to the CityDepot site, for which the discharges are covered under the 'global' consent and therefore will transfer to this consent. With regard to the existing discharges from sites at the harbour, Lyttleton Port Company operates a combination of discharges authorised through separate Environment Canterbury consents, as well as some discharges via the Council network, which would also be covered under Condition 1(a) of the proposed consent conditions.
286. Lyttleton Port Company also submit that a new standalone SMP should be prepared for the Lyttleton Harbour settlements, separate from the Te Pātaka o Pākaihautū/Banks Peninsula SMP. They consider this would better align a Lyttleton Harbour SMP with the Lyttleton Harbour Catchment Management Plan, which includes a requirement to develop a stormwater management plan for Lyttleton harbour settlements and public land. **Mr Norton** has discussed this in his evidence and has explained that there is no need for the Lyttleton Harbour settlement area to have a separate SMP and points out that there are other SMPs that successfully cover different catchments.

287. I agree with the **Officer's Report** [paragraph 905] that the Application is not inconsistent with the LPRP.

Te Rūnanga o Ngāi Tahu Freshwater Policy Statement

288. Te Rūnanga o Ngāi Tahu Freshwater Policy Statement sets out policies with respect to Ngāi Tahu in terms of recognising freshwater resources as a taonga left by ancestors to provide and sustain life, and that it be available for future generations in the same of better quality. It has a strong focus on the principle of integrated management of waterways.

289. **Mr Adamson** and **Mr Harrington** have discussed the agreements reached with MKT on behalf of Papatipu Rūnanga, as well as the hui undertaken, and the ongoing engagement required by the consent conditions. I consider there is strategic alignment between Papatipu Rūnanga and Council in regard to their views on the management of waterways.

290. Objective 6.1 of the Te Rūnanga o Ngāi Tahu Freshwater Policy Statement aims to afford total protection to waters that are of particular significance to Ngāi Tahu. Policy 1 is for Ngāi Tahu to identify sites for immediate protection and includes a strategy for councils to be advised by Papatipu Rūnanga of waterbodies or parts of waterbodies where this is necessary. Objective 6.2 aims to restore, maintain and protect the mauri of freshwater resources. Policy 2 is concerned with ensuring the availability of sufficient quantities of water of appropriate quality to restore, maintain and protect the mauri of a waterbody. Policy 3 requires the adoption of catchment management plans as a means of achieving integrated management, and Policy 4 seeks to protect the opportunities for Ngāi Tahu's uses of freshwater resources in the future.

291. Objective 6.3 aims to maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity. Policy 2 seeks to restore and enhance the mahinga kai values of rivers, streams, wetland, estuaries and riparian margins, and Policy 3 seeks to ensure that activities in the upper catchments have no adverse effect on those resources in the lower catchments. Policy 4 seeks to restore access to freshwater resources for cultural activities including the harvest of mahinga kai.

292. **Mr Harrington** has discussed the hydrological information systems and flood models used by Council to manage stormwater flows. These are used to test whether waterways meet the attribute target levels set in Schedule 7 and avoid significant detrimental effects on flows or stream health. He points out that **Condition 6 (j)** requires the consent holder to consider the effects of diversion and discharge on baseflow in streams and springs. **Dr Margetts** discusses water quality matters, and the potential adverse effects on waterbodies given the commitment by Council to improve the quality of stormwater discharge over time. Given the existing environment she does not anticipate that there will be adverse effects on mahinga kai resources as a result of the proposed stormwater discharge.
293. The consultation to date, along with ongoing engagement between Council and Papatipu Rūnanga provides the basis for meaningful, collaborative, adaptive management initiatives where appropriate in accordance with Objective 6.4, which seeks, *“To promote collaborative management initiatives that enable the active participation by Ngāi Tahu in freshwater management”*⁴.
294. I also note that the purpose of Te Rūnanga o Ngāi Tahu Freshwater Policy Statement is *“...a starting point for a continuing process of consultation and discussion...”*⁵. In my view this is what is proposed by Council with the ongoing collaboration provided for through consultation to date, and the proposed consent conditions to facilitate meaningful ongoing engagement on environmental outcomes over time.
295. Objective 6.4 promotes collaborative management initiatives that enable the active participation of Ngāi Tahu in freshwater management. Policy 1 seeks to ensure the Ngāi Tahu has access to information about resource and activities. Policy 2 seeks to assist with the development of Ngāi Tahu’s capacity to conduct formal CIAs as part of assessments of environmental effects. Policy 3 seeks to facilitate effective Ngāi Tahu participation.

⁴ Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1996, Part 2, page 42.

⁵ Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1996, Part 1, page 6.

296. The Application promotes collaborative management through the ongoing engagement with Papatipu Rūnanga, including input on the development and review of SMPs, and the provision of monitoring and reports required in the proposed conditions. CIAs have been completed for each of the four completed SMPs. I consider that the Application is consistent with these objectives and policies and provides for effective ongoing participation.

Mahaanui Iwi Management Plan

297. The MIMP provides a policy framework for the protection and enhancement of Ngāi Tahu values. An important objective within the plan is for external agencies to understand issues of significance to tāngata whenua, and that there be a shared commitment to protecting and restoring the health of natural resources, including water.

298. In my view Council is fostering these relationships and the principle of working together with Papatipu Rūnanga is fundamental to the adaptive management within the proposed consent conditions through the development and review of SMPs and Implementation Plans, as well as the provision of modelling, monitoring and reporting results to Papatipu Rūnanga.

299. I acknowledge that the MIMP (WM6.9) would require no discharge of stormwater into waterways, wetlands or drains. However, as discussed earlier, and by other witnesses, Council is faced with a situation whereby stormwater discharges already occur across the city, and they are charged with finding the most sustainable framework for managing those discharges, and to provide for an improvement of stormwater quality over time.

300. The **Officer's Report** [paragraph 925] agrees that the Application supports some of the policies within the MIMP, however it considers that without all of the CIAs completed for the SMPs, a conclusion on consistency is not able to be reached. It is important to note the progress made since the original application was first lodged in 2015, including the engagement to date along with that proposed into the future, the agreement now reached between Papatipu Rūnanga and Council, including the soon-

to-be developed mana whenua monitoring values for the consent. This progress has resulted in the non-opposition from Ngā Rūnanga on the Application and support on the reduction by Council for a 25 year duration consent.

301. Although the Application may not align in all respects with the MIMP, the fact is that SMPs are required to provide for the sustainable management of the discharge of stormwater, and each SMP is accompanied by a CIA. Ngā Rūnanga and Council are agreed on matters such as the provision of resourcing mana whenua staff that will include the development of mana whenua values monitoring parameters to be added to the EMP. Papatipu Rūnanga will continue to be involved in the consent through involvement on SMP development and review, and reporting. This is aligned with the participative and governance-centric MIMP provisions such as:

- Policies K1.4 and K1.7, which require engagement with the appropriate Papatipu Rūnanga for resource management issues, in this case Mahaanui.
- Policies K3.1 and K3.3, which require local authorities to ensure that they have the institutional capability, and appropriately provide for engagement with Papatipu Rūnanga through various processes including the ‘front end’ of planning processes.

302. Based on the evidence of **Mr Harrington, Mr Norton and Dr Margetts** I consider it has been demonstrated that the treatment and detention of stormwater prior to discharge is the most appropriate method to achieve the objectives and policies of the planning framework. Dealing with existing and future discharges in this way, along with the advocacy on source control and additional water quality investigations proposed by the consent conditions, and the ongoing collaborative management of the water resource described by **Ms Beaumont** is, in my opinion, an appropriate method to achieve sustainable management.

Canterbury Water Management Strategy

303. The **Officer’s Report** [paragraph 926 – 932] assesses the CWMS, which is a non-statutory document providing the framework for land and water management in the region. I agree with the **Officer’s Report** [paragraph 932] that the Application would generally give effect to the Christchurch-West Melton and Te Pātaka o

Pākaihautū/Banks Peninsula Zone Implementation Plan outcomes, and I note that the Christchurch-West Melton Zone Committee is a key stakeholder in terms of the proposed conditions of consent for development and review of SMPs.

Land Use Recovery Plan and Christchurch Central Recovery Plan

304. The **Officer's Report** [paragraphs 933 – 938] provides a brief overview of the Land Use Recovery Plan and the Christchurch Central Recovery Plan, both prepared after the Canterbury earthquakes to create a vision for Christchurch and to support recovery and rebuilding of the city. I agree with the **Officer's Report** that these plans are of limited relevance to this Application for a discharge of stormwater, although I note that the comprehensive discharge of stormwater throughout Christchurch and Te Pātaka o Pākaihautū/Banks Peninsula, along with other initiatives described by **Mr Harrington** and **Ms Beaumont** will help to contribute to the recovery of Christchurch following the earthquakes.

CONSENT CONDITIONS

305. The recommendations made throughout the **Officer's Report** have been addressed within this evidence, and the evidence of other expert witnesses for the Applicant, and the proposed consent conditions have been updated accordingly. In concluding remarks, the **Officer's Report** [paragraph 1036] comments on the key recommendations as:

- Identification and confirmation of cultural values
- Adopting a TSS limit for discharges from construction sites and developing of a robust approach/process by 2025 to ensure that stormwater discharges from construction sites are adequately managed post-2025
- Developing of a robust approach/process by 2025 to ensure that stormwater discharges from high risk sites are adequately managed post-2025

- Provision of catchment specific CLMs and further information or revised models to determine adequacy of C-CLM assumptions around land uses and treatment efficiencies
- Adopting of recommended changes to Schedule 7 (Receiving Environmental Objectives and Targets for Water Quantity) of the proposed conditions.

306. The matter of cultural values has been resolved through the assessment of the relevant policy framework, the consultation and agreement reached between Council and Ngā Rūnanga (including agreement on a 25 year consent duration), and that as a result Ngā Rūnanga has not submitted in opposition to the Application.
307. The adoption of a TSS limit and the approach to managing stormwater discharges post-2025 in accordance with Policy 4.16A of the LWRP has been discussed in the evidence of **Mr Tipper** and **Mr Norton** and this is to be included in the risk matrix proposed in **Condition 3**. **Mr Norton** also proposed a new proposed condition (under **Condition 41**) with regard to construction phase discharges referencing the risk matrix in proposed **Condition 3** to determine the level of ESC required for a site.
308. The matter of a robust process for the transition of 'high risk' site management post-2025 has been provided by Council (discussed in **Mr Norton's** evidence) and through proposed **Condition 3**.
309. The use and purpose of the C-CLM has been clarified by the evidence of expert witnesses. Similarly, the recommended changes to Schedule 7 of the proposed conditions has been addressed in the evidence of **Mr Harrington**.
310. Throughout the **Officer's Report** a number of changes to the proposed consent conditions have been recommended, which have been discussed by the expert witnesses for Council and many of the recommended changes are agreed. Where there is not agreement between Environment Canterbury and Council experts, alternative conditions or processes are being recommended by Council experts to address the matters raised in the **Officer's Report**.

311. Given the amount of changes, and the ongoing discussion around them, I consider it more useful to present a tabulated overview of the conditions as notified with an explanation as to changes that are being considered by Council, and this is attached (**Attachment A**) to my evidence. I note that this is a working document with additional amendments likely to occur up to the time of the hearing, and I expect that an updated version will be tabled at the hearing.

CONCLUSION

312. The Application provides for the integrated management of stormwater in Christchurch and Te Pātaka o Pākaihautū/Banks Peninsula through a comprehensive resource consent. It enables one set of conditions to be adhered to and administered, simplifying the process of administration for both the Council as Applicant and Environment Canterbury as the consenting authority. The management of stormwater will still occur on a catchment by catchment basis through the development of SMPs and in turn the stormwater management set out in the SMPs will be promulgated through the Implementation Plan. The Implementation Plan will be reviewed every three years in line with the Council's LTP process to identify whether adequate funding is provided for the proposed physical works and/or other initiatives set out in the Implementation Plan.
313. The proposed consent conditions provide for modelling of reductions in the stormwater contaminant load through the C-CLM, and for percentage reductions to be met for key stormwater contaminants. Flood modelling is also undertaken by Council, and the consent requires water quantity targets to be met for various receiving environments. Monitoring of the receiving environment will be undertaken through the EMP and the consent conditions containing receiving environment objectives and attribute target levels against which the monitoring results will be compared.
314. The proposed consent conditions provide an adaptive management approach by requiring review of the EMP, SMPs and the Implementation Plan over the life of the consent, as well as through the responses to modelling and monitoring that provide a feedback loop into the required annual reporting. The consent is also subject to

specific review conditions under section 128 of the Act, including the need for review within five years of the Christchurch West Melton sub-regional section of the LWRP being notified.

315. In my opinion the Application is generally consistent with the objectives and policies of the LWRP, the RCEP and the WRRP. These give effect to the provisions of the RPS and the NPSFM, which generally aim to maintain or improve water quality over time. The adaptive management package of modelling, monitoring and reporting, along with the receiving environment objectives and attribute target levels established in the EMP and conditions of the consent are proposed to achieve the improvement of the quality of stormwater discharge over time. Based on the evidence of experts for the Council it is my opinion that the potential adverse effects on the existing environment will be minor. The discharge of stormwater from Council's reticulated network (including both the legacy network infrastructure and waterbodies, along with new infrastructure as the city develops) promotes sustainable management and is consistent with the relevant provisions of the Act.

Jane West

15 October 2018

Attachment A
Tabulated Overview of Proposed Consent Conditions Changes

CSNDC POSSIBLE CONDITIONS TABLES

	July 2018 Application	Possible Change For Discussion	Source of Change	Reason for Change
	Annual Exceedance Probability (AEP) is the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 40 cubic metres per second has an AEP of 2%, it means there is a 2% chance (i.e. one-in-fifty) of a peak flood discharge of 40 cubic metres a second or larger being equalled or exceeded in any year. AEP is the inverse of return period expressed as a percentage.		Eg Council proposal to improve clarity; or para [x] of Appendix 2 s42A report; or para [x] of Brian Norton evidence; or submission by Lyttelton Port Company	
	area of disturbance means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.			
	CSNDC means the Christchurch City Council Comprehensive Stormwater Network Discharge Consent.			
	Christchurch Contaminant Load Model (C-CLM) means the Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load Model (C-CLM). The C-CLM report is attached to this resource consent as Schedule 2.			
	critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters			
	design storm is the theoretical rainfall event that an analysis is based on for a particular probability. The design storm is based on certain assumptions, including rainfall distribution and intensity, and the storm rainfall profile shape for the critical duration.			
	development site means any individual area within a site or sites that is undergoing construction and/or earthworks activities but excludes sealed pavement repair where base course is not exposed.			
	device means a street or property-scale installation for the purpose of removing contaminants from stormwater in a situation where storage capacity is limited. Examples include a rain garden or a proprietary treatment system.			
	EMP means Environmental Monitoring Programme.			
	existing site means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.			
	Extra-Over Detention means attenuating sufficient stormwater to control peak flow rates from a developed site back to pre-developed flow rates for storms up to and including the critical 2 percent annual exceedance probability design storm event.			
	facility means a (usually large) constructed means of holding or attenuating stormwater for the purpose of reducing discharge rates or removing contaminants. Examples include a sedimentation basin, a constructed wetland, a wet pond an attenuation basin and/or an infiltration basin.			
	first flush means either:			

	<p>a) the stormwater runoff generated from the first 25 millimetres of rain falling on impervious areas of a site, or</p> <p>b) the stormwater flow rate generated from up to 5mm/hr rainfall intensity on impervious areas of a site; or</p> <p>c) the stormwater runoff generated from the first 20 millimetres of rain falling on impervious areas of a site discharging to rain gardens or tree pits.</p>			
	flat land means any land where the average slope across the site is 5 degrees or less.			
	greenfield means agricultural, forest or grass land previously undeveloped for urban purposes (construction of residential or industrial subdivision, buildings, roads and associated services).			
		<p>Add a new definition for Hardstand, such as:</p> <p>hardstand means the addition of a hard or compacted surface like roofs, pavement or gravel; or the addition of a more compacted surface, like paving over pre-existing soil or gravel.</p>	Oil Companies submission. Brian Norton EIC [183].	Improves clarity in conditions especially condition 3.
	<p>high-use site means a site that:</p> <p>(a) has an expected average daily traffic (ADT) count equal to or greater than 250 vehicles per day; or</p> <p>(b) is used for petroleum storage or transfer in excess of 5,000 litres per year, not including delivered heating oil; or</p> <p>(c) is used for storage or maintenance of 10 or more heavy vehicles (trucks, buses, trains, heavy equipment, etc.).</p>			
	hill land means any land where the average slope across the site exceeds 5 degrees.			
	<p>industrial site means:</p> <p>(a) any premises used for the manufacturing, assembly, wholesaling or storage of products or the processing of raw materials and other ancillary activities; or</p> <p>(b) any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or</p> <p>(c) any other premises from which a contaminant is discharged in connection with any industrial or trade process—but does not include any land under agricultural production.</p>			
	LWRP means Canterbury Land and Water Regional Plan.			
	papatipu rūnanga means the six Ngāi Tahu Papatipu Rūnanga within the Christchurch area, namely: Te Ngāi	papatipu rūnanga means the six Ngāi Tahu Papatipu Rūnanga within the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga, Te Hapū o		

	Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga.	Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga, <u>as represented by Mahaanui Kurataiao Ltd or its successor organisation ..</u>	Council initiative,	Recommended by Mr Pauling (not in EiC)
	Partial Detention means storage within first flush basins plus additional storage through flooding of wetland areas to an average depth of 500mm discharging over a minimum of 96 hours for the critical 2 percent annual exceedance probability design storm event.			
	QMCI means Quantitative Macroinvertebrate Community Index.			
	re-development site means a change to a developed site or a site activity that results in a stormwater discharge that is not the same in scale, intensity or character to the discharge that existed prior to the commencement of this consent.			
	site means an allotment title or other legally defined parcel of land held in a single certificate of title and any balance land or adjacent land with title(s) held by the same owner or ownership with an affiliated interest. In the case of greenfield and re-development, site means the area of land defined by the boundaries of proposed land disturbance.			
	SMP means Stormwater Management Plan.			
	stabilised means an area of land sufficiently covered by erosion-resistant material such as grass, mulch, weed matting, bark, sand/aggregate, or paving by asphalt, concrete, paver blocks, etc., in order to prevent erosion of the underlying soil.			
	stage of development means a part of a development area which is completed prior to any other stage of that development commencing. A stage of development is deemed to be finished following the completion of construction activities and when the development area has been stabilised.			
	stormwater means runoff from rainfall that has been collected, channelled, diverted, intensified or accelerated by human modification of the land surface or runoff from the external surface of any structure as a result of precipitation and may contain contaminants. This definition excludes discharges of spilled or deliberately released hazardous substances and/or washdown activities.			
	stormwater network means waterways identified in a SMP and also includes the reticulated piped network, kerb and channel, sumps, pipes, manholes, rapid soakage chambers and any stormwater conveyance and mitigation system for which Christchurch City Council are responsible for operation and maintenance.	means <u>the Avon River, Halswell River, Heathcote River, Otukaikino River and the Styx River and their tributaries</u> and also includes the reticulated piped network, kerb and channel, sumps, pipes, manholes, rapid soakage chambers and any stormwater conveyance and mitigation system for which Christchurch City Council are responsible for operation and maintenance	Brian Norton EiC, responding to submissions.	Improve clarity. <u>Check with Brian whether he intended to include tributaries???</u>
	surface water means water in waterways, lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.			
	SWIM means the Joint Stormwater Management Issues Working Group, or its successor. The SWIM is a forum of senior managers of Christchurch City Council and Canterbury Regional Council established to meet the			

	outcome of on-going communication as detailed in the “Stormwater Management Protocol ¹ .”			
	TSS means Total Suspended Solids.			
	ACTIVITY			
	Purpose and Location			
1	<p>This consent permits the discharge onto or into land or into surface water of stormwater which:</p> <ul style="list-style-type: none"> a. is generated from existing sites, greenfield development sites and re-development sites within the territorial boundaries of the Christchurch City Council, and is discharged into the Christchurch City Council stormwater network, but excludes those areas outside of Banks Peninsula settlement areas; or b. enters the Christchurch City Council stormwater network from outside of the City boundary; or c. is generated from roofs of individual existing sites, greenfield development sites and re-developments sites and is discharged onto or into land within the site; or d. is generated from hard-standing areas of individual existing residential sites, greenfield development and re-development sites and is discharged onto or into land within the site. 	<p>...</p> <ul style="list-style-type: none"> e. is generated from roofs of individual existing sites, greenfield development sites and re-developments sites and is discharged onto or into land within the site; or f. is generated from hard-standing areas of individual existing residential sites, residential and non-residential greenfield development and residential and non-residential re-development sites and is discharged onto or into land within the site. <p><u>For the avoidance of doubt, this consent does not authorise existing discharges into land from non-residential hardstand areas via private stormwater systems.</u></p>	Internal Council discussion	To assist users; for clarity.
	Exclusions			
2	<p>There shall be no discharge to land or surface water from the following unless expressly authorised by Canterbury Regional Council and Christchurch City Council:</p> <ul style="list-style-type: none"> a. Any site or development area on the Canterbury Regional Council’s Listed Land Use Register that is considered by Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination; b. Any stage of development with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land; and c. Any site listed on the attached Schedule 1 ‘Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent’. 	<p>...</p> <ul style="list-style-type: none"> a. Any new activity or redevelopment in a site or development area on the Canterbury Regional Council’s Listed Land Use Register that is considered by Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination; b. Any stage of during the construction of a development with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land; and 	Internal Council discussions	<p>Addition intended to address submitter concerns with uncertainty of the phrase “unacceptable high risk” for existing activity on LLUR sites. AND this addition should meet the CIAL concern in the letter to Council. Can be further discussed whether other changes are needed to clarify “unacceptable risk”</p> <p>For clarity.</p>
3	Discharge from the sites excluded by Condition 2 will be within the scope of this consent on 1 January 2025, or when current discharge permits expire for those sites, whichever is the latest.	3. Discharge into the Christchurch City Council stormwater network from the sites excluded by Condition 2 will be within the scope of authorised under this consent on 1 January 2025, or when current discharge permits expire or are surrendered for those	<p>Internal Council discussions.</p> <p>Recommended so that the CCC still has a choice to continue to exclude</p>	For clarity.

¹ A Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)

		<p>sites, whichever is the latest. <u>The transitional arrangements for that are:</u></p> <p><u>(a) Within 3 years of this consent being in legal effect, the consent holder will engage with the Canterbury Regional Council to obtain full details of all of the consented activities excluded from this consent until 2025, including information on site activities, conditions and compliance records;</u></p> <p><u>(b) On the date on which the previously excluded site comes within the scope of this consent, the discharge from the previously excluded site into the stormwater network shall be subject to standards that result in the same environmental outcomes for the quality and quantity of the discharge as those that were in the relevant site specific resource consent issued by the Canterbury Regional Council;</u></p> <p><u>(c) Within 3 years of this consent being in legal effect, the consent holder will deliver to the Canterbury Regional Council a Transition Plan for the excluded sites that includes, but is not limited to:</u></p> <p><u>(i) a description of the regulatory methods that will be used by the consent holder to ensure that previously excluded sites will be subject to standards that achieve required environmental outcomes as described in condition 3(b);</u></p> <p><u>(ii) a description of how a risk matrix will be used for risk rating and to identify particular high risks and how they will be managed;</u></p> <p><u>(iii) a description of site specific monitoring plans for particular sites rated high in the risk matrix;</u></p> <p><u>Add a provision that privately owned and operated discharges to land remain excluded.</u></p> <p><u>To be discussed: Additional provision that provides ability for the Council to continue to exclude some sites.</u></p>	<p>from coverage discharges to land on sites in 2 a, b or c above.</p> <p>Also in accordance with Policy 4.16A, changes proposed to provide for the appropriate management of transition of 'high risk' sites from Environment Canterbury to Council.</p> <p>Brian Norton EiC [136]</p> <p>Brian Norton EiC [147]</p>	<p>In response to matters raised in Officer's Report regarding this change. This is referenced throughout the Officer's Report, but in particular: Paragraphs 276 – 281 and 308 Paragraph 1036 (b) and (c)</p> <p>Amendments to address concerns raised in the Officer's Report: Paragraph 268 (a) – (b).</p> <p>Corrects what was always intended by the applicant.</p>
	<p><i>Advice note: Discharge into the Christchurch City Council stormwater network will still require approval from Christchurch City Council, as owner and operator of the stormwater network, at the expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.</i></p>			
	Stormwater Management Plans			
4	<p>The consent holder shall, in consultation with papatipu rūnanga and the Christchurch-West Melton and Banks Peninsula Zone Committees (or successor organisations), develop, and as necessary update Stormwater Management Plans (SMPs) in accordance with the programme set out in Table 1.</p>	<p>4. The consent holder shall, in consultation with papatipu rūnanga and the Christchurch-West Melton and Banks Peninsula Zone Committees (or successor organisations), develop, and as necessary update Stormwater Management Plans (SMPs) in accordance with the programme set out in Table 1 <u>and submit each SMP to Canterbury Regional Council for certification that it contains the matters required by condition 6 and is consistent with the purpose of SMPs in condition 5. Certification will be by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council.</u></p>	<p>Council discussions and s42A report.</p>	<p>For clarity and in response to submissions and s42A on the process, provides for certification of new SMPs.</p>
	<p>Table 1: SMP Programme</p> <p>[TABLE]</p>	<p>Change to reporting dates for 2 existing SMPs: (see Graham Harrington evidence)</p>	<p>In response to Officer's Report [paragraphs 414 and 423] concerns about the completed SMPs not containing all of the items required under the proposed consent</p>	<p>Council agrees that shorter review time for these SMPs is appropriate and has provided timeframes that will be achievable.</p>

			conditions. David Adamson and graham Harrington EiC.	
5	<p>The purpose of the SMPs is to:</p> <p>a. Demonstrate the means by which the quality of stormwater discharges will be progressively improved towards meeting the Receiving Environment Objectives and Attribute Target Levels for waterways, coastal waters, groundwater and springs, and water quantity, set out in the conditions of this consent and in Schedules 4 to 7;</p> <p>b. Demonstrate the means by which the stormwater contribution to groundwater and spring-fed stream flows will continue by discharge of stormwater to land infiltration systems where reasonably practicable;</p> <p>c. Demonstrate the means by which Christchurch City Council stormwater infiltration facilities constructed by, or on behalf of, the consent holder, after the commencement of this consent shall be designed, located and operated to avoid, remedy or mitigate adverse effects of groundwater mounding on other land in anything more frequent than the critical 2 percent Annual Exceedance Probability Event.</p> <p>d. Plan the works authorised by this consent;</p> <p>e. Implement the conditions of this consent as they apply to each catchment.</p>			
6	<p>SMPs submitted to Canterbury Regional Council after the operative date of this consent shall include but not be limited to the following information:</p> <p>a. Specific guidelines for implementation of stormwater management within the catchment to achieve the purpose of SMPs;</p> <p>b. A definition of the extent of the stormwater infrastructure, including any portions of waterways, that forms the stormwater network within the catchment for the purposes of this consent;</p> <p>c. A description of statutory and non-statutory planning mechanisms to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These mechanisms will include (but are not limited to):</p>	<p>...</p> <p>f. Identification of areas reserved for future development;</p> <p>g. Identification of areas subject to known flood hazards;</p> <p><u>Add: Identification of any water quantity modelling or monitoring measurement points in addition to those in schedule 7 and the reason for those choices.</u></p> <p>h. An interpretation of environmental & cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;</p> <p>i. Results from and interpretation of water quantity and quality modelling, <u>including any catchment level or smaller level, "hot spot" objectives arising from fine grained use of the C-CLM model; .</u></p> <p><u>Add: Identify localities where discrete spring emergences occur.</u></p>	<p>In response to Officer's Report [paragraphs 630 and 1036] and Tom Parsons EiC [60]. .</p> <p>Council recommendation.</p> <p>In response to Officer's Report [paragraph 73] accepted by Mr Callander.</p>	<p>Mr Harrington's evidence provides explanation as to why this is an acceptable solution.</p> <p>Provides greater clarity and certainty for site-specific management.</p>

	<ul style="list-style-type: none"> i. Relevant objectives, policies, standards and rules in the Christchurch District Plan; ii. Relevant bylaws; iii. Relevant strategies, codes, standards and guidelines; <p>d. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These methods may include (but are not limited to):</p> <ul style="list-style-type: none"> i. Stormwater mitigation facilities and devices; ii. Erosion and sediment control guidelines; iii. Education and awareness initiatives on source control systems and site management programmes; iv. Support for third party initiatives on source control reduction methods; v. Prioritising stormwater treatment in catchments that discharge: in proximity to areas of high ecological or cultural value, such as habitat for threatened species and/or in areas with high contaminant loads; <p>e. Locations and identification of Christchurch City Council water quality and water quantity mitigation facilities and devices;</p> <p>f. Identification of areas reserved for future development;</p> <p>g. Identification of areas subject to known flood hazards;</p> <p>h. An interpretation of environmental & cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;</p> <p>i. Results from and interpretation of water quantity and quality modelling;</p> <p>j. Consideration of any effects of the diversion and discharge of stormwater on baseflow in streams and springs;</p> <p>k. A cultural impact assessment;</p> <p>l. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;</p> <p>m. An assessment of the effectiveness of water quality or quantity mitigation methods established under previous SMPs and</p>	<ul style="list-style-type: none"> j. Consideration of any effects of the diversion and discharge of stormwater on baseflow in streams and springs; k. A cultural impact assessment; l. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development; m. An assessment of the effectiveness of water quality or quantity mitigation methods established under previous SMPs and identification of any changes in methods or designs resulting from the assessment; and n. A summary of feedback obtained in accordance with Condition 0 and if / how that feedback has been incorporated into the SMP; o. <u>If the consent holder intends to use land not owned or managed by the consent holder for stormwater management, a description of the specific consultation undertaken with the affected land owner.</u> <p><u>An addition to the effect that there will be assessment of the risk of bird strike for any large public facilities within 3 kilometres of the airport?</u></p>	<p>In response to submission from Ministry of Education.</p> <p>Jane West [110].</p>	<p>Provides clarity of process for the submitter and other land owners if their land is affected.</p>
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	<p>identification of any changes in methods or designs resulting from the assessment; and</p> <p>n. A summary of feedback obtained in accordance with Condition 0 and if / how that feedback has been incorporated into the SMP.</p>			
7	<p>Prior to submitting a SMP or any amendment to a SMP to the Canterbury Regional Council, the consent holder shall provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:</p> <ul style="list-style-type: none"> a. papatipu rūnanga; b. The relevant Zone Committee(s) (or successor organisation); and c. The relevant Community Board(s) (or successor organisation) 	<p>Prior to submitting a SMP or any amendment to a SMP, <u>other than one making minor changes and corrections</u>, to the Canterbury Regional Council, the consent holder shall:</p> <ul style="list-style-type: none"> a. <u>In early development stages for a possible SMP, provide a briefing and invite comments from :</u> <ul style="list-style-type: none"> a. <u>papatipu rūnanga;</u> b. <u>The relevant Zone Committee(s) (or successor organisation); and</u> c. <u>The relevant Community Board(s) (or successor organisation)</u> b. <u>Following completion of a draft SMP</u>, provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days: <ul style="list-style-type: none"> d. papatipu rūnanga; e. The relevant Zone Committee(s) (or successor organisation); and f. The relevant Community Board(s) (or successor organisation) <p>Add: that the consent holder will obtain a peer review of the draft SMP from independent experts, attach a copy of the peer review to the draft SMP, and have a description within the SMP of the consent holder's response to that peer review.</p> <p>...</p>	<p>In response to submissions [Avon-Ōtākaro Network, Ōpāwaho Heathcote River Network, the Department of Conservation, the Ministry of Education (when Ministry land is affected) and New Zealand Steel Limited] and Officer's Report [paragraph 197] requesting more consultation with other parties on the development of SMPs.</p> <p>In response to Officer's Report [paragraph 206] seeking independent review of SMPs. David Adamson EiC.</p>	<p>Council does not consider it to be necessary to include extra provision for the public in development and review of all SMPs. The most appropriate way for public involvement is through established public channels, the relevant Community Board or Zone Committee.</p> <p>However, Council proposes amending the condition to specify that this process is to begin in the early development stages of an SMP.</p>
	<p><i>Advice Note: The Christchurch City Council intend for development of the SMPs to be a collaborative process with input from key stakeholders. During development of SMPs, papatipu rūnanga, CWMS Zone Committees and Canterbury Regional Council technical staff will be invited to all technical presentations and will have opportunity to review and comment on draft SMP documents. Presentations will be made at public meetings of both the Banks Peninsula and Christchurch-West Melton Zone Committees. Once all documented feedback has been considered and addressed, the finalised SMP documentation will be submitted to the Canterbury Regional Council.</i></p>			
8	<p>The consent holder shall review the content of the SMPs to assess whether changes to the SMPs will better achieve their purpose. The programme for that review is as set out in Table 1 above.</p>			
9	<p>The consent holder shall amend the SMPs as it considers necessary including the use of any new technologies, new opportunities for additional treatment (such as for infill areas or retro-fit) or new constraints on</p>			

	treatment due to changed developer plans, new regulatory tools and processes or updated industry best practice for stormwater treatment, including the type, size and location of treatment facilities, and their timing for implementation.			
10	The consent holder shall amend the SMPs as it considers necessary to respond to the results of the Christchurch Contaminant Load Model (C-CLM), or results of monitoring, including any investigations or outcomes in relation to the responses to modelling and monitoring under Conditions 0 - 51.			
11	Any amendments to SMPs may not replace the previous version until the amendments have been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council as achieving the purposes of the SMP, as set out in Condition 5.			
	Implementation Plan			
12	An Implementation Plan shall be prepared by the consent holder, after 12 months but no more than 18 months after this consent commences, to give effect to the SMPs and made available to Canterbury Regional Council and papatipu rūnanga on request. This plan shall be reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan.	<p>1. <u>The purpose of an Implementation Plan is to give effect to SMPs and to include the matters set out in condition 13.</u> An Implementation Plan shall be:</p> <p>c. prepared by the consent holder, <u>through engagement with papatipu rūnanga under condition 15(a), after 12 months but no more than 18 months after this consent commences; and</u></p> <p>d. <u>Updated to give effect to new SMPs within 12 months of new SMPs becoming operative;</u></p> <p>e. <u>Reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and</u></p> <p>f. to give effect to the SMPs and Be made available to Canterbury Regional Council and papatipu rūnanga on request.</p> <p>This plan shall be reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan.</p>	Council proposed (not in evidence)	Purpose: to accept two changes requested by Mahaanui. Consequential change was to amend the layout of the condition.
13	<p>The Implementation Plan shall include but not be limited to:</p> <p>a. A list of proposed stormwater mitigation methods and devices;</p> <p>b. A programme of stormwater works for Christchurch City Council and private development;</p> <p>c. A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges;</p> <p>d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan; and</p> <p>e. Reporting on any testing or water quality monitoring undertaken that is used to</p>	<p>Add: a description and justification for separation distances between treatment devices and any contaminated land;</p> <p>a. A list and map of proposed stormwater mitigation methods and devices;</p> <p>b. A programme of stormwater works for Christchurch City Council and private development;</p> <p>c. A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, <u>including activities undertaken under conditions 37 and 38;</u></p> <p>d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan; and</p> <p>Delete condition 13(e):</p>	<p>S42A and Mr Callander EiC [91].</p> <p>Council proposed (not in evidence)</p> <p>Brian Norton EiC [205]</p>	<p>For clarity, requested by Mahaanui.</p> <p>"I agree with Ms Stevenson that the more appropriate location for the results of investigations undertaken under this programme would be within the Annual Report rather than the</p>

	check the performance of facilities or to inform prioritisation of areas for mitigation.	Reporting on any testing or water quality monitoring undertaken that is used to check the performance of facilities or to inform prioritisation of areas for mitigation.		Implementation Plan. I consider that this is sufficiently addressed by Condition 53(n) as this requires that results from any investigations undertaken under Condition 37 be included in the annual report. To clarify and avoid duplication, I recommend that Condition 13(e) be deleted".
14	The Implementation Plan may also include details of maximum stormwater contaminant concentrations that Christchurch City Council, as owner and operator of the stormwater network, will accept into the Christchurch City Council network.	Delete condition 14: The Implementation Plan may also include details of maximum stormwater contaminant concentrations that Christchurch City Council, as owner and operator of the stormwater network, will accept into the Christchurch City Council network.	Brian Norton EIC [169].	As such details are site-specific they belong in authorisations under the Bylaw to discharge into the Council's network, not in the Implementation Plan.
	Engagement with Papatipu Rūnanga			
15	The consent holder shall engage with papatipu rūnanga: <ul style="list-style-type: none"> a. In the development and review of the SMPs required under Conditions 0 and 0 to 00, and the development of the Implementation Plan required under Conditions 0, 0 and 0; b. At concept design stage for the installation of stormwater treatment facilities and devices with regard to wāhi tapu and taonga; c. By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent; d. By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this consent, and papatipu rūnanga input predicted for the next 12 month period. 	<ul style="list-style-type: none"> a. In the development and review of the SMPs required under Conditions 0 and 0 to 00 11, and the development of the Implementation Plan required under Conditions 0, 0 and 0; b. At concept design stage for the installation of stormwater treatment facilities and devices with regard to wāhi tapu and taonga; a. <u>In reporting under condition 49 on responses to modelling;</u> b. <u>In reporting under condition 51 on responses to monitoring.</u> c. By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent; <p>By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this consent, and papatipu rūnanga input predicted for the next 12 month period.</p>	<p>Typo.</p> <p>Recommended by Mr Pauling (not in evidence)</p>	
	<i>Advice Note: The Christchurch City Council is committed to working in partnership with papatipu rūnanga through the implementation of the CSNDC. This is aimed at achieving the goals of the consent and providing for the ongoing involvement of mana whenua as well as identifying and reflecting mana whenua values and interests in the management of stormwater. While the partnership approach needs to be confirmed with papatipu rūnanga, it may involve the establishment and resourcing of a joint CCC/papatipu rūnanga Stormwater Working Party along with relevant technical support involving Mahaanui Kurataiao Ltd as well as Te Rūnanga o Ngāi Tahu. It is envisioned that the working party would meet not less than annually and provide a forum for advising on CSNDC implementation.</i>			
	STANDARDS AND RESTRICTIONS			

	Stormwater Contaminant Load Modelling			
16	The consent holder will install stormwater mitigation facilities and devices that achieve the reductions in contaminant load specified in Table 2 below as measured by the Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load Model (C-CLM) report which is attached to this resource consent as Schedule 2:	Tom Parsons proposes adding the qualification that the consent holder will use “reasonable endeavours” to achieve these targets.	Tom Parsons’ EIC [12].	See his evidence. The applicant does/does not follow his recommendation to make that change.
	Table 2: Reductions in stormwater contaminant load [INSERT TABLE]			
17	The base case against which reductions are to be assessed is the modelled untreated contaminant load.			
18	The C-CLM will be run at five yearly intervals starting in 2023 for comparison with the targets set in Table 2 above and reported to Canterbury Regional Council in the annual report for those years.			
	<i>Advice note: The C-CLM is the primary means of assessing the relative reduction in contaminant loads for copper, zinc and TSS which would enter the receiving environment as a result of the structural measures used by the Council. A range of alternative contaminant modelling technologies may be used for research purposes or to assist with stormwater management and contaminant load reductions. These could include (but are not limited to) event-based models and methods of assessing predicted improvement in receiving environment water quality, if or when such tools become available.</i>			
	Water Quality and Quantity Standards			
19	For any development or redevelopment within a catchment which does not have a certified SMP, stormwater quality and quantity mitigation shall meet the General City conditions as specified in Schedule 3.			
20	The consent holder shall use reasonable endeavours to mitigate the effects of the discharge of stormwater on surface water quality, instream sediment quality, aquatic ecology health and mana whenua values. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedules 4 and 5.			
21	The consent holder shall use reasonable endeavours to mitigate the effects of the discharge of stormwater on groundwater and spring water quality. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 6.			
22	The consent holder shall use reasonable endeavours to mitigate the effects of the discharge of stormwater on water quantity. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 7.	The consent holder shall use reasonable endeavours to mitigate the effects of the discharge of stormwater on water quantity. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 7. Graham Harrington / Jane West [88]:		Further engagement between experts and the parties needed: should this be “all reasonably practicable steps” ?

		<p>Officer's Report recommends amendments to proposed Condition 22 [paragraph 453]. Mr Harrington has also addressed these recommendations in his evidence and concludes that in principle he can support the requirement at paragraph 453 (d), which is to measure the extent of mitigation required by implementing measures that result in achieving the attribute target levels for water quantity.</p> <p>Mr Harrington clarifies that he does not support changes to Schedule 7.</p>		
23	The consent holder shall use reasonable endeavours to ensure that construction phase stormwater quality mitigation is implemented for all development sites prior to commencement of stripping of vegetation or earthworks on the site.			
24	The consent holder shall use reasonable endeavours to ensure that operational phase stormwater quality and quantity mitigation is implemented for all development and re-development (where required) prior to issuing certification under the relevant legislation.			
25	The consent holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.			
	Design of Facilities and Devices	<p>Applicant is considering whether to propose a condition that when designing a facility for new development there will also be retrofitting of capacity for existing development where reasonably practicable.</p>	Brian Norton EiC [80-81]	
26	Water quality and quantity mitigation facilities and devices shall be designed in general accordance with the Christchurch City Council's Waterways and Wetlands Drainage Guide, Infrastructure Design Standard, Construction Standard Specifications, Christchurch Rain Garden Design Criteria, Christchurch Stormwater Tree Pit Design Criteria and Stormfilter™ Design Rainfall Intensity Criterion Report or their respective successor document(s).			
27	The consent holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this consent are designed to treat the first flush.			
28	For all water quality mitigation facilities and devices constructed after commencement of this consent to service re-development, or retrofit water quality mitigation facilities for existing development, reasonable endeavours shall be taken to design facilities that treat the first flush.			
29	All stormwater mitigation facilities and devices constructed after commencement of this consent shall meet any other specific requirements as specified within the Implementation Plan.			
30	Christchurch City Council stormwater infiltration facilities constructed after the commencement of the consent shall be located to maintain the following separation distances from domestic drinking water supply wells that exist prior to the construction of the infiltration facility:			

	<p>a. Infiltration devices shall maintain a separation distance of 2000 m when located up-gradient of domestic drinking water supply wells; and</p> <p>b. Infiltration devices shall maintain a separation distance of 500 m when located down-gradient or cross-gradient of domestic drinking water supply wells;</p> <p>c. Or as an alternative to a) and b), a shorter separation distance may be utilised based on an assessment of site specific information undertaken by the consent holder and certified that it will not have an adverse effect on a domestic drinking water supply well by the Canterbury Regional Council, RMA Monitoring and Compliance Manager.</p>			
31	Christchurch City Council stormwater mitigation facilities constructed after the commencement of this consent shall have secondary flow paths to the downstream stormwater network.			
32	Christchurch City Council stormwater mitigation facilities constructed after commencement of this consent shall include best practice features designed to capture and contain as much as reasonably practicable any spills of contaminants entering the stormwater facility.			
33	Design of stormwater mitigation facilities serving sub-catchments greater than 20 hectares shall include computer modelling for detailed hydraulic analysis. The outlet hydrograph for the two percent AEP critical duration design storm generated by modelling of the final design for these facilities shall then be used in the water quantity model for the corresponding river catchment to demonstrate consistency with water quantity objectives in the SMP.			
34	All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this consent shall have an Operations and Maintenance Manual which shall be made available on request.			
	Other Actions by the Consent Holder			
35	The consent holder shall investigate and implement methods to improve the management of stormwater quality and reduce stormwater effects on the receiving environment (stormwater quality investigation).			
36	<p>The purpose of the stormwater quality investigation is to:</p> <p>a. Monitor the performance of selected stormwater treatment facilities and devices;</p> <p>b. Assess the potential for the application of new technologies and management strategies;</p> <p>c. Investigate using various models and techniques of water quality improvement strategies and options.</p>			
37	The consent holder shall undertake the actions set out in Table 3 below for the investigation required by condition 35 above:			

	<p>Table 3: Stormwater Quality Investigation</p> <p>[INSERT TABLE]</p>	<p>1. Conduct a study to Investigate the feasibility of developing an instream contaminant concentration model.</p> <p>2. Develop instream contaminant concentration model if the consent holder considers that the feasibility study in 1. provides sufficient merit determines it feasible.</p> <p>Possible addition after item 3: Use the improved model output in to inform the research programme on quantifying expected responses in the receiving environment (action number 5 this table) and the investigation of alternative modelling tools (action number 6 this table). Apply the model output, along with other stormwater modelling and monitoring data being gathered, to inform the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMP's, IDS and WWDG.</p> <p>NEED TO INCLUDE REFERENCE TO THIS ACTION REGARDING SMP AND IMPLEMENTATION PLAN IN CONDITIONS 5-13, AND TO REPORTING ON OUTCOMES AND THEIR IMPLEMENTATION TO THE REPORTING CONDITIONS 52 AND 53</p> <p>4. Conduct a feasibility study to establish the existing knowledge base and Investigate the feasibility of robustly predicting the responses of the receiving environment to changes in network contaminant loads and resulting in-stream concentrations.</p> <p>Amend item 4 start and end dates to June 2020 June 2019 and June 2021.</p> <p>5. If the consent holder considers determines that it is feasible the feasibility study under 4. Shows sufficient merit, and the Council considers it warranted, instigate a programme of research, monitoring and/or modelling to quantify expected responses in the receiving environment. For example: Undertake selected monitoring of discharges at “end of pipe”, into the receiving environment to assist model development and calibration</p> <p>Amend item 5 start date to July 2021.</p> <p>Possible addition after item 5: Use the outcomes to inform the Council’s broad waterway improvement programme including the “Action Plan for Healthy Waterways”, and along with other stormwater modelling and monitoring data being gathered, to inform the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMP's, IDS and WWDG</p> <p>NEED TO INCLUDE REFERENCE TO THIS ACTION REGARDING SMP AND IMPLEMENTATION PLAN IN</p>	<p>New item at bottom: S42A report. Dr Margetts' evidence</p>	<p>New item at bottom: To address concerns in S42a report around wet weather monitoring</p>
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		<p>CONDITIONS 5-13, AND TO REPORTING ON OUTCOMES AND THEIR IMPLEMENTATION TO THE REPORTING CONDITIONS 52 AND 53</p> <p>7. Conduct a study to Investigate the feasibility and of techniques for addressing-remediating adverse effects of stormwater sediment discharges on receiving environments. This will include consideration of sediment cover of the bed, and copper, lead, zinc and PAHs contamination.</p> <p>Amend item 7 start and completion dates to June 2019 and June 2020.</p> <p>8. Instigate a remediation programme If the consent holder considers determines that it is feasible, instigate a stormwater sediment remediation programme. the stormwater sediment discharge investigation in item 7. indicates sufficient merit.</p> <p><u>Amend item 8 start date to July 2020.</u></p> <p>9. Conduct a monitoring programme for assessing Monitor the actual contaminant TSS, zinc and copper reduction performance of selected stormwater treatment facilities and devices in order. Apply the results of the study in determining the feasibility and selection of proposed treatment facilities and devices, and to improve the level of certainty of performance values relating to TSS, zinc and copper in contaminant load modelling. Report findings and outcomes in annual report to CRC.</p> <p>Possible addition after item 9:</p> <p>Apply the monitoring output, along with other stormwater modelling and monitoring data being gathered, to inform the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMP's, IDS and WWDG.</p> <p>NEED TO INCLUDE REFERENCE TO THIS ACTION REGARDING SMP AND IMPLEMENTATION PLAN IN CONDITIONS 5-13, AND TO REPORTING ON OUTCOMES AND THEIR IMPLEMENTATION TO THE REPORTING CONDITIONS 52 AND 53</p> <p><u>New proposed item:</u> <u>Carry out targeted wet weather monitoring of surface water in selected receiving environments, to improve knowledge of the state of the receiving environment, contaminant inputs and treatment efficiency, and to inform mitigation options under the SMPs. Selected areas may include new stormwater developments and</u></p>		
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		<u>retrofits, and known existing hotspots of contaminants. Sampling shall focus on detailed methods to characterise inputs, such as the use of auto-sampling, rather than grab sampling.</u> <u>Start date of June 2019 and completion date of ongoing.</u>		
38	The consent holder shall also undertake the actions set out in Table 4 below:			
	Table 4: Other Actions by Consent Holder [INSERT TABLE]	1. Lodge a submission to central government seeking national measures and industry standards to reduce the discharge of contaminants including zinc and copper from metal roofs and including car tyres and brake pads. .	Oil Companies submission. Brian Norton EiC [192].	
		2. Prepare and submit for Council approval Conduct a cost/benefit analysis of options with recommendations for carrying out a targeted trial for contaminant reduction from increased level of selective street sweeping and sump cleaning (For consideration as part of Council Annual Planning process for AP2021).		
		3. If the consent holder determines that the cost/benefit analysis shows that it is warranted, C carry out trials for increased targeted/selective street sweeping and sump cleaning if Council resolves to do so under 2 above.		
		4. Prepare and submit for Council approval Conduct a cost/benefit analysis of issues and options of alternate methods of stormwater treatment and discharge with recommendations for carrying out trials . Including consideration of <u>redirection to sewer and</u> Managed Aquifer Recharge/Discharge (For consideration as part of Council Annual Planning process for AP2021).		
		5. If the consent holder determines that the cost/benefit analysis shows that it is warranted, C carry out trials for alternate methods of stormwater treatment and discharge if Council resolves to do so under 4 above.		
		Possible addition after item 5: <u>Apply the results of trials on street sweeping, sump cleaning and alternate methods of stormwater treatment (actions 3 and 5 above), along with results from other stormwater modelling and monitoring data being gathered, to the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMP's, IDS and WWDG.</u> NEED TO INCLUDE REFERENCE TO THIS ACTION REGARDING SMP AND IMPLEMENTATION PLAN IN CONDITIONS 5-13, AND TO REPORTING ON OUTCOMES AND THEIR IMPLEMENTATION TO THE REPORTING CONDITIONS 52 AND 53		
		6. If the consent holder considers <u>determines</u> it warranted as a result of the trials in item 3 <u>above</u> , increased frequency of street sweeping of selected areas.		

		7. If the consent holder considers determines it warranted as a result of the trials in item 5.3 above , increased frequency of sump cleaning at selected locations.		
		<p>Communication, Education and Awareness</p> <p>Make reasonable endeavours to establish a community water engagement programme involving Council, Canterbury Regional Council, Ngai Tahu, DoC, MfE, Universities, industry representatives and Community Groups with the objective of encouraging awareness and community actions to reduce stormwater contaminant discharges and improve waterways through source control and behaviour change.</p> <p>Possible initiatives of the community water engagement programme are:</p> <ul style="list-style-type: none"> • Providing information for property owners on quick actions that they can undertake around the home to stop contaminants from entering stormwater (based on 2017 Community Waterway Survey findings conducted by Christchurch City Council). • Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants. • Undertaking a wider educational programme for schools • <u>Educating dog owners about effects of faecal matter....</u> <p><u>Seeking industry behaviour change.</u></p>	<p>Change sought in DoC submission.</p> <p>Sought in DoC submission.</p>	
	Erosion and Sediment Control			
39	An Erosion and Sediment Control Plan (ESCP) shall be prepared and implemented for the construction phase stormwater discharge from any development area in general accordance with Canterbury Regional Council's <i>Erosion and Sediment Control Guidelines for the Canterbury Region, 2007 (Report R06/23 or successor document)</i> .			
40	Copies of ESCPs submitted to or prepared by/for the consent holder shall be made available on request.			
		<p>New Condition proposed by Mr Tipper: <u>I would therefore suggest a condition in this consent that requires:</u></p> <p>a) <u>The Council to impose a total suspended solids limit of not exceeding 100g/m³ in all approvals to discharge construction phase discharges into the Council stormwater network unless (b) below applies.</u></p> <p>b) <u>That where Council believes there is a high risk [for example, as determined by the risk matrix referred to in paragraph 55(h) above or in Julia Valigore's evidence] to the receiving environment and/or the</u></p>		Council's position on this?

		<p><u>stormwater network, Council may impose a more restrictive limit.</u></p> <p>c) <u>The Council's approval of the discharge can authorise the discharge to exceed the limit specified in accordance with condition (a) or (b) if all practicable measures to reduce the suspended sediments in the discharge have been undertaken and the written agreement of the Canterbury Regional Council, Regional Leader – Monitoring and Compliance has been obtained.</u></p>		
	Industrial Site Management			
41	<p>The consent holder shall, in collaboration with the Canterbury Regional Council:</p> <ul style="list-style-type: none"> a. Undertake a desktop based identification of industrial sites, ranking sites for risk relative to stormwater discharge and identify the industrial sites that pose the highest risk; b. Audit a rolling list of at least 10 of the highest risk sites in the city and report progress on an annual basis; c. Identify any industrial sites that pose an unacceptably high risk and add them to Schedule 1 of this consent. The consent holder cannot add any more sites to Schedule 1 of this consent after 1 January 2025. 	Add a part (d) concerning development of a risk matrix for ESC.	S42A report and Brian Norton EIC.	
	MONITORING AND REPORTING			
	Environmental Monitoring Programme			
42	The consent holder shall implement the EMP attached to this consent, with the purpose of monitoring whether the Receiving Environment Objectives and Attribute Target Levels are being met.	EMP Changes: NES recreation standards be applied to measurement of treatment facilities under EMP Table 2.	Brian Norton EIC [224].	
43	The consent holder may review and amend the EMP for the purposes of better monitoring and to determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.			
44	Any amendments to the EMP may not replace the previous version until the EMP has been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council as complying with the requirements of Condition 43.	Condition 43 42 ..		
45	The Attribute Target Levels in Schedule 3 for hardness modified copper, lead and zinc in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data. Hardness modified values for copper, lead and zinc for all sites within the EMP shall also be	<u>The Attribute Target Levels in Schedule 3 4 for hardness modified copper, lead and zinc in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data. Hardness modified values for copper, lead and zinc for all sites within the EMP shall also be reviewed every five years, with the first review being undertaken in 2023 2020. Hardness modified</u>	<u>S42A report, Dr Margetts' evidence</u>	<u>To address concerns around the work being undertaken as soon as possible</u>

	reviewed every five years, with the first review being undertaken in 2023. Hardness modified values shall be calculated using the ANZECC (2000) methodology, as outlined in the EMP. Should a new method of modifying metals become appropriate, this new methodology and any subsequent change in Attribute Target Levels shall be applied. Updated values will be incorporated into the EMP as an amendment, in accordance with Condition 43.	values shall be calculated using the ANZECC (2000) methodology, as outlined in the EMP. Should a new method of modifying metals become appropriate, this new methodology and any subsequent change in Attribute Target Levels shall be applied. Updated values will be incorporated into the EMP as an amendment, in accordance with Condition 43.Schedule 34		
46	The Attribute Target Levels in Schedules 3 to 5 are from relevant regional and national guideline levels. Should these guideline levels be updated, the Attribute Target Levels shall be updated to reflect this. Updated values will be incorporated into the EMP as an amendment, certified in accordance with Condition 43.	...Schedules 34 to 56certified in accordance with Condition 43 44 .		
47	The Attribute Target Levels in Schedules 3 and 4 for the Waterway Cultural Health Index, Marine Cultural Heath Index and State of Takiwā scores, as well as the associated mana whenua monitoring sites and methodology in the EMP, shall be developed in collaboration with papatipu rūnanga. Once these scores, sites and monitoring methods are confirmed, monitoring for these mana whenua objectives shall commence. Updated information will be incorporated into the EMP as an amendment, in accordance with Condition 43.	8. The Attribute Target Levels in Schedules 34 and 45 for the Waterway Cultural Health Index, Marine Cultural Heath Index and State of Takiwā scores, as well as the associated mana whenua values monitoring sites and methodology in the EMP, shall be developed in collaboration with papatipu rūnanga. Once these scores, sites and monitoring methods are confirmed, monitoring for these mana whenua objectives mana whenua values monitoring shall commence. Updated information will be incorporated into the EMP as an amendment, in accordance with Condition 43. Add: a timeframe (August 2020) for inclusion of mana whenua values guideline levels to be adopted following consultation with Papatipu Rūnanga.	Jane West EiC [...]	To provide certainty. Date is result of timing that Dr Margetts considers necessary for the person in the new role at Mahaanui.
48	The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtakaro/ Avon, Ōpāwaho/ Heathcote River and Huritini/ Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters every 5 years starting with the 2019 annual report. The results of model updates and a description of how they demonstrate compliance with Schedule 7 shall be included in the annual report required under Condition 0.			
Responses to Modelling				
49	Where the C-CLM results show that the percentage contaminant reductions required by Table 2 in Condition 0 are not met, the consent holder will be in breach of this consent, and will undertake the following: a. Investigate the reasons for not achieving the modelled contaminant load reductions and describe what measures will be implemented (if necessary) to improve stormwater discharge quality; b. Assess whether reasonable endeavours to mitigate the adverse effects of stormwater have been carried out; c. If the assessment in (b) determines that reasonable endeavours have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a			

	<p>timeline for the correction / remediation (if necessary);</p> <p>d. Prepare a report, provided to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, detailing the matters set out in (a) to (c) above.</p>	<p>d. Prepare a report, provided to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.</p>	Change agreed with Mahaanui.	
50	<p>If, upon submittal of the report, where required by Condition 49, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation.</p>			
	<p><i>Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try and establish agreed approaches prior to submitting the report.</i></p>			
	Responses to Monitoring			
51	<p>If the monitoring results identify that the following Attribute Target Levels are not being met:</p> <p>a. TSS, copper, lead and zinc in surface water, as set out in Schedules 4 and 5;</p> <p>b. copper, lead and zinc in groundwater, as set out in Schedule 6;</p> <p>the consent holder shall:</p> <p>c. Perform an investigation to identify whether this is due to the effects of stormwater network discharges;</p> <p>d. Compile the results of such an investigation into a report to be submitted to the Canterbury Regional Council.</p> <p>e. The report shall include, at a minimum:</p> <p>i. An evaluation of whether the monitoring results are due to stormwater network discharges or not;</p> <p>ii. An assessment of options for correction/remediation (if effects are likely due to stormwater network discharges);</p> <p>iii. A timeline of implementation of corrective action/remediation (if necessary).</p> <p>f. If, upon submittal of the above report, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects of the report</p>	<p>If the monitoring results identify that the following Attribute Target Levels are not being met:</p> <p>a. TSS, copper, lead and zinc in surface water, as set out in Schedules 4 and 5;</p> <p>b. E.coli, copper, lead and zinc in groundwater, as set out in Schedule 6;</p> <p>the consent holder shall: [Add a timeframe for completing c- e below]</p> <p>c. Perform an investigation to identify whether this is due to the effects of stormwater network discharges;</p> <p>d. Compile the results of such an investigation into a report to be submitted to the Canterbury Regional Council and papatipu rūnanga (via Mahaanui Kurataiao Ltd);.</p> <p>e. The report shall include, at a minimum:</p> <p>i. An evaluation of whether the monitoring results are due to stormwater network discharges or not;</p> <p>ii. An assessment of options for correction/remediation (if effects are likely due to stormwater network discharges);</p> <p>iii. A timeline of implementation of corrective action/remediation (if necessary).</p> <p>f. The sites triggering an investigation for a given monitoring year will be identified in the annual report referred to in Condition 53, and the subsequent investigation report will be provided with the following annual monitoring report twelve months later;</p>	<p>Peter Callander and Jane West [83].</p> <p>S42A , Dr Margetts and Jane West.</p> <p>Change agreed with Mahaanui.</p>	

	<p>referenced in Condition (e) above, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and</p> <p>g. Implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation under Condition 51(f) above.</p>	<p>f.g. If, upon submittal of the above report, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects of the report referenced in Condition (e) above, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and</p>		
	Reporting			
52	<p>The consent holder shall maintain relevant records including, but not limited to, detailed design drawings and reports, details of site specific assessments undertaken, maps and any engineering design and construction certificates issued for any water quality or quantity mitigation facilities constructed. These records are to be made available to Canterbury Regional Council on request.</p>			
53	<p>The consent holder shall provide an annual report to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, Banks Peninsula and Christchurch-West Melton Zone Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 June each year. This report will also be made available on the Christchurch City Council website. The report shall include, where appropriate:</p> <p>a. A summary of the outcomes of monitoring, in accordance with Conditions 20, 21, 22, 37 and 42;</p> <p>b. A summary of the C-CLM and results;</p> <p>d. A summary of any discussions, consultation or responses carried out under Conditions 49 - 51;</p> <p>e. A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this consent occurred;</p> <p>f. A summary of flood modelling results (if applicable) for development in greenfield areas;</p> <p>g. The supply of updates to Schedule 1 where required;</p> <p>h. An update on the timetable for construction and activation of Christchurch City Council stormwater mitigation systems for each SMP area, and/or any changes to the implementation of SMP requirements;</p>	<p>9. The consent holder shall provide an annual report to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, Banks Peninsula and Christchurch-West Melton Zone Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 June each year. This report will also be made available on the Christchurch City Council website. The report shall include, where appropriate:</p> <p>a. A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 20, 21, 22, , 37, 38, and 42 and 47. This summary shall be presented in such a way as to assess compliance with the resource consent conditions and trigger the responses required;</p> <p>b. A summary of the C-CLM and results;</p> <p>c. A summary of any discussions, consultation or responses carried out under Conditions 49 - 51;</p> <p>d. A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this consent occurred;</p> <p>e. A summary of flood modelling results (if applicable) for development in greenfield areas;</p> <p>f. The supply of updates to Schedule 1 where required;</p> <p>g. An update on the timetable for construction and activation of Christchurch City Council stormwater mitigation systems for each SMP area, and/or any changes to the implementation of SMP requirements;</p> <p>h. Records of developments authorised under this consent;</p>	<p>Agreed with Mahaanui.</p> <p>Improved text.</p>	<p>Note lettering needs correct both in July 2018 version and here.</p>

	<ul style="list-style-type: none"> i. Records of developments authorised under this consent; j. Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of cultural values; k. A summary of the stormwater quality investigations undertaken during the year; l. A summary of any additional monitoring or investigations undertaken beyond those specified in the EMP, including those undertaken on industrial sites, that have been initiated to inform the consent holder on stormwater management effectiveness. 	<ul style="list-style-type: none"> i. Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of <u>cultural mana whenua</u> values; j. A summary of the stormwater quality investigations undertaken during the year; k. A summary of any additional monitoring or investigations undertaken beyond those specified in the EMP, including those undertaken on industrial sites <u>in accordance with Condition 41</u>, that have been initiated to inform the consent holder on stormwater management effectiveness; <p><u>l. Reporting of any actions under condition 51.</u></p> <p><u>m. Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section.</u></p>	<p>For clarity.</p> <p>S42A, Dr Margetts, Ms West.</p> <p>Ms West [249].</p>	
	ADMINISTRATION AND DURATION			
54	The consent holder shall engage with papatipu rūnanga to collaboratively consider the Conditions on a 5-yearly basis from the date of granting of this consent.			
55	<p>The Canterbury Regional Council may, on any of the last five days of March or September each year, serve notice of its intention to review the conditions of this consent for the purposes of:</p> <ul style="list-style-type: none"> a. Dealing with any adverse effect on the environment which may arise from the exercise of this consent; b. Complying with the requirements of a relevant rule in an operative regional plan. 	<p>Add a new c.:</p> <p><u>within 5 years of the Christchurch West Melton sub-regional section being notified/operative</u></p>	<p>Ms West EiC [188].</p>	
56	The duration of the consent is 25 years.			
	Attachments			
	Schedule 1: Sites excluded from the Christchurch City Council Comprehensive Discharge Consent			
	Schedule 2: Christchurch Contaminant Load Model			
	Schedule 3: General City Conditions – Water Quality and Quantity			
	Schedule 4: Receiving Environment Objectives and Attribute Target Levels for Waterways	See attached table with changes	S42A , Dr Margetts	To provide clarify and address concerns in S42a report
	Schedule 5: Receiving environment objectives and target levels for coastal waters	See attached table with changes	S42A , Dr Margetts	To provide clarify and address concerns in S42a report
	Schedule 6: Receiving Environment Objectives and Attribute Target Levels for Groundwater and Springs	<p>See attached table with changes Amend the last sentence in the bottom right hand cell as follows:</p> <p>"Electrical conductivity is to be used as an indicator for identifying <u>any general</u> changes in <u>groundwater quality related to recharge metals</u> (particularly copper, lead, zinc)."</p>	<p>S42A , Dr Margetts</p> <p>Mr Callander EiC [94].</p>	To provide clarify and address concerns in S42a report

	Schedule 7: Receiving Environment Objectives and Attribute Target Levels for Water Quantity	<u>Amended table attached to Tom Parsons' evidence.</u>	Tom Parsons	To improve clarity and certainty
	<u>References</u>	<p><u>Canterbury Regional Council (20178). Canterbury Land and Water Regional Plan - Volume 1 (August 2017May 2018). Canterbury Regional Council, Christchurch.</u></p> <p><u>Stuart, L.S., Batley, G.E. & Chariton, A.A. (2000). Revision of the ANZECC/ARMCANZ sediment quality guidelines. CSIRO Land and Water Science Report 08/07, prepared for the Department of Sustainability, Environment, Water, Population and Communities. CSIRO, Canberra, Australia.</u></p>		

Schedule 4: Receiving Environment Objectives and Attribute Target Levels for Waterways

- The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels
- TBC-A = To Be Confirmed once a full year of monitoring allows hardness modified values to be calculated, in accordance with Condition 45.
- TBC-B = To Be Confirmed following engagement with papatipu rūnanga, through an update to the EMP, in accordance with Condition 47.

<u>Objective</u>	<u>Attribute</u>	<u>Attribute Target Level</u>	<u>Basis for Target</u>
<u>Enhance ecological valuesEcological values are at acceptable levels</u>	<u>QMCI</u>	<p>Lower limit QMCI scores:</p> <ul style="list-style-type: none"> • <u>Spring-fed – plains – urban waterways: 3.5</u> • <u>Spring-fed – plains waterways: 5</u> • <u>Banks Peninsula waterways: 5</u> 	<u>QMCI is an indicator of aquatic ecological health, with higher numbers indicative of better quality habitats, due to a higher abundance of more sensitive species. QMCI scores are taken from the guidelines in Table 1a of the LWRP (Canterbury Regional Council, 20178). This metric is designed for wadeable sites and should therefore be used with caution for non-wadeable sites. These targets can be achieved through reducing contaminant loads and waterway restoration.</u>
<u>Decrease sediment input to prevent adverse effects on water clarity and aquatic biotaAdverse effects on water clarity and aquatic biota do not occur due to sediment inputs</u>	<p><u>Fine sediment (<2 mm diameter) percent cover of stream bed</u></p> <p><u>TSS concentrations in surface water</u></p>	<p><u>Upper limit fine sediment percent cover of stream bed:</u></p> <ul style="list-style-type: none"> • <u>Spring-fed – plains – urban waterways: 30%</u> • <u>Spring-fed – plains waterways: 20%</u> • <u>Banks Peninsula waterways: 20%</u> <p><u>Upper limit concentration of TSS in surface water: 25 mg/L during base flow, and 100 mg/L during wet weather</u></p> <p><u>No statistically significant increase in TSS concentrations in surface water</u></p>	<u>Sediment (particularly from construction) can decrease the clarity of the water, and can negatively affect the photosynthesis of plants and therefore primary productivity within streams, interfere with feeding through the smothering of food supply, and can clog suitable habitat for species. These sediment cover Target Levels are taken from the standards for the original Styx and South-West Stormwater Management Plan consents, and are based on Table 1a of the LWRP (Canterbury Regional Council, 20178). These targets should be used with caution at sites that likely naturally have soft-bottom channels. These targets can be achieved through reducing contaminant loads (particularly using erosion and sediment control) and instream sediment removal.</u>
<u>Reduce copper, lead and zinc levels in surface water to prevent adverse effects on aquatic biotaAdverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water</u>	<u>Zinc, copper and lead concentrations in surface water</u>	<p><u>Upper limit concentration of dissolved zinc:</u></p> <ul style="list-style-type: none"> • <u>Avon River catchment: 0.0297 mg/L</u> • <u>Heathcote River catchment: 0.04526 mg/L</u> • <u>Cashmere Stream: 0.00724 mg/L</u> • <u>Halswell River catchment: 0.01919 mg/L</u> • <u>Styx River catchment: 0.01214 mg/L</u> • <u>Otukaikino River catchment: 0.00868 mg/L</u> • <u>Linwood Canal: 0.146 mg/L</u> • <u>Banks Peninsula catchments: TBC-A</u> 	<u>These metals can be toxic to aquatic organisms, negatively affecting such things as fecundity, maturation, respiration, physical structure and behaviour. The CCC has developed these hardness modified trigger values in accordance with the methodology in the 'Australian and New Zealand Environment and Conservation Council, and Agriculture and Resource Management Council of Australia and New Zealand' (ANZECC, 2000) guidelines, and the species protection level relevant to each waterway in the LWRP (Canterbury Regional Council, 20178). This calculation document can be provided on request. These targets can be achieved primarily through reducing contaminant loads.</u>

Objective	Attribute	Attribute Target Level	Basis for Target
		<p>Upper limit concentration of dissolved copper:</p> <ul style="list-style-type: none"> Avon River catchment: 0.00356 mg/L Heathcote River catchment: 0.00543 mg/L Cashmere Stream: 0.00302 mg/L Halswell River catchment: 0.00336 mg/L Styx River catchment: 0.00212 mg/L Otukaikino River catchment: 0.00152 mg/L Linwood Canal: 0.0175 mg/L Banks Peninsula catchments: TBC-A <p>Upper limit concentration of dissolved lead:</p> <ul style="list-style-type: none"> Avon River catchment: 0.01554 mg/L Heathcote River catchment: 0.02916 mg/L Cashmere Stream: 0.00521 mg/L Halswell River catchment: 0.01257 mg/L Styx River catchment: 0.00634 mg/L Otukaikino River catchment: 0.00384 mg/L Linwood Canal: 0.167 mg/L Banks Peninsula catchments: TBC-A <p>No statistically significant increase in copper, lead and zinc concentrations</p>	
<p>Reduce nutrient levels to limit excessive growth of macrophytes and filamentous algae</p> <p>Excessive growth of macrophytes and filamentous algae does not occur due to nutrient inputs</p>	<p>Total macrophyte and filamentous algae (>20 mm length) cover of stream bed</p>	<p>Upper limit total macrophyte cover of the stream bed:</p> <ul style="list-style-type: none"> Spring-fed – plains – urban waterways: 60% Spring-fed – plains waterways: 50% Banks Peninsula waterways: 30% <p>Upper limit filamentous algae cover of the stream bed:</p> <ul style="list-style-type: none"> Spring-fed – plains – urban waterways: 30% Spring-fed – plains waterways: 30% Banks Peninsula waterways: 20% 	<p>Macrophyte and algae cover are indicators of the quality of aquatic habitat. Targets are taken from Table 1a of the LWRP (Canterbury Regional Council, 20178). Improvement towards these targets can be achieved by reduction in nutrient concentrations and riparian planting to shade the waterways.</p>
<p>Improve instream sediment quality to prevent adverse effects on aquatic biota</p> <p>Adverse effects on aquatic biota do not occur due to zinc, copper, lead and PAHs in instream sediment</p>	<p>Zinc, copper, and lead and PAHs concentrations in instream sediment</p>	<p>Upper limit concentration of total recoverable metals for all classifications:</p> <ul style="list-style-type: none"> Copper = 65 mg/kg dry weight Lead = 50 mg/kg dry weight Zinc = 200 mg/kg dry weight Total PAHs = 4 10 mg/kg dry weight <p>No statistically significant increase in copper, lead, zinc and Total PAHs</p>	<p>Metals can bind to sediment and remain in waterways, potentially negatively affecting biota. These trigger values are based on the <u>ISQG-low ANZECC (2000) guidelines (Stuart et al., 2013)</u>. These targets can be achieved through reducing contaminant loads and instream sediment removal.</p>
<p>Enhance mana whenua freshwater values</p> <p>Mana whenua freshwater values are at acceptable levels</p>	<p>Waterway Cultural Health Index and State of Takiwā scores</p>	<p>Lower limit averaged Waterway Cultural Health Index and State of Takiwā scores for all classifications:</p> <ul style="list-style-type: none"> Spring-fed – plains – urban waterways: TBC-B Spring-fed – plains waterways: TBC-B Banks Peninsula waterways: TBC-B 	<p>The Waterway Cultural Health Index assesses cultural values and indicators of environmental health, such as mahinga kai (food gathering). These indices are on a scale of 1 - 5, with higher scores indicative of greater cultural values. No guidelines are available currently for the different types of waterways, so these targets will be developed specifically for this consent, with higher targets for</p>

Objective	Attribute	Attribute Target Level	Basis for Target
			waterways with higher values. These targets can be achieved through reducing contaminant loads and habitat restoration.

Schedule 5: Receiving Environment Objectives and Attribute Target Levels for Coastal Waters

- The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels
- TBC-B = To Be Confirmed following consultation with papatipu rūnanga, through an update to the EMP, in accordance with Condition 47.

Objective	Attribute	Attribute Target Level	Basis for Target
<u>Reduce sediment input to prevent adverse effects on water clarity and aquatic biota</u> <u>Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs</u>	<u>TSS concentrations in surface water</u>	<u>No statistically significant increase in TSS concentrations</u>	<u>Elevated levels of TSS in the water column decrease the clarity of the water and can adversely affect aquatic plants, invertebrates and fish (Crowe & Hay, 2004; Ryan, 1991). For example, sediment can affect photosynthesis of plants and therefore primary productivity, interfere with feeding through the smothering of food supply, and can clog suitable habitat for species (Crowe & Hay, 2004; Ryan, 1991). There is no guideline available for this parameter, so no change in concentrations is proposed to be conservative. The target will be achieved by reducing contaminant loads (particularly using erosion and sediment control measures).</u>
<u>Decrease copper, lead and zinc levels in water to prevent adverse effects on aquatic biota</u> <u>Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water</u>	<u>Copper, lead and zinc concentrations in surface water</u>	<u>Maximum dissolved metal concentrations for all classes (with the exception of the Operational Area of the Port of Lyttelton):</u> <ul style="list-style-type: none"> <u>Copper: 0.005 0.0013 mg/L</u> <u>Lead: 0.005 0.0044 mg/L</u> <u>Zinc: 0.05 0.015 mg/L</u> <u>No statistically significant increase in copper, lead and zinc concentrations (with the exception of the Operational Area of the Port of Lyttelton)</u>	<u>Metals, in particular, copper, lead and zinc, can be toxic to aquatic organisms, negatively affecting such things as fecundity, maturation, respiration, physical structure and behaviour (Harding, 2005). Site specific criteria are set out in the Regional Coastal Environment Plan for the Canterbury Region (Canterbury Regional Council, 2012). The plan specifically details that this guideline is not relevant for the Operational Area of the Port of Lyttelton. This area is affected by direct discharges from boats that will make monitoring of the effects of stormwater difficult. These targets will be achieved by reducing contaminant loads.</u>
<u>Enhance mana whenua coastal values</u> <u>Mana whenua coastal values are at acceptable levels</u>	<u>Marine Cultural Health Index and State of Takiwā scores</u>	<u>Minimum averaged Marine Cultural Health Index and State of Takiwā scores for all classes:</u> <ul style="list-style-type: none"> <u>TBC-B</u> 	<u>The Marine Cultural Health Index and State of Takiwā scores assesses cultural values and indicators of environmental health, such as mahinga kai (food gathering). These indices are on a scale of 1 - 5, with higher scores indicative of greater cultural values. No guidelines are available currently for coastal areas, so this target will be developed specifically for this consent. These targets can be achieved through reducing contaminant loads.</u>

Schedule 6: Receiving Environment Objectives and Attribute Target Levels for Groundwater and Springs

- The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels

Objective	Attribute	Attribute Target Level	Basis for Target
Protect drinking water quality	Copper, lead, zinc and <i>Escherichia coli</i> concentrations in drinking water	<p>Concentration to not exceed:</p> <ul style="list-style-type: none">Dissolved Copper: 0.5 mg/LDissolved Lead: 0.0025 mg/LDissolved Zinc:0.375 mg/L <p>No statistically significant increase in the concentration of <i>Escherichia coli</i> at drinking water supply wells</p>	The most important use of Christchurch groundwater is the supply of the urban reticulated drinking water supply. Contaminants in stormwater that infiltrate into the ground could impact on the quality of water supply wells and/or springs. The compliance criteria for a potable and wholesome water supply are specified in the Drinking-Water Standards for New Zealand 2005 (Revised 2008). Metals and <i>E.coli</i> were chosen for these targets, as these are contaminants present in stormwater. The target values for copper and lead are a quarter of the Maximum Acceptable Value (MAV) or Guideline Value (GV) taken from the Drinking Water Standards for New Zealand 2005 (revised 2008). This is to ensure investigations occur before the water quality limits in the LWRP are exceeded, which are that concentrations are not to exceed 50% of the MAV. An equivalent criteria has also been applied to the zinc target, which is not included in the LWRP water quality limits, but has a guideline in the drinking water standards.
Avoid widespread adverse effects on shallow groundwater quality	Electrical conductivity in groundwater	<ul style="list-style-type: none">No statistically significant increase in electrical conductivity	Contaminants in stormwater that infiltrate into the ground could impact on groundwater quality. Long term groundwater quality at monitoring wells is undertaken by Canterbury Regional Council. Those monitoring points that occur within the urban area could be impacted by CCC stormwater management activities. Electrical conductivity is to be used as an indicator for identifying any general changes in groundwater quality related to recharge metals (particularly copper, lead, zinc).

Attachment B
Statutory Plan Provisions

Attachment B – Statutory Plan Provisions

National Policy Statement for Freshwater Management

Objective AA1

To consider and recognise Te Mana o te Wai in the management of fresh water.

Policy AA1

By every regional council making or changing regional policy statements and plans to consider and recognise Te Mana o te Wai, noting that:

- a) te Mana o te Wai recognises the connection between water and the broader environment – Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people); and
- b) values identified through engagement and discussion with the community, including tangata whenua, must inform the setting of freshwater objectives and limits.

Objective A1: To safeguard:

- a) The life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and
- b) The health of all people and communities, as affected by contact with fresh water; in sustainably managing the use and development of land, and of discharges of contaminants

Objective A2: The overall quality of fresh water within a freshwater management unit is maintained or improved while:

- a) Protecting the significant values of outstanding freshwater bodies;
- b) Protecting the significant values of wetlands; and
- c) Improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated

Objective A3: The quality of fresh water within a freshwater management unit is improved so it is suitable for primary contact more often, unless:

- (a) Regional targets established under Policy A6(b) have been achieved; or
- (b) Naturally occurring processes mean further improvement is not possible.

Objective A4: To enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality, within limits.

Policy A1: By every regional council making or changing regional plans to the extent needed to ensure the plans:

- (a) Establish freshwater objectives in accordance with Policies CA1-CA4 and set freshwater quality limits for all freshwater management units in their regions to give effect to the objectives in this national policy statement, having regard to at least the following:
 - (i) The reasonably foreseeable impacts of climate change;
 - (ii) The connection between water bodies; and
 - (iii) The connections between freshwater bodies and coastal water; and
- (b) Establish methods (including rules) to avoid over-allocation.

Policy A2: Where freshwater management units do not meet the freshwater objectives made pursuant to Policy A1, every regional council is to specify targets and implement methods (either or both regulatory and non-regulatory), in a way that considers the sources of relevant contaminants recorded under Policy CC1, to assist the improvement of water quality in the freshwater

Policy A3: By regional councils:

- a) Imposing conditions on discharge permits to ensure the limits and targets specified pursuant to Policy A1 and A2 can be met; and
- b) Where permissible, making rules requiring the adoption of best practicable option to prevent or minimise any actual or likely adverse effect on the environment of any discharge of a contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

Policy A5: By every regional council making or changing regional plans to the extent needed to ensure the plans:

- (a) Identify specified rivers and lakes, and primary contact sites; and
- (b) State what improvements will be made, and over what timeframes, to specified rivers and lakes, and primary contact sites, so they are suitable for primary contact more often; or
- (c) State how specified rivers and lakes, and primary contact sites, will be maintained if regional targets established under Policy A6(b) have been achieved.

Improvements to specified rivers and lakes in (b) must make a contribution to achieving regional targets established under Policy A6(b).

Policy A6:

By every regional council developing regional targets to improve the quality of fresh water in specified rivers and lakes and contribute to achieving the national target in Appendix 6, and ensuring:

- a) draft regional targets are available to the public by 31 March 2018; and
- b) final regional targets are available to the public by 31 December 2018.

Policy A7:

By every regional council considering, when giving effect to this national policy statement, how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits.

Objective C1: To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment.

Policy C1: By every regional council:

- a) recognising the interactions, ki uta ki tai (from the mountains to the sea) between fresh water, land, associated ecosystems and the coastal environment; and
- b) managing fresh water and land use and development in catchments in an integrated and sustainable way to avoid, remedy or mitigate adverse effects, including cumulative effects

Policy C2: By every regional council making or changing regional policy statements to the extent needed to provide for the integrated management of the effects of the use and development of:

- a) Land on fresh water, including encouraging the co-ordination and sequencing of regional and/or urban growth, land use and development and the provision of infrastructure; and
- b) Land and fresh water on coastal water.

Objective CA1: To provide an approach to establish freshwater objectives for national values, and any other values, that:

- (a) Is nationally consistent; and
- (b) Recognises regional and local circumstances.

Policy CA1: By every regional council identifying freshwater management units that include all freshwater bodies within its region.

Policy CA2: By every regional council, through discussion with communities, including tangata whenua, applying the following processes in developing freshwater objectives for all freshwater management units:

- a) considering all national values and how they apply to local and regional circumstances;

- b) identifying the values for each freshwater management unit, which
 - i. must include the compulsory values; and
 - ii. may include any other national values or other values that the regional council considers appropriate (in either case having regard to local and regional circumstances); and
- c) identifying:
 - i. for the compulsory values or any other national value for which relevant attributes are provided in Appendix 2:
 - A. the attributes listed in Appendix 2 that are applicable to each value identified under Policy CA2(b) for the freshwater body type; and
 - B. any other attributes that the regional council considers appropriate for each value identified under Policy CA2(b) for the freshwater body type; and
 - iii. for any national value for which relevant attributes are not provided in Appendix 2 or any other value, the attributes that the regional council considers appropriate for each value identified under Policy CA2(b) for the freshwater body type;
- d) for those attributes specified in Appendix 2, assigning an attribute state at or above the minimum acceptable state for that attribute;
- e) formulating freshwater objectives:
 - i. in those cases where an applicable numeric attribute state is specified in Appendix 2, in numeric terms by reference to that specified numeric attribute state; or
 - ii. in those cases where the attribute is not listed in Appendix 2, in numeric terms where practicable, otherwise in narrative terms;
 - iii. in those cases where a freshwater objective seeks to maintain overall water quality in accordance with Objective A2, by every regional council ensuring:
 - A. where an attribute is listed in Appendix 2, that freshwater objectives are set at least within the same attribute state as existing freshwater quality; and
 - B. where an attribute is not listed in Appendix 2, that freshwater objectives are set so that values identified under Policy CA2(b) will not be worse off when compared to existing freshwater quality; and
 - iii. on the basis that, where an attribute applies to more than one value, the most stringent freshwater objective for that attribute is adopted; and
- f) considering the following matters at all relevant points in the process described in Policy CA2(a)-(e):
 - iaa. how to improve the quality of fresh water so it is suitable for primary contact more often, unless regional targets established under Policy A6(b) have been achieved or naturally occurring processes mean further improvement is not possible;
 - iab. how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits;
 - i. the current state of the freshwater management unit, and its anticipated future state on the basis of past and current resource use, including community understandings of the health and well-being of the freshwater management unit;
 - ii. the spatial scale at which freshwater management units are defined;
 - iii. the limits that would be required to achieve the freshwater objectives;
 - iv. any choices between the values that the formulation of freshwater objectives and associated limits would require;
 - v. any implications for resource users, people and communities arising from the freshwater objectives and associated limits including implications for actions, investments, ongoing management changes and any social, cultural or economic implications;
 - vi. the timeframes required for achieving the freshwater objectives, including the ability of regional councils to set long timeframes for achieving targets; and
 - vii. such other matters relevant and reasonably necessary to give effect to the objectives and policies in this national policy statement, in particular Objective AA1 and Objective A2.

Objective D1: To provide for the involvement of iwi and hapū, and to ensure that tāngata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision-making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.

Policy D1: Local authorities shall take reasonable steps to:

- a) involve iwi and hapū in the management of fresh water and freshwater ecosystems in the region;
- b) work with iwi and hapū to identify tāngata whenua values and interests in fresh water and freshwater ecosystems in the region; and
- c) reflect tāngata whenua values and interests in the management of, and decision-making regarding, fresh water and freshwater ecosystems in the region.

New Zealand Coastal Policy Statement

Objective 1

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:

- maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;
- protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and
- maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.

Objective 2

To preserve the natural character of the coastal environment and protect natural features and landscape values through:

- recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution;
- identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and encouraging restoration of the coastal environment.

Objective 3

To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by:

- recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;
- promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;
- incorporating mātauranga Māori into sustainable management practices; and
- recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.

Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:

- recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;
- maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and
- recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.

Objective 5

To ensure that coastal hazard risks taking account of climate change, are managed by:

- locating new development away from areas prone to such risks;
- considering responses, including managed retreat, for existing development in this situation; and
- protecting or restoring natural defences to coastal hazards.

Objective 6

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:

- the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;
- some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and
- cultural wellbeing of people and communities;
- functionally some uses and developments can only be located on the coast or in the coastal marine area;
- the coastal environment contains renewable energy resources of significant value;
- the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;
- the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;
- the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and
- historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.

Objective 7

- To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.

Policy 1 Extent and characteristics of the coastal environment

- (1) Recognise that the extent and characteristics of the coastal environment vary from region to region and locality to locality; and the issues that arise may have different effects in different localities.
- (2) Recognise that the coastal environment includes:
 - (a) the coastal marine area;
 - (b) islands within the coastal marine area;
 - (c) areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these;
 - (d) areas at risk from coastal hazards;
 - (e) coastal vegetation and the habitat of indigenous coastal species including migratory birds;
 - (f) elements and features that contribute to the natural character, landscape, visual qualities or amenity values;
 - (g) items of cultural and historic heritage in the coastal marine area or on the coast;
 - (h) inter-related coastal marine and terrestrial systems, including the intertidal zone; and
 - (i) physical resources and built facilities, including infrastructure, that have modified the coastal environment.

Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage

In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment:

- (a) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations;
- (b) involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy

- statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori;
- (c) with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori¹ in regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes;
 - (d) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga², may have knowledge not otherwise available;
 - (e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and
 - (i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and
 - (ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans;
 - (f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as:
 - (i) bringing cultural understanding to monitoring of natural resources;
 - (ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua;
 - (iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaītai or other non commercial Māori customary fishing; and
 - (g) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value:
 - (i) recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and cultural impact assessments; and
 - (ii) provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.

Policy 3 Precautionary Approach

- (1) Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.
- (2) In particular, adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that:
 - (a) avoidable social and economic loss and harm to communities does not occur;
 - (b) natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and
 - (c) the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.

Policy 4 Integration

Provide for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment. This requires:

- (a) co-ordinated management or control of activities within the coastal environment, and which could cross administrative boundaries, particularly:
 - (i) the local authority boundary between the coastal marine area and land;
 - (ii) local authority boundaries within the coastal environment, both within the coastal marine area and on land; and
 - (iii) where hapū or iwi boundaries or rohe cross local authority boundaries;
- (b) working collaboratively with other bodies and agencies with responsibilities and functions relevant to

resource management, such as where land or waters are held or managed for conservation purposes; and

(c) particular consideration of situations where:

- (i) subdivision, use, or development and its effects above or below the line of mean high water springs will require, or is likely to result in, associated use or development that crosses the line of mean high water springs; or
- (ii) public use and enjoyment of public space in the coastal environment is affected, or is likely to be affected; or
- (iii) development or land management practices may be affected by physical changes to the coastal environment or potential inundation from coastal hazards, including as a result of climate change; or
- (iv) land use activities affect, or are likely to affect, water quality in the coastal environment and marine ecosystems through increasing sedimentation; or significant adverse cumulative effects are occurring, or can be anticipated.

Policy 6 Activities in the Coastal Environment

(1) In relation to the coastal environment:

- (a) recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;
- (b) consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;
- (c) encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth;
- (d) recognise tangata whenua needs for papakāinga³, marae and associated developments and make appropriate provision for them;
- (e) consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;
- (f) consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable;
- (g) take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;
- (h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;
- (i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and
- (j) where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.

(2) Additionally, in relation to the coastal marine area:

- (a) recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations;
- (b) recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;
- (c) recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;
- (d) recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and
- (e) promote the efficient use of occupied space, including by:

- (i) requiring that structures be made available for public or multiple use wherever reasonable and practicable;
- (ii) requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and
- (iii) considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay.

Policy 7 Strategic Planning

- (1) In preparing regional policy statements, and plans:
 - (a) consider where, how and when to provide for future residential, rural residential, settlement, urban development and other activities in the coastal environment at a regional and district level, and;
 - (b) identify areas of the coastal environment where particular activities and forms of subdivision, use and development:
 - (i) are inappropriate; and
 - (ii) may be inappropriate without the consideration of effects through a resource consent application, notice of requirement for designation or Schedule 1 of the Act process; and provide protection from inappropriate subdivision, use, and development in these areas through objectives, policies and rules.
- (2) Identify in regional policy statements, and plans, coastal processes, resources or values that are under threat or at significant risk from adverse cumulative effects. Include provisions in plans to manage these effects. Where practicable, in plans, set thresholds (including zones, standards or targets), or specify acceptable limits to change, to assist in determining when activities causing adverse cumulative effects are to be avoided.

Policy 11 Indigenous biological diversity (biodiversity)

To protect indigenous biological diversity in the coastal environment:

- (a) avoid adverse effects of activities on:
 - (i) indigenous taxa⁴ that are listed as threatened⁵ or at risk in the New Zealand Threat Classification System lists;
 - (ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;
 - (iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare⁶;
 - (iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;
 - (v) areas containing nationally significant examples of indigenous community types; and
 - (vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and
- (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:
 - (i) areas of predominantly indigenous vegetation in the coastal environment;
 - (ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;
 - (iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;
 - (iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;
 - (v) habitats, including areas and routes, important to migratory species; and
 - (vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.

Policy 22 Sedimentation

- (1) Assess and monitor sedimentation levels and impacts on the coastal environment.
- (2) Require that subdivision, use, or development will not result in a significant increase in sedimentation in the coastal marine area, or other coastal water.

- (3) Control the impacts of vegetation removal on sedimentation including the impacts of harvesting plantation forestry.
- (4) Reduce sediment loadings in runoff and in stormwater systems through controls on land use activities.

Policy 23 Discharge of contaminants

- (1) In managing discharges to water in the coastal environment, have particular regard to:
 - (a) the sensitivity of the receiving environment;
 - (b) the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment, and the risks if that concentration of contaminants is exceeded; and
 - (c) the capacity of the receiving environment to assimilate the contaminants; and:
 - (d) avoid significant adverse effects on ecosystems and habitats after reasonable mixing;
 - (e) use the smallest mixing zone necessary to achieve the required water quality in the receiving environment; and
 - (f) minimise adverse effects on the life-supporting capacity of water within a mixing zone.
- ...
- (4) In managing discharges of stormwater take steps to avoid adverse effects of stormwater discharge to water in the coastal environment, on a catchment by catchment basis, by:
 - (a) avoiding where practicable and otherwise remedying cross contamination of sewage and stormwater systems;
 - (b) reducing contaminant and sediment loadings in stormwater at source, through contaminant treatment and by controls on land use activities;
 - (c) promoting integrated management of catchments and stormwater networks; and
 - (d) promoting design options that reduce flows to stormwater reticulation systems at source.

Canterbury Regional Policy Statement

Chapter 5: Land use and infrastructure

Objective 5.2.1 - Location, design and function of development (Entire Region)

Development is located and designed so that it functions in a way that:

- 1. achieves consolidated, well designed and sustainable growth in and around existing urban areas as the primary focus for accommodating the region's growth; and
- 2. enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which:
 - (a) maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;
 - (b) provides sufficient housing choice to meet the region's housing needs;
 - (c) encourages sustainable economic development by enabling business activities in appropriate locations;
 - (d) minimises energy use and/or improves energy efficiency;
 - (e) enables rural activities that support the rural environment including primary production;
 - (f) is compatible with, and will result in the continued safe, efficient and effective use of regionally significant infrastructure;
 - (g) avoids adverse effects on significant natural and physical resources including regionally significant infrastructure, and where avoidance is impracticable, remedies or mitigates those effects on those resources and infrastructure;
 - (h) facilitates the establishment of papakāinga and marae; and
 - (i) avoids conflicts between incompatible activities.

Policy 5.3.5 Servicing development for potable water, and sewage and stormwater disposal (Wider Region)

Within the wider region, ensure development is appropriately and efficiently served for the collection, treatment, disposal or re-use of sewage and stormwater, and the provision of potable water, by:

1. Avoiding development which will not be served in a timely manner to avoid or mitigate adverse effects on the environment and human health; and
2. Requiring these services to be designed, built, managed or upgraded to maximise their ongoing effectiveness

Policy 5.3.6 Sewerage, stormwater and potable water infrastructure (Wider Region)

Within the wider region:

1. Avoid development which constrains the on-going ability of the existing sewerage, stormwater and potable water supply infrastructure to be developed and used.
2. Enable sewerage, stormwater and potable water infrastructure to be developed and used, provided that, as a result of its location and design:
 - (a) the adverse effects on significant natural and physical resources are avoided, or where this is not practicable, mitigated; and
 - (b) other adverse effects on the environment are appropriately controlled.
3. Discourage sewerage, stormwater and potable water supply infrastructure which will promote development in locations which do not meet Policy 5.3.1.

Chapter 7 – Fresh water

Objective 7.2.1 – Sustainable Management of fresh water

The region's fresh water resources are sustainably managed to enable people and communities to provide for their economic and social well-being through abstracting and/or using water for irrigation, hydro-electricity generation and other economic activities, and for recreational and amenity values, and any economic and social activities associated with those values, providing:

1. The life supporting capacity ecosystem processes, and indigenous species and their associated freshwater ecosystems and mauri of the fresh water is safe-guarded;
2. The natural character values of wetlands, lakes and rivers and their margins are preserved and these areas are protected from inappropriate subdivision, use and development and where appropriate restored or enhanced; and
3. Any actual or reasonably foreseeable requirements for community and stockwater supplies and customary uses, are provided for.

Objective 7.2.3 Protection of intrinsic value of waterbodies and their riparian zones

The overall quality of freshwater in the region is maintained or improved, and the life supporting capacity, ecosystem processes and indigenous species and their associated fresh water ecosystems are safeguarded.

Objective 7.2.4 Integrated management of fresh water resources

Fresh water is sustainably managed in an integrated way within and across catchments, between activities, and between agencies and people with interests in water management in the community, considering:

1. the Ngāi Tahu ethic of Ki Uta Ki Tai (from the mountains to the sea);
2. the interconnectivity of surface water and groundwater;
3. the effects of land uses and intensification of land uses on demand for water and on water quality; and
4. kaitiakitanga and the ethic of stewardship; and
5. any net benefits of using water, and water infrastructure, and the significance of those benefits to the Canterbury region.

Policy 7.3.1 Adverse effects of activities on the natural character of fresh water

To identify the natural character values of fresh water bodies and their margins in the region and to:

1. preserve natural character values where there is a high state of natural character; 7 - 10 Environment Canterbury Canterbury Regional Policy Statement 2013

2. maintain natural character values where they are modified but highly valued; and
 3. improve natural character values where they have been degraded to unacceptable levels;
- unless modification of the natural character values of a fresh water body is provided for as part of an integrated solution to water management in a catchment in accordance with Policy 7.3.9, which addresses remedying and mitigating adverse effects on the environment and its natural character values.

Policy 7.3.3 Enhancing fresh water environments and biodiversity

To promote, and where appropriate require the protection, restoration and improvement of lakes, rivers, wetlands and their riparian zones and associated Ngāi Tahu values, and to:

1. Identify and protect areas of significant indigenous vegetation and significant habitats, sites of significant cultural value, wetlands, lakes and lagoons/hapua, and other outstanding water bodies; and
2. Require the maintenance and promote the enhancement of indigenous biodiversity, inland basin ecosystems and riparian zones; and
3. Promote, facilitate or undertake pest control.

Policy 7.3.5 Water quantity and land uses

To avoid, remedy or mitigate adverse effects of land uses on the flow of water in surface water bodies or the recharge of groundwater by:

- (1) Controlling the diversion of rainfall run-off over land, and changes in land uses, site coverage or land drainage patterns that will, either singularly or cumulatively, adversely affect the quantity or rate of water flowing into surface water bodies or the rate of groundwater recharge; and
- (2) Managing the planting or spread of exotic vegetation species in catchments where, either singularly or cumulatively, those species are or are likely to have significant adverse effects on flows in surface water bodies.

Policy 7.3.6 Fresh water quality

In relation to water quality:

- (1) To establish and implement minimum water quality standards for surface water and groundwater resources in the region, which are appropriate for each water body considering:
 - (a) The values associated with maintaining life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, and natural character of the water body;
 - (b) Any current and reasonably foreseeable requirement to use the water for individual, marae or community drinking water or stockwater supplies, customary uses or contact recreation;
 - (c) The cultural significance of the fresh water body and any conditions or restrictions on the discharge of contaminants that may be necessary or appropriate to protect those values; and
 - (d) Any other current or reasonably foreseeable values or uses; and
- (2) To manage activities which may affect water quality (including land uses), singularly or cumulatively, to maintain water quality at or above the minimum standard set for that water body; and
- (3) Where water quality is below the minimum water quality standard set for that water body, to avoid [...] any additional discharge of contaminants to that water body, where any further [...] discharges, either singularly or cumulatively, may further adversely affect the water quality in that water body:
 - (a) Until the water quality standards for that water body are met; or
 - (b) Unless the activities are undertaken as part of an integrated solution to water management in the catchment in accordance with Policy 7.3.9, which provides for the redress of water quality within that water body within a specified timeframe.

Policy 7.3.7 Water quality and land uses

To avoid, remedy or mitigate adverse effects of changes in land uses on the quality of fresh water (surface or ground) by:

1. identifying catchments where water quality may be adversely affected, either singularly or cumulatively, by increases in the application of nutrients to land or other changes in land use; and
2. controlling changes in land uses to ensure water quality standards are maintained or where water quality is already below the minimum standard for the water body, it is improved to the minimum standard within an appropriate timeframe.

Policy 7.3.9 Integrated solutions to fresh water management

To require integrated solutions to the management of fresh water by developing and implementing comprehensive management plans which address the policies of this Statement including addressing all the relevant matters set out in Appendix 2.

Policy 7.3.11 Existing activities and infrastructure

In relation to existing activities and infrastructure:

1. to recognise and provide for the continuation of existing hydro-electricity generation and irrigation schemes, and other activities which involve substantial investment in infrastructure; but
2. require improvements in water use efficiency and reductions in adverse environmental effects of these activities, where appropriate.

Policy 7.3.13 Resolution of freshwater management issues

To encourage the involvement of people and communities in the management of fresh water, including:

1. community stewardship of water resources and programmes to address fresh water issues at a local catchment level;
2. Ngāi Tahu, as tāngata whenua, exercising kaitiakitanga in accordance with tikanga Māori; and
3. providing opportunities for consent holders to take greater stewardship of fresh water resources, within consent conditions.

Chapter 8 – The Coastal Environment

Objective 8.2.1 Increasing knowledge of the coastal environment and its resources

A programme of information gathering is undertaken on the natural processes, ecosystems and resources in the coastal environment; with the purpose of providing the basis for:

1. Development of a coastal strategy(ies) within five years to address the management of the coastal environment in Canterbury.
2. Consequential changes to the Canterbury Regional Policy Statement, any relevant regional coastal plan(s) and district plans.

Objective 8.2.4 Preservation, protection and enhancement of the coastal environment

In relation to the coastal environment:

1. Its natural character is preserved and protected from inappropriate subdivision, use and development; and
2. Its natural, ecological, cultural, amenity, recreational and historic heritage values are restored or enhanced.

Objective 8.2.6 Protection and improvement of coastal water

Protection of coastal water quality and associated values of the coastal environment, from significant adverse effects of the point and non-point discharge of contaminants; and enhancement of coastal water quality where it has been degraded.

Policy 8.3.7 Improve water quality in degraded areas

To improve the quality of Canterbury's coastal waters in areas where degraded water quality has significant adverse effects on natural, cultural, amenity and recreational values.

Chapter 17 – Contaminated Land

Objective 17.2.1 Protection from adverse effects of contaminated land

Protection of people and the environment from both on-site and off-site adverse effects of contaminated land.

Policy 17.3.2 Development of, or discharge from contaminated land

In relation to actually or potentially contaminated land, where new subdivision, use or development is proposed on that land, or where there is a discharge of the contaminant from that land:

1. a site investigation is to be undertaken to determine the nature and extent of any contamination; and
2. if it is found that the land is contaminated, except as provided for in Policy 17.3.3, the actual or potential adverse effects of that contamination, or discharges from the contaminated land shall be avoided, remedied or mitigated in a manner that does not lead to further significant adverse effects.

Policy 17.3.3 Contaminants may remain in the land

Where land has been identified as being contaminated, contaminants should only be allowed to remain in the ground if discharges of contaminants beyond the site to air, water or land will not result in significant risk to human health or the environment.

Chapter 18 – Hazardous Substances

18.2.1 Avoid, remedy or mitigate adverse effects

Adverse effects on the environment from the storage, use, disposal and transportation of hazardous substances are avoided, remedied or mitigated.

Policy 18.3.2 Avoid, remedy or mitigate adverse effects

To avoid, remedy or mitigate adverse effects on the environment, including contamination of land, air and water, associated with the storage, use, transportation or disposal of hazardous substances.

Policy 18.3.3 Integration and coordination

To promote an integrated approach to hazardous substance management within the region.

Canterbury Land and Water Regional Plan

Section 3 - Objectives

Objective 3.1

Land and water are managed as integrated natural resources to recognise and enable Ngāi Tahu culture, traditions, customary uses and relationships with land and water.

Objective 3.2

Water management applies the ethic of ki uta ki tai – from the mountains to the sea – and land and water are managed as integrated natural resources recognising the connectivity between surface water and groundwater, and between fresh water, land and the coast.

Objective 3.6

Water is recognised as essential to all life and is respected for its intrinsic values.

Objective 3.8

The quality and quantity of water in fresh water bodies and their catchments is managed to safeguard the life-supporting capacity of ecosystems and ecosystem processes, including ensuring sufficient flow and quality of water to support the habitat and feeding, breeding, migratory and other behavioural requirements of indigenous species, nesting birds and, where appropriate, trout and salmon.

Objective 3.8A

High quality fresh water is available to meet actual and reasonably foreseeable needs for community drinking water supplies.

Objective 3.11

Water is recognised as an enabler of the economic and social wellbeing of the region.

Objective 3.13

Groundwater resources remain a sustainable source of high quality water which is available for abstraction while supporting base flows or levels in surface water bodies, springs and wetlands and avoiding salt-water intrusion.

Objective 3.15

Those parts of lakes and rivers that are valued by the community for recreation are suitable for contact recreation.

Objective 3.16

Freshwater bodies and their catchments are maintained in a healthy state, including through hydrological and geomorphic processes such as flushing and opening hāpua and river mouths, flushing algal and weed growth, and transporting sediment.

Objective 3.17

The significant indigenous biodiversity values of rivers, wetlands and hāpua are protected.

Objective 3.22

The effectiveness of both man-made natural hazard protection infrastructure, and wetlands and hāpua as natural water retention areas, is maintained to reduce the risk of and effects from natural hazards, including those arising from seismic activity and climate change.

Objective 3.24

All activities operate at good environmental practice or better to optimise efficient resource use and protect the region's fresh water resources from quality and quantity degradation.

Section 4 – Policies

Policy 4.1

Lakes, rivers, wetlands and aquifers will meet the fresh water outcomes set in Sections 6 to 15 within the specified timeframes. If outcomes have not been established for a catchment, then each type of lake, river or aquifer should meet the outcomes set out in Table 1 by 2030.

Policy 4.2

The management of lakes, rivers, wetlands and aquifers will take account of the fresh water outcomes, water quantity limits and the individual and cumulative effects of land uses, discharges and abstractions will meet the water quality limits set in Sections 6 to 15 or Schedule 8 and the individual and cumulative effects of abstractions will meet the water quantity limits in Sections 6 to 15.

Policy 4.3

Surface water bodies are managed so that:

- (a) toxin producing cyanobacteria do not render rivers or lakes unsuitable for recreation or human and animal drinking-water;
- (b) fish are not rendered unsuitable for human consumption by contaminants;
- (c) the natural colour of the water in a river is not altered;
- (d) the natural frequency of hāpua, coastal lakes, lagoons and river openings is not altered; (e) the passage for migratory fish species is maintained unless restrictions are required to protect populations of native fish;
- (f) reaches of rivers are not induced to run dry, thereby maintaining the natural continuity of river flow from source to sea,
- (g) variability of flow, including floods and freshes, is maintained to avoid prolonged “flat- lining” of rivers; to facilitate fish passage; and to mobilise bed material; and
- (h) the exercise of customary uses and values is supported.

Policy 4.4

Groundwater is managed so that:

- (a) groundwater abstractions do not cause a continuing long-term decline in mean annual groundwater levels or artesian pressures;
- (b) the individual and cumulative rate, duration and volume of water pumped from bores is controlled so as to prevent seawater contamination;
- (c) the rate and duration of individual abstractions is controlled to ensure that individually or cumulatively, localised pressure reversal does not result in the downward movement of contaminants;
- (d) in any location where an overall upwards pressure gradient exists, restrict the taking of groundwater so that at all times the overall upward pressure difference is maintained between any one aquifer and the next overlying aquifer;
- (e) overall water quality in aquifers does not decline; and
- (f) the exercise of customary uses and values is supported.

Policy 4.5

Water is managed through the setting of limits to safeguard the life-supporting capacity of ecosystems, support customary uses, and provide for community drinking-water supplies and stock water, as a first priority and to meet the needs of people and communities for water for irrigation, hydro-electricity generation and other economic activities and to maintain river flows and lake levels needed for recreational activities, as a second priority.

Policy 4.6

In high naturalness water bodies listed in Sections 6 to 15, the damming, diverting or taking of water is limited to that for individual or community stock or drinking-water and water for the operation and maintenance of existing infrastructure.

Policy 4.7

Resource consents for new or existing activities will not be granted if the granting would cause a water quality or quantity limit set in Sections 6 to 15 to be breached or further over allocation (water quality and/or water quantity) to occur or in the absence of any water quality standards in Sections 6 to 15, the limits set in Schedule 8 to be breached. Replacement consents, or new consents for existing activities may be granted to:

(a) allow the continuation of existing activities at the same or lesser rate or scale, provided the consent contains conditions that contribute to the phasing out of the over allocation (water quality and/or water quantity) within a specified timeframe; or

(b) exceed the allocation limit (water quality and/or water quantity) to a minor extent and in the short-term if that exceedance is part of a proposal to phase out the overallocation within a specified timeframe included in Sections 6 to 15 of this Plan.

Policy 4.8A

1. When considering any application for a discharge the consent authority must have regard to the following matters:

- a. the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and
- b. the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.

2. When considering any application for a discharge the consent authority must have regard to the following matters:

- a. the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their contact with fresh water; and
- b. the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge would be avoided.

Policy 4.11 (Plan Change 5)

The setting and attainment of catchment specific water quality and quantity outcomes and limits is enabled through:

(a) limiting the duration of any resource consent granted under the region-wide rules in this Plan to a period not exceeding five years past the expected notification date (as set out in the Council's Progressive Implementation Programme) of any plan change that will introduce water quality or water quantity provisions into Sections 6 – 15 of this Plan; but

(b) allowing, where appropriate, a longer resource consent duration for discharge permits granted to irrigation schemes or principal water suppliers under the region-wide nutrient management rules in this Plan, provided those permits include conditions that restrict the nitrogen loss from the land and enable a review of the consent under section 128(1) of the RMA.

Policy 4.15

In urban areas, the adverse effects on water quality, aquatic ecosystems, existing uses and values of water and public health from the cumulative effects of sewage, wastewater, industrial or trade waste or stormwater discharges are avoided by:

(a) all sewage, industrial or trade waste being discharged into a reticulated system, where available; (ab) all stormwater being discharged to land or into reticulated system, where a reticulated system is available;

(b) all stormwater being discharged in accordance with a stormwater management plan, where one has been consented;

(c) the implementation of contingency measures to minimise the risk of a discharge from a wastewater reticulation system to surface water in the event of a system failure or overloading of the system beyond its design capacity; and

(d) any reticulated stormwater or wastewater system installed after 11 August 2012 is designed and managed to avoid sewage discharge into surfacewater.

Policy 4.16

Any reticulated stormwater system for any urban area is managed in accordance with a stormwater management plan that addresses the following matters:

- (a) the management of all discharges of stormwater into the stormwater system; and
- (b) for any reticulated stormwater system established after 11 August 2012, including any extension to any existing reticulated stormwater system, the discharge of stormwater being subject to a land-based or designed treatment system, or wetland treatment prior to any discharge to a lake or river; and
- (c) how any discharge of stormwater, treated or untreated, into water or onto land where it may enter water meets or will meet, the water quality outcomes and standards and limits for that waterbody set out in Table 1, Schedules 5 and 8 and Sections 6 to 15, (whichever applies); and
- (d) The management of the discharge of stormwater from sites involving the use, storage or disposal of hazardous substances, and
- (e) Where the discharge is from an existing local authority network, demonstration of a commitment to progressively improve the quality of the discharge to meet condition (c) as soon as practicable but no later than 2025.

Policy 4.16A

Operators of reticulated stormwater systems implement methods to manage the quantity and quality of all stormwater directed to and conveyed by the reticulated stormwater system, and from 1 January 2025 network operators account for and are responsible for the quality and quantity of all stormwater discharged from that reticulated stormwater system.

Policy 4.17

Stormwater run-off volumes and peak flows are managed so that they do not cause or exacerbate the risk of inundation, erosion or damage to property or infrastructure downstream or risks to human safety.

Policy 4.18

The loss or discharge of sediment or sediment-laden water and other contaminants to surface water from earthworks, including roading, works in the bed of a river or lake, land development or construction, is avoided, and if this is not achievable, the best practicable option is used to minimise the loss or discharge to water.

Policy 4.23

Any water source used for drinking-water supply is protected from any discharge of contaminants that may have any actual or potential adverse effect on the quality of the drinking-water supply including its taste, clarity and smell and community drinking water supplies are protected so that they align with the CWMS drinking-water targets and meet the drinking-water standards for New Zealand.

Policy 4.81

Any take, use, damming or diversion of water, any discharge of contaminants onto land or into water, or any earthworks, structures, planting, vegetation removal or other land uses within a wetland boundary, do not adversely affect the significant values of wetlands, hāpua, coastal lakes and lagoons, except for:

- (a) a temporary and or minor adverse effect where that activity is part of installing, maintaining, operating or upgrading infrastructure, pest management, or habitat restoration or enhancement work; or
- (b) the artificial opening of hāpua, coastal lakes or lagoons to assist in fish migration or achieving other conservation outcomes, customary uses, or to avoid land inundation.

Policy 4.84

Wetlands and riparian planting are developed as integral parts of land drainage systems, discharges to land and water and stormwater systems in both rural and urban areas, to reduce the effects of those activities on water quality and to enhance indigenous biodiversity and amenity values.

Policy 4.92A

Enable catchment restoration activities that protect springheads, establish or enhance riparian margins, create restore or enhance wetlands, and remove nuisance macrophytes and fine sediment from waterways.

Section 9 – CHC WM sub region

Policy 9.4.9

To accommodate geological alterations to the land and its relationship with surface water bodies within Christchurch City, resulting from the recent seismic events, and to prevent any increase in inundation of land in the lower catchments, the discharge to surface water of any stormwater in the Avon/Otakaro or Heathcote catchments that is not within an area covered by a consented stormwater management plan will require specific evaluation, including of downstream flooding potential, through a resource consent process.

Policy 9.4.10

To prevent any increase in inundation of land in the Halswell River/Huritini Catchment, the discharge to surface water of any stormwater or drainage water in the Halswell River/Huritini Catchment that is not within an area covered by a consented stormwater management plan will require specific evaluation to ensure hydraulic neutrality through a resource consent process.

Policy 4.24

The discharge of a hazardous substance to water, or onto or into land where it may enter water, to control a plant or animal pest or other unwanted organism only occurs:

- (a) if the substance is registered under the Hazardous Substances and New Organisms Act 1996 for use against the target organism;
- (b) if adverse effects on non-target organisms, Ngāi Tahu cultural values, or the use and consumption of water by humans or livestock are avoided as far as practicable; and
- (c) where good management practices are used to minimise the risk of accidental discharge to water.

Policy 4.25

Unless the substance is approved under the Hazardous Substances and New Organisms Act 1996 to be applied onto land or into water, activities involving the use, storage or discharge of hazardous substances will be undertaken using the best practicable option to:

- (a) as a first priority, avoid the discharge (including accidental spillage) of hazardous substances onto land or into water, including reticulated stormwater systems; and
- (b) as a second priority, ensure, where there is a residual risk of a discharge of hazardous substances including any accidental spillage, it is contained on-site and does not enter surface water bodies, groundwater or stormwater systems.

Policy 4.26

Any discharges of hazardous substances from contaminated land, including existing and closed landfills, are managed to ensure that adverse effects beyond the site boundary on people's health or safety, on human or stock water supplies, or on surface water are avoided.

Policy 4.92A

Enable catchment restoration activities that protect springheads, establish or enhance riparian margins, create restore or enhance wetlands, and remove nuisance macrophytes and fine sediment from waterways.

Waimakariri River Regional Plan

Objective 5.1:

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River Catchment, and from hydraulically connected groundwater while:

- (a) safeguarding their existing value for efficiently providing sources of drinking water for people and their animals;
- (b) safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna, and areas of significant indigenous vegetation;
- (c) safeguarding their existing value for providing mahinga kai for Tangata Whenua;
- (d) protecting wahi tapu and other wahi taonga of value to Tangata Whenua;
- (e) preserving the natural character of rivers, lakes and wetlands and protecting them from inappropriate use and development;
- (f) protecting outstanding natural features, and landscapes from inappropriate use and development;
- (g) maintaining and enhancing amenity values; and
- (h) protecting the significant habitat of trout and salmon.

Policy 5.1:

(1) Set and maintain water flow, water level and water allocation regimes and control the taking, use, diversion, discharge and damming of surface water, and the taking of water from hydraulically connected groundwater, while achieving (a) to (h) of Objective 5.1, so that:

- ...
- (b) below Woodstock (Figure 4 and Map 1):
 - (i) the braided character of the Waimakariri River, aquatic ecosystems and habitats, wetlands, amenity based on the river, and groundwater recharge from the river, are protected;
 - (ii) the aquatic ecosystems and habitats, wetlands and amenity based on the Kaiapoi-Cam-Cust, Otukaikino Creek, Styx, Kowai and upper Eyre River systems, are protected.

Objective 6.1

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River Catchment (excluding the Styx River catchment) while:

- (a) safeguarding their existing value for efficiently providing sources of drinking water for people and their animals;
- (b) safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna, and areas of significant indigenous vegetation;
- (c) safeguarding their existing value for providing mahinga kai for Tangata Whenua;
- (d) protecting wahi tapu and other wahi taonga of value to Tangata Whenua;
- (e) preserving the natural character of rivers, lakes and wetlands and protecting them from inappropriate use and development;
- (f) protecting outstanding natural features and landscapes from inappropriate use and development;
- (g) maintaining and enhancing amenity values; and
- (h) protecting the significant habitat of trout and salmon.

Policy 6.1

Set and maintain water quality standards for, and control the discharge of contaminants into, surface water bodies in the Waimakariri River Catchment, excluding the Styx River catchment, as outlined in Figure 6 and defined in Map 2 to:

- (a) protect the natural state of the water in lakes and rivers upstream of the confluence of the Waimakariri River with the Otukaikino Creek;

- (b) ensure water quality is suitable for drinking water for animals, contact recreation, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water or Tangata Whenua cultural values, in the mainstem of the Waimakariri River downstream of the confluence of the Waimakariri River with the Otukaikino Creek;
- (c) ensure water quality is suitable for drinking water for animals, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water, in the Kaiapoi River, Otukaikino Creek downstream of the Groynes picnic area, and their tributaries; and
- (d) ensure that, in the Otukaikino Creek and its tributaries at, and upstream of, the Groynes picnic area:
 - (i) water quality is suitable for drinking water for animals, fisheries, fish spawning, and aquatic ecosystems;
 - (ii) the natural water quality with respect to organisms of public health significance is maintained; and
 - (iii) water quality is suitable aesthetically and visually for contact, and other forms of, recreation.

Policy 6.2

Promote land management practices in:

- (a) the Waimakariri River Catchment which assist in achieving water quality standards; and
- (b) the catchment of the Groynes picnic area of the Otukaikino Creek which improve water quality at the picnic area to a level suitable for contact recreation.

Canterbury Regional Coastal Plan

Objective 7.1:

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the quality of the water in the Coastal Marine Area, while:

- (a) maintaining the overall existing high natural water quality of coastal waters;
- (b) safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna and areas of significant indigenous vegetation;
- (c) safeguarding, and where appropriate, enhancing its value for providing mahinga kai for Tangata Whenua;
- (d) protecting wahi tapu and wahi taonga of value to Tangata Whenua;
- (e) preserving natural character and protecting outstanding natural features and landscapes, where water quality is an aspect of their value, from reductions in water quality;
- (f) maintaining, and where appropriate enhancing, amenity values; and
- (g) recognising the intrinsic values of ecosystems and any finite characteristics of the coastal environment.

Policy 7.1

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the quality of the water in the Coastal Marine Area, while:

- (a) Maintaining the overall existing high natural water quality of coastal waters;
- (b) Safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna and areas of significant indigenous vegetation;
- (c) Safeguarding, and where appropriate, enhancing its value for providing mahinga kai for Tangata Whenua;
- (d) Protecting wahi tapu and wahi taonga of value to Tangata Whenua; (e) preserving natural character and protecting outstanding natural features and landscapes, where water quality is an aspect of their value, from reductions in water quality;
- (f) Maintaining, and where appropriate enhancing, amenity values; and
- (g) Recognising the intrinsic values of ecosystems and any finite characteristics of the coastal environment.

Policy 7.2

Establish water quality classes, set water quality standards and control the discharge of contaminants and water within the parts of the Coastal Marine Area defined in Schedule 5 that contain areas of degraded water quality or which need classifications to reflect existing or potential uses of the areas:

- (a) The water quality in the following areas will be classified as water managed for the maintenance of aquatic ecosystems, and the water quality maintained and where necessary improved for this purpose:
 - (i) The Avon River /Otakaro Mouth;
 - (ii) The Heathcote River Mouth
 - (iii) The Operational Area of the Port of Lyttelton;
 - (iv) The Coastal Marine Area immediately north of Timaru;
 - (v) The Operational Area of the Port of Timaru; and
 - (vi) The Coastal Marine Area off Pareora Beach.
- (b) The water quality in the following areas will be classified as water managed for contact recreation and for the maintenance of aquatic ecosystems, and the water quality maintained and where necessary improved for these purposes:
 - (i) The Coastal Marine Area along the northern part of the Kaikoura Peninsula;
 - (ii) The Ashley River /Rakahuri mouth, Saltwater Creek Lagoon and adjacent coastal waters;
 - (iii) The Waimakariri River mouth, Brooklands Lagoon and adjacent coastal waters;
 - (iv) The parts of the Estuary of the Heathcote and Avon Rivers /Ihutai not included in (a) (i) and (a) (ii) above;
 - (v) The western part of Lyttelton Harbour /Whakaraupo;
 - (vi) Childrens Bay, Takamatua Bay, Robinsons Bay, Duvauchelle Bay, Barrys Bay and French Farm Bay in Akaroa Harbour;
 - (vii) The Ashburton River /Hakatere mouth and adjacent coastal waters;
 - (viii) The Opihi River mouth and adjacent coastal waters;
 - (ix) The Coastal Marine Area off Washdyke and Caroline Bay;(x) The Coastal Marine Area off Patiti Point; and
 - (xi) The Coastal Marine Area off Normanby Beach.
- (c) The water quality in the following areas will be classified as water managed for shellfish gathering, for contact recreation and for the maintenance of aquatic ecosystems, and the water quality maintained and where necessary improved for these purposes:
 - (i) Rapaki;
 - (ii) The outer or eastern part of Lyttelton Harbour /Whakaraupo;
 - (iii) Port Levy/Koukourarata;
 - (iv) Pigeon Bay;
 - (v) Little Akaloa Bay;
 - (vi) Okains Bay;
 - (vii) Le Bons Bay;
 - (viii) Akaroa Harbour excluding the Bays in (b) (vi) above;
 - (ix) The Coastal Marine Area immediately south of Timaru.
- (d) Once the degraded water quality in an area has been improved to consistently meet the standards set in the relevant water quality class, Environment Canterbury will review the classifications and where appropriate prepare changes to this plan that will aim at achieving higher levels of water quality for that area. In preparing any such changes to this Plan, Environment Canterbury will ensure any proposed higher standards are reasonable and achievable within a specified timeframe and take into account the existing uses of the areas.

Policy 7.4

Before being granted a resource consent for a point source discharge of a contaminant or water into water, or onto or into land in the Coastal Marine Area in circumstances where the discharge, after reasonable mixing, would not achieve the water classification purposes for which the water quality standards set in this plan, the applicant must satisfy Environment Canterbury:

- (a) that exceptional circumstances justify the granting of the consent; or
- (b) that the discharge is of a temporary nature; or
- (c) that the discharge is associated with necessary maintenance work; or
- (d) that practicable alternatives to avoid such a discharge are not available.

Policy 7.6

In setting conditions on a resource consent to discharge a contaminant or water into water, or onto or into land in the Coastal Marine Area, a reasonable mixing zone should be determined by considering, amongst other matters, the following:

- (a) the volumes, contaminant loading and contaminant concentrations involved with the discharge;
- (b) factors such as sea conditions, tides, wave action, water depths, water velocity, and flushing characteristics that will normally affect the assimilative capacity of the receiving water and the dispersion of the contaminants or the discharge water;
- (c) the presence of an Area of Significant Natural Value at the site or in close proximity;
- (d) the existing use of the immediate area, including the presence of other discharges;
- (e) if in any area within which a water quality standard is set, the size of the area in relation to the mixing zone; and
- (f) the proximity of adjacent areas where water quality standards have been set; and
- (g) the natural values of the receiving environment.

Policy 7.7

Ensure that discharges of water or contaminants into water, or onto or into land in the Coastal Marine Area avoid significant adverse effects on cultural or spiritual values associated with sites, (e.g. areas covered by controls such as taia pure or mahinga mataitai), of special significance to the Tangata Whenua.

Policy 7.8

After reasonable mixing, the discharge of a contaminant or water into water, or onto or into land in the Coastal Marine Area, (either by itself or in combination with the same, similar, or other contaminants or water) should not:

- (a) give rise to any significant adverse effects on the existing habitats or feeding grounds of indigenous fauna or any significant adverse effects on aquatic ecosystems; and
- (b) have acute or chronic toxic effects on fish, either directly or indirectly as a result of an adverse effect on aquatic organisms.

This Policy shall not apply to any effects on any fish or aquatic organism that is specified as a pest in a pest management strategy approved in accordance with the Biosecurity Act 1993.

Policy 7.10

Promote measures that avoid, remedy or mitigate the adverse effects of point and non-point source discharges of contaminants outside the Coastal Marine Area where the discharge can adversely affect the quality of water in the Coastal Marine Area.

Lyttleton Port Recovery Plan

Policy 10.1.13

Manage the quality of stormwater generated within the Operational Area of Lyttelton Port and discharged into the Coastal Marine Area, by ensuring that:

- (1) The formation or renewal of impervious surfaces, including wharf areas, is designed to capture and direct rainfall to a stormwater network; and
- (2) Any stormwater network constructed or repaired during the formation or renewal of impervious surfaces shall include hydrocarbon interceptors and/or gross pollutant interceptors designed in accordance with best practice for the catchment it services; and
- (3) The hydrocarbon interceptors and/or gross pollutant interceptors are to follow best practice design to capture the contaminants likely to be present in the stormwater associated with the cargo types being handled in an area; and

(4) As far as practicable, cargo is handled on wharves or hard standing areas that contain hydrocarbon interceptors and/or gross pollutant interceptors designed for that type of cargo; and

(5) Any earthworks carried out during the construction and repair works are appropriately managed to avoid the discharge of sediment into the Coastal Marine Area.

Te Runanga o Ngai Tahu Freshwater Policy Statement

6.1 Priority Wahi Tapu

Objective: To afford total protection to waters that are of particular spiritual significance to Ngai Tahu.

Policy 1: Identify sites for immediate protection because of their significance as wahi tapu.

6.2 Priority Mauri

Objective: Restore, maintain and protect the mauri of freshwater resources

Policies:

2: Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to restore, maintain and protect the mauri of a water body, in particular priority is to be accorded when developing water allocation regimes.

3. Adopt catchment management planning as one of the means of achieving integrated management.

4. Protect the opportunities for Ngai Tahu's uses of freshwater resources in the future.

6.3 Priority Mahinga Kai

Objective: To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.

Policies:

2. Restore and enhance the mahinga kai values of lakes, rivers, streams, wetlands, estuaries and riparian margins.

3. Ensure that activities in the upper catchments have no adverse effect on mahinga kai resources in the lower catchments.

4. Restore access to freshwater resources for cultural activities, including the harvest of mahinga kai.

6.4 Priority Kaitiakitanga

Objective: To promote collaborative management initiatives that enable the active participation of Ngai Tahu in freshwater management.

Policies:

To encourage agencies to:

1. Ensure Ngai Tahu has access to information about the status of resources and the activities of resource users so that it is able to anticipate the effects of activities on customary values and uses.
2. Assist with the development of Ngai Tahu's capacity to conduct formal cultural impact assessments and require such assessments as part of an assessment of environmental effects.
3. Facilitate effective Ngai Tahu participation in:
 - Policy formulation;
 - Decision making;
 - Operational management activities; and
 - Monitoring activities.

Mahaanui Iwi Management Plan

Policies (note that these are assessed together as a whole in the planning evidence)

K1.4 For resource management issues in particular catchments or geographical areas set out in Part 6 of this IMP, engagement must occur with the appropriate Papatipu Rūnanga, as per the takiwā boundaries set out in: (a) the Te Rūnanga o Ngāi Tahu (Declaration of Membership Act) Order 2001.

K1.7 Mahaanui Kurataiao Ltd is the Manawhenua Environmental Consultancy owned by Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke (Rāpaki), Ōnuku Rūnanga, Koukourārata Rūnanga, Wairewa Rūnanga and Te Taumutu Rūnanga, and is mandated to engage in resource and environmental management processes on behalf of the six Papatipu Rūnanga.

K3.1 Local authorities should ensure that they have the institutional capability to appropriately recognise and provide for the principle of kaitiakitanga.

K3.3 To require that local authorities engage with Papatipu Rūnanga in the spirit of Te Tiriti o Waitangi and the purpose and principles of the RMA. This includes, but is not limited to:

- (a) Establishment of robust processes to facilitate engagement with Ngāi Tahu, at operational and political levels;
- (b) Increased kaitiaki control, partnership or influence over taonga (i.e. species or places) of value to Ngāi Tahu culture and identity, including joint or co-management, or the transfer of powers, duties and/or functions to Ngāi Tahu;
- (c) Implementation of Iwi Management Plans, in territorial and regional planning processes;
- (d) Involvement of Ngāi Tahu in the 'front end' of the planning process for plan and policy statement development and review;
- (e) Appointment of Ngāi Tahu commissioners on hearings panels and planning committees;
- (f) Ensuring that resource consent applications identify and assess effects on Ngāi Tahu cultural values;
- (g) Recognition that tāngata whenua interests are greater than that of an affected party; and
- (h) Recognition of Ngāi Tahu developed planning tools as mainstream techniques for monitoring and assessing the state of the environment (e.g. State of Takiwā Monitoring; COMAR).

WM6.1 To require improvement of water quality in the takiwā is recognised as a matter of regional and immediate importance.

WM6.2 To require that water quality in the takiwā is of a standard that provides for the relationship of Ngāi Tahu to freshwater...

WM6.8 To continue to oppose the discharge of contaminants to land where contaminants may enter water

WM6.9 To require local authorities to eliminate existing discharges of contaminants to waterways, wetlands and springs in the takiwā, including treated sewage, stormwater and industrial waste, as a matter of priority.

WM6.16 To require, in the first instance, that all potential contaminants that may enter water (e.g. nutrients, sediments and chemicals) are managed on site and at source rather than discharged off site. This applies to both rural and urban activities.

WM10.1 In principle, the unnatural mixing of water from different sources between or within catchments is culturally inappropriate.

WM13.5 To advocate, where appropriate, for the creation of wetland areas to assist with the management of onsite/site sourced stormwater [...] to utilise the natural capacity of these ecosystems to filter contaminants. These wetlands must be constructed wetlands; natural wetlands are not be used to treat or dispose of [contaminants]. However, they may be adjacent to natural wetlands to mitigate the impacts on natural ecosystems.

P6.1 To require on-site solutions to stormwater management in all new urban, commercial, industrial and rural developments (zero stormwater discharge of site) based on a multi tiered approach to stormwater management [...]

P6.2 To require that the incremental and cumulative effects of stormwater discharges are recognised and provided for in local authority planning and assessments.

P6.5 To encourage the design of stormwater management systems in urban and semi urban environments to provide for multiple uses: for example, stormwater management infrastructure as part of an open space network that provides for recreation, habitat and customary use values.

P6.5 To support integrated catchment management plans (ICMP) as a tool to manage stormwater and the effects of land use change and development on the environment and tāngata whenua values, when these plans are consistent with Policies 6.1 to 6.4.

P6.6 To oppose the use of global consents for stormwater discharges.

P8.1 To require that discharge to land activities in the takiwā:

(a) Are appropriate to the soil type and slope, and the assimilative capacity of the land on which the discharge activity occurs;

(b) Avoid over-saturation and therefore the contamination of soil, and/or run off and leaching; and

(c) Are accompanied by regular testing and monitoring of one or all of the following: soil, foliage, groundwater and surface water in the area.

P8.2 In the event that accumulation of contaminants in the soil is such that the mauri of the soil resource is compromised, then the discharge activity must change or cease as a matter of priority.

TAN2.1 To require that coastal water quality is consistent with protecting and enhancing customary fisheries, and with enabling tangata whenua to exercise customary rights to safely harvest kaimoana.

TAN2.2 To require the elimination of direct wastewater, industrial, stormwater and agricultural discharges into the coastal waters as a matter of priority.

TAN2.3 To oppose the granting of any new consents enabling the direct discharge of contaminants to coastal water, or where contaminants may enter coastal waters.

TAN 2.4 To ensure that economic costs are not allowed to not take precedence over the cultural, environmental and intergenerational costs of discharging contaminants to the sea.

IH3.1 To improve water quality in the Ihutai catchment by consistently and effectively advocating for a change in perceptions of waterways: from public utility to wāhi taonga.

IH3.2 To require that waterways and water bodies (including Te Ihutai) are managed to achieve and maintain a water quality standard consistent with food gathering.

IH3.3 To require that local authorities eliminate sources of contaminants to waterways in the Ihutai catchment ...

(b) Stormwater discharges into all waterways, including small headwater and ephemeral streams, and drains, runoff into waipuna and discharges to Te Oranga (Horseshoe Lake).

WH1.2 To require that Whakaraupō is managed for mahinga kai first and foremost. This means ...

(b) water quality in Whakaraupō is consistent with the protecting mahinga kai habitat and enabling customary use (whole of harbour not just designated areas).

A5.1 To support the development of an integrated catchment management plan (ICMP) for Akaroa Harbour to address water quality and quantity issues in the catchment

A5.3 To improve water quality in the Akaroa Harbour using the methods identified in the general policies on Water quality ..., with particular focus on:

(a) eliminating existing discharges of pollutants; ...

(b) Requiring appropriate controls on land use to control sedimentation; ...