5 April 2019



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Christchurch City Council Attn.: Brent Pizzey Associate General Counsel PO Box 73015 Christchurch 8154

Dear Brent

## CRC190445 – Christchurch City Council Comprehensive Stormwater Network Discharge Consent (CSNDC): Agreement on Resource Consent Conditions

Thank you for the opportunity to provide a statement on the Christchurch City Council's (CCC) final proposed resource consent conditions.

Since the adjournment of the Hearing, CCC and Canterbury Regional Council (CRC) staff have met on multiple occasions to work cooperatively on, and further develop, the resource consent conditions for the CSNDC, to resolve issues raised at the hearing and to improve clarity and consistency of the conditions.

We have reviewed the latest version of the Applicant's proposed conditions and are generally satisfied that these will adequately mitigate the actual and potential adverse effect arising from the proposed stormwater discharges. Copies of the agreed conditions ('Track Change Version' and 'Clean Version') are attached to this letter. We are also satisfied that the and the Draft Environmental Monitoring Programme (Version 6.0, dated April 2019) is adequate to assess whether Receiving Environment Objectives and Attribute Target Levels are being met. On this basis, we confirm that, in response to Paragraph 6 of the Commissioners' Minute of 28 March 2019, there are no remaining areas of disagreement between the Applicant and the CRC reporting officers with regard to the proposed conditions.

CRC staff consider that the current draft conditions, as amended in cooperation between the Applicant and CRC staff, address the issues raised at the Hearing, including:

- The definition of the stormwater network, which has been amended to address the CRC's and submitters concerns regarding the inclusion of rivers as part of the network. This has also led to the redrafting of Conditions 1 to 3, which describe the scope of the resource consent, in order to more clearly define the discharges that fall under the CSNDC and the ones that do not.
- The Applicant has adopted the term 'Best Practicable Options' in relation to mitigation measures put in place by CCC, which is supported by CRC staff as the terminology sets a higher standard than 'all reasonably practicable measures', which was considered the

minimum requirement by the CRC in terms of mitigation measures that are to be implemented under the CSNDC. We consider the use of 'reasonably practicable' in other instances adequate.

- The recommendation by CRC staff for a Technical Advisory Panel has been adopted by the Applicant in form of the proposed Stormwater Technical Peer Review Panel (Stormwater TPRP). This panel will provide a review of the SMPs and also provide input into the various feasibility studies and cost benefit analysis proposed by the Applicant in Schedules 3 and 4 of the proposed conditions ('Clean Version'). This approach is supported by CRC staff.
- In addition to the Christchurch Contaminated Load Model, which sets City-wide contaminant load reduction standards, the Applicant now proposes to develop contaminant load reduction targets through the Stormwater Management Plan (SMP) process. Further investigations are proposed to ensure the best reasonably practicable model or method and input data are used to develop these targets. The Stormwater TPRP will provide input and guidance on this process. Reporting will demonstrate compliance with the targets and actions need to be taken if targets are not being met. CRC staff support this approach.
- The Applicant proposes to carry out investigations into the effectiveness of source control, including a cost benefit analysis on the number of Industrial Site Audits (ISAs) that should be carried out by CCC over the duration of the resource consent. While our position was to require a higher number of ISAs, we support this approach as it will be guided by the Stormwater TPRP.
- Additional flood monitoring locations are proposed to be developed through the SMP process in addition to those identified in Schedule 10 of the proposed conditions ('Clean Version'). Further, investigations are proposed into flooding issues and river management, specifically for the Pūharakekenui/Styx River Catchment.
- The Applicant has proposed the inclusion of a Receiving Environment Objective for flooding in Schedule 10 of the proposed conditions ('Clean Version'), which is supported by CRC staff. Further, conditions have been added by the Applicant addressing the responses to flood modelling, should the Attribute Target Levels in Schedule 10 not be met.
- The Applicant has also addressed a number of matters raised by submitters, specifically industry groups and river care groups. The Applicant proposes improved consultation and engagement with these groups, and their involvement in the SMP development and other processes under the CSNDC, which is supported by CRC staff.

Notwithstanding the above support expressed for the conditions, it is noted that this statement has not considered any changes that the Applicant may propose to address any matters arising from the evidence of the water quantity experts at the reconvened hearing.

On the basis that the majority of issues raised at the hearing have been addressed by the Applicant through the revision of the proposed resource consent conditions, I am now in a position to recommend granting of the CSNDC for a duration of 25 years.

If the Commissioners would like further comment on, or assistance with, the drafting of the final resource consent conditions, further comment on the cooperative process between the Applicant and CRC staff to date, or the agreements reached between the Applicant and CRC staff, we would be happy to provide this to the Commissioners.

Yours sincerely

Nick Reuther Senior Consents Planner

Paul Hopwood Principal Strategy Advisor

Encl.:

- CRC190445 CSNDC Applicant's Conditions 8 April 2019 ('Track Change Version')
- CRC190445 A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments ('Clean Version')

CRC190445 – CSNDC Applicant's Conditions 8 April 2019 ('Track Change Version')

#### CRC190445

#### CSNDC APPLICANT'S CONDITIONS 8 APRIL 2019

| 5 November 2018 Conditions  | 8 February 2019 Conditions   | 8 April 2019 – Final Cor  |
|---|--|---|
| changes from the version that was lodged with the application)  | (this is the version <del>now</del> proposed by the applicant <u>on 8</u><br><u>February 2019</u> and includes all those amendments that were at<br>that stage agreed between CCC and CRC staff following the<br>adjournment of the hearing. All amendments are shown in<br>green text)  | (this is the version now<br>the applicant. and inclu<br>between CCC and CRC<br>adjournment of the hea<br>since 8 February 2019  |
| a given or larger size occurring in any one year, usually expressed<br>as a percentage. For example, if a peak flood discharge of 40 cubic<br>metres per second has an AEP of 2%, it means there is a 2%<br>chance (i.e. one-in-fifty) of a peak flood discharge of 40 cubic<br>metres a second or larger being equalled or exceeded in any year. | 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. | Annual Exceedance Pro<br>a given or larger size occ<br>as a percentage. For exa<br>metres per second has a<br>chance (i.e. one-in-fifty) of<br>metres a second or large<br>AEP is the inverse of retu |
| earthworks are actively taking place and where the land has not   | <b>area of disturbance</b> means an area where site clearance or<br>earthworks are actively taking place and where the land has not<br>been stabilised.  | area of disturbance me<br>earthworks are actively ta<br>been stabilised.  |
|   |  | Banks Peninsula mean<br>defined by the operativ<br>successor).  |
|   |  | Best Practicable Option<br>Management Act 1991.   |
|   | <b>CSNDC</b> means the Christchurch City Council Comprehensive-<br>Stormwater Network Discharge Consent.   |   |
| Christchurch Contaminant Load Model (C-CLM) means the<br>Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load<br>Model (C-CLM). The C-CLM report is attached to this resourceI   | <b>Christchurch Contaminant Load Model (C-CLM)</b> means the<br>Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load<br>Model (C-CLM). The C-CLM report is attached to these conditions<br>this resource consent as Schedule 2.   | Christchurch Contamir<br>Golder Associates (NZ) L<br>Model (C-CLM). The C-C<br>as Schedule 2.   |
|   | critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters  | critical duration means<br>peak water levels to be r  |
| based on for a particular probability. The design storm is based on the certain assumptions, including rainfall distribution and intensity,   | <b>design storm</b> is the theoretical rainfall event that an analysis is<br>based on for a particular probability. The design storm is based on<br>certain assumptions, including rainfall distribution and intensity,<br>and the storm rainfall profile shape for the critical duration.   | design storm is the theo<br>based on for a particular<br>certain assumptions, incl<br>the storm rainfall profile s  |
| that is undergoing construction and/or earthworks activities but  | <b>development site</b> means any individual area within a site or sites<br>that is undergoing construction and/or earthworks activities but<br>excludes sealed pavement repair where base course is not exposed.  | development site mean<br>that is undergoing constr<br>excludes sealed paveme<br>exposed.  |
| of removing contaminants from stormwater in a situation where<br>storage capacity is limited. Examples include a rain garden or a   | <b>device</b> means a street or property-scale installation for the purpose<br>of removing contaminants from stormwater in a situation where<br>storage capacity is limited. Examples include a rain garden or a<br>proprietary treatment system.  | <b>device</b> means a street or<br>of removing contaminant<br>storage capacity is limite<br>proprietary treatment sys   |

#### onditions

ew<u>Final version of conditions</u> proposed by cludes all those amendments a<u>A</u>greed RC <u>reporting</u> staff following <del>the</del> searing8 February 2019</u>. All amendments 9 are shown in tracked changes)

**Probability (AEP)** is the chance of a flood of occurring in any one year, usually expressed example, if a peak flood discharge of 40 cubic is an AEP of 2%, it means there is a 2% () of a peak flood discharge of 40 cubic ger being equalled or exceeded in any year. eturn period expressed as a percentage.

neans an area where site clearance or / taking place and where the land has not

#### ans the area within Banks Peninsula as ive Christchurch District Plan (or

hinant Load Model (C-CLM) means the ) Ltd 2018 Christchurch Contaminant Load -CLM report is attached to these conditions

ns the time taken during a storm event for ereached in the receiving waters.

neoretical rainfall event that an analysis is ar probability. The design storm is based on ncluding rainfall distribution and intensity, and e shape for the critical duration.

ans any individual area within a site or sites struction and/or earthworks activities but nent repair where base course is not

t or property-scale installation for the purpose ants from stormwater in a situation where ited. Examples include a rain garden or a system.

| EMP means Environmental Monitoring Programme.   | <b>EMP</b> means Environmental Monitoring Programme.  | EMP means Environm   |  |
|---|---|--|--|
| <b>existing site</b> means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.  | <b>existing site</b> means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.  | existing site means an<br>stormwater network at<br>consent.  |  |
| <b>Extra-Over Detention</b> means attenuating sufficient stormwater<br>to control peak flow rates from a developed site back to pre-<br>developed flow rates for storms up to and including the critical<br>2 percent annual exceedance probability design storm event.                                     | <b>Extra-Over Detention</b> means attenuating sufficient stormwater to control peak flow rates from a developed site back to pre-<br>developed flow rates for storms up to and including the critical 2 <u>% percent</u> AEP annual exceedance probability design storm event.  | Extra-Over Detention<br>control peak flow rates<br>flow rates for storms up<br>storm event.  |  |
| <b>acility</b> means a (usually large) constructed means of holding or<br>attenuating stormwater for the purpose of reducing discharge rates<br>or removing contaminants. Examples include a sedimentation basin,<br>a constructed wetland, a wet pond an attenuation basin and/or an<br>nfiltration basin. | <b>facility</b> means a (usually large) constructed means of holding or<br>attenuating stormwater, at a larger scale than a device, for the<br>purpose of reducing discharge rates or removing contaminants.<br>Examples include a sedimentation basin, a constructed wetland, a<br>wet pond an attenuation basin and/or an infiltration basin. | facility means a <del>(usua</del><br>holding or attenuating s<br>for the purpose of redu<br>contaminants. Example<br>constructed wetland, a<br>infiltration basin. |  |
| first flush means either:   | first flush means either:   | first flush means eithe  |  |
| <ul> <li>a) the stormwater runoff generated from the first 25<br/>millimetres of rain falling on impervious areas of a site,<br/>or</li> <li>b) the stormwater flow rate generated from up to 5mm/hr</li> </ul>   | <ul> <li>a) the stormwater runoff generated from the first 25<br/>millimetres of rain falling on impervious areas of a site,<br/>or</li> <li>b) the stormwater flow rate generated from up to 5mm/hr</li> </ul>   | <ul><li>(a) the stormwater millimetres of millimetres of millimetres of millimetres of millimetres and millimetres for millimetres.</li></ul>                      |  |
| rainfall intensity on impervious areas of a site; or<br>c) the stormwater runoff generated from the first 20 millimetres<br>of rain falling on impervious areas of a site discharging to<br>rain gardens ortree pits.   | rainfall intensity on impervious areas of a site; or<br>c) the stormwater runoff generated from the first 20<br>millimetres of rain falling on impervious areas of a site<br>discharging to rain gardens or tree pits.  | (c) the stormwater<br>millimetres of ra<br>discharging to r  |  |
| flat land means any land where the average slope across the site is 5 degrees or less.  | <b>flat land</b> means any land where the average slope across the site is 5 degrees or less.   | flat land means any la<br>5 degrees or less.   |  |
| <b>greenfield</b> means agricultural, forest or grass land previously<br>undeveloped for<br>urban purposes (construction of residential or industrial subdivision,<br>buildings, roads and associated services).  | <b>greenfield</b> means agricultural, forest or grass land previously<br>undeveloped that is to be used for urban purposes, for example<br>(construction of residential or industrial subdivision, buildings, roads<br>and associated services).  | greenfield means agric<br>undeveloped that is to<br>construction of resident<br>and associated service   |  |
| high-use site means a site that:  | high-use site means a site that:  | high-use site means a  |  |
| <ul> <li>(a) has an expected average daily traffic (ADT) count equal<br/>to orgreater than 250 vehicles per day; or</li> </ul>  | <ul> <li>(a) has an expected average daily traffic (ADT) count equal<br/>to orgreater than 250 vehicles per day; or</li> </ul>  | (a) has an expected to or greater that   |  |
| <ul> <li>(b) is used for petroleum storage or transfer in excess of<br/>5,000 litres per year, not including delivered heating oil;<br/>or</li> </ul>   | <ul> <li>(b) is used for petroleum storage or transfer in excess of<br/>5,000 litres per year, not including delivered heating oil;<br/>or</li> </ul>   | (b) is used for petro<br>5,000 litres per  |  |
| <ul> <li>(c) is used for storage or maintenance of 10 or more<br/>heavy vehicles (trucks, buses, trains, heavy<br/>equipment, etc.).</li> </ul>   | (c) is used for storage or maintenance of 10 or more heavy<br>vehicles (trucks, buses, trains, heavy equipment, etc.).  | (c) is used for stora<br>vehicles (trucks  |  |
| <b>hill land</b> means any land where the average slope across the site exceeds 5 degrees.  | <b>hill land</b> means any land where the average slope across the site exceeds 5 degrees.  | hill land means any lar exceeds 5 degrees.   |  |

ental Monitoring Programme.

ny site that discharges its stormwater into the the date of commencement of this resource

n means attenuating sufficient stormwater to s from a developed site back to pre-developed p to and including the critical 2% AEP design

ally large) constructed <u>method</u> means of stormwater, at a larger scale than a device, ucing discharge rates or removing es include a sedimentation basin, a a wet pond, an attenuation basin and/or an

er:

runoff generated from the first 25 ain falling on impervious areas of a site<u>:</u> or

flow rate generated from up to 5mm/hr on impervious areas of a site; or

runoff generated from the first 20 ain falling on impervious areas of a site rain gardens or tree pits.

and where the average slope across the site is

icultural, forest or grass land <del>previously</del> be used for urban purposes, for example ntial or industrial subdivision, buildings, roads es.

a site that:

ed average daily traffic (ADT) count equal an 250 vehicles per day; or

oleum storage or transfer in excess of year, not including delivered heating oil; or

age or maintenance of 10 or more heavy s, buses, trains, heavy equipment, etc.).

nd where the average slope across the site

| industrial site means:  | industrial site means:   | industrial site means:   |  |
|---|--|--|--|
| <ul> <li>(a) any premises used for the manufacturing, assembly,<br/>wholesaling or storage of products or the processing of<br/>raw materials and other ancillary activities; or</li> </ul>   | <ul> <li>(a) any premises used for the manufacturing, assembly,<br/>wholesaling or storage of products or the processing of<br/>raw materials and other ancillary activities; or</li> </ul>  | (a) any premises use<br>wholesaling or sto<br>raw materials and  |  |
| <ul> <li>(b) any premises used for the storage, transfer, treatment, or<br/>disposal of waste materials or for other waste-<br/>management purposes, or used for composting organic<br/>materials; or</li> </ul>  | <ul> <li>(b) any premises used for the storage, transfer, treatment, or<br/>disposal of waste materials or for other waste-<br/>management purposes, or used for composting organic<br/>materials; or</li> </ul>   | <ul> <li>(b) any premises use<br/>disposal of waste<br/>management pur<br/>materials; or</li> </ul>  |  |
| (c) any other premises from which a contaminant is<br>discharged in connection with any industrial or trade<br>process—but does not include<br>any land under agricultural production.  | (c) any other premises from which a contaminant is<br>discharged in connection with any industrial or trade<br>process—but does not include any land under agricultural<br>production.   | (c) any other premise<br>discharged in cor<br>process - but doe<br>production.   |  |
|   | <b>Industry Liaison Group</b> means a group of representatives from various industries invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.  | Industry Liaison Group<br>various industries, which<br>Environmental Working<br>Ravensdown Limited, i<br>attend an annual meeting<br>this resource consent.            |  |
| LWRP means Canterbury Land and Water Regional Plan.   | LWRP means Canterbury Land and Water Regional Plan.  | LWRP means Canterbu  |  |
| p <b>apatipu rūnanga</b> means the six Ngāi Tahu Papatipu Rūnanga<br>vithin the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga,<br>Te Hapū o Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o<br>Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te<br>Taumutu Rūnanga, <u>as represented by Mahaanui Kurataiao Ltd or</u><br>t <mark>s successor organisation</mark> . | <b>papatipu rūnanga</b> means the six Ngāi Tahu Papatipu Rūnanga<br>within the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga,<br>Te Hapū o Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o<br>Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te<br>Taumutu Rūnanga, as represented by Mahaanui Kurataiao Ltd or its<br>successor organisation.  | papatipu rūnanga mear<br>within the Christchurch a<br>Te Hapū o Ngāti Wheke/<br>Koukourārata, Ōnuku Rū<br>Taumutu Rūnanga, as re<br>successor organisation.            |  |
| <b>Partial Detention</b> means storage within first flush basins plus<br>dditional storage through flooding of wetland areas to an average<br>epth of 500mm discharging over a minimum of 96 hours for the<br>ritical 2 percent annual exceedance probability design storm<br>vent.   | <b>Partial Detention</b> means storage within first flush basins plus<br>additional storage through flooding of wetland areas to an average<br>depth of 500mm discharging over a minimum of 96 hours for the<br>critical 2 percent annual exceedance probability design storm<br>event.  | Partial Detention mean<br>additional storage throug<br>depth of 500mm dischar<br>critical 2 <u>% AEP percent</u><br>storm event.                                       |  |
| <b>QMCI</b> means Quantitative Macroinvertebrate Community Index.   | QMCI means Quantitative Macroinvertebrate Community Index.   | QMCI means Quantitativ   |  |
| e-development site means a change to a developed site or a ite activity that results in a stormwater discharge that has the otential to increase is not the same in the scale, intensity or ontaminant content of character to the discharge that existed rior to the commencement of this consent.   | <b>re-development</b> means a change to a developed site or a site activity that results in a stormwater discharge that has the potential to increase the scale, intensity or contaminant content of the discharge that existed prior to the commencement of this consent.   | re-development means<br>activity that results in a s<br>potential to increase the<br>the discharge that existe<br><u>resource</u> consent.                             |  |
|   | <b>River Care Liaison Group</b> means a group of representatives from<br>organisations with a particular interest in the protection and<br>restoration of the natural environment of the Christchurch rivers and<br>their tributaries including wetlands and that are invited by<br>Christchurch City Council to attend an annual meeting to discuss<br>stormwater discharges under this resource consent. | River Care Liaison Gro<br>from organisations with a<br>restoration of the natural<br>and their tributaries inclu<br>Christchurch City Counc<br>stormwater discharges u |  |

sed for the manufacturing, assembly, storage of products or the processing of nd other ancillary activities; or

sed for the storage, transfer, treatment, or te materials or for other wasteurposes, or used for composting organic

ises from which a contaminant is onnection with any industrial or trade oes not include any land under agricultural

up means a group of representatives from <u>ch will include the Oil Industry</u> <u>ng Group, Lyttelton Port Company and</u> <u>,</u> invited by Christchurch City Council to ing to discuss stormwater discharges under

ury Land and Water Regional Plan.

ans the six Ngāi Tahu Papatipu Rūnanga area, namely: Te Ngāi Tūāhuriri Rūnanga, e/Rāpaki Rūnanga, Te Rūnanga o Rūnanga, Wairewa Rūnanga, and Te represented by Mahaanui Kurataiao Ltd or its .

Ins storage within first flush basins plus ugh flooding of wetland areas to an average arging over a minimum of 96 hours for the nt annual exceedance probability design

tive Macroinvertebrate Community Index.

ns a change to a developed site or a site a stormwater discharge that has the e scale, intensity or contaminant content of ted prior to the commencement of this

roup means a group of representatives a particular interest in the protection and al environment of the Christchurch rivers cluding wetlands, and that are invited by ncil to attend an annual meeting to discuss under this resource consent.

|  | Settlement areas of Banks Peninsula means those areas within<br>Banks Peninsula that are within the following zones, or equivalent<br>zones if they are renamed, under the Christchurch District Plan:<br>• Residential Banks Peninsula<br>• Residential Small Settlement<br>• Residential Large Lot<br>• Commercial Banks Peninsula<br>• Open Space Metropolitan Facilities<br>• Specific Purpose (Lyttleton Port)<br>• Industrial General<br>• Specific Purpose (School)<br>• Specific Purpose (Cemetery)<br>• Open Space Community Parks.   | Settlement Areas of Ba<br>Banks Peninsula that are<br>zones if they are rename<br>• Residential Banks<br>• Residential Small<br>• Residential Large<br>• Commercial Bank<br>• Open Space Metr<br>• Specific Purpose<br>• Industrial General<br>• Specific Purpose<br>• Specific Purpose<br>• Open Space Com |
|--|--|---|
| <b>site</b> means an allotment title or other legally defined parcel of land<br>held in a single certificate of title and any balance land or adjacent<br>land with title(s) held by the same owner or ownership with an<br>affiliated interest. In the case of greenfield and re-development, site<br>means the area of land defined by the boundaries of proposed land<br>disturbance.   | <b>site</b> means an allotment title or other legally defined parcel of land<br>held in a single certificate of title and any balance land or adjacent<br>land with title(s) held by the same owner or ownership with an<br>affiliated interest. In the case of greenfield and re-development, site<br>means the area of land defined by the boundaries of proposed land<br>disturbance.   | <b>site</b> means an allotment<br>held in a single certificate<br>land with title(s) held by t<br>affiliated interest. In the c<br>means the area of land c<br>disturbance.   |
| SMP means Stormwater Management Plan.  | SMP means Stormwater Management Plan.  | SMP means Stormwater  |
| <b>stabilised</b> means an area of land sufficiently covered by erosion-<br>resistant material such as grass, mulch, weed matting, bark,<br>sand/aggregate, or paving by asphalt, concrete, paver blocks, etc.,<br>in order to prevent erosion of the underlying soil.   | <b>stabilised</b> means an area of land sufficiently covered by erosion-<br>resistant material such as grass, mulch, weed matting, bark,<br>sand/aggregate, or paving by asphalt, concrete, paver blocks, etc.,<br>in order to prevent erosion of the underlying soil.   | stabilised means an are<br>resistant material such a<br>aggregate, or paving by<br>order to prevent erosion   |
| <b>stage of development</b> means a part of a development area which<br>is completed prior to any other stage of that development<br>commencing. A stage of development is deemed to be finished<br>following the completion of construction activities and when the<br>development area has been stabilised.  | <b>stage of development</b> means a part of a development area which<br>is completed prior to any other stage of that development<br>commencing. A stage of development is deemed to be finished<br>following the completion of construction activities and when the<br>development area has been stabilised.  | stage of development r<br>is completed prior to any<br>commencing. A stage of<br>following the completion<br>development area has be  |
| <b>stormwater</b> 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.  | <b>stormwater</b> 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. Stormwater This definition excludes discharges of groundwater, drainage water, spilled or deliberately released hazardous substances and/or washdown activities.  | stormwater means runo<br>arising from precipitation<br>structure or any land me<br>rainfall that has been col-<br>accelerated by human me<br>or runoff from the external<br>precipitation and may co-<br>discharges of groundwat<br>released hazardous subs   |
| stormwater network means waterways identified in a SMP the<br>Otākaro/ Avon River, Huritini/ Halswell River, Opāwaho/<br>Heathcote River, Otūkaikino River and the Pūharakekenui/ Styx<br>River and their tributaries and also includes the reticulated piped<br>network, kerb and channel, sumps, pipes, manholes, rapid soakage<br>chambers and any stormwater conveyance and mitigation system<br>for which Christchurch City Council are responsible for operation<br>and maintenance. | stormwater network means waterways identified in a SMP the<br>Otākaro/ Avon River, Huritini/ Halswell River, Opāwaho/<br>Heathcote River, Otūkaikino River and the Pūharakekenui/ Styx<br>River and their tributaries and also includes the reticulated piped-<br>network, kerb and channel, sumps, pipes, manholes, rapid soakage-<br>chambers and any stormwater conveyance and mitigation system-<br>for which Christchurch City Council are responsible for operation-<br>and maintenance. a network owned or operated by the Christchurch<br>City Council of pipes, swales, drains, kerbs and channels that<br>collects stormwater within areas used or proposed to be used for | stormwater network me<br>Christchurch City Council<br>channels that collects sto<br>be used for urban-reside<br>and <u>includes</u> any device<br><u>owned or operated by t</u><br>discharge to land, ground<br><u>network</u> excludes any de<br>for the primary purpose of<br>drainage ground water.      |

Banks Peninsula means those areas within are within the following zones, or equivalent med, under the Christchurch District Plan: the Peninsula all Settlement ge Lot inks Peninsula etropolitan Facilities se (Lyttelton Port) ral se (School) se (Cemetery)

ommunity Parks.

nt title or other legally defined parcel of land ate of title and any balance land or adjacent y the same owner or ownership with an e case of greenfield and re-development, site d defined by the boundaries of proposed land

er Management Plan.

area of land sufficiently covered by erosionas grass, mulch, weed matting, bark, sand/ y asphalt, concrete, paver blocks, etc., in n of the underlying soil.

t means a part of a development area which ny other stage of that development of development is deemed to be finished on of construction activities and when the been stabilised.

noff <u>water and entrained contaminants</u> tion on the external surface of any modified by human action, and that has collected, channelled, diverted, intensified or modification intervention. of the land surface

modification intervention, of the land surface rnal surface of any structure as a result of contain contaminants. Stormwater excludes ater, drainage water, spilled or deliberately bstances and/or washdown activities.

means a network owned or operated by the noil of pipes, swales, drains, kerbs and stormwater within areas used or proposed to dential, commercial or industrial purposes, ce or facility for the treatment of stormwater **y the Christchurch City Council**, prior to a undwater or surface water. It <u>Stormwater</u> drainage system that has been constructed of collection, conveyance or discharge of

|  | urban-residential, commercial or industrial purposes, and any device<br>or facility for the treatment of stormwater, prior to a discharge to<br>land, groundwater or surface water. It excludes any drainage system<br>that has been constructed for the primary purpose of collection,<br>conveyance or discharge of drainage water.   |   |
|--|---|---|
|  | Sub-catchment means part of a catchment.  | Sub-catchment means   |
| <b>surface water</b> means water in waterways, lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.  | <b>surface water</b> means water in rivers, watercourses and artificial waterbodies, <del>waterways,</del> lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.   | surface water means waterbodies, lakes, wetla<br>excludes groundwater an  |
| <b>SWIM</b> means the Joint Stormwater Management Issues Working<br>Group, or its successor. The SWIM is a forum of senior managers of<br>Christchurch City Council and Canterbury Regional Council<br>established to meet the outcome of on-going communication as<br>detailed in the "Stormwater Management Protocol <sup>1</sup> ." | <b>SWIM</b> means the Joint Stormwater Management Issues-<br>WorkingWater Issues Management Group, or its successor. The<br>SWIM is a forum of senior managers of Christchurch City Council<br>and Canterbury Regional Council established to meet the outcome<br>of on-going communication as detailed in the "Stormwater-<br>Management Protocol <sup>1</sup> 'Joint Christchurch City Council and<br>Environment Canterbury Stormwater Management Protocol (March<br>2006, Revised September 2008 and November 2010)'. | TSS means Total Suspe   |
| TSS means Total Suspended Solids.  | TSS means Total Suspended Solids.   | WIM means the Water Is<br>successor. The WIM is a<br>Christchurch City Counc<br>established to meet the o<br>detailed in the 'Joint Chri<br>Canterbury Stormwater I<br>Revised September 2006 |

is part of a catchment.

water in rivers, watercourses and artificial etlands, springs, or coastal waters, but and atmospheric water.

pended Solids.

r Issues Management Group, or its s a forum of senior managers of incil and Canterbury Regional Council ne outcome of on-going communication as Christchurch City Council and Environment er Management Protocol (March 2006, 008 and November 2010)'.

|   | ACTIVITY   | ACTIVITY  | ACTIVITY   |
|---|--|---|--|
|   | Purpose and Location   | Purpose and Location  | Purpose and Locatio  |
| 1 | This consent permits the discharge onto or into land or into surface water of stormwater which:  | <ul> <li>This consent permits authorises the discharge of stormwater onto or into land or into surface water of stormwater which: <ul> <li>a. is generated from within the territorial boundaries of Christchurch City Council, or;</li> <li>b. enters the Christchurch City Council stormwater network from outside the Christchurch City Council boundary.</li> </ul> </li> </ul> | Except where exclude<br>the discharge of stormw<br>which:<br>(a) is generated fr<br>Christchurch C<br>(b) enters the Chri<br>from outside th |
|   | a. is generated from existing sites, greenfield development sites<br>and re- development sites within the territorial boundaries of<br>the Christchurch City Council, and is discharged into the<br>Christchurch City Council stormwater network, but excludes<br>those areas outside of Banks<br>Peninsula settlement areas; or   | a. is generated from existing sites, greenfield development sites and<br>re-development sites within the territorial boundaries of the<br>Christchurch City Council, and is discharged into the<br>Christchurch City Council stormwater network, but excludes<br>those areas outside of Banks<br>Peninsula settlement areas; or   |  |
|   | <ul> <li>b. enters the Christchurch City Council stormwater network<br/>from outside of the City boundary; or</li> </ul>   | <ul> <li>b. enters the Christchurch City Council stormwater network from-<br/>outside of the City boundary; or</li> </ul>   |  |
|   | c. is generated from roofs of individual existing sites, greenfield<br>development sites and re-developments sites and is<br>discharged onto or into land within the site; or  | c. is generated from roofs of individual existing sites, greenfield<br>development sites and re-developments sites and is discharged-<br>onto or into land within the site; or  |  |
|   | d. is generated from hard-standing areas of individual existing residential sites, residential and non-residential greenfield development and residential and non-residential redevelopment sites and is discharged onto or into land within the site.   | d. is generated from hard-standing areas of individual existing residential sites, residential and non-residential greenfield development and residential and non-residential re-<br>development sites and is discharged onto or into land within the site.   |  |
|   | Advice Note: For the avoidance of doubt, this consent does not<br>authorise existing discharges into land from non-residential<br>hardstand areas via private stormwater systems.  | Advice Note: For the avoidance of doubt, this consent does not<br>authorise existing discharges into land from non-residential<br>hardstand areas via private stormwater systems.   |  |
|   | Exclusions   | Exclusions  | Exclusions   |
| 2 | There shall be no discharge to land or surface water from the following unless expressly authorised by Canterbury Regional Council and Christchurch City Council:  | This consent excludes discharges from:  | This consent excludes  |
|   | a. Any <u>new activity or re-development in a</u> site or development<br>area on the Canterbury Regional Council's Listed Land Use<br>Register that is considered by Christchurch City Council to<br>pose an unacceptably high risk of surface water or<br>groundwater contamination;  | a. Stormwater networks outside the settlement areas of Banks<br>Peninsula; and  | (a) <u>Emanating</u> St<br><u>Peninsula tha</u><br>Peninsula; and  |
|   | b. Any stage-of during the construction of a development site<br>with a total area of disturbance exceeding 5 hectares on flat<br>land or 1 hectare on hill land; and  | <ul> <li>Private stormwater networks that bypass the Christchurch City<br/>Council stormwater network and discharge into the Coastal<br/>Marine Area; and</li> </ul>  | (b) <u>From</u> Pprivate<br>the Christchurc<br>and operated<br>discharge into  |
|   | c. Any site listed on the attached Schedule 1 'Sites excluded from<br>the Christchurch City Council Comprehensive Stormwater<br>Network Discharge Consent' (i) at commencement of this<br>consent; or (ii) as a result of the process set out in<br>condition 3 below, or (iii) as a result of the process set out<br>in condition 41, or (iv) by variation of this consent. | c. Hardstand areas of non-residential existing sites discharging<br>onto or into land via private networks unless the discharge has<br>been previously authorised by the Christchurch City Council;<br>and  | (c) <u>Emanating fro</u><br>existing sites d<br>networks unles<br>authorised by t  |

| ion   |
|---|
| ded under Condition 2, this consent authorises nwater onto or into land or into surface water   |
| from within the territorial boundaries of<br>City Council; or;  |
| nristchurch City Council stormwater network the Christchurch City Council boundary.   |
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|   |
| s discharges <del>from</del> :  |
| Stormwater networks <u>from land</u> within Banks<br>nat is outside the Settlement Areas of Banks<br>nd   |
| te stormwater <u>systems</u> networks that bypass<br>urch City Council stormwater network <u>(owned</u><br>d by Christchurch City Council) and<br>o the Coastal Marine Area; and      |
| <b>rom</b> H <u>h</u> ardstand areas of non-residential<br>discharging onto or into land via private<br>ess the discharge has been previously<br>y the Christchurch City Council; and |

|   |   | <ul> <li>d. Any new activity on a site, or re-development of a site, or development area, on the Canterbury Regional Council's Listed Land Use Register that is considered by the Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination; and</li> <li>Advice Note: The identification of unacceptable high risk will be in the manner required by the memorandum of understanding between the Councils until a risk matrix is finalised.</li> </ul>  | re-developmen<br>Canterbury Re<br>that is conside<br>an unacceptab<br>contamination;<br>Advice Note: The iden<br>manner required by the<br><u>Stormwater Discharg</u><br><u>successor document</u><br><u>Canterbury Regional</u><br><u>condition 3 below</u> . |
|---|---|--|--|
|   |   | e. Any stage of development with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land, and;   | (e) <u>Emanating fro</u><br>total area of dia<br>or 1 hectare or   |
|   |   | <ul> <li>f. Any site listed on the attached Schedule 1 'Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent' <ol> <li>at commencement of this consent, or;</li> <li>as a result of the process set out in Condition 3 below, or;</li> <li>as a result of the process set out in Condition 41, er;</li> <li>by variation of this consent.</li> </ol> </li> <li>Transitional Arrangements</li> </ul>  | (f) <u>From Aany site</u><br>excluded from<br>Comprehensiv<br>(i) at comm<br>(ii) as a resu<br>or <del>;</del><br>(iii) as a resu<br>Transitional Arrange  |
|   |   |  | Transitional Arrange   |
| 3 | Discharge into the Christchurch City Council stormwater<br><u>network</u> from the sites excluded by Condition 2 <u>are will be within</u><br>the scope of <u>authorised under</u> this consent on 1 January 2025,<br>or when current discharge permits expire <u>or are surrendered</u> for<br>those sites, whichever is the latest, <u>unless through the</u><br><u>transitional arrangements set out below, or through the audits</u><br><u>described in condition 41, the Consent Holder determines that</u><br><u>the site poses an unacceptably high risk of surface water or</u><br><u>groundwater contamination. The transitional arrangements</u><br><u>are:</u> | Discharge into the Christchurch City Council stormwater network from<br>the sites excluded by Condition 2(d), (2)(e) e and f) or 2(f) are<br>authorised under this consent on 1 January 2025, or when current<br>discharge permits expire or are surrendered for those sites,<br>whichever is the latest, unless through the transitional arrangements<br>set out below, or through the audits described in Condition 41, the<br>Consent Holder determines that the site discharge poses an<br>unacceptably high risk of surface water or groundwater<br>contamination. The transitional arrangements are: | Discharge into the Chr<br>from the sites excluded<br>authorised under this of<br>discharge permits exp<br>whichever is the latest<br>set out below, or throu<br>Consent Holder deterr<br>unacceptably high risk<br>contamination. The tra                      |
|   | (a) Within 6 months of this consent being in legal effect, the<br>Consent Holder will engage with the Canterbury<br>Regional Council to obtain full details of all of the<br>consented activities excluded from this consent until<br>2025, including information on site activities, conditions<br>and compliance records;   | (a) Within 6 months of the commencement of this consent being-<br>in legal effect, the Consent Holder will engage with the<br>Canterbury Regional Council to obtain full details of all of the<br>consented discharges activities excluded from this consent<br>until 2025, including information on site activities, conditions<br>and compliance records;  | (a) Within 6 month<br>consent, the C<br>Canterbury Re<br>the consented<br>2025, including<br>and complianc   |
|   | (b) On the date on which the previously excluded site<br>comes within the scope of this consent, the discharge<br>from the previously excluded site into the stormwater<br>network shall be subject to standards that result in the<br>same or better environmental outcomes for the quality<br>and quantity of the discharge as those that were in the<br>relevant site specific resource consent issued by the<br>Canterbury Regional Council;  | <ul> <li>(b) Within 30 months of the commencement of this resource consent the Consent Holder shall draft a risk matrix used to identify and rate the risk associated with each of the stormwater discharges. The risk matrix shall be developed as follows:</li> <li>i. Within 18 months of the commencement of this consent, the Consent Holder shall prepare a draft risk matrix and provide it to the Industry Liaison Group for comment;</li> </ul>   | (b) Within 30 mon<br>consent <u>.</u> the C<br>to identify and<br>stormwater dis<br><u>provided unde</u><br><u>described in (</u><br>shall be develo   |

new activity <u>not existing at the</u> <u>nent of this resource consent</u> on a site, or ent, of a site, or development <u>site</u> area, on the degional Council's Listed Land Use Register ered by the Christchurch City Council to pose ably high risk of surface water or groundwater n; and

ntification of unacceptable high risk will be in the he Memorandum of <u>Understanding for</u> rges in Christchurch City (2014), or <u>nt,</u> between the <u>Christchurch City</u> Council<del>s</del> <u>and</u> al Council until a risk matrix is finalised <u>under</u>

**rom** A<u>a</u>ny stage of <u>a</u> development <u>site</u> with a disturbance exceeding 5 hectares on flat land on hill land; and;

site listed on the attached Schedule 1 'Sites in the Christchurch City Council ive Stormwater Network Discharge Consent'<u>:</u> mencement of this <u>resource</u> consent<u>;</u> or; sult of the process set out in Condition 3 below<u>;</u>

sult of the process set out in Condition 41.,

#### ements

hristchurch City Council stormwater network led by Condition<u>s</u> 2(d), (2)(e) or 2(f) are s consent on 1 January 2025, or when current spire or are surrendered for those sites, st, unless through the transitional arrangements ough the audits described in Condition 41, the ermines that the discharge poses an sk of surface water or groundwater transitional arrangements are:

ths of the commencement of this <u>resource</u> Consent Holder <u>shall</u> will engage with the legional Council to obtain full details of all of d discharges excluded from this consent until ng information on site activities, conditions nece records;

nths of the commencement of this resource Consent Holder shall draft a risk matrix used d rate the risk associated with each of the ischarges <u>where information has been</u> <u>der Condition 3(a), and those discharges</u> <u>Condition 2(d) and 2(e)</u>. The risk matrix loped as follows:

| ( <u>c)</u> | Cons         | n 3 years of this consent being in legal effect, the<br>ent Holder will deliver to the Canterbury Regional   |     | ii.                         | The Consent Holder shall invite the Industry Liaison  |     | (i)                  | Within 18 consent,  |
|-------------|--------------|--|-----|-----------------------------|---|-----|----------------------|---|
|             | incluc       | cil a Transition Plan for the excluded sites that<br>des, but is not limited to:   |     |                             | Group to provide comment within 2 months;   |     |                      | matrix an<br>comment  |
|             | <u>(i)</u>   | a description of the regulatory methods that will<br>be used by the Consent Holder to ensure that<br>previously excluded sites will be subject to<br>standards that achieve required environmental<br>outcomes as described in condition 3(b);             |     | iii.                        | Within 3 months of receiving the comment referenced in<br>Condition 3(c)(ii), the Consent Holder shall prepare a<br>memo and/or revised risk matrix addressing feedback<br>received from the engagement required by Condition<br>3(c)(i) and circulate it to the Industry Liaison Group   |     | (ii)                 | The Con<br>Group to<br><b>providin</b>  |
|             | <u>(ii)</u>  | a description of how a risk matrix will be used for<br>risk rating and to identify particular high risks   |     |                             | along with an invitation to an Industry Liaison Group meeting;  |     | (iii)                | Within 3<br>Condition<br>memo an  |
|             | (iii)        | and how they will be managed and audited;<br>a description of site specific monitoring plans for   |     | iv.                         | Within one month of the meeting held under Condition 3(c)(iii), the Consent Holder shall circulate minutes, including points of agreement and disagreement  |     |                      | required<br>Industry  |
|             | <u>(iii)</u> | particular sites rated high in the risk matrix;  |     |                             | between the parties;  |     |                      | Industry  |
|             | <u>(iv)</u>  | a description of the process that the Consent<br>Holder will use to determine, in collaboration with<br>CRC and through engagement with affected site<br>operators, whether a site will remain excluded<br>from authorisation under this consent due to it |     | V.                          | Any changes to the draft risk matrix shall be provided to<br>the Industry Liaison Group for feedback no less than 2<br>months prior to being submitted to Canterbury Regional<br>Council.   |     | (iv)                 | Within or<br>3(e <u>b</u> )(iii),<br>including<br>between                           |
|             |              | posing an unacceptably high risk of surface water<br>or groundwater contamination.   | (c) | legal<br>Cante<br>disch     | in 3 years of the commencement of this consent being in-<br>effect, the Consent Holder will delivershall provide to the<br>erbury Regional Council a Transition Plan for the-<br>narges excluded by conditions 2(d), 2(e) and 2(f) that<br>des, but is not limited to:  |     | (v)                  | Any cha<br>the Indu<br>months<br>Council.   |
|             |              |  |     | <u>(i)</u> a<br>b<br>d<br>r | a description of the regulatory methods that will be used<br>by the Consent Holder to ensure that previously excluded<br>discharges sites will be subject to standards that achieve<br>equired environmental outcomes as described in<br>condition 3(b);  |     | Cons<br>Cour<br>Cond | in 3 years<br>sent Holdencil a Trar<br>ditions 2(co<br>ed to:                       |
|             |              |  |     | C<br>F                      | a description of how a the risk matrix prepared under<br>Condition 3(c) <del>will be used for risk rating and to identify<br/>particular high risk and how they will be managed and<br/>audited;</del>  |     | (i)                  | a descri<br>by the C<br>excluded<br>achieve<br>in Condi                             |
|             |              |  |     | Ś                           | description of site specific monitoring plans for particular<br>sites at which the discharge is rated high in the risk<br>natrix;   |     | (ii)<br>(iii)        | the risk r<br>a descrip<br>particula  |
|             |              |  |     | u<br>F<br>s<br>e<br>d       | a description of the process that the Consent Holder will<br>use to determine, in collaboration with CRC Canterbury<br>Regional Council and through engagement with affected<br>site owners and/or operators, whether a site will remain<br>excluded from authorisation under this consent due to its<br>discharge posing an unacceptably high risk of surface<br>water or groundwater contamination; |     | (iv)                 | high in th<br>a descrip<br>use to de<br>Regiona<br>affected<br>will rema<br>consent |
|             |              |  | (d) | 3 it is<br>high             | a result of the risk matrix and process set out in condition<br>determined that the discharge poses an unacceptably<br>risk of surface water or groundwater contamination then<br>discharge will remain excluded from this consent and listed   | (d) | if as a              | high risk<br>contami<br>a result o  |

18 months of the commencement of this and provide it to the Industry Liaison Group for ent;

nsent Holder shall invite the Industry Liaison to provide comment within 2 months<u>of</u> ing the draft risk matrix to them for comment;

3 months of receiving the comment referenced in on 3(<u>b</u>e)(ii), the Consent Holder shall prepare a and/or revised risk matrix addressing <u>that</u> <u>ent</u> feedback received from the engagementd by Condition 3(c)(i) and circulate it to the y Liaison Group along with an invitation to an y Liaison Group meeting;

one month of the meeting held under Condition i), the Consent Holder shall circulate minutes, ng points of agreement and disagreement in the parties;

anges to the draft risk matrix shall be provided to ustry Liaison Group for feedback no less than 2 prior to being submitted to Canterbury Regional I.

s of the commencement of this consent, the der shall provide to the Canterbury Regional insition Plan for the discharges excluded by d), 2(e) and 2(f) that includes, but is not

ription of the regulatory methods that will be used Consent Holder to ensure that previously ed discharges will be subject to standards that e required environmental outcomes as described dition 3(e);

matrix prepared under Condition 3(b);

ription of site-specific monitoring plans for lar sites at <u>from</u> which the discharge is rated the risk matrix;

ription of the process that the Consent Holder will determine, in collaboration with Canterbury al Council and through engagement with d site owners and/or operators, whether a site nain excluded from authorisation under this t due to its discharge posing an unacceptably k of surface water or groundwater ination;

of the risk matrix and process set out in ) it is determined that the discharge poses an

|   |   | <ul> <li>on the attached Schedule 1;</li> <li>the Consent Holder shall ensure that all other sites referred to in condition 3(a) are, from the date on which the discharges are authorised under this resource consent, subject to standards that result in the same or better 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.</li> </ul> | unacceptably h<br>contamination<br>from this conse<br>(e) the Consent He<br>referred to in C<br>the discharges<br>subject to stand<br>environmental<br>discharge as th<br>resource conse<br>Council.                        |
|---|---|---|---|
|   | Advice note: Discharge into the Christchurch City Council stormwater<br>network will still require approval from Christchurch City Council, as<br>owner and operator of the stormwater network, at the expiry of<br>discharge permits for the sites noted above, or from 1 January 2025,<br>whichever is the latest.  | Advice note: Discharge into the Christchurch City Council stormwater<br>network will still require approval from Christchurch City Council, as<br>owner and operator of the stormwater network, at the expiry of<br>discharge permits for the sites noted above, or from 1 January 2025,<br>whichever is the latest.  | Advice note: Discharge<br>network will still require<br>owner and operator of<br><u>surrender or</u> at the ex<br>above, or from 1 Janua  |
|   | Advice Note: The Consent Holder will still have the ability to seek<br>a Variation of the resource consent. That may be used to exclude<br>high risk sites and/or to exclude discharges into waterways from<br>private stormwater pipes.  | Advice Note: The Consent Holder will still have the ability to seek<br>a Variation of the resource consent. That may be used to exclude<br>high risk sites and/or to exclude discharges into waterways from<br>private stormwater pipes.  |   |
|   |   |   |   |
|   | Stormwater Management Plans   | Stormwater Management Plans   | Stormwater Manager  |
| 4 | Stormwater Management Plans<br>The Consent Holder shall, in consultation with papatipu rūnanga and<br>the Christchurch-West Melton and Banks Peninsula Zone<br>Committees (or successor organisations), develop, and as necessary<br>update Stormwater Management Plans (SMPs) in accordance with<br>the programme set out in Table 1 and submit each SMP to<br>Canterbury Regional Council for certification that it contains the<br>matters required by condition 6 and is consistent with the<br>purpose of SMPs in condition 5. Certification will be by the RMA<br>Compliance and Enforcement Manager of the Canterbury<br>Regional Council. | · · · ·   | 4A The Consent Ho<br>rūnanga, Depar<br>West Melton and<br>successor organ<br>Stormwater Mar<br>programme set<br>Canterbury Reg<br>Monitoring and o<br>matters required<br>purpose of SMP<br>RMA Compliand<br>Regional Counc |

| Table 1: SMP Program | Table 1: SMP Programme |  |                                  | Table 1: SMP Programme |                       |   |  | Table 1: SMP Programme |                       |   |
|----------------------|------------------------|--|----------------------------------|------------------------|-----------------------|---|--|------------------------|-----------------------|---|
| Catchment            | Date SMP<br>Operative  | Date<br>Submitted<br>to<br>Canterbury<br>Regional<br>Council | Date<br>for 10<br>Year<br>Review | Catchment SMP<br>Area  | Date SMP<br>Operative | Date Submitted to<br>Canterbury Regional<br>Council |  | SMP Area               | Date SMP<br>Operative | Date Submitted to<br>Canterbury Regional<br>Council |

high risk of surface water or groundwater n then that discharge will remain excluded sent and listed on the attached Schedule 1;

Holder shall ensure that all other sites Condition 3(a) are, from the date on which es are authorised under this resource consent. ndards that result in the same or better al outcomes for the quality and quantity of the those that were in the relevant site-specific sent issued by the Canterbury Regional

rge into the <del>Christchurch City Council</del> stormwater ire approval from Christchurch City Council, as of the stormwater network, following the expiry of discharge permits for the sites noted uary 2025, whichever is the latest.

#### ement Plans

lolder shall, in consultation with papatipu artment of Conservation, and the Christchurchnd Banks Peninsula Zone Committees (or anisations), develop, and as necessary update anagement Plans (SMPs) in accordance with the out in Table 1 and submit each SMP to egional Council, Attention: Regional Leader -Compliance for certification that it contains the ed by Condition 6 and is consistent with the Ps in Condition 5. Certification will be by the nce and Enforcement Manager of the Canterbury <del>icil.</del>

reviewed and submitted for certification to gional Council, Attention: Regional Leader -Compliance every 10 years from the date of the the SMP, except that:

shall be reviewed and submitted by 30 June en 10 yearly after its certification, and; SMP shall be reviewed and submitted by 30 nd then 10 yearly after its certification.

|   | Ōtākaro/ Avon River<br>Area Christchurch  |                                | 30 June<br>2015                     | 30 June<br>2025                 | Ōtākaro/ Avon<br>River Area<br>Christchurch   |  | 30 June 2015<br>Within 36 months of<br>the commencement of<br>this consent   | <del>30 June</del><br><del>2025</del><br>of                             | Ōtākaro/ Avon River Area<br>Christchurch   |  | Within 36 months of the<br>commencement of this<br>consent  |
|---|---|--------------------------------|-------------------------------------|---------------------------------|---|--|--|---|--|--|---|
|   | Pūharakekenui/ Styx<br>River Area<br>Christchurch   | 30 June<br>2014                |                                     | 30 June<br>202 <mark>3</mark> 4 | Pūharakekenui/<br>Styx River Area<br>Christchurch   | 30 June<br>2014  |  | <del>30 June</del><br><del>202<b><u>3</u>4</b></del>                    |  | 30 June<br>2014  |   |
|   | Huritini/ Halswell River<br>Area Christchurch   | 30 June<br>2016                |                                     | 30 June<br>202 <u>1</u> 6       | Huritini/ Halswell<br>River Area<br>Christchurch  | 30 June<br>2016  |  | <del>30 June</del><br>202 <u>1</u> 6                                    |  | 30 June<br>2016  |   |
|   | Ōpāwaho/ Heathcote<br>River Area<br>Christchurch  |                                | 30 June<br>2019                     | 30 June<br>2029                 | Ōpāwaho/<br>Heathcote River<br>Area Christchurch  |  | 30 June 2019<br>Within 18 months of<br>the commencement of<br>this consent   | <del>30 June</del><br><del>2029</del><br>of                             | Ōpāwaho/ Heathcote<br>River Area Christchurch  |  | Within 18 months of the<br>commencement of this<br>consent  |
|   | Estuary and Coastal<br>Area Christchurch  |                                | 20<br>December<br>2019              | 20<br>Decemb<br>er 2029         | Estuary and<br>Coastal Area<br>Christchurch   | 1  | 20 December 2019   |   | Estuary and Coastal Area<br>Christchurch   |  | Within 24 months of the<br>commencement of this<br>consent  |
|   | Outer Area<br>Christchurch  |                                | 30 June<br>2020                     | 30 June<br>2030                 | Outer Area<br>Christchurch  |  |  | <del>30 June<br/>2030</del>   | Outer Area Christchurch  |  | Within 30 months of the<br>commencement of this<br>consent  |
|   | Te Pātaka o<br>Pākaihautū/ Banks<br>Peninsula<br>Settlements  |                                | 20<br>December<br>2020              | 20<br>Decemb<br>er 2030         | Te Pātaka o<br>Pākaihautū/<br>Banks<br>Peninsula<br>Settlements   |  | 20 December 2020<br>Within 36 months of  | <u>20-</u><br>December-<br>2030   | Te Pātaka o Rākaihautū/<br>Banks Peninsula<br>Settlements  |  | Within 36 months of the<br>commencement of this<br>consent  |
| 5 | The purpose of the SMP  | s is to:                       |                                     |                                 | The purpose of the S  | MPs is to:   | · · · · · ·  |   | The purpose of the SMPs  | is to:   |   |
|   | a. Demonstrate the means by which the quality of<br>stormwater discharges will be progressively improved<br>towards meeting the Receiving Environment Objectives<br>and Attribute Target Levels for waterways, coastal<br>waters, groundwater and springs, and water quantity,<br>set out in the conditions of this consent and in<br>Schedules 4 to 7; |                                |                                     |                                 | <ul> <li>standards set</li> <li>b. Set the contain developed an be achieved;</li> <li>c. Demonstrate discharges with Receiving Entry for waterways</li> </ul> | in Condition 1<br>minant load re<br>d set in each 3<br>the means by<br>Il be progressi<br>vironment Objo<br>s, coastal wate<br>v, set out in the | verall contaminant load r<br>6;<br>duction targets required<br>SMP and describe how th<br>which the quality of storr<br>vely improved towards n<br>ectives and Attribute Tar<br>rs, groundwater and spri<br>e conditions of this conse | to be<br>hey are to<br>mwater<br>neeting the<br>get Levels<br>ings, and | <ul> <li>standards set in 0</li> <li>(b) Set the contamin<br/>developed and set<br/>to be achieved A<br/>that catchment de<br/>in that SMP area<br/><u>commitment of</u><br/>of stormwater d</li> <li>(c) Demonstrate the<br/>discharges will be<br/>the Receiving En<br/>Levels for waterwater</li> </ul> | Condition 16A<br>ant load reduce<br>t in each SM<br><u>a</u> contaminar<br>erived from m<br><u>a in order to o</u><br>the Consent<br>ischarge qua<br>means by wh<br>e progressivel<br>vironment Ob<br>vays, coastal<br>er quantity, se | ction targets required to be<br>P and describe how they are-<br>nt load reduction target(s), for-<br>odelling, for each catchment<br>demonstrate the<br>Holder to the improvement<br>ality over time;<br>ich the quality of stormwater<br>ly improved towards meeting<br>jectives and Attribute Target<br>waters, groundwater and<br>et out in the conditions of this |
|   | <ul> <li>Demonstrate the n<br/>contribution to gro<br/>will continue by dis<br/>systems where rea</li> </ul>  | undwater and<br>scharge of sto | spring-fed strea<br>rmwater to land | am flows                        | to groundwat<br>Provide for di<br>where reasor<br>by which the  | er and spring<br>scharge of sto<br>ably practicab  | which the stormwater co<br>fed stream flows will con<br>rmwater to land infiltration<br>le so as to demonstrate<br>ntribution to groundwate<br>continue;   | tinue by<br>on systems<br>the means                                     | (d) Provide for disch<br>systems where re<br>to demonstrate <u>t</u>   | arge of storm<br>easonably pra<br><u>nat</u> t <del>he means</del><br>oundwater an   | water to land infiltration<br>acticable <u>as the means</u> so as<br><del>s by which the</del> stormwater<br>ad spring-fed stream flows will  |

|   | <ul> <li>c. Demonstrate the means by which Christchurch City<br/>Council stormwater infiltration facilities constructed by,<br/>or on behalf of, the Consent Holder, after the<br/>commencement of this consent shall be designed,<br/>located and operated to avoid, remedy or mitigate<br/>adverse effects of groundwater mounding on other land<br/>in anything more frequent than the critical 2 percent<br/>Annual Exceedance Probability Event.</li> <li>d. Plan the works authorised by this consent;</li> </ul> | <ul> <li>e. 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.</li> <li>f. Plan the works authorised by this consent; Describe the works</li> </ul>         | <ul> <li>(e) Demonstrate the stormwater infinition of, the Consent consent shall <u>v</u> avoid, remedy mounding on o critical 2 <u>% AE</u> Event.</li> <li>(f) Describe Plan</li> </ul>              |
|---|---|--|--|
|   |   | associated with the mitigation of the effects of stormwater discharges within each SMP.  | with the mitigal<br>within each SM<br>consent.   |
|   | e. Implement the conditions of this consent as they apply to each catchment.  | <ul> <li>Implement the conditions of this consent as they apply to each catchment.</li> </ul>  | (g) Implement the<br>each catchmer<br>weed manage<br>determined un   |
| 6 | SMPs submitted to Canterbury Regional Council after the operative date of this consent shall include but not be limited to the following information:   | , , ,  | SMPs submitted to Can<br>commencement of this<br>limited to the following i  |
|   | <ul> <li>a. Specific guidelines for implementation of stormwater<br/>management within the catchment to achieve the<br/>purpose of SMPs;</li> </ul>   | <ul> <li>a. Specific guidelines for implementation of stormwater<br/>management within the catchment to achieve the purpose<br/>of SMPs;</li> </ul>  | <ul> <li>(a) Specific guideli<br/>management ¥<br/>SMPs;</li> </ul>  |
|   | <ul> <li>b. A definition of the extent of the stormwater<br/>infrastructure, including any portions of<br/>waterways, that forms the stormwater network<br/>within the catchment for the purposes of this<br/>consent;</li> </ul>   | <ul> <li>A definition of the extent of the stormwater infrastructure,<br/>including any portions of waterways, that forms the<br/>stormwater network within the catchment for the purposes<br/>of this consent;</li> </ul>   | (b) A definition of t<br>that forms the s<br><del>catchment</del> for t  |
|   |   | c. A contaminant load reduction target for that catchment<br>derived from modelling. The best available model or method<br>and input data shall be used to define catchment-specific<br>contaminant load reduction targets under each SMP in<br>order to demonstrate the commitment of the Consent Holder<br>to the improvement of stormwater discharge quality over<br>time.  | (c) A contaminant<br>within that SM<br>and considera<br>reduction targe<br>catchment The<br>model or meth<br>The best availa<br>used to define<br>reduction targe<br>the commitmer<br>of stormwater of |
|   | <ul> <li>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):         <ol> <li>Relevant objectives, policies, standards and rules in the Christchurch District Plan;</li> <li>Relevant bylaws;</li> </ol> </li> </ul>  | <ul> <li>d. A description of statutory and non-statutory planning mechanisms being used by the Consent Holder to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These mechanisms will shall include (but are not limited to): <ol> <li>Relevant objectives, policies, standards and rules in the Christchurch District Plan;</li> <li>Relevant bylaws; and</li> <li>Relevant strategies, codes, standards and guidelines.</li> </ol> </li> </ul> | <ul> <li>(d) A description o mechanisms b compliance wit requirement to mechanisms sl</li> <li>(i) Relevant the Chris</li> <li>(ii) Relevant</li> <li>(ii) Relevant</li> </ul>                         |
|   | iii. Relevant strategies, codes, standards and guidelines;  |  |  |

the means by which Christchurch City Council filtration facilities constructed by, or on behalf nt Holder, after the commencement of this **will** be designed, located and operated to y or mitigate adverse effects of groundwater other land in anything more frequent than the **EP** percent annual exceedance probability

n the works <u>required to mitigate</u> associated ation of the effects of stormwater discharges MP to the extent required by this resource

e conditions of this consent as they apply to ent, **including the best practicable option for** ement in the Pūharakekenui/Styx River as under Condition 38(x).

nterbury Regional Council after the s **resource** consent shall include but not be information:

lines for implementation of stormwater within the catchment to achieve the purpose of

the extent of the stormwater infrastructure, stormwater network within the <u>SMP area</u> the purposes of this consent;

t load reduction target(s) for each catchment MP area and a A description of the process rations used in setting the contaminant load pet(s) required by Condition 5(b) for that the using the best reasonably practicable

thod and input data:derived from modelling. lable model or method and input data shall be catchment-specific contaminant load

ets under each SMP in order to demonstrateent of the Consent Holder to the improvementdischarge quality over time.

of statutory and non-statutory planning being used by the Consent Holder to achieve vith the conditions of this consent including the o improve discharge water quality. These shall include:

nt objectives, policies, standards and rules in istchurch District Plan;

nt bylaws; and

nt strategies, codes, standards and guidelines.

| <ul> <li>d. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality_under Conditions 20 and 21. These methods may include (but are not limited to):         <ol> <li>Stormwater mitigation facilities and devices;</li> <li>Erosion and sediment control guidelines;</li> <li>Education and awareness initiatives on source control systems and site management programmes;</li> <li>Support for third party initiatives on source control reduction methods;</li> <li>Prioritising stormwater treatment in catchments that discharge: in proximity to areas of high ecological or cultural value, such as habitat for threatened species or <u>Areas of Significant Natural Value under the Regional Coastal Environment Plan (Canterbury Regional Council, 2012), and/or in areas with high contaminant loads;</u></li> </ol> </li> </ul> | <ul> <li>e. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality under Conditions 20-and-21, and to meet the contaminant load reduction targets for each catchment as determined through the SMPs and the standards for the whole of Christchurch set in Condition 16. These methods shall include: <ul> <li>i. Stormwater mitigation facilities and devices;</li> <li>ii. Erosion and sediment control guidelines;</li> <li>iii. Education and awareness initiatives on source control systems and site management programmes;</li> <li>iv. Support for third party initiatives on source control reduction methods;</li> <li>v. Prioritising stormwater treatment in catchments: that discharge in proximity to areas of high ecological or cultural value, such as habitat for threatened species or Areas of Significant Natural Value under the Regional Council, 2012);, and areas with high contaminant loads;</li> </ul> </li> </ul> | <ul> <li>(e) Mitigation meth<br/>conditions of the<br/>requirement to a<br/>Condition 20, at<br/>targets for each<br/>and the standar<br/>Condition 16. T         <ul> <li>(i) Stormwat</li> <li>(ii) Erosion a</li> <li>(iii) Education<br/>systems a</li> <li>(iv) Support for<br/>reduction</li> <li>(v) Prioritisin<br/>discharge<br/>cultural va<br/>or Areas of<br/>Regional<br/>Regional<br/>contamina</li> </ul> </li> </ul> |
|---|---|--|
| e. Locations and identification of Christchurch City<br>Council water quality and water quantity mitigation<br>facilities and devices; including a description and<br>justification for separation distances between<br>treatment devices and any contaminated land   | <ul> <li>f. Locations and identification of Christchurch City Council<br/>water quality and water quantity mitigation facilities and<br/>devices; including a description and justification for<br/>separation distances between treatment devices and any<br/>contaminated land;</li> </ul>  | (f) Locations and i<br>water quality ar<br>devices; includi<br>separation dista<br>treatment device  |
| f. Identification of areas reserved for future development;   | g. Identification of areas reserved for future development and a<br>description of the Consent Holder's consideration to retrofit<br>water quality and quantity mitigation for existing catchments<br>through these developments where reasonably practicable;  | (g) Identification of<br>development ar<br>consideration to<br>for existing cato<br>reasonably prace   |
| g. Identification of areas subject to known flood hazards;  | h. Identification of areas subject to known flood hazards;  | (h) Identification of  |
| <ul> <li>An interpretation of environmental &amp; cultural<br/>monitoring and how this information has been used to<br/>develop water quality mitigation methods and<br/>practices;</li> </ul>  | <ul> <li>An interpretation A description of the results of<br/>environmental &amp; and cultural monitoring and how this<br/>information has been used to develop water quality<br/>mitigation methods and practices;</li> </ul>   | <ul> <li>(i) A description of <u>how environm</u></li> <li><u>tangata whenu</u></li> <li>been used to depractices;</li> </ul>  |
| i. Results from and interpretation of water quantity and<br>quality modelling, including identification of sub-<br>catchments with high levels of contaminants;   | <ul> <li>Results from and interpretation of water quantity and quality<br/>modelling, including identification of sub-catchments with<br/>high levels of contaminants;</li> </ul>   | (j) Results from ar<br>modelling, inclu<br>high levels of co   |
| i. Mapping of existing information from Canterbury<br>Regional Council and the Consent Holder<br>showing locations where discrete spring vents<br>occur;  | <ul> <li>Mapping of existing information from Canterbury Regional<br/>Council and the Consent Holder showing locations where<br/>discrete spring vents occur;</li> </ul>  | <ul> <li>(k) Mapping of exis<br/>Council and the<br/>discrete spring</li> </ul>  |
| j. Consideration of any effects of the diversion and<br>discharge of stormwater on baseflow in streams and<br>springs;  | <ul> <li>I. Consideration of any effects of the diversion and discharge<br/>of stormwater on baseflow in streams-waterways and<br/>springs; and details of monitoring that will be undertaken of<br/>any waterways and springs that could be affected by<br/>stormwater management changes anticipated within the life<br/>of the SMP;</li> </ul>   | <ul> <li>(I) Consideration of<br/>of stormwater of<br/>details of monit<br/>waterways and<br/>management cl</li> </ul>   |
| k. A cultural impact assessment;<br>I. A summary of outcomes resulting from any<br>collaboration with papatipu rūnanga on SMP<br>development;   | <ul> <li>m. A cultural impact assessment;</li> <li>n. A summary of outcomes resulting from any collaboration<br/>with papatipu rūnanga on SMP development;</li> </ul>   | (m) A cultural impa<br>(n) A summary of c<br>papatipu rūnan  |

thods to achieve compliance with the his resource consent including the p improve discharge water quality under and to meet the contaminant load reduction ch catchment as determined through the SMPs ards for the whole of Christchurch set in These methods shall include: vater mitigation facilities and devices; and sediment control guidelines; on and awareness initiatives on source control and site management programmes; for third party initiatives on source control on methods; ing stormwater treatment in catchments: that ge in proximity to areas of high ecological or value, such as habitat for threatened species s of Significant Natural Value under the al Coastal Environment Plan (Canterbury al Council, 2012); and areas with high inant loads; identification of Christchurch City Council and water quantity mitigation facilities and ding a description and justification for stances between mitigation facilities or ices and any contaminated land; of areas **planned** reserved for future and a description of the Consent Holder's to retrofit water quality and quantity mitigation tchments through these developments where acticable: of areas subject to known flood hazards; of the results of environmental and cultural mental monitoring and assessment of nua values and how this information have develop water quality mitigation methods and and interpretation of water quantity and quality luding identification of sub-catchments with contaminants: kisting information from Canterbury Regional ne Consent Holder showing locations where q vents occur; of any effects of the diversion and discharge on baseflow in waterways and springs and itoring that will be undertaken of any d springs that could be affected by stormwater changes anticipated within the life of the SMP;

act assessment; f outcomes resulting from any collaboration with inga on SMP development;

|   | <ul> <li>m. An assessment of the effectiveness of water quality<br/>or quantity mitigation methods established under<br/>previous SMPs and identification of any changes in<br/>methods or designs resulting from the assessment;<br/>and</li> </ul>  | <ul> <li>An assessment of the effectiveness of water quality or<br/>quantity mitigation methods established under previous<br/>SMPs and identification of any changes in methods or<br/>designs resulting from the assessment;</li> </ul>  | (o) An assessmen<br>quantity mitiga<br>SMPs and ider<br>designs resultin  |
|---|---|--|---|
|   |   | <ul> <li>p. Assessment and description of any additional or new<br/>modelling, monitoring and mitigation methods;</li> </ul>   | (p) Assessment an<br>modelling, mor<br>implemented  |
|   | n. A summary of feedback obtained in accordance with<br>Condition 7 and if / how that feedback has been<br>incorporated into the SMP.   | <ul> <li>q. A summary of feedback obtained in accordance with<br/>Condition 7 and if / how that feedback has been<br/>incorporated into the SMP;</li> </ul>  | (q) A summary of<br>Condition 7 an<br>into the SMP;   |
|   | p. If the Consent Holder intends to use land not<br>owned or managed by the Consent Holder for<br>stormwater management, a description of the<br>specific consultation undertaken with the<br>affected land owner;  | r. If the Consent Holder intends to use land not owned or<br>managed by the Consent Holder for stormwater<br>management, a description of the specific consultation<br>undertaken with the affected land owner;  | (r) If the Consent<br>managed by th<br>management,<br>undertaken wit  |
|   | q.       Identification of key locations in addition to<br>those identified in Schedule 7 where modelled<br>assessments of water levels shall be made for<br>the critical 2% AEP event and any other<br>relevant return interval. For each additional key<br>location, appropriate water level reductions or<br>tolerances for increases shall be set according<br>to the SMP objectives and shall be reported<br>with the model update results required under<br>Condition 48; | s. Identification of key locations in addition to those identified<br>in Schedule 7 where modelled assessments of water levels<br>and/or volumes shall be made for the critical 2% AEP event<br>and any other relevant return interval. For each additional<br>key location, appropriate water level reductions or<br>tolerances for increases shall be set according to the SMP<br>objectives and shall be reported with the model update<br>results required under Condition 48; |   |
|   | r. Assessment of the risk of bird strike for any<br>large public facilities within 3 kilometres of the<br>airport;  | t. Procedures, to be developed in consultation with<br>Christchurch International Airport Limited, for the<br>management Assessment of the risk of bird strike for any<br>large public facility owned or managed by the Christchurch<br>City Councilies within 3 kilometres of the airport;  | (t) Procedures, to<br>Christchurch Ir<br>management of<br>managed by th<br>kilometres of th   |
|   | s. A description of any relevant options<br>assessments undertaken; and   | <ul> <li>A description of any relevant options assessments<br/>undertaken to identify the drivers behind mitigation<br/>measures selected; and</li> </ul>  | (u) A description o<br>undertaken to i<br>selected; and   |
|   | t. An assessment of the potential change to the<br>overall water balance to the management area<br>arising from the change in pervious area and<br>the stormwater management systems that are   | <ul> <li>v. An assessment of the potential change to the overall water<br/>balance for the SMP to the management area arising from<br/>the change in pervious area and the stormwater<br/>management systems proposed that are; and</li> </ul>   | <ul> <li>(v) An assessmen<br/>balance for the<br/>pervious area a<br/>proposed.</li> </ul>  |
| 7 | Prior to submitting a SMP or any amendment to a SMP,<br><u>other than one making minor changes and</u><br><u>corrections</u> , to the Canterbury Regional Council, the<br>Consent Holder shall <del>provide a draft copy to the</del><br><u>following parties inviting feedback within a timeframe</u><br><u>of not less than 40 working days</u> :   | Prior to submitting a SMP or any reviewed SMP, or amendment to a SMP to the Canterbury Regional Council, other than one agreed with Canterbury Regional Council as making minor changes and corrections, to the Canterbury Regional Council, the Consent Holder shall:   | Prior to submitting a SI<br>SMP to the Canterbury<br>with Canterbury Regio<br>corrections, the Conse  |
|   | <ul> <li>a. In early development stages for a possible SMP, provide a briefing and invite comments from: <ol> <li>papatipu rūnanga;</li> <li>The relevant Zone Committee(s) (or successor organisation); and</li> <li>The relevant Community Board(s) (or successor organisation); and</li> <li>papatipu rūnanga;</li> </ol> </li> </ul>  | <ul> <li>a. In early development stages for a possible SMP, provide a briefing to and invite comments from: <ol> <li>papatipu rūnanga;</li> <li>The relevant Zone Committee(s) (or successor organisation); and</li> <li>The relevant Community Board(s) (or successor organisation); and</li> <li>The Department of Conservation</li> </ol> </li> </ul>   | <ul> <li>(a) In the early develocities</li> <li>a briefing to an (i) papatipu (ii) The relevelocities</li> <li>(iii) The relevelocities</li> <li>(iii) The relevelocities</li> <li>(iv) The Department</li> </ul> |

ent of the effectiveness of water quality or pation methods established under previous entification of any changes in methods or lting from the assessment;

and description of any additional or new onitoring and mitigation methods **being d by the Consent Holder**;

of feedback obtained in accordance with and if / how that feedback has been incorporated

nt Holder intends to use land not owned or the Consent Holder for stormwater t, a description of the specific consultation with the affected land owner;

of key locations in addition to those identified in where modelled assessments of water levels es shall be made for the critical 2% AEP event er relevant return interval. For each additional appropriate water level reductions or tolerances shall be set according to the SMP objectives reported with the model update results required ion 48;

to be developed in consultation with International Airport Limited, for the t of the risk of bird strike for any facility owned or the Christchurch City Council within 3 the airport;

of any relevant options assessments o identify the drivers behind mitigation measures

ent of the potential change to the overall water he SMP area arising from the change in a and the stormwater management systems

SMP or any reviewed SMP, or amendment to a ury Regional Council, other than one agreed ional Council as making minor changes and sent Holder shall:

levelopment stages for a possible SMP, provide and invite comments from: ou rūnanga; levant Zone Committee(s) (or successor sation); levant Community Board(s) (or successor sation); and

epartment of Conservation.

|   | <ul> <li>b. Following completion of a draft SMP, the Consent<br/>Holder shall provide a draft copy to the following parties<br/>inviting feedback within a timeframe of not less than 40<br/>working days: <ol> <li>papatipu rūnanga;</li> <li>The relevant Zone Committee(s) (or successor<br/>organisation); and</li> <li>he relevant Community Board(s) (or successor<br/>organisation);</li> <li>Department of Conservation.</li> </ol> </li> </ul> | <ul> <li>b. Following completion of a draft SMP, the Consent Holder shall provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days: <ol> <li>papatipu rūnanga;</li> <li>The relevant Zone Committee(s) (or successor organisation); and</li> <li>The relevant Community Board(s) (or successor organisation); and</li> <li>The Department of Conservation.</li> </ol> </li> <li>Stormwater Technical Peer Review Panel</li> </ul>   | <ul> <li>(b) Following comp<br/>shall provide a c<br/>feedback within<br/>days:         <ul> <li>(i) papatipu i</li> <li>(ii) The releva<br/>organisati</li> <li>(iii) The releva<br/>organisati</li> <li>(iv) The Depa</li> </ul> </li> <li>Stormwater Technical</li> </ul>  |
|---|---|--|---|
| 8 | The Consent Holder will obtain a peer review of the draft<br>SMP from independent experts, attach a copy of the peer<br>review to the draft SMP, and have a description within the<br>SMP of the Consent Holder's response to that peer review.   | <ul> <li>8A. The Consent Holder will obtain a review of the draft SMP from the Stormwater Technical Peer Review Panel (Stormwater TPRP), attach a copy of the review to the draft SMP, and have a description within the SMP of the Consent Holder's response to that review. 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 review.</li> <li>8. The Consent Holder shall establish, at its own cost, the Stormwater TPRP, which is to: <ul> <li>i. review each Draft SMP, including those being reviewed as required under condition 4 of this resource consent or being amended under condition 11, and provide technical advice to the Consent Holder as to whether it is fit for purpose and meets the requirements of Conditions 5 and 6 of this resource consent; and</li> <li>ii. provide technical reviews to the Consent Holder on the scope of the feasibility studies and investigations required by Condition 37 (Table 3 actions a - c, d - e, f, and g - h) and Condition 38 (Table 4 actions d, e, m, n, o and p) of this resource consent and review the outcomes of the relevant feasibility study or investigation provided to Canterbury Regional Council.</li> </ul></li></ul> | <ul> <li>a) <u>The draft</u><br/><u>this reso</u><br/><u>amendm</u></li> <li>b) <u>review</u> Ea<br/>reviewed<br/>resource<br/>11, and p<br/>as to whe<br/>requireme<br/>consent;</li> <li>c) <u>provide te</u><br/>The scop<br/>required te<br/><u>and g</u> - h)<br/><u>m, n, o</u> ar<br/>the outco<br/>investigat<br/>incorpora</li> <li>8A The Consent Hole</li> <li>a) Obtain a reviewed</li> </ul> |

npletion of a draft SMP, the Consent Holdera draft copy to the following parties inviting in a timeframe of not less than 40 working

u rūnanga; evant Zone Committee(s) (or successor ation); evant Community Board(s) (or successor ation); and partment of Conservation.

#### al Peer Review Panel

older shall establish, at its own cost, the echnical Review Panel (Stormwater TPRP), e of which is to providing scientific and v of:

#### aft risk matrix required by Condition 3(b) of source consent and any subsequent ments of the risk matrix; and

Each Draft SMP, including those being d as required under Condition 4 of this e consent or being amended under Condition provide technical advice to the Consent Holder nether it is fit for purpose and meets the ments of Conditions 5 and 6 of this resource t; and

technical reviews to the Consent Holder on ope of the feasibility studies and investigations d by Condition 37 (Table 3 actions a  $\frac{1}{c}$ ,  $\frac{1}{d}$ ,  $\frac{1}{c}$ ,  $\frac{1}{c}$ , h) and Condition 38 (Table 4 actions d, e,  $\frac{1}{d}$ ,  $\frac{k}{d}$ , and  $\frac{p}{d}$  of this resource consent and review comes of the feasibility studies and ations to ensure that actions arising from them rate best practicable options.

#### older <u>shall</u>will:

iew of the draft risk matrix from the TPRP, and attach a copy of the review to c matrix provided to the Canterbury puncil; and

ew of the draft SMP from the <del>Stormwater</del> er Review Panel (Stormwater TPRP), attach a eview to the draft SMP, and provide a vithin the SMP of the Consent Holder's hat review; and

iew of the relevant feasibility study or <u>n from the Stormwater TPRP, and a</u>ttach a eview to the relevant feasibility study or provided to Canterbury Regional Council.

|   |  | <ul> <li>9A. The Stormwater TPRP shall be established within six months of commencement of this resource consent.</li> <li>9B. The role of the Stormwater TPRP is confined to providing scientific and technical review on the matters outlined in Condition 8 (i) and (ii).</li> </ul>   | Advice Note: The tech<br>provided by the relevant<br>the whole panel.<br>9A The Stormwater<br>of commenceme<br>9B The role of the S<br>scientific and tech<br>Condition 8 (i) at   |
|---|--|---|--|
|   |  | <ul> <li>9C. The Consent Holder may appoint up to six independent Stormwater TPRP members with expertise which could include but not be limited to the following: <ol> <li>Stormwater engineering and hydrological/flood modelling;</li> <li>Freshwater and coastal water quality and ecology;</li> <li>Hydrogeology;</li> <li>Contaminated site/land management;</li> <li>Erosion and sediment control; and</li> <li>wi. Mātauranga Māori and mahinga kai.</li> </ol> </li> </ul>  | Stormwater TPF<br>include but not b  |
|   |  | 9D. If the Stormwater TPRP does not have expertise in any of the areas which it is required to advise the Consent Holder on, it shall inform the Consent Holder who may engage the services of a suitably qualified expert to advise it on the matter.  | 9B If the Stormwate<br>areas which it is<br>shall inform the<br>of a suitably qua  |
|   |  | 9E. The Consent Holder shall provide any administrative support necessary for the Stormwater TPRP to carry out its functions.   | 9C The Consent Ho<br>necessary for th  |
|   | Advice Note: The Christchurch City Council intend for<br>development of the SMPs to be a collaborative process with<br>input from key stakeholders. During development of SMPs,<br>papatipu rūnanga, CWMS Zone Committees and Canterbury<br>Regional Council technical staff will be invited to all technical<br>presentations and will have opportunity to review and comment<br>on draft SMP documents. Presentations will be made at public<br>meetings of both the Banks Peninsula and Christchurch-West<br>Melton Zone Committees. Once all documented feedback has<br>been considered and addressed, the finalised SMP<br>documentation will be submitted to the Canterbury Regional<br>Council. | Advice Note: The Christchurch City Council intend for development of<br>the SMPs to be a collaborative process with input from key<br>stakeholders. During development of SMPs, papatipu rūnanga,<br>CWMS Zone Committees and Canterbury Regional Council technical<br>staff will be invited to all technical presentations and will have<br>opportunity to review and comment on draft SMP documents.<br>Presentations will be made at public meetings of both the Banks<br>Peninsula and Christchurch-West Melton Zone Committees. Once all<br>documented feedback has been considered and addressed, the<br>finalised SMP documentation will be submitted to the Canterbury<br>Regional Council. | Advice Note: The Chri<br>of the SMPs to be a co<br>stakeholders. During of<br>CWMS Zone Committe<br>technical staff will be in<br>have opportunity to re<br>Presentations will be r<br>Peninsula and Christo<br>all documented feedba<br>finalised SMP docume<br>Regional Council. |
| 8 | The Consent Holder shall review the content of the SMPs to<br>assess whether changes to the SMPs will better achieve their<br>purpose. The programme for that review is as set out in Table<br>1 above. <u>The times in Table 1 are maximums. Reviews may</u><br><u>be more frequent.</u>  | 10. The Consent Holder shall review the content of the certified<br>SMPs to assess whether changes to the SMPs will better<br>achieve their purpose. The programme for that review is as set<br>out in Condition 4B and Table 1 above. The times in Table 1<br>are maximums. Reviews may be more frequent.  | 10 The Consent Ho<br>SMPs to assess<br>achieve their pu<br>set out in Condit<br>1 are maximums   |
| 9 | The Consent Holder shall amend the SMPs as it considers<br>necessary including the use of any new technologies, new<br>opportunities for additional treatment (such as for infill areas or<br>retro-fit) or new constraints on treatment due to changed<br>developer plans, new regulatory tools and processes ,<br><b>outcomes of investigations and trials in conditions 37 and</b><br><b>38</b> , or updated industry best practice for stormwater treatment,<br>including the type, size and location of treatment facilities, and   | 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 treatment due to changed developer plans, new regulatory tools and processes , <b>outcomes of investigations and trials in conditions 37 and 38,</b> or updated industry best practice for stormwater treatment, including the type, size and location of treatment facilities, and their timing for implementation.  |  |

hnical reviews under Condition 8<del>(ii)</del> shall be rant experts from the Stormwater TPRP and not

er TPRP shall be established within six monthsnent of this resource consent.

Stormwater TPRP is confined to providingschnical review on the matters outlined in and (ii).

Holder **<u>shall</u>** may appoint up to six independent PRP members with expertise which could be limited to the following:

rater engineering and hydrological/flood

ater and coastal water quality and ecology; eology;

ninated site/land management;

and sediment control; and

anga Māori and mahinga kai.

ter TPRP does not have expertise in any of the is required to advise the Consent Holder on, it e Consent Holder who may engage the services ualified expert to advise it on the matter.

lolder shall provide any administrative support he Stormwater TPRP to carry out its functions.

ristchurch City Council intend for development collaborative process with input from key development of SMPs, papatipu rūnanga, ttees and Canterbury Regional Council invited to all technical presentations and will eview and comment on draft SMP documents. made at public meetings of both the Banks church-West Melton Zone Committees. Once back has been considered and addressed, the nentation will be submitted to the Canterbury

lolder shall review the content of the certified is whether changes to the SMPs will better urpose. The programme for that review is aslition 4B and Table 1 above. The times in Tablens. Reviews may be more frequent.

|    | their timing for implementation.  |  |   |
|----|---|--|---|
| 10 | The Consent Holder shall amend the SMPs as it considers<br>necessary to respond to the results of the Christchurch<br>Contaminant Load Model (C-CLM), or results of monitoring,<br>including any investigations or outcomes in relation to<br>the responses to modelling and monitoring under Conditions 49<br>- 51.  | <ol> <li>The Consent Holder shall amend the SMPs as it considers<br/>necessary to respond to:         <ul> <li>the results of the Christchurch Contaminant Load Model (C-CLM) and contaminant load reduction targets set within the SMPs, or any revisions thereof,</li> <li>The results of monitoring, including any investigations or outcomes in relation to the responses to modelling and monitoring under Conditions 49 – 51,-</li> <li>Outcomes of investigations and trials carried out under Conditions 37 and 38,</li> <li>Any changes to relevant national, and/or regional planning documents as a result of the sub-regional process,</li> <li>The use of new technologies, new opportunities for additional treatment (such as for infill areas or retro-fit) or new constraints on treatment due to changed developer plans,</li> <li>New environmental data and research including updated international and national best practice technologies.</li> </ul> </li> </ol> | <ul> <li>11 The Consent Hole necessary to res</li> <li>(a) the results of the CLM) and contars SMPs, or any res</li> <li>(b) The results of neutrones in relemonitoring under</li> <li>(c) Outcomes of in Conditions 37 a</li> <li>(d) Any changes to documents incle LWRP sub-regiines</li> <li>(e) The use of new additional mitigation treat and</li> <li>(f) New environment international and</li> </ul> |
| 11 | Any amendments to SMPs may not replace the previous<br>version until the amendments have been certified by the RMA<br>Compliance and Enforcement Manager of the Canterbury<br>Regional Council as achieving the purposes of the<br>SMP, as set out in Condition 5.  | 12. Any amendments to SMPs, other than one-those agreed with<br>Canterbury Regional Council as making minor changes and<br>corrections, will not may not replace the previous version until the<br>amendments have been certified by the RMA Compliance and<br>Enforcement Manager of the Canterbury Regional Council,<br>Attention: Regional Leader – Monitoring and Compliance as<br>containing the matters required by condition 6 and as being<br>consistent with the purpose of SMPs in condition 5.as achieving the<br>purposes of the SMP, as set out in Condition 5.   | 12 Any amendments<br>Canterbury Regional<br>corrections, <u>shal</u><br>the amendments<br>Regional Counci<br>Condition 6 and<br>in Condition 5.   |
|    | Implementation Plan   | Implementation Plan  | Implementation Plan   |
| 12 | <ul> <li>The purpose of an Implementation Plan is to give effect to SMPs and to include the matters set out in condition 13. An Implementation Plan shall be:</li> <li>a. prepared by the Consent Holder, through engagement with papatipu rūnanga under condition 15(a), after 12 months but no more than 18 months after this consent commences; and</li> <li>b. Unpdated to give effect to new SMPs within 12 months of new SMPs becoming operative;</li> <li>c. Reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and</li> <li>d. to give effect to the SMPs and Be made available to Canterbury Regional Council and papatipu rūnanga on request.</li> <li>This plan shall be reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan.</li> </ul> | <ul> <li>13. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in condition 1314. An Implementation Plan shall be:</li> <li>a. prepared by the Consent Holder, through engagement with papatipu rūnanga under condition 15(a), and with the Department of Conservation, after 12 months but no more than within 18 months after the commencement of this consent commences;</li> <li>b. updated to give effect to new, reviewed or amended SMPs within 12 months of new SMPs being certifiedcoming operative;</li> <li>c. reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and</li> <li>d. be made available to Canterbury Regional Council and papatipu rūnanga on request.</li> </ul>  | <ul> <li>13. The purpose of a certified SMPs at 14. An Implement</li> <li>(a) Prepared by the papatipu rūnang Department of 0 commencement</li> <li>(b) Updated to give within 12 month</li> <li>(c) Reviewed by the reference to the and</li> <li>(d) Be mMade ava papatipu rūnang</li> </ul>  |
| 13 | The Implementation Plan shall include but not be limited to:  | 14. The Implementation Plan shall include but not be limited to:   | 14. The Implementat   |

lolder shall amend the SMPs as it considers espond to:

the Christchurch Contaminant Load Model (Cntaminant load reduction targets set within the revisions thereof;

monitoring, including any investigations or elation to the responses to modelling and der Conditions 49 - 51;

investigations and trials carried out under ' and 38;

to relevant national, and/or regional planning cluding those thatas a result of from the gional chapter development process; w technologies, new opportunities for igation treatment (such as for infill areas or

ew constraints on <u>the implementation of</u> eatment due to changed<u>s in</u> developer plans;

nental data and research including updated and national best practice technologies.

nts to SMPs, other than those agreed with gional Council as making minor changes and <u>nall will</u> not replace the previous version until nts have been certified by the Canterbury ncil as containing the matters required by d as being consistent with the purpose of SMPs

#### ſ

f an Implementation Plan is to give effect to and to include the matters set out in Condition nentation Plan shall be:

the Consent Holder, through engagement with anga under Condition 15(a), and with the of Conservation, within 18 months after the ent of this <u>resource</u> consent; ve effect to new, reviewed or amended SMPs of <del>new</del> SMPs being certified; the Consent Holder every 3 years, with he Christchurch City Council Long Term Plan;

vailable to Canterbury Regional Council and anga on request.

tation Plan shall include but not be limited to:

|    | a. A list <u>and map</u> of proposed stormwater mitigation methods and devices;  | <ul> <li>A list and map of proposed stormwater mitigation methods and<br/>devices;</li> </ul>   | (a) A list and map and devices;  |
|----|--|---|--|
|    | b. A programme of stormwater works for Christchurch City<br>Council and private development;   | <li>A programme of stormwater works for Christchurch City Counc<br/>and <u>anticipated</u> private development;</li>  | il (b) A programme of<br>Council and an                                      |
|    | c. A plan for regulatory, investigative, educational and<br>preventative activities or programmes relating to<br>stormwater discharges, including activities undertaken<br>under conditions 37 and 38;   | <ul> <li>A plan for regulatory, investigative, educational and<br/>preventative activities or programmes relating to stormwater<br/>discharges, including activities undertaken under conditions 37<br/>and 38;</li> </ul>                  | (c) A plan for regu<br>preventative ac                                       |
|    | d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.; and   | d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.   | (d) Details of budg<br>linked to the Cl                                      |
|    | e. Reporting on any testing or water quality monitoring<br>undertaken that is used to check the performance of<br>facilities or to inform prioritisation of areas for mitigation.  |   |  |
| 14 | The Implementation Plan may also include details of<br>maximum stormwater contaminant concentrations that<br>Christchurch City Council, as owner and operator of the<br>stormwater network, will accept into the Christchurch City<br>Council network. |   |  |
|    | Engagement with Papatipu Rūnanga   | Engagement with Papatipu Rūnanga  | Engagement with Papa   |
| 15 | The Consent Holder shall engage with papatipu rūnanga:   | The Consent Holder shall engage with papatipu rūnanga:  | The Consent Holder sha   |
|    | a. In the development and review of the SMPs required under<br>Conditions 4 and 8 to 10 11, and the development of the<br>Implementation Plan required under Conditions 12, 13 and<br>14:  | <ul> <li>In the development and review of the SMPs required under<br/>Conditions 4, and 8 to 12, and other amendment to SMPs, and<br/>the development of the Implementation Plan required under<br/>Conditions 12 and 13 and 14;</li> </ul> | (a) In the developm<br>Conditions 4, a<br>and the develop<br>under Condition |
|    | <ul> <li>b. At concept design stage for the installation of stormwater<br/>treatment facilities and devices with regard to wāhi tapu<br/>and taonga;</li> </ul>  | <ul> <li>At concept design stage for the installation of stormwater<br/>treatment facilities and devices with regard to wāhi tapu and<br/>taonga;</li> </ul>  | (b) At concept des<br>treatment facilit<br>taonga;                           |
|    | a. By providing quarterly reports to Mahaanui Kurataiao Ltd<br>on stormwater developments, projects and monitoring<br>under this resource consent;   | <ul> <li>By providing quarterly reports to Mahaanui Kurataiao Ltd on<br/>stormwater developments, projects and monitoring under this<br/>resource consent;</li> </ul>   | (c) By providing que stormwater deve this resource co                        |
|    | c. By providing the outcomes of Condition 49 and 50 on responses to modelling:   | <ul> <li>By providing the outcomes of the engagement required by<br/>Conditions 49 and 50 on responses to modelling;</li> </ul>   | (d) By the engager<br>on responses to  |
|    | b. <u>By providing the outcomes of Condition 51 on</u><br>responses to monitoring.   | e. By providing the outcomes of investigation report required by Condition 51 on responses to monitoring.   | (e) By providing th<br>51 on response  |
|    | d. d. By holding an annual meeting with Mahaanui Kurataiao<br>Ltd to discuss stormwater works under this consent, and<br>papatipu rūnanga input predicted for the next 12 month<br>period.   | f. By holding an annual meeting with Mahaanui Kurataiao Ltd to<br>discuss stormwater works under this consent, and papatipu<br>rūnanga input predicted for the next 12 month period.  | (f) By holding an a<br>to discuss storr<br>and papatipu ru<br>period.        |
|    |  |   |  |

p of proposed stormwater mitigation methods

e of stormwater works for Christchurch City anticipated private development;

gulatory, investigative, educational and activities or programmes relating to stormwater ncluding activities undertaken under Conditions nd

dgets for capital works or resourcing that is Christchurch City Council Long Term Plan.

#### apatipu Rūnanga

shall engage with papatipu rūnanga:

pment and review of the SMPs required under , and 8 to 12, and other amendment to SMPs, elopment of the Implementation Plan required tions 12 and 13;

esign stage for the installation of stormwater cilities and devices with regard to wāhi tapu and

quarterly reports to Mahaanui Kurataiao Ltd on levelopments, projects and monitoring under consent;

pement required by Conditions 49<u>, **49A**</u> and 50 s to modelling;

the investigation report required by Condition uses to monitoring; and

n annual meeting with Mahaanui Kurataiao Ltd ormwater works under this <u>resource</u> consent, rūnanga input predicted for the next 12-month

|    | Advice Note: The Christchurch City Council is committed to<br>working in partnership with papatipu rūnanga through the<br>implementation of the resource consent. This is aimed at<br>achieving the goals of the consent and providing for the<br>ongoing involvement of mana whenua as well as identifying<br>and reflecting mana whenua values and interests in the<br>management of stormwater. While the partnership approach<br>needs to be confirmed with papatipu rūnanga, it may involve<br>the establishment and resourcing of a joint CCC/papatipu<br>rūnanga Stormwater Working Party along with relevant<br>technical support involving Mahaanui Kurataiao Ltd as well as<br>Te Rūnanga o Ngāi Tahu. It is envisioned that the working<br>party would meet not less than annually and provide a forum<br>for advising on resource consent implementation. | in pa<br>the r<br>cons<br>as w<br>inter<br>appr<br>invo<br>rūna<br>supp<br>Ngā<br>less<br>cons | ice Note: The Christchurch City Council is committed to working<br>artnership with papatipu rūnanga through the implementation of<br>resource consent. This is aimed at achieving the goals of the<br>sent and providing for the ongoing involvement of mana whenua<br>well as identifying and reflecting mana whenua values and<br>rests in the management of stormwater. While the partnership<br>roach needs to be confirmed with papatipu rūnanga, it may<br>live the establishment and resourcing of a joint CCC/papatipu<br>onga Stormwater Working Party along with relevant technical<br>port involving Mahaanui Kurataiao Ltd as well as Te Rūnanga o<br>i Tahu. It is envisioned that the working party would meet not<br>than annually and provide a forum for advising on resource<br>sent implementation. | Advice Note: The Chris<br>in partnership with pape<br>the resource consent. The<br>resource consent and<br>mana whenua as well a<br>values and interests in<br>partnership approach m<br>it may involve the estable<br>CCC/papatipu rūnanga<br>relevant technical supp<br>as Te Rūnanga o Ngāi<br>would meet not less that<br>on resource consent im |
|----|---|--|--|--|
|    | STANDARDS AND RESTRICTIONS  | STA  | NDARDS AND RESTRICTIONS  | STANDARDS AND RE   |
|    | Stormwater Contaminant Load Modelling   | Storn  | nwater Contaminant Load Modelling  | Stormwater Contamina   |
| 16 | The Consent Holder will install stormwater mitigation facilities<br>and devices that achieve the reductions in contaminant load<br>specified in Table 2 below as measured by the Golder<br>Associates (NZ) Ltd 2018 Christchurch Contaminant Load<br>Model (C-CLM) report which is attached to this resource<br>consent as Schedule 2:  | 16A  | The Consent Holder shall use best practicable options to<br>reduce the contaminant load in stormwater discharged from the<br>stormwater network to demonstrate the commitment to improve<br>the quality of stormwater discharges from the network over<br>time. The measures used to improve stormwater discharge<br>quality shall be set out in SMPs for each catchment as required<br>under Condition 6 and Schedule X of this consent.  | 16A The Consent Hol<br>reduce the conta<br>the stormwater n<br>improve the qual<br>over time. The m<br>discharge quality<br>as required unde   |
|    |   | 16B  | The Consent Holder shall install stormwater mitigation facilities<br>and devices that achieve the contaminant load reduction<br>standards specified in Table 2 below as derived by the Golder<br>Associates (NZ) Limited 2018 Christchurch Contaminant Load<br>Model (C-CLM) report which is attached to these conditions-as<br>Schedule 2.  | 16BA The Consent Hol<br>facilities and devi<br>reduction standa<br>the Golder Assoc<br>Contaminant Loa<br>these conditions   |
|    |   | 16C  | The Consent Holder shall use best practicable options to<br>achieve the contaminant load reduction targets specified in the<br>SMPs derived from the C-CLM or subsequent improved<br>modelling methods and best available information.   | 16 <b>CB</b> The Consent Hol<br>achieve the conta<br>the SMPs derived<br>modelling method  |

| Та         |             |          |                 |   |   |   |            |      |                                  |              |                       |   |            | Table 2: Christchurch-wide stormwater contaminant load<br>reduction standards |   |  |             |  |
|------------|-------------|----------|-----------------|---|---|---|------------|------|----------------------------------|--------------|-----------------------|---|------------|---|---|--|-------------|--|
|            | t<br>c<br>t | compared | ,               | 10 years<br>from 2018<br>compared<br>to no<br>treatment | 25 years<br>from<br>2018<br>compare<br>d to no<br>treatme<br>nt | 35 years<br>from<br>2018<br>compare<br>d to no<br>treatme<br>nt |            | load | 5 years<br>from 2018<br>compared |              | from 2018<br>compared | <del>35 years</del><br>from 2018-<br>compared to no-<br>treatment |            | Contaminant<br>load compared<br>to no treatment<br>as at 2018                 | 5 years<br>from 2018<br>compared to<br>no treatment | 10 years<br>from 2018<br>compared to<br>no treatment |             |  |
|            |             |          | (as at<br>2023) | (as at<br>2028)   | (as at<br>2043)   | (as at<br>2053)   |            |      | (as at<br>2023)                  | (as at 2028) | (as at<br>2043)       | <del>(as at 2053)</del>   |            |   | (as at 2023)  | (as at 2028)   | (as at 2043 |  |
| TS         | s           | 12 %     | 21 %            | 25 %  | 27 %  | 29 %  | TSS        | 12 % | 21 %                             | 25 %         | 27 %                  | <del>29 %</del>   | TSS        | 12 %  | 21 %  | 25 %   | 27 %        |  |
| Tot<br>Zin |             | 10 %     | 15 %            | 18 %  | 20 %  | 21 %  | Total Zinc | 10 % | 15 %                             | 18 %         | 20 %                  | <del>21 %</del>   | Total Zinc | 10 %  | 15 %  | 18 %   | 20 %        |  |

ristchurch City Council is committed to working apatipu rūnanga through the implementation of t. This is aimed at achieving the goals of the ad providing for the ongoing involvement of Il as identifying and reflecting mana whenua in the management of stormwater. While the a needs to be confirmed with papatipu rūnanga, tablishment and resourcing of a joint ga Stormwater Working Party along with oport involving Mahaanui Kurataiao Ltd as well

ā Tahu. It is envisioned that the working party than annually and provide a forum for advising implementation.

## RESTRICTIONS

#### nant Load Modelling

older shall use best practicable options totaminant load in stormwater discharged fromnetwork to demonstrate the commitment toality of stormwater discharges from the network measures used to improve stormwaterity shall be set out in SMPs for each catchmentder Condition 6 and Schedule X of this consent.

lolder shall install stormwater mitigation evices that achieve the contaminant load dards specified in Table 2 below as derived by sociates (NZ) Limited 2018 Christchurch oad Model (C-CLM) report which is attached to as as Schedule 2.

lolder shall use best practicable options to ntaminant load reduction targets specified in ved from the C-CLM or subsequent improved nods and best available information.

|    | Total<br>Copper   | 16 %  | 23 %  | 28 %  | 30 %  | 31 %  | Total<br>Copper  | 16 %  | 23 %  | 28 %   | 30 %   | <del>31 %</del>  | Total Co  | pper 1   | 6 %   |  |
|----|---|---|---|---|---|---|--|---|---|--|--|--|---|--|---|--|
| 17 |   |   |   | eductions are<br>minant load.   |   | sessed  | The base case against which reductions are to be assessed is the modelled untreated contaminant load.          |   |   |  |  |  |   |  |   |  |
| 18 | comparison with the targets set in Table 2 above and reported to Canterbury Regional Council in the annual report for those years.  |   |   |   |   | r The Cons<br>Council, /<br>five yearly<br>whether t<br>and targe | Attention:<br>y interval<br>he conta   | The Consent Holder s<br>Council, Attention: Re<br>five yearly intervals fro<br>whether the contamina<br>and targets developed   |   |  |  |  |   |  |   |  |
|    | Advice note:<br>The C-CLM is the primary means of assessing the relative<br>reduction in contaminant loads for copper, zinc and TSS<br>which would enter the receiving environment as a result of<br>the structural measures used by the Council.   |   |   |   |   |   | standard   | M is the for the I  | City-wide<br>loads for copper,<br>onment as a result  | wide sta<br>copper,  | andar<br>zinc a  | The C-CL<br>ds for the<br>and TSS v<br>e structura   |   |  |   |  |
|    | A range of alternative contaminant modelling technologies may<br>be used for research purposes or to assist with stormwater<br>management and contaminant load reductions. These could<br>include (but are not limited to) event-based models and<br>methods of assessing predicted improvement in receiving<br>environment water quality, if or when such tools become<br>available. |   |   |   |   |   |  | r <del>esearch<br/>aminant l</del><br>) event-b   | purposes<br>oad reduct<br>ased mode<br>ceiving en   | or to assist w<br>tions. These (<br>els and meth   | rith stormw<br>could inclu<br>ods of ass   | ologies may be<br>vater management<br>ide (but are not<br>essing predicted<br>(, if or when such   | -   |  |   |  |
|    | Water C   | Quality and   | Quantity St   | tandards  |   |   | Water Qua  | ality and   | Quantity  | Standards  |  |  | Water Q   | uality   | and Qua   |  |
| 19 | which do quantity   | oes not hav   | e a certified<br>shall meet th  | lopment with<br>SMP, storm<br>le General C  | water qua   | lity and  | does not<br>mitigation   | For any development or redevelopment within a catchment which<br>does not have a certified SMP, stormwater quality and quantity<br>mitigation shall meet the General City conditions as specified in<br>Schedule 3. |   |  |  |  | For any development of<br>does not have a certific<br>mitigation shall meet th<br>Schedule 3. |  |   |  |
| 20 | measur<br>the disc<br>instrean<br>whenua<br>measure   | tes reasonation<br>harge of sto<br>n sediment of<br>values. The<br>ed by the Re | able endeave<br>ormwater on<br>quality, aqua<br>e extent of m<br>eceiving Env | easonably p<br>ours<br>surface wate<br>atic ecology<br>nitigation of e<br>vironment Ol<br>ing described | ate the ef<br>er quality,<br>health and<br>effects sha<br>ojectives a | fects of<br>d mana<br>all be<br>and                               | practicab<br>stormwat<br>a. sur<br>ecc<br>mit<br>En<br>des<br>b. gro<br>of e<br>Ob<br>Sci<br>c. wa<br>me<br>En | le options<br>er on:<br>face wate<br>ology hea<br>igation of<br>vironmen<br>scribed in<br>oundwate<br>effects sh<br>jectives a<br>hedule 6,<br>ter quant<br>asured a<br>vironmen                                    | s to mitigat<br>er quality,<br>lth and ma<br>i effects sh<br>t Objective<br>n Schedule<br>r and sprin<br>all be mea<br>and Attribu<br>ity. The ex<br>gainst ach | es 4 and 5,<br>ng water qual<br>asured by the<br>te Target Lev<br>etent of mitigative<br>vement of the<br>se and Attribu | of the disc<br>iment qua<br>values. Th<br>ired by the<br>ute Target<br>ity. The ex<br>Receiving<br>vels monito<br>tion of effe | charge of<br>lity, aquatic<br>e extent of<br>e Receiving<br>Levels monitoring<br>stent of mitigation<br>g Environment<br>oring described in<br>ects shall be | (b)<br>(c)  | of the<br>Surfa<br>ecolo<br>mitiga<br>Enviro<br>monit<br>Groun<br>mitiga<br>Enviro<br>monit<br>Wate<br>again | Holder sh<br>discharge<br>ce water o<br>gy health<br>ation of eff<br>onment O<br>coring deso<br>ndwater a<br>ation of eff<br>onment O<br>coring deso<br>r quantity.<br>st achieve<br>attribute Ta |  |
| 21 | measur<br>discharg<br>quality.<br>the Rec   | tes reasona<br>ge of stormv<br>The extent of<br>eiving Envir                    | able endeav<br>vater on gro<br>of mitigation                                  | easonably proursto mitig<br>undwater an<br>of effects sh<br>ectives and a<br>Schedule 6.                | ate the ef<br>d spring v<br>nall be me                                | fects of the<br>vater<br>asured by                                | The Cons<br>reasonal<br>stormwat<br>mitigation   | ent Hold<br>He ende:<br>er on gro<br>of effect<br>s and Att   | er shall us<br>avoursto i<br>undwater<br>is shall be  | e <b>reasonabl</b><br>mitigate the e<br>and spring wi  | ffects of th<br>ater quality<br>the Rece   | Ible measures<br>The discharge of<br>Y. The extent of<br>iving Environment<br>escribed in-   | -   |  |   |  |

| 23 | % |
|----|---|
| 23 | % |

shall provide a report to the Canterbury Regional degional Leader: Monitoring and Compliance at from commencement of this resource consent on nant load reduction standards under Condition 16 ed through the SMPs are being met.

CLM is the primary means of assessing the Cityhe relative reduction in contaminant loads for S which would enter the receiving environment as ural measures used by the Council.

## uantity Standards

t or redevelopment within a catchment which ified SMP, stormwater quality and quantity the General City conditions as specified in

shall use best practicable options to mitigate the rge of stormwater on:

er quality, instream sediment quality, aquatic th and mana whenua values. The extent of effects shall be measured by the Receiving Objectives and Attribute Target Levels escribed in Schedules 4 and 5;

and spring water quality. The extent of

effects shall be measured by the Receiving

Objectives and Attribute Target Levels

escribed in Schedule 6; and

ty. The mitigation of effects shall be measured evement of the Receiving Environment Objective Target Levels monitoring described in Schedule

| 23 | <ul> <li>mitigation of effects shall be measured <u>against achievement of</u><br/>by the Receiving Environment Objectives and Attribute Target<br/>Levels monitoring described in Schedule 7.</li> <li>The Consent Holder shall use <u>reasonable endeavours</u><br/><u>reasonably practicable measures</u> to ensure that construction<br/>phase stormwater quality mitigation is implemented for all<br/>development sites prior to commencement of stripping of</li> </ul> | Objectives and Attribute Target Levels monitoring described in<br>Schedule 7.<br>The Consent Holder shall use reasonably practicable measures to<br>ensure that construction phase stormwater quality mitigation is<br>implemented in accordance with the erosion and sediment control<br>toolbox or successor document for all development sites prior to  | The Consent Holder sh<br>ensure that constructio<br>implemented in accord<br><i>Toolbox for Canterbury</i>  |
|----|--|---|---|
|    | vegetation or earthworks on the site.  | commencement of stripping of vegetation or earthworks on the site.  | sites prior to commenc<br>on the site.  |
| 24 | The Consent Holder shall use reasonable endeavours<br>reasonably practicable measures to ensure that<br>operational phase stormwater quality and quantity mitigation<br>is implemented for all development and re-development<br>(where required) prior to issuing certification under the<br>relevant legislation.  | The Consent Holder shall use reasonably practicable measures to<br>ensure that operational phase stormwater quality and quantity<br>mitigation is implemented for all development and re- development<br>(where required) prior to issuing certification under the relevant<br>legislation.   | The Consent Holder sh<br>ensure that operational<br>mitigation is implement<br>(where required) prior t<br>legislation.   |
| 25 | The Consent Holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.  |   | The Consent Holder sha<br>mitigation for existing de  |
|    | Design of Facilities and Devices   |   | Condition 38(w), when<br>Pūharakekenui/Styx Ri<br>Christchurch Drainage<br>Pūharakekenui/Styx wa<br>ensure that the Pūhara<br>which weed is harvesto<br>40 days following the r |
|    | Design of Facilities and Devices   |   | Design of Facilities and  |
| 26 | Water quality and quantity mitigation facilities and devices<br>shall be designed in general accordance with the Christchurch<br>City Council's Waterways, and Wetlands and Drainage<br>Guide, Infrastructure Design Standard, Construction Standard<br>Specifications, Christchurch Rain Garden Design Criteria,<br>Christchurch Stormwater Tree Pit Design Criteria and<br>Stormfilter <sup>™</sup> Design Rainfall Intensity Criterion Report or their                      | <ul> <li>Water quality and quantity mitigation facilities and devices shall be designed in general accordance with:</li> <li>a. the Christchurch City Council's Waterways, Wetlands and Drainage Guide, Infrastructure Design Standard, Construction Standard Specifications, Christchurch Rain Garden Design Criteria, Christchurch Stormwater Tree Pit Design Criteria and Stormfilter<sup>™</sup> Design Rainfall Intensity Criterion Report or their</li> </ul> | Water quality and quan<br>designed in general acc<br>(a) The Christchurc<br>Drainage Guide<br>Construction St<br>Garden Design<br>Design Criteria                               |
|    | respective successor document(s).  | <ul> <li>respective successor document(s),</li> <li>b. other national and international best practice design criteria that may become available over the duration of this resource consent,</li> <li>c. the following design requirements for facilities within 3 kilometres of Christchurch International Airport to ensure the risk of bird strike is minimised:</li> </ul>   | Criterion Repor<br>and<br>(b) Other national a<br>that <u>adopted by</u><br>become availab  |

shall use reasonably practicable measures toion phase stormwater quality mitigation isrdance with the *Erosion and Sediment Control*rry or successor document for all developmentncement of stripping of vegetation or earthworks-

shall use reasonably practicable measures to hal phase stormwater quality and quantity inted for all development and re-development r to issuing certification under the relevant

hall provide retrofit water quality and quantity development where practicable.

encement of the targeted trial required by en the dry weather base flow water level in the River is at or above Reduced Level 10.1m ge Datum, as measured at the Lower water level gauge, the consent holder shall rakekenui/Styx River is the next river from sted and that this will commence no later than e measurement date.

#### nd Devices

antity mitigation facilities and devices shall be accordance with:

urch City Council's Waterways, Wetlands and ide, Infrastructure Design Standard, Standard Specifications, Christchurch Rain gn Criteria, Christchurch Stormwater Tree Pit ria and Stormfilter<sup>™</sup> Design Rainfall Intensity port or their respective successor document(s);

I and international best practice design criteria **by the Christchurch City Council** mayable over the duration of this resource consent.

<u>e risk of bird strike is minimised</u>, the following hall apply to facilities within 3 kilometres of onal Airport <del>to ensure the risk of bird strike is</del>

water infiltration basins **<u>shall</u>** to fully drain within rs of the cessation of a 2% AEP stormwater

|    |  |  | (ii) <del>ensure tl</del><br>capacity<br>stormwa<br>(iii) <u>Landsca</u><br>through l<br>non-bird   |
|----|--|--|---|
| 27 | The Consent Holder shall ensure that all stormwater quality<br>mitigation facilities and devices servicing greenfield<br>development after commencement of this consent are designed<br>to treat the first flush.  | 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.   | The Consent Holder sl<br>facilities and devices s<br>commencement of this<br>flush.   |
| 28 | For all water quality mitigation facilities and devices constructed<br>after commencement of this consent to service re-development,<br>or retrofit water quality mitigation facilities for existing<br>development, reasonable endeavours shall be taken to design<br>facilities that treat the first flush.  | For all water quality mitigation facilities and devices constructed after<br>commencement of this consent to service re-development, or retrofit<br>water quality mitigation facilities for existing development, the<br>Consent Holder reasonable endeavours shall be taken to design<br>facilities to treat as much of the first flush as reasonably<br>practicabledesign facilities that treat the first flush.   | For all water quality m<br>commencement of this<br>or retrofit water quality<br>Consent Holder shall o<br>as reasonably practica  |
| 29 | All stormwater mitigation facilities and devices constructed<br>after commencement of this consent shall meet any other<br>specific requirements as specified within the Implementation<br>Plan.   | All stormwater mitigation facilities and devices constructed after<br>commencement of this consent shall meet any other specific<br>requirements as specified within the Implementation Plan when<br>prepared in accordance with Condition 12.   | All stormwater mitigati<br>commencement of this<br>requirements as speci<br>prepared in accordance  |
| 30 | Christchurch City Council stormwater infiltration facilities<br>constructed after the commencement of the consent shall be<br>located to maintain the following separation distances from<br>domestic <u>and community</u> drinking water supply wells that<br>exist prior to the construction of the infiltration facility:   | Christchurch City Council stormwater infiltration facilities constructed<br>after the commencement of the consent shall be located to maintain<br>the following separation distances from domestic and community<br>drinking water supply wells that exist prior to the construction of the<br>infiltration facility:  | Christchurch City Cour<br>after the commenceme<br>maintain the following<br>community drinking wa<br>construction of the infil  |
|    | a.Infiltration devices that only discharge roof water<br>from a single building or that discharge stormwater<br>generated from an impervious area less than 2,000<br>m2 (including roof area), shall maintain a<br>separation distance from any drinking-water<br>supply well outside of a zone equivalent to the<br>protection areas specified in Table S1A of<br>Schedule 1 of the Canterbury Land and Water<br>Regional Plan, unless, in the case of private<br>drinking water bores, the Consent Holder has<br>made a reticulated water supply available to the<br>property. | a. Infiltration devices that only discharge roof water from a single<br>building or that discharge stormwater generated from an<br>impervious area less than 2,000 m2 (including roof area), shall<br>maintain a separation distance from any domestic and<br>community drinking-water supply well outside of a zone<br>equivalent to the protection areas specified in Table S1A of<br>Schedule 1 of the Canterbury Land and Water Regional Plan,<br>unless, in the case of private drinking water bores, the Consent<br>Holder has made a reticulated water supply available to the<br>property; | <ul> <li>(a) Infiltration devisingle building<br/>an impervious<br/>roof area), sha<br/>domestic and c<br/>of a zone equiv<br/>S1A of Schedu<br/>Regional Plan,<br/>bores, the Con<br/>supply availabl</li> </ul> |
|    | b. Infiltration devices for larger discharges than those<br>described in a) above shall maintain a separation<br>distance of 2000 m when located up- gradient of<br>domestic drinking water supply wells; and<br>Infiltration devices shall maintain a separation<br>distance of 500 m when located down-gradient or<br>cross-gradient of domestic drinking water supply<br>wells, unless, in the case of private drinking water<br>bores, the Consent Holder has made a reticulated<br>water supply available to the property;  | b. Infiltration devices for larger discharges than those described in<br>a) above shall maintain a separation distance of 2000 m when<br>located up- gradient of domestic and community drinking water<br>supply wells; and infiltration devices shall maintain a separation<br>distance of 500 m when located down-gradient or cross-gradient<br>of domestic and community drinking water supply wells, unless,<br>in the case of private drinking water bores, the Consent Holder<br>has made a reticulated water supply available to the property;  | (b) Infiltration devi<br>in a) above sha<br>metres when lo<br>drinking water<br>maintain a sep<br>down-gradient<br>drinking water<br>drinking water<br>reticulated wat  |

there is Sufficient rapid soakage overflow ty **shall be provided** to minimise the ponding of vater outside of the infiltration area(s); and **cape design shall** limit attractiveness to birds in landscaping design and the use of suitable rd attracting species.

shall ensure that all stormwater quality mitigation servicing greenfield development after his **resource** consent are designed to treat the first

mitigation facilities and devices constructed after his **resource** consent to service re-development, ty mitigation facilities for existing development, the I design facilities to treat as much of the first flush cable.

ation facilities and devices constructed after his consent shall meet any other specific cified within the Implementation Plan when nce with Condition 1<u>3</u>2.

uncil stormwater infiltration facilities constructed ment of the <u>resource</u> consent shall be located to g separation distances from domestic and water supply wells that exist prior to the ifiltration facility:

vices that only discharge roof water from a g or that discharge stormwater generated from s area less than 2,000 square metres (including nall maintain a separation distance from any d community drinking-water supply well outside uivalent to the protection areas specified in Table dule 1 of the <u>LWRP Canterbury Land and Watern</u>, unless, in the case of private drinking water onsent Holder has made a reticulated water ble to the property.

vices for larger discharges than those described hall maintain a separation distance of 2,000 located up- gradient of domestic and community er supply wells; and infiltration devices shall eparation distance of 500 metres when located nt or cross-gradient of domestic and community er supply wells, unless, in the case of private er bores, the Consent Holder has made a ater supply available to the property.

|    |  |   | 1   |
|----|--|---|---|
|    | c. Or as an alternative to a) and b), a shorter separation<br>distance may be utilised based on an assessment of<br>site specific information undertaken by the Consent<br>Holder and certified that it will not have an adverse<br>effect on a domestic drinking water supply well by the<br>Canterbury Regional Council, RMA Monitoring and<br>Compliance Manager.   | c. Or as an alternative to a) and b), a shorter separation distance<br>may be utilised based on an assessment of site specific<br>information undertaken by the Consent Holder and certified by<br>the Canterbury Regional Council, Attention: Regional Leader –<br>Monitoring and Compliance that it will not have an-a less than<br>minor adverse effect on a domestic and community drinking<br>water supply wells; RMA Monitoring and Compliance Manager  | (c) Or as an alterna<br>distance may b<br>specific informa<br>certified by the<br>Regional Leade<br>have a less tha<br>community drin   |
|    | d. <u>Within 24 months of this consent becoming</u><br>operative, a site-specific assessment of<br>contamination risk and appropriate mitigation shall<br>also be undertaken for any existing stormwater<br>infiltration basins that do not comply with the<br>separation distances defined in b) above. This<br>assessment will be provided to the Canterbury<br>Regional Council, RMA Monitoring and Compliance<br>Manager for certification that it will not have an<br>adverse effect on a domestic drinking water supply<br>well. | <ul> <li>Within 24 months of this consent becoming-<br/>operativecommencing, a site-specific assessment of<br/>contamination risk and appropriate mitigation shall also be<br/>undertaken for any existing stormwater infiltration basins that do<br/>not comply with the separation distances defined in b) above.<br/>This assessment will be provided to the Canterbury Regional<br/>Council, Attention: Regional Leader – Monitoring and Compliance<br/>RMA Monitoring and Compliance Manager for certification that it<br/>will not have an a less than minor adverse effect on a domestic<br/>and community drinking water supply wells.</li> </ul> | (d) Within 24 mont<br>site-specific ass<br>appropriate miti<br>existing stormw<br>the separation of<br>assessment <u>sh</u><br>Council, Attenti<br>Compliance for<br>adverse effect of<br>supply wells. |
| 31 | Christchurch City Council stormwater mitigation facilities<br>constructed after the commencement of this consent shall have<br>secondary flow paths to the downstream stormwater network.  | Christchurch City Council stormwater mitigation facilities constructed<br>after the commencement of this consent shall have secondary flow<br>paths to the downstream stormwater network.   | Christchurch City Coun<br>after the commenceme<br>secondary flow paths to   |
| 32 | Christchurch City Council stormwater mitigation facilities<br>constructed after commencement of this consent shall include<br>best practice features designed to capture and contain as<br>much as reasonably practicable any spills of contaminants<br>entering the stormwater facility.  | Christchurch City Council stormwater mitigation facilities constructed<br>after commencement of this consent shall include best practice<br>features designed to capture and contain as much as reasonably<br>practicable any spills of contaminants entering the stormwater<br>facility.   | Christchurch City Coun<br>after commencement o<br>practice features desig<br>reasonably practicable<br>stormwater facility.   |
| 33 | Design of stormwater mitigation facilities serving sub-<br>catchments greater than 20 hectares shall include computer<br>modelling for detailed hydraulic analysis. The outlet<br>hydrograph for the two percent AEP critical duration design<br>storm generated by modelling of the final design for these<br>facilities shall then be used in the water quantity model for the<br>corresponding river catchment to demonstrate consistency<br>with water quantity objectives in the SMP.   | Design of stormwater mitigation facilities serving sub-catchments<br>greater than 20 hectares shall include computer modelling for<br>detailed hydraulic analysis. The outlet hydrograph for the two-<br>percent2% AEP critical duration design storm generated by<br>modelling of the final design for these facilities shall then be used in<br>the water quantity model for the corresponding river catchment to<br>demonstrate consistency with water quantity objectives in the SMP.   | Design of stormwater n<br>greater than 20 hectare<br>hydraulic analysis. The<br>duration design storm of<br>these facilities shall the<br>corresponding river cat<br>quantity objectives in th          |
| 34 | All Christchurch City Council stormwater mitigation facilities<br>and devices constructed after commencement of this consent<br>shall have an Operations and Maintenance Manual which shall<br>be made available on request.   | All Christchurch City Council stormwater mitigation facilities and<br>devices constructed after commencement of this consent shall have<br>an Operations and Maintenance Manual which shall be made<br>available on request.  | All Christchurch City Co<br>devices constructed aff<br>shall have an Operation<br>made available on requ  |
|    | Other Actions by the Consent Holder  | Other Actions by the Consent Holder   | Other Actions by the<br>Investigations  |
| 35 | The Consent Holder shall investigate and implement methods<br>to improve the management of stormwater quality and reduce<br>stormwater effects on the receiving environment (stormwater<br>quality investigation).   | The Consent Holder shall investigate and implement methods to<br>improve the management of stormwater quality and reduce<br>stormwater effects on the receiving environment (stormwater quality<br>investigation).  | The Consent Holder sh<br>improve the manageme<br>reduce stormwater effe<br>Quality Investigation <b>P</b>   |
| 36 | The purpose of the stormwater quality investigation is to:   | The purpose of the stormwater quality investigation is to:  | The purpose of the Sto  |
|    | a. Monitor the performance of selected stormwater treatment facilities and devices;  | and devices;  | (a) Monitor the per<br>facilities and de  |
|    | b. Assess the potential for the application of new technologies and management strategies;   | <ul> <li>Assess the potential for the application of new technologies and<br/>management strategies;</li> </ul>   | (b) Assess the pote<br>and manageme   |

rnative to (a) and (b), a shorter separation v be utilised based on an assessment of sitemation undertaken by the Consent Holder and be Canterbury Regional Council, Attention: ader – Monitoring and Compliance that it will han minor adverse effect on domestic and rinking water supply wells.

onths of this <u>resource</u> consent commencing, a assessment of contamination risk and nitigation shall also be undertaken for any nwater infiltration basins that do not comply with on distances defined in b) above. This <u>shall</u> will be provided to the Canterbury Regional ntion: Regional Leader – Monitoring and for certification that it will have a less than minor ct on domestic and community drinking water

uncil stormwater mitigation facilities constructed nent of this <u>resource</u> consent shall have to the downstream stormwater network.

uncil stormwater mitigation facilities constructed t of this <u>resource</u> consent shall include best signed to capture and contain as much as ole any spills of contaminants entering the

r mitigation facilities serving sub-catchments ares shall include computer modelling for detailed he outlet hydrograph for the 2% AEP critical n generated by modelling of the final design for hen be used in the water quantity model for the catchment to demonstrate consistency with water the SMP.

Council stormwater mitigation facilities and after commencement of this <u>resource</u> consent tions and Maintenance Manual which shall be equest.

e Consent Holder Stormwater Quality

shall investigate and implement methods to ment of stormwater quality and <u>assess and</u> ffects on the receiving environment (Stormwater <u>Programme</u>).

tormwater Quality Investigation Programme is to:

erformance of selected stormwater treatment devices;

otential for the application of new technologies nent strategies; and

|    | c. Investigate using various models and techniques of water quality improvement strategies and options. | c. Investigate using various models and techniques of water quality improvement strategies and options.                       | (c) Investigate wate<br>using various m         |
|----|---|---|---|
| 37 |   | The Consent Holder shall undertake the actions set out in Table 3 below for the investigation required by condition 35-above: | The Consent Holder sh the investigation require |
|    | above:  |   |   |

| Table 3: Stormwater Quality Investig  | gation                  |                              | Table 3: Stormwater Quality Investiga   | tion  |   | Table 3: Stormwater Quality Investigation Programme  |   |  |  |
|---|-------------------------|------------------------------|---|---|---|--|---|--|--|
| Stormwater Quality Investigation<br>Actions   | Action<br>Start<br>Date | Action<br>Completion<br>Date | Stormwater Quality Investigation Actions  | Action Start<br>Date  | Action<br>Completion<br>Date  | Stormwater Quality Investigation Actions   | Action Start<br>Date  | Action<br>Completion<br>Date   |  |
| <ul> <li>a. Conduct a study to i-Investigate the feasibility of developing an instream contaminant concentration model.</li> <li>Consideration to be given to: <ul> <li>How applicable the model will be to -</li> <li>(i) Water quality management generally</li> <li>(ii) the resource consent specifically</li> <li>Timelines</li> <li>Costs</li> <li>What data CCC would need to collect</li> </ul> </li> </ul> | Dec –<br>18             | Oct-19                       | <ul> <li>a. Investigate the feasibility of developing an instream contaminant concentration model. Consideration to be given to:</li> <li>How applicable the model will be to - <ul> <li>(i) Water quality management generally</li> <li>(ii) the resource consent specifically</li> <li>Timelines</li> <li>Costs</li> <li>What data CCC would need to collect</li> </ul> </li> </ul> | Dec 18<br>Within 6<br>months of the<br>commencemen<br>t of the<br>resource<br>consent | Oct-19<br>Within 1 year<br>of the<br>commenceme<br>nt of the<br>resource<br>consent | model.<br>Consideration <b>shall</b> <del>to</del> be given to:  | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent                 | Within <u>18</u><br><u>months</u> 1-<br>of the<br>commence<br>of the reso<br>consent |  |
| <b>b.</b> Develop instream contaminant<br>concentration model if the Consent<br>Holder considers that the feasibility study<br>in a. provides sufficient merit.   | Nov-19                  | Nov-21                       | <b>b.</b> Develop instream contaminant<br>concentration model if the Consent Holder<br>considers that the feasibility study in a.<br>provides sufficient merit.   | Nov-19<br>Within 1 year<br>of the<br>commenceme<br>nt of the<br>resource<br>consent   | of the  | <b>b.</b> Develop instream contaminant concentration model if the Consent Holder considers that the feasibility study in (a) provides sufficient merit.  | Within <u>2</u> 4<br>year <u>s</u> of the<br>commencement<br>of the resource<br>consent | Within 3 ye<br>of the<br>commence<br>of the reso<br>consent                          |  |
| <b>c.</b> If the instream contaminant<br>concentration model is developed, carry<br>out investigations and<br>monitoring to validate and refine<br>assumptions within the model, to improve<br>the accuracy of model predictions.   | Feb-22                  | Ongoing                      | c. If the instream contaminant<br>concentration model is developed, carry<br>out investigations and monitoring to<br>validate and refine assumptions within the<br>model, to improve the accuracy of model<br>predictions.  | Feb-22<br>Within 4 years<br>of the<br>commenceme<br>nt of the<br>resource<br>consent  |   | <b>c.</b> If the instream contaminant<br>concentration model is developed, carry out<br>investigations and monitoring to validate and<br>refine assumptions within the model, to<br>improve the accuracy of model predictions. | of the  | Ongoing  |  |

# vater quality improvement strategies and options s models, monitoring and techniques. shall undertake the actions set out in Table 3 for uired by Condition 35:

| estab<br>and ir<br>robus<br>receiv<br>netwo<br>result<br>Consi<br>when<br>respo<br>conce<br>involv<br>mode<br>monit<br>carrie<br>biolog | onduct a feasibility study to<br>olish the existing knowledge base<br>nvestigate the feasibility of<br>stly predicting the responses of the<br>ving environment to changes in<br>ork contaminant loads and<br>ting in-stream concentrations.<br>Sideration to be given to how and<br>the receiving environment might<br>ond to changes in contaminant<br>entrations, how much work would be<br>ved to predict results, what sort of<br>els are possible, how would<br>toring to obtain real world results be<br>ed out, how long would it take the<br>gical community to respond (i.e. lag<br>ts), and gaps of knowledge. |                                | Jun -20 | <ul> <li>d. 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.</li> <li>Consideration to be given to how and when the receiving environment might respond to changes in contaminant concentrations, how much work would be involved to predict results, what sort of models are possible, how would monitoring to obtain real world results be carried out, how long would it take the biological community to respond (i.e. lag effects), and gaps of knowledge.</li> </ul> | Dec – 18<br>Within 12<br>months of the<br>commenceme<br>nt of the<br>resource<br>consent | Within 3 years of the  | <ul> <li>d. 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.</li> <li>Consideration shall to be given to how and when the receiving environment might respond to changes in contaminant concentrations, how much work would be involved to predict results, what sort of models are possible, how would monitoring to obtain real world results be carried out, how long would it take the biological community to respond (i.e. lag effects), and gaps of knowledge.</li> </ul> | months of the<br>commencement<br>of the resource                      | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent |
|---|---|--------------------------------|---------|--|--|--|--|---|--|
| the fe<br>suffici<br>consid<br>progra<br>and/o<br>respo<br>For ex<br>monit<br>pipe",  | the Consent Holder considers that<br>easibility study under d. shows<br>cient merit, and the Council<br>iders it warranted, instigate a<br>ramme of research, monitoring<br>or modelling to quantify expected<br>onses in the receiving environment.<br>example: Undertake selected<br>toring of discharges at "end of<br>", into the receiving environment to<br>it model development and<br>ration  | Jul-20                         | Ongoing | e. If the Consent Holder considers that the<br>feasibility study under d. shows sufficient<br>merit, and the Council considers it warranted,<br>instigate a programme of research, monitoring<br>and/or modelling to quantify expected<br>responses in the receiving environment. For<br>example: Undertake selected monitoring of<br>discharges at "end of pipe", into the receiving<br>environment to assist model development and<br>calibration  | Within 3 years<br>of the<br>commencemen<br>t of the<br>resource<br>consent               | Ongoing  | warranted, instigate a programme of<br>research, monitoring and/or modelling to<br>quantify expected responses in the receiving<br>environment. For example: Undertake<br>selected monitoring of discharges at "end of<br>pipe", into the receiving environment to<br>assist model development and calibration   | the<br>commencement<br>of the resource<br>consent                     |  |
| altern<br>'deter<br>the re<br>loads<br>enviro<br>influe<br>may in   | estigate the impacts of applying<br>native modelling tools (including<br>rministic' models) to characterise<br>elationship between contaminant<br>s, concentrations and the receiving<br>onment, and the processes which<br>ence that relationship. Such tools<br>include the MEDUSA and MUSIC<br>elling tools.   | Mar-19                         | Jun-22  | f. Investigate the impacts of applying<br>alternative modelling tools (including<br>'deterministic' models) to characterise the<br>relationship between contaminant loads,<br>concentrations and the receiving<br>environment, and the processes which<br>influence that relationship. Such tools may<br>include the MEDUSA and MUSIC<br>modelling tools.  | Mar-19<br>Within 1 year<br>of the<br>commenceme<br>nt of the<br>resource<br>consent      | <del>Jun-22</del><br>Ongoing   | f. Investigate the impacts of applying<br>alternative modelling tools (including<br>'deterministic' models) to characterise the<br>relationship between contaminant loads,<br>concentrations and the receiving<br>environment, and the processes which<br>influence that relationship. Such tools may<br>include the MEDUSA and MUSIC modelling<br>tools.  | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent |  |
| feasib<br>addre<br>effect<br>discha<br>This v<br>sedim  | bility and of techniques for-<br>essing remediating adverse<br>ts of stormwater sediment<br>arges on receiving environments.<br>will include consideration of<br>nent cover of the bed, and copper,<br>zinc and PAHs contamination.   | <del>Sep- 18-</del><br>Jun- 19 |         | <b>g.</b> Investigate the feasibility of techniques for<br>remediating adverse effects of stormwater<br>sediment discharges on receiving<br>environments. This will include consideration<br>of sediment cover of the bed, and copper,<br>lead, zinc and PAHs contamination.   | Jun- 19<br>Within 1 year<br>of the<br>commenceme<br>nt of the<br>resource<br>consent     | Jun-20<br>Within 3 years<br>of the<br>commenceme<br>nt of the<br>resource<br>consent | <b>g.</b> Investigate the feasibility of techniques<br>for remediating adverse effects of<br>stormwater sediment discharges on<br>receiving environments. This <b>shall</b> will<br>include consideration of sediment cover of<br>the bed, and copper, lead, zinc and PAHs<br>contamination.   | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent | Within 3 years<br>of the<br>commencement<br>of the resource<br>consent |

| h. Instigate a remediation programme-<br>ilf the Consent Holder considers-<br>determines that it is feasible, instigate<br>an instream sediment remediation<br>programme the stormwater sediment<br>discharge investigation in item 7.<br>indicates sufficient merit.  | <del>Nov-19</del><br>Jul-20 | Ongoing        | <b>h.</b> If the Consent Holder determines that it is feasible, instigate an instream sediment remediation programme.   | Jul-20<br>Within 3<br>years of the<br>commenceme<br>nt of the<br>resource<br>consent  | Ongoing | <b>h.</b> If the Consent Holder determines that it is feasible, instigate an instream sediment remediation programme.  | Within 3 years<br>of the<br>commencement<br>of the resource<br>consent  | Ongoing |
|--|-----------------------------|----------------|---|---|---------|--|---|---------|
| i. Conduct a monitoring-<br>programme for assessing Monitor<br>the actual contaminant- <u>TSS, zinc</u><br>and copper reduction performance of<br>selected stormwater treatment<br>facilities and devices <u>in order</u> .<br>Apply the results of the study<br>in determining the feasibility<br>and selection of proposed<br>treatment facilities and<br>devices, and to improve the<br>level of certainty of performance<br>values relating to TSS, zinc and<br>copper in contaminant load<br>modelling. Report findings and<br>outcomes in annual report to<br>CRC. | Sep-18                      | Ongoing        | i. Monitor the actual TSS, zinc and<br>copper reduction performance<br>of selected stormwater treatment facilities<br>and devices in order to improve certainty of<br>performance values relating to TSS, zinc<br>and copper in contaminant load modelling.<br>Report findings and outcomes in annual<br>report to CRC.   | Sep-18<br>Within 6<br>months of the<br>commenceme<br>nt of the<br>resource<br>consent | Ongoing | i. Monitor the actual TSS, zinc and<br>copper reduction performance of selected<br>stormwater treatment facilities and devices<br>in order to improve certainty of performance<br>values relating to TSS, zinc and copper in<br>contaminant load modelling. Report findings<br>and outcomes in annual report to CRC.   | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent | Ongoing |
| i. Apply the monitoring output,<br>along with other stormwater<br>modelling and monitoring data being<br>gathered, to inform the planning and<br>design of stormwater systems and<br>facilities, including in the<br>development of Implementation<br>Plans and reviews of SMPs, IDS and<br>WWDG.  |                             |                | j. Apply the monitoring output, along with<br>other stormwater modelling and monitoring<br>data being gathered, to inform the planning<br>and design of stormwater systems and<br>facilities, including in the development of<br>Implementation Plans and reviews of SMPs,<br>IDS and WWDG.   |   |         | j. Apply the monitoring output, along with<br>other stormwater modelling and monitoring<br>data being gathered, to inform the planning<br>and design of stormwater systems and<br>facilities, including in the development of<br>Implementation Plans and reviews of SMPs,<br>IDS and WWDG.  |   |         |
| k. Carry out targeted wet weather<br>monitoring of surface water in<br>selected receiving environments,<br>to improve knowledge of the state<br>of the receiving environment.  | <u>Jun-19</u>               | <u>Ongoing</u> | k. Carry out targeted wet weather monitoring<br>of surface water in selected receiving<br>environments, to improve knowledge of the<br>state of the receiving environment,<br>contaminant inputs and treatment efficiency,<br>and to inform mitigation options under the<br>SMPs. Selected areas may include new<br>stormwater developments and retrofits and<br>known existing hotspots of contaminants.<br>Sampling shall focus on detailed methods to<br>characterise inputs, such as the use of auto-<br>sampling, rather than grab sampling. | Jun-19<br>Within 6<br>months of the<br>commenceme<br>nt of the<br>resource<br>consent | Ongoing | <b>k.</b> Carry out targeted wet weather<br>monitoring of surface water in selected<br>receiving environments, to improve<br>knowledge of the state of the receiving<br>environment, contaminant inputs and<br>treatment efficiency, and to inform mitigation<br>options under the SMPs. Selected areas<br>may include new stormwater developments<br>and retrofits and known existing hotspots of<br>contaminants. Sampling shall focus on<br>detailed methods to characterise inputs,<br>such as the use of auto-sampling, rather<br>than grab sampling. | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent | Ongoing |

| 38 |                | The Consent Holder shall also undertake the actions set out in Table 4 | Other Actions         |
|----|----------------|--|-----------------------|
|    | Table 4 below: | below:   |                       |
|    |                |  | The Consent Holder sh |
|    |                |  | below for the purpose |
|    |                |  | through: source cont  |
|    |                |  | awareness; and Pūha   |

shall <del>also</del> undertake the actions set out in Table 4 ses of improved stormwater management ntrol methods; communication, education and narakekenui/Styx River channel weed

|  |                           |                                |   |  |  | management.   |   |   |  |
|--|---------------------------|--------------------------------|---|--|--|---|---|---|--|
| Table 4: Other Actions by Consent Hold   | der                       |                                | Table 4: Other Actions by Consent Holder  |  |  | Table 4: Other Actions by Consent Holder  |   |   |  |
|  | Activity<br>Start<br>Date | Activity<br>Completion<br>Date | Other Actions   | Start Date   | Activity<br>Completion<br>Date                                       | Other Actions   | Activity Start<br>Date  | Activity<br>Completion<br>Date  |  |
| Source Control   |                           |                                | Source Control  |  |  | Source Control  |   |   |  |
| a. Lodge a submission to central<br>government within 18 months of giving<br>effect to this consent seeking national<br>measures and industry standards to reduce<br>the discharge of contaminants including zinc<br>and copper from metal roofs, car tyres and<br>brake pads.   | Feb-19                    | Dec-19                         | <b>a.</b> Lodge a submission to central government within<br>18 months of giving effect to this consent seeking<br>national measures and industry standards to reduce<br>the discharge of contaminants including zinc and<br>copper from metal roofs, car tyres and brake pads.   | Feb-19<br>Within 6<br>months<br>of the<br>commence<br>ement of<br>the<br>resource<br>consent | Within 1<br>year of the<br>commence<br>ment of the                   | a. Lodge a submission to central<br>government seeking national measures and<br>industry standards to reduce the discharge<br>of contaminants including zinc and copper<br>from metal roofs, car tyres and brake<br><u>linings pads</u> .   | commencement<br>of the resource   | the<br>commencement   |  |
| <b>b.</b> Prepare and submit for Council-<br>approval Conduct a cost/benefit analysis of<br>options with recommendations for carrying<br>out a targeted trial for contaminant reduction<br>from increased level of selective street<br>sweeping and sump cleaning (For<br>consideration as part of Council Annual<br>Planning process for AP2021).   | Sep-18                    | Dec-19                         | b. Conduct a cost/benefit analysis of options for<br>carrying out a targeted trial for contaminant<br>reduction from increased level of selective street<br>sweeping and sump cleaning (For consideration as<br>part of Council Annual Planning process for<br>AP2021).           | Sep-18<br>Within 6<br>months<br>of the<br>commence<br>ement of<br>the<br>resource<br>consent | year of the<br>commence<br>ment of the                               | <b>b.</b> Conduct a cost/benefit analysis of options 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).                   | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent       | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent         |  |
| c. If the Consent Holder determines that<br>the cost/benefit analysis shows that it is<br>warranted, cCarry out trials for increased<br>targeted/selective street sweeping and sump<br>cleaning if Council resolves to do so<br>under 2 above.   | Jul-20                    | Jun-22                         | c. If the Consent Holder determines that the<br>cost/benefit analysis shows that it is warranted,<br>carry out trials for increased targeted/selective street<br>sweeping and sump cleaning.  | Jul-20<br>Within 1<br>year of<br>the<br>comment<br>ement of<br>the<br>resource<br>consent    | Within 3<br>years of<br>the<br>c commence                            | <b>c.</b> If the Consent Holder determines that<br>the cost/benefit analysis <u>under Item (b)</u><br>shows that it is warranted, carry out trials for<br>increased targeted/selective street sweeping<br>and sump cleaning.  | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent         | of the  |  |
| <u>d. Prepare and submit for Council-<br/>approval Conduct</u> a cost/benefit analysis of<br>issues and options of alternate methods of<br>stormwater treatment and discharge with-<br>recommendations for carrying out trials.<br>including consideration of <u>redirection to</u><br><u>sewer and</u> Managed Aquifer<br>Recharge/Discharge (For consideration as<br>part of Council Annual Planning process for<br>AP2021). | Dec-18                    | Oct-19                         | <b>d.</b> Conduct a cost/benefit analysis of options of alternate methods of stormwater treatment and discharge including consideration of_redirection to sewer and_Managed Aquifer Recharge/Discharge (For consideration as part of Council Annual Planning process for AP2021). | Dec-18<br>Within 6<br>months<br>of the<br>comment<br>ement of<br>the<br>resource<br>consent  | Within 18<br>months of<br>the<br>commence<br>ment of the<br>resource | <b>d.</b> Conduct a cost/benefit analysis of options of alternate methods of stormwater treatment and discharge including consideration of redirection to sewer and Managed Aquifer Recharge/Discharge (For consideration as part of Council Annual Planning process for AP2021). |   | Within 18<br>months of the<br>commencemen<br>of the resource<br>consent       |  |
| e. If the Consent Holder determines that<br>the cost/benefit analysis shows that it is<br>warranted, cCarry out trials for alternate<br>methods of stormwater treatment and<br>discharge if Council resolves to do so<br>under 4 above         Add new item (and renumber<br>subsequent items accordingly):  | lov-19                    | Jun-22                         | e. If the Consent Holder determines that the<br>cost/benefit analysis shows that it is warranted,<br>carry out trials for alternate methods of stormwater<br>treatment and discharge  | Nov-19<br>Within 1<br>year of<br>the<br>commenc<br>ement of<br>the<br>resource<br>consent    | Within 3<br>years of<br>the<br>commence<br>ment of the<br>resource   | <b>e.</b> If the Consent Holder determines that<br>the cost/benefit analysis <u>under Item (d)</u><br>shows that it is warranted, carry out trials for<br>alternate methods of stormwater treatment<br>and discharge.   | Within <u>+2</u> year<br>of the<br>commencement<br>of the resource<br>consent | Within <u>34</u> years<br>of the<br>commencemer<br>of the resource<br>consent |  |

| f. Apply the results of trials on street<br>sweeping, sump cleaning and<br>alternate methods of stormwater<br>treatment (actions b and c above),<br>along with results from other<br>stormwater modelling and monitoring<br>data being gathered, to the planning<br>and design of stormwater systems<br>and facilities, including in the<br>development of Implementation Plans<br>and reviews-of SMPs, IDS and WWDG. |        |         | f. Apply the results of trials on street sweeping,<br>sump cleaning and alternate methods of stormwater<br>treatment (actions b and c above), along with results<br>from other stormwater modelling and monitoring<br>data being gathered, to the planning and design of<br>stormwater systems and facilities, including in the<br>development and review of SMPs, IDS and WWDG. |  |         | f. Apply the results of trials on street<br>sweeping, sump cleaning and alternate<br>methods of stormwater treatment (actions b<br>and c above), along with results from other<br>stormwater modelling and monitoring data<br>being gathered, to the planning and design<br>of stormwater systems and facilities,<br>including in the development and review of<br>SMPs, IDS and WWDG. |   |  |
|---|--------|---------|--|--|---------|--|---|--|
| g. If the Consent Holder-considers_<br>determines it warranted as a result<br>of the trials in item c above,<br>increased frequency of street<br>sweeping of selected areas.  | Jul-19 | Ongoing | g. If the Consent Holder determines it warranted as<br>a result of the trials in item c above, increased<br>frequency of street sweeping of selected areas.  | Jul-19<br>Within 2<br>years of<br>the<br>commenc<br>ement of<br>the<br>resource<br>consent | Ongoing | <b>g.</b> If the Consent Holder determines it<br>warranted as a result of the trials in Item (c)<br>above, increased frequency of street<br>sweeping of selected areas.  | Within 2 years<br>of the<br>commencement<br>of the resource<br>consent  | Ongoing  |
| <ul> <li>h. If the Consent Holder considers_<br/>determines it warranted as a result<br/>of the trials in item 5 <u>3 above</u>,<br/>increased frequency of sump<br/>cleaning at selected locations.</li> </ul>   | Jul-20 | Ongoing |  | Jul-20<br>Within 2<br>years of<br>the<br>commence<br>ment of<br>the<br>resource            | Ongoing | warranted as a result of the trials in Item (c) above, increased frequency of sump   | Within 2 years of<br>the<br>commencement<br>of the resource             | Ongoing  |
| h. Instigate, in the building consent<br>approval and inspection process, a<br>requirement for and process for<br>approval and inspection of erosion<br>and sediment control measures prior<br>to site clearances commencing and<br>throughout the construction process.  | Jul-19 | Ongoing | i. Instigate, in the building consent approval and<br>inspection process, a requirement for and process<br>for approval and inspection of erosion and<br>sediment control measures prior to site clearances<br>commencing and throughout the construction<br>process.  |  | Ongoing | i. Instigate, in the building consent<br>approval and inspection process, a<br>requirement for and process for approval<br>and inspection of erosion and sediment<br>control measures prior to site clearances<br>commencing and throughout the<br>construction process.   | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent | Ongoing  |
| i. Operational inspection of a sample of<br>stormwater treatment and/or<br>retention devices on non-industrial<br>sites.  | Jul-20 | Ongoing | j. Operational inspection of a sample of stormwater<br>treatment and/or retention devices on non-industrial<br>sites.  | Jul-20<br>Within 2<br>years of<br>the<br>commenc<br>ement of<br>the<br>resource<br>consent | Ongoing | j. <u>Develop a programme for operational</u><br>inspection of a sample of private<br>stormwater treatment and/or retention<br>devices on non-industrial sites for the<br>purposes of ensuring proper function<br>and maintenance.<br>Operational inspection of a sample of-<br>stormwater treatment and/or retention-<br>devices on non-industrial sites.                             | Within 2 years<br>of the<br>commencement<br>of the resource<br>consent  | Ongoing  |
|   |        |         |  |  |         | <ul> <li>k. Conduct a cost/benefit analysis of options to further improve source control that considers:</li> <li>i. allocation of staff/resources to undertake industrial site audits;</li> <li>ii. expected contamination risk and</li> </ul>  | of the<br>commencement<br>of the resource                               | Within 18 months<br>of the<br>commencement<br>of the resource<br>consent |

|  |        |         |   |   |           | <ul> <li>possible risk reduction of industrial sites;<br/>and</li> <li>iii. other source control measures in <u>as</u></li> <li>required by Condition 38.</li> <li>I. Apply, through agreement between the<br/>Consent Holder and Canterbury Regional<br/>Council, the results of the cost/benefit<br/>analysis <u>under Item 38(k)</u> to prioritise<br/>source control measures in SMPs and <u>the in</u><br/>Implementation Plan and to determine the<br/>number of audits conducted under Condition<br/>41(b).</li> </ul>  | of the<br>commencement<br>of the resource<br>consent                    |                       |
|--|--------|---------|---|---|-----------|--|---|-----------------------|
| <ul> <li>Communication, Education and<br/>Awareness</li> <li>I. Make reasonable endeavours to<br/>establish a community water engagement<br/>programme involving Council, Canterbury<br/>Regional Council, Ngai Tahu, DoC, MfE,<br/>Universities, <u>industry representatives</u><br/>and Community Groups with the objective<br/>of encouraging awareness and community<br/>actions to reduce stormwater contaminant<br/>discharges and improve waterways<br/>through source control and behaviour<br/>change.</li> <li>Possible initiatives of the<br/>community water engagement<br/>programme are:</li> <li>Providing information for<br/>property owners on quick actions<br/>that they can undertake around<br/>the home to stop contaminants<br/>from entering stormwater (based<br/>on 2017 Community Waterway<br/>Survey findings conducted by<br/>Christchurch City Council).</li> <li>Implement a sustainable<br/>behaviour change programme.<br/>Actions aimed at stopping<br/>contaminants getting into the<br/>stormwater network, such as:<br/>sediment, litter, bacterial<br/>contaminants.</li> <li>Undertaking a wider<br/>educational<br/>programme for<br/>schools.</li> <li>Educating dog<br/>owners about effects<br/>of faecal matter;</li> </ul> | Jul-19 | Ongoing | <ul> <li>Communication, Education and Awareness</li> <li>k. 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.</li> <li>Possible initiatives of the community water engagement programme are:</li> <li>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).</li> <li>Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants.</li> <li>Undertaking a wider educational programme for schools.</li> <li>Educating dog owners about effects of faecal matter;</li> <li>Seeking industry behaviour change.</li> </ul> | Jul 19<br>Within 6<br>months<br>of the<br>comment<br>ement of<br>the<br>resource<br>consent | Ongoing   | <ul> <li>Communication, Education and<br/>Awareness</li> <li>Km. Make reasonable endeavours to<br/>establish a community water engagement<br/>programme involving Council, Canterbury<br/>Regional Council, Ngai Tahu, Department of<br/>Conservation, Ministry for the Environment,<br/>Universities, industry representatives and<br/>Community Groups with the objective of<br/>encouraging awareness and community<br/>actions to reduce stormwater contaminant<br/>discharges and improve waterways through<br/>source control and behaviour change.</li> <li>Possible initiatives of the community water<br/>engagement programme are: <ol> <li>Providing information for property<br/>owners on quick actions that<br/>they can undertake around the<br/>home to stop contaminants from<br/>entering stormwater (based on<br/>2017 Community Waterway<br/>Survey findings conducted by<br/>Christchurch City Council);<sup>1</sup></li> <li>Implement a sustainable behaviour<br/>change programme. Actions<br/>aimed at stopping contaminants<br/>getting into the stormwater<br/>network, such as: sediment,<br/>litter, bacterial contaminants;<sup>1</sup></li> <li>Undertaking a wider educational<br/>programme for schools.</li> <li>Educating dog owners about effects<br/>of faecal matter; and</li> <li>Seeking industry behaviour change.</li> </ol> </li> </ul> | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent |                       |
| Seeking muusiry benaviour change.  |        |         | I. Develop a programme for operational inspection<br>of a sample of private stormwater treatment and/or<br>retention devices on non-industrial sites for the<br>purposes of ensuring proper function and<br>maintenance.  |   |           | I. Develop a programme for operational<br>inspection of a sample of private stormwater<br>treatment and/or retention devices on non-<br>industrial sites for the purposes of ensuring-<br>proper function and maintenance.   |   |                       |
|  |        |         | m. Conduct a cost/benefit analysis of options to further improve source control that considers:   | within 6<br>months of   | Within 18 |  |   | Within 18 m<br>of the |

| i. allocation of staff/resources to undertake  | the  | the     | that considers:   |  | commencement                |
|--|--|---------|---|--|-----------------------------|
| <ul> <li>ii. expected contamination risk and possible risk reduction of industrial sites;</li> <li>iii. other source control measures in Condition 38.</li> <li>n. Apply, through agreement between the Consent Holder and Canterbury Regional Council, the results of the cost/benefit analysis to prioritise source control measures in SMPs and in implementation plans and to determine the number of audits conducted under Condition 41(b).</li> </ul> | ment of<br>the<br>resource<br>consent<br>within 2<br>years of<br>the<br>commence |         | <ul> <li>i. allocation of staff/resources to undertake industrial site audits;</li> <li>ii. expected contamination risk and possible risk reduction of industrial sites; and</li> <li>iii. other source control measures in Condition 38.</li> <li>n. Apply, through agreement between the Consent Holder and Canterbury Regional Council, the results of the cost/benefit analysis <u>under Item 38(m)</u> to prioritise-source control measures in SMPs and <u>the</u> in Implementation Plan and to determine the number of audits conducted under Condition 41(b).</li> </ul>   | consent<br>within 2 years of<br>the-<br>commencement-<br>of the resource-<br>consent | of the resource-<br>consent |
| representatives on a River Care Liaison Group<br>and will convene meetings at least once<br>annually. At each meeting the River Care   | year of the<br>commence<br>ment of<br>the<br>resource                            |         | <ul> <li>convene meetings at least once annually.</li> <li>At each meeting the <u>Consent Holder shall</u><br/><u>update the</u> River Care Liaison Group <u>and</u><br/><u>receive feedback</u> shall be updated by the<br/><u>Consent Holder</u> on matters relating to the<br/>exercise of this <u>resource</u> consent, including<br/>but not limited to: <ol> <li>Relevant capital and maintenance works<br/>completed in the past year and currently<br/>programmed by the Consent Holder;</li> <li>Development and refinement of the C-<br/>CLM and flood modelling;</li> <li>Any new technologies in stormwater<br/>contaminant reduction or preventative<br/>measures; and</li> </ol> </li> <li>Minutes of the River Care Liaison</li> </ul> | the<br>commencement<br>of the resource<br>consent                                    | Ongoing                     |
| to have representatives on an Industry Liaison<br>Group and shall convene meetings at least<br>once annually. At each meeting the Industry<br>Liaison Group shall be updated by the Consent<br>Holder on matters relating to the exercise of this  | year of the<br>commence<br>ment of<br>the  | Ongoing | Group Meeting shall be circulated by the<br>Consent Holder to the River Care Liaison<br>Group within four weeks of the meeting.<br>p. The Consent Holder shall convene the<br>invite industry groups to <u>nominate</u> have-<br>representatives <u>for</u> on an-Industry Liaison<br>Group and shall convene meetings at least   | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent                | Ongoing                     |

|  |  | 1               |                 |
|--|--|-----------------|-----------------|
|  | iv. Compliance and monitoring results as                       |                 |                 |
|  | reported under Condition 53.                                   |                 |                 |
|  | q. Minutes of the Industry Liaison Group                       |                 |                 |
|  | Meeting shall be circulated by the                             |                 |                 |
|  | Consent Holder to the Industry Liaison                         |                 |                 |
|  | Group within four weeks of the meeting.                        |                 |                 |
| Pūharakekenui/Styx River Weed Management | Pūharakekenui/Styx River Weed                                  |                 |                 |
|  | Management   |                 |                 |
|  | r. Investigate the degree to which                             | Within 6        | Within 18       |
|  | various options in river channel weed                          | months of the   | months of the   |
|  | (macrophyte) management practices                              | commencement    |                 |
|  | mitigate flood effects on the                                  | of the resource | of the resource |
|  | Püharakekenui/Styx River under a range                         | consent         | consent         |
|  | of river flow scenarios. Factors to be                         |                 |                 |
|  | considered shall include:                                      |                 |                 |
|  | i. International weed management                               |                 |                 |
|  | practices in similar settings; and                             |                 |                 |
|  | ii. the factors which promote or                               |                 |                 |
|  | suppress growth of the specific                                |                 |                 |
|  | prolific weed species in the                                   |                 |                 |
|  | Pūharakekenui/Styx River, including                            |                 |                 |
|  | sediments, dry weather flows,                                  |                 |                 |
|  | stormwater discharges covered by                               |                 |                 |
|  | the resource consent, other                                    |                 |                 |
|  | discharges, shading and climatic                               |                 |                 |
|  | factors.   |                 |                 |
|  | s. Based on the results of the                                 | Within 2 years  | Within 3 years  |
|  | investigation under outcome of                                 |                 | of the          |
|  | Condition 38 (p r), and through                                | commencement    |                 |
|  |  | of the resource |                 |
|  | Council, the Consent Holder shall                              |                 | consent         |
|  | identify the best practicable options for                      |                 |                 |
|  | mitigating flooding through river channel                      |                 |                 |
|  | weed management. Factors to be                                 |                 |                 |
|  | considered shall to include:                                   |                 |                 |
|  | i. <u>A range of river flow scenarios</u>                      |                 |                 |
|  | including dry weather (spring-fed)                             |                 |                 |
|  | flows and storm flows where                                    |                 |                 |
|  | operational/maintenance  |                 |                 |
|  | management will be beneficial;                                 |                 |                 |
|  | ii. <u>A range of river channel</u>                            |                 |                 |
|  | operational/maintenance_                                       |                 |                 |
|  | management scenarios;  |                 |                 |
|  | iii. Flooding effects including level,<br>extent and duration; |                 |                 |
|  | iv. Available technical knowledge;                             |                 |                 |
|  | v. Potential for practical                                     |                 |                 |
|  | implementation of options;                                     |                 |                 |
|  | vi. Costs for implementing options;                            |                 |                 |
|  | vii. Available regulatory mechanisms;                          |                 |                 |
|  | viii. Consideration of ecological effects;                     |                 |                 |
|  | and  |                 |                 |
|  | ix. Consideration of overlapping                               |                 |                 |
|  | powers and responsibilities between                            | 1               |                 |
|  | Canterbury Regional Council and                                |                 |                 |
|  | Christchurch City Council under                                |                 |                 |
|  | other legislation.   |                 |                 |
| <b>.</b>                                 |  |                 |                 |

|    |   |     |   |                  | v. Test the Pūharakekenui/Styx River<br>model calibration against other storm<br>events, as they arise, to calibrate/validat<br>model sensitivity to varying weed<br>conditions.   | of the<br>e commencement<br>of the resource<br>consent                           | of the resource<br>consent                                |
|----|---|-----|---|------------------|--|--|---|
|    |   |     |   |                  | w. Apply, through engagement with the<br>Canterbury Regional Council, the results<br>of the cost/benefit analysis in a targeted<br>trial for the selected best practicable<br>options for weed management of the<br>Pūharakekenui/Styx River river channel.  | <u>of the</u><br>commencement<br>of the resource                                 |   |
|    |   |     |   |                  | x. If the Consent Holder determines it<br>warranted as a result of the trials in item<br>38(u) above, implement the selected bes<br>practicable option within the<br>Pūharakekenui/Styx River Area SMP.  |  |   |
|    | Erosion and Sediment Control  |     | Erosion and Sediment Control  |                  | Erosion and Sediment Control   |  |   |
| 39 | An site specific 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 Toolbox for Canterbury (or successor).</i> |     | A site specific Erosion and Sediment Control Plan (ESCP) shall be<br>prepared and implemented for the construction phase stormwater<br>discharge from any development area in general accordance with<br>Canterbury Regional Council's <i>Erosion and Sediment Control Toolbox</i><br><i>for Canterbury (or successor).</i> |                  | The Consent Holder shall use reasonably practicable measures<br>to ensure that a A site-specific Erosion and Sediment Control Plan<br>(ESCP) shall be prepared and implemented as a means of ensuring<br>the mitigation of the effects of for the construction phase<br>stormwater discharge from any development <u>site area</u> in general<br>accordance with the Canterbury Regional Council's Erosion and<br>Sediment Control Toolbox for Canterbury (or successor document)<br>prior to commencement of stripping of vegetation or earthworks. |  |   |
|    |   | (0) | Tor Gamerbury (or successor).   |                  | accordance with the Canterbury Regions Sediment Control Toolbox for Canterb  | onal Council's Erc<br>ury (or successor  | osion and<br><b>document</b> )                            |
| 40 |   |     | Copies of ESCPs submitted to or prepared by/fo shall be made available on request.  | r the Consent Ho | accordance with <u>the Canterbury Regions</u><br>Sediment Control Toolbox for Canterburg<br>prior to commencement of stripping   | onal Council's Erc<br>ury (or successor<br>of vegetation o<br>ared by/for the Co | osion and<br>document)<br>or earthworks.<br>onsent Holder |

|    | Details on how records will be kept<br>(such as site TSS limits, compliance<br>monitoring and enforcement action),<br>with records made available to the<br>Canterbury Regional Council on<br>request.<br>The Consent Holder may review and amend the SDMP so<br>as to better achieve the purpose of the plan and in<br>response to any updates to the relevant Attribute Target<br>Levels. Any amendments to the SDMP shall not replace<br>the previous version until the plan has been certified by<br>the RMA compliance and Enforcement Manager of the<br>Canterbury Regional Council as being consistent with the |  | better achieve the purposup<br>updates to the relevant A |
|----|--|--|--|
|    | purpose and required content of the SDMP.<br>Industrial Site Management  | Industrial Site Management                                     | Industrial Site Managen                                  |
| 41 | The Consent Holder shall, in collaboration with the Canterbury   | The Consent Holder shall, in collaboration with the Canterbury | The Consent Holder sha                                   |
|    | Regional Council:  | Regional Council:  | (a) Maintain a des                                       |

astal areas within Schedules 4 and 5.

**content of the** SDMP shall include, but not wing means to achieve the purpose: natrix to determine TSS limits for the discharge of ater into the Christchurch City Council ater network <u>under this resource consent</u> from al sites, depending on such factors as likely trations and volumes of sediment in the ge, whether the discharge will be treated ream by a Council treatment facility prior to g the receiving environment, and the sensitivity eceiving environment;

iption of the process for how TSS limits will be d in authorisations by the Christchurch City for discharges into the network from individual

iption of the Consent Holder's process to sites and monitor management of sites to TSS limits are achieved; and

of how records will be kept (such as site TSS ompliance monitoring and enforcement action), ords made available to the Canterbury Regional on request.

Ider may review and amend the SDMP so as to bose of the <u>SDMP</u> plan and in response to any t Attribute Target Levels. Any amendments to the e the previous version until the plan has been ompliance and Enforcement Manager of the council as being consistent with the purpose and SDMP.

#### ement

shall, in collaboration with the Canterbury

sktop-based identification of industrial sites, <u>that</u> s for risk relative to stormwater discharge and e industrial sites that pose the highest risk;

| purposes of better monitoring and to determine whether the  | The Consent Holder may review and amend the EMP for the purposes of better improved monitoring and / or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.   | The Consent Holder m<br>of improved monitoring<br>Receiving Environmen<br>being met.   |
|---|---|--|
| 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. | 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.   | The Consent Holder sha<br>with the purpose of mor<br>Objectives and Attribute  |
| Environmental Monitoring Programme  | Environmental Monitoring Programme  | Environmental Monito   |
|   |   | MONITORING AND RE  |
| •   |   | Council, add the site to   |
| unacceptably high risk, the Consent Holder may  | Consent Holder may, determine to add the site to Schedule 1 and   | Consent Holder may, up   |
| engagement with the site operator and the CRC, that the site is not appropriately mitigating that   |   | with the site operator an<br>site is not appropriately   |
| c. If the Consent Holder considers, following further   | e. If the Consent Holder considers, following further engagement with   |  |
| Regional Council, Attention: RMA Compliance and   |   | Regional Leade   |
|   |   | the Consent Ho<br>and notify the C   |
| unacceptably high risk to the receiving   |   | an unacceptat  |
|   | Compliance of that concern.   | Compliance of monitoring of  |
|   | and Enforcement Manager-Regional Leader – Monitoring and  | Council, Attenti   |
| · · · · · · · · · · · · · · · · · · ·   |   | receiving environ<br>site owner and  |
| risk and add them to Schedule 1 of this consent. The  | is presenting an unacceptably high risk to the receiving environment  | the site is prese  |
| Identify any industrial sites that nose an unaccentably high  | Sites undergoing re-developments-   | (d) If the audit proc  |
|   |   |  |
|   | i Sites with known or suspected   |  |
|   | <b>J</b>  |  |
|   | engaged and ranked as posing high risk, and of which at least 5   |  |
|   |   |  |
|   | audits in 41(b) if agreed by the Canterbury Regional  |  |
|   | c. The Consent Holder may vary the annual number of site  |  |
| iii Sites undergoing re-developments.   | vi Sites undergoing re-developments.  |  |
|   | · · · · · · · · · · · · · · · · · · ·   |  |
| i Sites with known or suspected   | iv Sites with known or suspected  |  |
| arise, so as to address:  | as needs arise, so as to address:   | audits in 41(b)<br>under Condition   |
|   | ranked as posing high risk, and of which at least 5 will be determined at the Consent Holder's discretion during the year,  | (c) The Consent H  |
|   | Pankan as nasing high risk and of which at least 5 will he  |  |
|   | Holder's discretion during the year, as needs<br>arise, so as to address:         i       Sites with known or suspected<br>contamination or risk;         ii       Re-audits of previously mitigated sites;         iii       Sites undergoing re-developments.         rolling list of at least 10 of the highest risk sites in the<br>city and report progress on an annual basis;         Identify any industrial sites that pose an unacceptably high<br>risk and add them to Schedule 1 of this consent. The-<br>Consent Holder cannot add any more sites to Schedule 1 of<br>this consent after 1 January 2025.         b.       If the audit process and monitoring of a site<br>determines that the site is presenting an<br>unacceptably high risk to the receiving<br>environment the Consent Holder shall inform the<br>site owner and operator and notify the Canterbury<br>Regional Council, Attention: RMA Compliance and<br>Enforcement Manager of that concern.         c.       If the Consent Holder considers, following further<br>engagement with the site to schedule 1 and notify<br>the Site is not appropriately mitigating that<br>unacceptably high risk, the Consent Holder may<br>determine to add the site to schedule 1 and notify<br>the CRC that it has added the site to schedule 1.         MONITORING AND REPORTING         Environmental Monitoring Programme         The Consent Holder shall implement the EMP attached to this<br>consent, with the purpose of monitoring whether the Receiving<br>Environment Objectives and Attribute Target Levels are being<br>met.         The Consent Holder may review and amend the EMP for the<br>purposes of better monitoring and to determine whether the | Holder's discretion during the year, as needs.         arise, so as to address:         I       Sites with known or suspected,<br>contamination or risk;         iii Re-audits of previously mitigated sites;         iii Sites undergoing re-developments.         rolling list of at least 10 of the highest risk sites in the<br>city and report progress-on an annual basis;         iiii Sites undergoing re-developments.         rolling list of at least 10 of the highest risk sites in the<br>city and report progress-on an annual basis;         iiii Concent Holder may with annual heast 10 sites, are newly-<br>engaged and rankod a pencing high risk, and of which at least 15<br>will be determined at the Consent Holder may with annual heast 10<br>contains 11(b) if agreed by the Canterbury Regional<br>Council under Condition 38 (n).         c - of which The audit work of the highest cases and monitoring of a site<br>determines that the site is presenting an<br>unacceptably high risk to the receiving environment<br>the consent Holder considers, following further<br>engagement with the site is presenting an<br>unacceptably high risk, the Consent Holder may<br>determine to add the site to schedule 1 and the consent. The<br>site is not appropriately mitigating that<br>unacceptably high risk, the Consent Holder may<br>determine to add the site to schedule 1 and the consent.         c. If the Consent Holder considers, following further<br>engagement with the site to schedule 1 and the consent.         c. If the Consent Holder considers, following further<br>engagement with the site to schedule 1 and the consent.         c. If the Consent Holder considers, following further<br>engagement with the site to schedule 1 and to consent. </td |

15 sites per year, of which at least 10 are sites ne Canterbury Regional Council;

Holder may Vary the annual number of site ) if agreed by the Canterbury Regional Council on 38(I);

bcess and monitoring of a site determines that senting an unacceptably high risk to the ironment the Consent Holder shall i</del>Inform the d operator and notify the Canterbury Regional ntion: Regional Leader – Monitoring and of that concern <u>if the audit process and</u> of a site determines that the site is presenting ably high risk to the receiving environment. Holder shall inform the site owner and operator Canterbury Regional Council, Attention: der – Monitoring and Compliance of that

Holder considers, following further engagement and the Canterbury Regional Council, that the y mitigating that unacceptably high risk, the upon agreement with Canterbury Regional o Schedule 1.

# EPORTING

### oring Programme

hall implement the EMP attached to this consent, onitoring whether the Receiving Environment te Target Levels are being met.

may review and amend the EMP for the purposes ng and / or to better determine whether the ent Objectives and Attribute Target Levels are

|    | Responses to Modelling   | Responses to Modelling C-CLM   | Responses to C-CLM  |  |
|----|--|--|---|--|
| 48 | The water quantity/flood model(s) for the Pūharakekenui/ Styx,<br>Ōtakaro/Avon, Ōpāwaho/ Heathcote River and Huritini/<br>Halswell Rivers shall be updated as necessary to reflect<br>changes in development patterns or modelling parameters<br>every 5 years starting with the 2019 annual report. The results<br>of model updates and a description of how they demonstrate<br>compliance with Schedule 7 shall be included in the annual<br>report required under Condition 53.  | The water quantity/flood model(s) for the Pūharakekenui/ Styx,<br>Ōtakaro/Avon, Ōpāwaho/ Heathcote River and Huritini/ Halswell<br>Rivers shall be updated as necessary to reflect changes in<br>development patterns or modelling parameters every 5 years starting<br>with the 2019 annual report. The results of model updates and a<br>description of how they demonstrate compliance with Schedule 7<br>shall be included in the annual report required under Condition 53.   | following the comme<br>with the 2019 annual<br>description of how the<br>be included in the ann<br>yearly basis following             |  |
| 47 | The Attribute Target Levels in Schedules <u>34</u> and <u>45</u> for the<br>Waterway Cultural Health Index, Marine Cultural Heath Index<br>and State of Takiwā scores, as well as the associated mana<br>whenua <u>values</u> monitoring sites and methodology in the EMP,<br>shall be developed in collaboration with papatipu rūnanga.<br>Once these scores, sites and monitoring methods are<br>confirmed, <del>monitoring for these mana whenua objectives</del><br><u>mana whenua values monitoring</u> shall commence. Updated<br>information will be incorporated into the EMP as an<br>amendment, in accordance with Condition 43 <u>by August 2020</u> .  | The Attribute Target Levels in Schedules 4 and 5 for the Waterway<br>Cultural Health Index, Marine Cultural Heath Index and State of<br>Takiwā scores, as well as the associated mana whenua values<br>monitoring sites and methodology in the EMP, shall be developed in<br>collaboration with papatipu rūnanga. Updated information will shall be<br>incorporated into the EMP as an amendment, in accordance with<br>Condition 43 within 18 months of the commencement of this resource<br>consentby August 2020 Once these scores, sites and monitoring<br>methods are confirmed, mana whenua values monitoring shall<br>commence.   | EMP and presented b   |  |
| 46 | The Attribute Target Levels in Schedules <b>34</b> to <b>45</b> 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.   | The Attribute Target Levels in Schedules 4 to 5 are taken from<br>relevant regional and national guideline levels. Should these guideline<br>levels be updated, the Attribute Target Levels shall be updated to<br>reflect this. Updated values will be incorporated into the EMP as an<br>amendment, certified in accordance with Condition 43.   | The Attribute Target Le<br>regional and national g<br>updated, the Attribute<br>Updated values <u>shall</u><br>amendment, certified i |  |
| 44 | Any amendments to the EMP may not replace the previous<br>version until the EMP has been certified by the RMA<br>Compliance and Enforcement Manager of the Canterbury<br>Regional Council as complying with the requirements of<br>Condition 4342.<br>The Attribute Target Levels in Schedule 34 for hardness<br>modified copper, lead and zinc in Banks Peninsula surface<br>water shall be calculated for each monitored waterway following<br>the collection of one year of monitoring data. Hardness modified<br>values for copper, lead and zinc for all sites within the EMP shall<br>also be reviewed every five years, with the first review being<br>undertaken in 20232020. Hardness modified values shall be<br>calculated using the ANZECC (2000) methodology, as outlined<br>in the EMP. Should a new method of modifying metals become<br>appropriate, this new methodology and any subsequent change<br>in Attribute Target Levels shall be applied. Updated values will<br>be incorporated into the EMP as an amendment, in accordance<br>with Condition 43. | <ul> <li>until the EMP has been certified by the RMA</li> <li>unce and Enforcement Manager of the Canterbury</li> <li>al Council as complying with the requirements of</li> <li>nr 4342.</li> <li>unce and zinc in Banks Peninsula surface</li> <li>hat Parget Levels in Schedule 34 for hardness</li> <li>hat copper, lead and zinc in Banks Peninsula surface</li> <li>hat be calculated for each monitored waterway following</li> <li>hat of one year of monitoring data. Hardness modified</li> <li>hardness modified values shall be calculated for each monitored waterway following</li> <li>her in 20232020. Hardness modified values shall be</li> <li>had using the ANZECC (2000) methodology, as outlined</li> <li>his new method of modifying metals become</li> <li>his new methodology and any subsequent change</li> <li>his new methodology and any</li></ul> |   |  |

the EMP shall not replace the previous version een certified by the Canterbury Regional Council, .eader – Monitoring and Compliance as complying s of Condition 42.

Target Levels in Schedule 4 for hardness per, lead and zinc concentrations in Banks rface water shall be calculated for each aterway following the collection of one year of ata.

odified values for copper, lead and zinc for all r monitoring sites (including Banks Peninsula the EMP shall be reviewed every five years, with w being undertaken <u>within 2 years of the</u> <u>ment of this resource consent</u>-2020.

odified values shall be calculated using the 200) methodology outlined in the EMP. Should a of modifying metal concentrations become this new methodology and any subsequent tribute Target Levels shall be applied. Updated be incorporated into the <u>certified</u> EMP as an in accordance with Condition 43.

Levels in Schedules 4 to 5 are taken from relevant I guideline levels. Should these guideline levels be e Target Levels shall be updated to reflect this. Il will be incorporated into the <u>certified</u> EMP as an d in accordance with Condition 43.

Levels in Schedules 4 and 5 for the Waterway c, Marine Cultural Heath Index and State of Takiwā e associated mana whenua values monitoring sites the EMP, shall be developed in collaboration with pdated information shall be incorporated into the <u>I by the Consent Holder</u> as an amendment <u>for</u> ordance with Condition 43 <u>44</u>, within 24 months of of this resource consent. Once these scores, sites ods are confirmed, <u>monitoring of</u> mana whenua all commence.

lood model(s) for the Pūharakekenui/ Styx, waho/ Heathcote <del>River</del> and Huritīni / Halswell tted as necessary to reflect changes in ns or modelling parameters <u>at least</u> every 5 years <u>nencement of this resource consent</u> starting-<del>I report</del>. The results of model updates and a ney demonstrate compliance with Schedule 7 shall nnual report required under Condition 53 <u>on a 5-</u> <u>ing commencement of this resource consent</u>.

# M Contaminant Load Modelling

| 49  | Where the C-CLM results show that the percentage<br>contaminant reductions required by Table 2 in Condition 16 are<br>not met, the Consent Holder will be in breach of this consent,<br>and will undertake the following:  | <ul> <li>Where the C-CLM results show that the percentage contaminant reductions contaminant load reduction targets required:</li> <li>a) By the standards in Table 2 in Condition 16 are not met the Consent Holder will be in breach of this consent; and/or</li> <li>b) By the targets derived under each catchment-specific SMP are not met;</li> </ul>   | Where the <u>modelling</u> (<br><u>Condition 18</u> show that<br>required by the standar<br><del>Consent Holder will be</del><br>derived under each cate<br>Holder <u>shall</u> will undert  |
|-----|--|---|--|
|     | <ul> <li>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;</li> <li>b. Assess whether reasonable endeavours to mitigate the adverse effects of stormwater have been carried out;</li> <li>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 timeline for the correction / remediation (if necessary);</li> <li>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)</li> </ul> | <ul> <li>The Consent Holder will undertake the following: <ul> <li>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;</li> <li>b. Assess whether reasonable endeavours best practicable options to mitigate the adverse effects of stormwater have been carried out;</li> <li>c. If the assessment in (b) determines that reasonable endeavours best practicable options have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the correction / remediation (if necessary);</li> <li>d. Prepare a report, provided Submit a report to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance RMA Compliance and Enforcement Manager, and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.</li> </ul> </li> </ul> | <ul> <li>(a) Investigate the contaminant load be implemented discharge qualit</li> <li>(b) Assess whether adverse effects</li> <li>(c) If the assessme options have not correction / remprovide a timeli remediation <b>op</b></li> <li>(d) Submit a report Regional Leader rūnanga (via Masset out in (a) to</li> </ul> |
|     | above.   | Responses to Flood Modelling  | Responses to Flood   |
| 49A |  | Where the flood modelling results show that the attribute target levels in Schedule 7 are not met, the Consent Holder shall:  | Where the flood mode<br>in Schedule 7 are not r  |
|     |  | a. Investigate the reasons for not achieving the attribute target<br>levels within Schedule 7 and describe what measures will be<br>implemented (if necessary) to meet the attribute target levels<br>within Schedule 7;  | (a) Investigate the<br>levels within Sc<br>implemented (if<br>within Schedule  |
|     |  | <ul> <li>Assess whether best practicable options to mitigate the<br/>adverse effects of flooding have been carried out;</li> </ul>  | (b) Assess whether<br>adverse effects  |
|     |  | <ul> <li>c. If the assessment in (b) determines that best practicable options_have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the correction / remediation (if necessary);</li> </ul>  | (c) If the assessme<br>options have no<br>correction / rem<br>provide a timeli<br>remediation op   |
|     |  | <ul> <li>Submit a report to Canterbury Regional Council, Attention:<br/>Regional Leader – Monitoring and Compliance, and papatipu<br/>rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set<br/>out in (a) to (c) above.</li> </ul>   | (d) Submit a report<br>Regional Leade<br>rūnanga (via Ma<br>set out in (a) to  |
| 50  | If, upon submittal of the report, where required by Condition<br>49, agreement between Christchurch City Council and<br>Canterbury Regional Council cannot be reached regarding<br>any aspects, the Consent Holder shall consult with the SWIM<br>group, or successor group, in accordance with the Joint<br>Christchurch City Council and Canterbury Regional Council<br>Stormwater Management Protocol or subsequent revisions to<br>the Protocol, and in accordance with any agreements entered<br>into between the Consent Holder and papatipu rūnanga; and  | If, upon submittal of the report, where required by Condition 49 or<br>49A, agreement between Christchurch City Council and Canterbury<br>Regional Council cannot be reached regarding any aspects, the<br>Consent Holder shall consult with the SWIM group, or successor<br>group, in accordance with the Joint Christchurch City Council and<br>Canterbury Regional Council Stormwater Management Protocol or<br>subsequent revisions to the Protocol, and in accordance with any<br>agreements entered into between the Consent Holder and papatipu<br>rūnanga; and implement any actions or changes identified as   | If, upon submittal of the<br>agreement between CH<br>Regional Council canno<br>Consent Holder shall c<br>in accordance with the<br>Regional Council Storn<br>revisions to the Protoco<br>entered into between th<br>implement any actions  |

C-CLM results reported in accordance with nat the percentage contaminant reductions ards in Table 2 in Condition 16, are not met the e in breach of this consent; and/or by the targets atchment-specific SMP, are not met, the Consent ertake the following:

e reasons for not achieving the modelled bad reductions and describe what measures will ed (if necessary) to improve stormwater slity;

er best practicable options to mitigate the ts of stormwater have been carried out;

nent in (b) determines that best practicable not been carried out, assess options for mediation to mitigate any adverse effects, and eline for the **implementation of** correction / **ptions** (if necessary); and

ort to Canterbury Regional Council, Attention: der – Monitoring and Compliance and papatipu Mahaanui Kurataiao Ltd), detailing the matters to (c) above.

# d Modelling

elling results show that the attribute target levels t met, the Consent Holder shall:

e reasons for not achieving the attribute target Schedule 7 and describe what measures will be (if necessary) to meet the attribute target levels le 7;

er best practicable options to mitigate the ts of flooding have been carried out;

nent in (b) determines that best practicable not been carried out, assess options for mediation to mitigate any adverse effects, and eline for the **implementation of** correction / **ptions** (if necessary); and

rt to Canterbury Regional Council, Attention: der – Monitoring and Compliance, and papatipu Mahaanui Kurataiao Ltd), detailing the matters o (c) above.

he report, where required by Condition 49 or 49A, Christchurch City Council and Canterbury anot be reached regarding any aspects, the consult with the WIM group, or successor group, e Joint Christchurch City Council and Canterbury rmwater Management Protocol or subsequent col, and in accordance with any agreements the Consent Holder and papatipu rūnanga; and as or changes identified as necessary by the WIM

|    | implement any actions or changes identified as necessary by<br>the SWIM group, or successor group, through the<br>consultation.  | necessary by the SWIM group, or successor group, through the consultation.   | group, or successor group  |
|----|--|--|--|
|    | Advice note: Discussions should be undertaken with the<br>Canterbury Regional Council prior to and following<br>investigations, to try and establish agreed approaches prior to<br>submitting the report.  | Advice note: Discussions should be undertaken with the Canterbury<br>Regional Council prior to and following investigations, to try and<br>establish agreed approaches prior to submitting the report.   | Advice note: Discussio<br>Regional Council prior<br>establish agreed appro   |
|    | Responses to Monitoring  | Responses to Monitoring  | Responses to Monito  |
| 51 | If the monitoring results identify that the following Attribute<br>Target Levels are not being met:  | If the monitoring results identify that the following TSS, copper, lead<br>and zinc Attribute Target Levels in surface water, as set out in<br>Schedules 4 and 5, and <i>Escherichia coli</i> , copper, lead and zinc in<br>groundwater, as set out in Schedule 6, are not being met, the Consent<br>Holder shall:   | If the monitoring results<br>Attribute Target Levels<br>5, and <i>Escherichia coli</i><br>out in Schedule 6, are   |
|    | a. TSS, copper, lead and zinc in surface water, as set out in Schedules 4 and 5;   |  |  |
|    | b. <i>Escherichia coli</i> , copper, lead and zinc in groundwater, as set out in Schedule 6;   | b. <u>Escherichia coli,</u> copper, lead and zinc in groundwater, as set-<br>out in Schedule 6;  |  |
|    | <ul> <li>the Consent Holder shall:</li> <li>c. Engage with Environment Canterbury about and-<br/>Pperform an investigation to identify whether this is due<br/>to the effects of stormwater network discharges, with<br/>site investigations prioritised for areas with high<br/>levels of contaminants, or sensitive or high value<br/>receiving environments;</li> </ul>                             | <ul> <li>the Consent Holder shall:</li> <li>a. Engage with Environment Canterbury the Canterbury Regional Council about conducting, and Pperform an investigation into to identify, whether this is due to the effects of stormwater discharges authorised under this resource consent-network-discharges, with site investigations prioritised for areas with high levels of contaminants, or with sensitive or high value receiving environments;</li> </ul>   | <ul> <li>(a) Engage with the conducting an in effects of storm resource conse with high levels value receiving</li> </ul>  |
|    | d. Compile the results of such an investigation into a report to<br>be submitted to the Canterbury Regional Council and<br>papatipu rūnanga (via Mahaanui <u>Kurataiao Ltd).</u>   | b. Carry out an investigation if required under Condition 51(a) and<br>compile the results of such an investigation into a report to be<br>submitted to the Canterbury Regional Council and papatipu<br>rūnanga (via Mahaanui Kurataiao Ltd).  | <ul> <li>(b) Carry out an inv<br/>and compile the<br/>to be submitted<br/>papatipu rūnang</li> </ul>   |
|    | <ul> <li>e. The report shall include, at a minimum:</li> <li>i. An evaluation of whether the monitoring results are due to stormwater network discharges or not;</li> <li>ii. An assessment of options for correction/remediation (if effects are likely due to stormwater network discharges);</li> <li>iii. A timeline of implementation of corrective action/remediation (if necessary).</li> </ul> | <ul> <li>c. The report shall include, at a minimum:</li> <li>i. An evaluation of whether the monitoring results are due to stormwater discharges authorised under this resource consent network discharges or not;</li> <li>ii. An assessment of options for correction/remediation (if effects are likely due to stormwater discharges authorised under this resource consent network-discharges);</li> <li>iii. A timeline of implementation of corrective action/remediation (if necessary) effects are a result of discharges authorised under this resource consent.</li> </ul> | <ul> <li>(c) The report shall</li> <li>(i) An evaluato stormwy consent consent</li></ul> |

group, through the consultation.

sions should be undertaken with the Canterbury or to and following investigations, to try <del>and</del> <u>to</u> proaches prior to submitting the report.

# toring

ults identify that the TSS, copper, lead and zinc els in surface water, as set out in Schedules 4 and coli, copper, lead and zinc in groundwater, as set re not being met, the Consent Holder shall:

the Canterbury Regional Council about in investigation into whether this is due to the rmwater discharges authorised under this sent, with site investigations prioritised for areas els of contaminants, or with sensitive or high ing environments;

nvestigation if required under Condition 51(a) he results of such an investigation into a report ed to the Canterbury Regional Council and anga (via Mahaanui Kurataiao Ltd)<u>;</u> all include, at a minimum:

uation of whether the monitoring results are due nwater discharges authorised under this resource t or not;

essment of options for correction/remediation if are likely due to stormwater discharges

- sed under this resource consent;
- ne of implementation of corrective
- emediation if effects are a result of discharges sed under this resource consent;

|    | <ul> <li>f. If, upon submittal of the above report, agreement<br/>between Christchurch City Council and Canterbury<br/>Regional Council cannotbe reached regarding any<br/>aspects of the report referenced in Condition<br/>(e) above, the Consent Holder shall consult with the<br/>SWIM group, or successor group, in accordance<br/>with the Joint Christchurch City Council and<br/>Canterbury Regional Council Stormwater<br/>Management Protocol or subsequent revisions to the<br/>Protocol, and in accordance with any agreements<br/>entered into between the Consent Holder and<br/>papatipu rūnanga; and</li> <li>g. The sites triggering an investigation for a given<br/>monitoring year will be identified in the annual report<br/>referred to in Condition 53, and the subsequent investigation<br/>report will be provided with the following annual monitoring<br/>report twelve months later;</li> </ul> | <ul> <li>d. 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 referenced in Condition (ec) 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 implement any actions or changes identified as necessary by the WIM group, or successor group, through the consultation; and</li> <li>e. g. The sites triggering an investigation for a given monitoring year willshall be identified in the annual report referred to in Condition 53, and the subsequent investigation report welve months later;</li> </ul> | <ul> <li>(d) If, upon submitted Christchurch Circannot be reacted in Consult with the accordance with Canterbury Rege Protocol or substaccordance with Consent Holder actions or chan or successor grupper shall be ide Condition 53, a provided with the months later; articles the consult with the construction of the states that the construction construct</li></ul> |
|----|--|---|--|
|    | h. Implement any actions or changes identified as<br>necessary by the SWIM group, or successor<br>group, through the consultation under Condition<br>51(f) above.  | <ul> <li>f. Implement any actions or changes identified as necessary<br/>by the SWIM group, or successor group, through the<br/>consultation under Condition 51(fd) above.</li> </ul>   | (f) Implement any<br>the SWIM grou<br>under Condition  |
|    |  |   | Advice note: Discussion<br>Canterbury Regional C<br>investigations, to try to<br>submitting the report.  |
|    | Reporting  | Reporting   | Reporting  |
| 52 | The Consent Holder shall maintain relevant records including,<br>but not limited to, detailed design drawings and reports, details<br>of site specific assessments undertaken, maps and any<br>engineering design and construction certificates issued for any<br>water quality or quantity mitigation facilities constructed. These<br>records are to be made available to Canterbury Regional<br>Council on request.   | The Consent Holder shall maintain relevant records including, but<br>not limited to, detailed design drawings and reports, details of site_<br>specific assessments undertaken, maps and any engineering design<br>and construction certificates issued for any water quality or quantity<br>mitigation facilities constructed. These records are to be made<br>available to Canterbury Regional Council on request.  | The Consent Holder sh<br>limited to, detailed des<br>assessments undertak<br>construction certificate<br>mitigation facilities con<br>available to Canterbury  |
| 53 | The Consent Holder shall provide an annual report to the<br>Canterbury Regional Council, Attention: RMA Compliance and<br>Enforcement Manager, Banks Peninsula and Christchurch-<br>West Melton Zone Committees, and papatipu rūnanga (via<br>Mahaanui Kurataiao Ltd) by 30 June each year. This report<br>will also be made available on the Christchurch City Council<br>website. The report shall include, where appropriate:   | The Consent Holder shall provide an annual report to the<br>Canterbury Regional Council, Attention: <u>RMA Compliance and</u><br><u>Enforcement Manager Regional Leader – Monitoring and</u><br><u>Compliance</u> , Banks Peninsula and Christchurch-West Melton Zone<br>Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by<br>30 June each year. This report <del>willshall</del> also be made available on<br>the Christchurch City Council website. The report shall include,<br>where appropriate:  | The Consent Holder sh<br>Regional Council, Atten<br>Compliance, Banks Pe<br>Committees, and papa<br>June each year <u>follow</u><br><u>annual report shall co<br/>commencement of th</u><br>made available on the<br><del>report</del> shall include, wh   |
|    | a. A summary of the outcomes of monitoring, <u>investigations</u><br><u>and other actions</u> , in accordance with Conditions 20, 21,<br>22, , 37, <u>38, and</u> , 42 <u>and the one-off report required by</u><br><u>Condition 47. This summary shall be presented in such</u>   | <ul> <li>A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 20, 21, 22, 37, 38, and, 42 and the one-off report required by Condition 47. This summary shall be presented in such a way as to assess</li> </ul>  | (a) A summary of the other actions, ir 38, 42 <u>, and the the 5-yearly re</u>   |

ittal of the above report, agreement between City Council and Canterbury Regional Council ached regarding any aspects of the report Condition (c) above, the Consent Holder shall he WIM group, or successor group, in vith the Joint Christchurch City Council and egional Council Stormwater Management ubsequent revisions to the Protocol, and in vith any agreements entered into between the ler and papatipu rūnanga and implement any anges identified as necessary by the WIM group, group, through the consultation;

gering an investigation for a given monitoring identified in the annual report referred to in and the subsequent investigation report shall be the following annual monitoring report twelve and

by actions or changes identified as necessary by bup, or successor group, through the consultation ion 51(d) above.

sions should be undertaken with the Council prior to and following to establish agreed approaches prior to t.

shall maintain relevant records including, but not esign drawings and reports, details of site-specific aken, maps and any engineering design and tes issued for any water quality or quantity onstructed. These records are to be made ury Regional Council on request.

shall provide an annual report to the Canterbury tention: Regional Leader – Monitoring and Peninsula and Christchurch-West Melton Zone patipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 wing the calendar year reported on. <u>The first</u> <u>cover the calendar year following the</u> <u>this resource consent.</u> This report shall also be the Christchurch City Council website and. The where appropriate:

the outcomes of monitoring, investigations and in accordance with Conditions 20, <del>21, 22,</del> 37, the one-off report required by Condition 47, and report required under Condition 48. This If be presented in such a way as to assess with the resource consent conditions and trigger is required;

|    | b. A summary of the C-CLM and results;  |                  | h              | A summary of the C-CLM and results and contaminant load  | (h)             | A summary of t   |
|----|---|------------------|----------------|--|-----------------|--|
|    | 5. A summary of the O OLW and results,  |                  | U.             | reduction targets set within SMPs, including any amendments<br>to the model and consequential changes to expected<br>contaminant load reductions;  | (0)             | to the model ar<br>contaminant loa                                   |
|    | c. A summary of any discussions, consultation or resp   | onses            | C.             | A summary of any discussions, consultation or responses  | (C)             |  |
|    | carried out under Conditions 49 - 51;   |                  |                | carried out under Conditions 49 - 51;  |                 | carried out und  |
|    | <ul> <li>d. A summary of Canterbury Regional Council records<br/>consent compliance and where any non-compliances<br/>consent occurred;</li> </ul>  |                  | d.             | A summary of Canterbury Regional Council records of consent<br>compliance and where any non-compliances of this consent<br>occurred;   | (d)             | A summary of C<br>compliance and<br>consent occurre                  |
|    | e. A summary of flood modelling results (if applicable) development in greenfield areas;  |                  | e.             | A summary of flood modelling results (if applicable) for development in greenfield areas;  | (e)             |  |
|    | f. The supply of updates to Schedule 1 where require  | ed;              | f.             | The supply of updates to Schedule 1 where required;  | (f)             | The supply of u  |
|    | g. An update on the timetable for construction and<br>activation of Christchurch City Council stormwater<br>mitigation systems for each SMP area, and/or any<br>changes to the implementation of SMP requirement  | ts:              | g.             | An update on the timetable for construction and activation of<br>Christchurch City Council stormwater mitigation systems for<br>each SMP area, and/or any changes to the implementation of<br>SMP requirements;  | (g)             | An update on th<br>Christchurch Ci<br>each SMP area<br>SMP requireme |
|    | h. Records of developments authorised under this con  |                  | h.             | Records of developments authorised under this consent;   | (h)             | Records of deve  |
|    | <ul> <li>Report on any collaboration with papatipu rūnanga<br/>and any activities relating to the protection or<br/>enhancement of-cultural mana whenua values;</li> </ul>  |                  | i.             | Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of mana whenua values;  | (i)             | Report on any c<br>activities relatin<br>whenua values               |
|    | <li>j. A summary of the stormwater quality investigations<br/>undertaken during the year;</li>  | 5                | j.             | A summary of the stormwater quality investigations<br>undertaken during the year;  | (j)             | A summary of the undertaken dur                                      |
|    | <ul> <li>k. A summary of any additional monitoring or investig<br/>undertaken beyond those specified in the EMP, ind<br/>those undertaken on industrial sites in accordance<br/><u>Condition 41</u>, that have been initiated to inform the<br/>Consent Holder on stormwater management<br/>effectiveness;</li> </ul> | luding<br>e with |                | A summary of any additional monitoring or investigations<br>undertaken beyond those specified in the EMP, including<br>those undertaken on industrial sites in accordance with<br>Condition 41, that have been initiated to inform the Consent<br>Holder on stormwater management effectiveness; | (k)             |  |
|    | L. Reporting of the alignment of the consent with<br>the Christchurch West Melton sub-regional<br>section.  |                  | Ι.             | Reporting of the alignment of the consent with the<br>Christchurch West Melton sub-regional section of the<br>Canterbury Land and Water Regional Plan;   | (I)             | Reporting of the<br>Christchurch W<br>Canterbury <u>LW</u>           |
|    | m. <u>Any changes to the regulatory framework that</u><br>may warrant changes to the SMPs.  |                  | m.             | Any changes to the regulatory framework that may warrant changes to the SMPs; and  | (m              | ) Any changes to changes to the                                      |
|    | n. Any complaints or monitoring regarding spring  | <u>S.</u>        | n.             | Any complaints or monitoring regarding springs. Any complaints or observations received by the Consent Holder regarding spring flow and/or quality.  | (n)             | Any complaints<br>Holder regardin                                    |
|    | ADMINISTRATION AND DURATION   |                  | ADMI           | NISTRATION AND DURATION  | ADM             | INISTRATION A  |
| 54 | The Consent Holder shall engage with papatipu rūnanga t<br>collaboratively consider the Conditions on a 5-yearly basis<br>the date of granting of this consent.   | o<br>from        | collat         | Consent Holder shall engage with papatipu rūnanga to<br>poratively consider the Conditions on a 5-yearly basis from the<br>of granting of this consent.  | collab          | Consent Holder sh<br>oratively consider<br>of granting of this       |
| 55 | The Canterbury Regional Council may, on any of the last<br>days of March or September each year, serve notice of its<br>intention to review the conditions of this consent for the<br>purposes of:  |                  | of Ma<br>revie | Canterbury Regional Council may, on any of the last five days arch or September each year, serve notice of its intention to w the conditions of this consent for the purposes of:  | March<br>the co | Canterbury Regior<br>or September ea<br>onditions of this <u>re</u>  |
|    | a. Dealing with any adverse effect on the environment<br>may arise from the exercise of this consent;   |                  | a              | . Dealing with any adverse effect on the environment which may rise from the exercise of this consent;   |                 | Dealing with an arise from the e                                     |
|    | b. Complying with the requirements of a relevant rule i operative regional plan.  | nan              |                | . Complying with the requirements of a relevant rule in an perative regional plan.   | (b)             | Complying with<br>operative region                                   |

f the C-CLM results and contaminant load gets set within SMPs, including any amendments and consequential changes to expected oad reductions;

any discussions, consultation or responses der Conditions 49 - 51;

Canterbury Regional Council records of consent nd where any non-compliances of this <u>resource</u> rred;

f flood modelling results (if applicable) for in greenfield areas;

updates to Schedule 1 where required;

the timetable for construction and activation of City Council stormwater mitigation systems for ea, and/or any changes to the implementation of nents;

evelopments authorised under this consent; / collaboration with papatipu rūnanga and any ing to the protection or enhancement of mana es;

the stormwater quality investigations uring the year;

any additional monitoring or investigations eyond those specified in the EMP, including ken on industrial sites in accordance with that have been initiated to inform the Consent rmwater management effectiveness;

he alignment of the consent with the West Melton sub-regional section of the WRP Land and Water Regional Plan;

to the regulatory framework that may warrant e SMPs; and

ts or observations received by the Consent ling spring flow and/or quality.

# AND DURATION

shall engage with papatipu rūnanga to ler the Conditions on a 5-yearly basis from the is **resource** consent.

onal Council may, on any of the last five days of each year, serve notice of its intention to review **resource** consent for the purposes of:

any adverse effect on the environment which may e exercise of this <u>resource</u> consent; th the requirements of a relevant rule in an onal plan;

|         | c. within 5 years of the Christchurch West Melton sub-<br>regional section being notified/operative. | c. Achieving consistency of this resource consent in regard to catchment management planning and stormwater management with the provisions of the Christchurch West Melton Sub-regional Section of the Canterbury Land and Water Regional Plan within five years of the notification of the sub-regional section. | (c) Achieving consi<br>catchment man<br>management w<br>Melton Sub-reg<br>and Water Reg<br>the sub-regiona |
|---------|--|---|--|
|         |  | <ul> <li>d. Ensuring that improvements of the quality of the stormwater<br/>discharge occur over the duration of this resource consent to<br/>reduce any adverse effect on the environment; or</li> </ul>   | (d) Ensuring that in<br>discharge occu<br>reduce any adv   |
|         |  | e. To provide alternative standards for the expected city-wide<br>percentage contaminant load reductions in Condition 16, or targets<br>for the contaminant load reductions set within SMPs that become<br>apparent through the C-CLM or alternative methods developed by<br>the Consent Holder.                  | (e) To provide alter<br>percentage con<br>targets for the o<br>that become ap<br>methods develo            |
| 56<br># | The duration of the consent is 25 years.   | The duration of the consent is 25 years.<br>Prior to the exercise of this resource consent, the following resource<br>consents shall be surrendered:<br>a. CRC120223<br>b. CRC131249  | Prior to the exercise of t<br>consents shall be surrer<br>(a) CRC120223; ar<br>(b) CRC131249 <u>.</u>      |
| #       |  | If this consent is not exercised before 31 March 2021, then it shall<br>lapse in accordance with Section 125 of the Resource Management<br>Act 1991.  | If this <u>resource</u> consent<br>2021 <u>4</u> , then it shall laps<br>Resource Management               |

nsistency of this resource consent in regard to anagement planning and stormwater with the provisions of the Christchurch West egional Section of the Canterbury <u>LWRP</u> Land

egional Plan within five years of the notification of nal section;

improvements of the quality of the stormwater cur over the duration of this resource consent to dverse effect on the environment; and

ternative standards for the expected city-wide contaminant load reductions in Condition 16, or e contaminant load reductions set within SMPs apparent through the C-CLM or alternative eloped by the Consent Holder.

f this resource consent, the following resource endered: and

ent is not <del>exercised</del> **<u>given effect to</u>** before 30 June ose in accordance with Section 125 of the nt Act 1991.

| References   | References   | References   |
|--|--|--|
| ANZECC (Australian and New Zealand Environment and<br>Conservation Council, ANZECC, and Agriculture and Resource<br>Management Council of Australia and New Zealand,<br>ARMCANZ), 2000. Australian and New Zealand guidelines for<br>fresh and marine water quality. Volume 1: The guidelines.<br>ANZECC & ARMCANZ, Artarmon, New South Wales.                     | ANZECC (Australian and New Zealand Environment and Conservation<br>Council, ANZECC, and Agriculture and Resource Management<br>Council of Australia and New Zealand, ARMCANZ), 2000. Australian<br>and New Zealand guidelines for fresh and marine water quality.<br>Volume 1: The guidelines. ANZECC & ARMCANZ, Artarmon, New<br>South Wales.                                   | ANZECC (Australian an<br>Council, ANZECC, and<br>of Australia and New Ze<br>Zealand guidelines for f<br>guidelines. ANZECC &                               |
| Crowe, A. & Hay, J. 2004. Effects of fine sediment on river biota.<br>Report No. 951, prepared for Motueka Integrated Catchment<br>Management Programme. Cawthron Institute, Nelson.<br>Canterbury Regional Council (2012). Regional Coastal<br>Environment Plan for the Canterbury Region – Volume 1<br>(amended 20 September 2012). Canterbury Regional Council. | ANZECC (Australian and New Zealand Environment and Conservation Council, ANZECC, and Agriculture and Resource Management Council of Australia and New Zealand, ARMCANZ) (2018). Australian and New Zealand guidelines for fresh and marine water quality. ANZECC & ARMCANZ, Artarmon, New South Wales. http://www.waterquality.gov.au/anz-guidelines. Accessed 22 November 2018. | ANZECC (Australian an<br>Council, ANZECC, and<br>of Australia and New Ze<br>Zealand guidelines for<br>ARMCANZ, Arta<br>http://www.waterquality.go<br>2018. |
| Canterbury Regional Council (20178). Canterbury Land and Water Regional Plan - Volume 1 (August 2017May 2018). Canterbury Regional Council, Christchurch.  | Crowe, A. & Hay, J. 2004. Effects of fine sediment on river biota.<br>Report No. 951, prepared for Motueka Integrated Catchment<br>Management Programme. Cawthron Institute, Nelson.   | Christchurch City Con<br>Memorandum of Und<br>Christchurch City.   |
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. S. L., Batley, G.E. & Chariton, A.A. (200013), ECC/ARMCANZ sediment quality guidelines. ter Science Report 08/07, prepared for the inability, Environment, Water, Population and Canberra, Australia, Schedule 1: Sites excluded from the Christchurch City Council Comprehensive Discharge Consent

# Sites excluded from the South West SMP Area

| Street Address            | Street Number | Legal Description  | CCC Prupi                         |
|---------------------------|---------------|--|-----------------------------------|
| Alloy Street              | 2             | Lot 2 DP 64248   | 704537                            |
| Ballarat Way              | 2             | Lot 1 DP 466471  | 618251                            |
| Ballarat Way              | 10            | Lot 2 DP 466471  | 618252                            |
| Blenheim Road             | 412           | Part Lot 3 DP 15178  | 466207                            |
| Blenheim Road             | 4/455         | Lot 1 DP 489573  | 923053                            |
| Branston Street           | 96            | Lot 2 DP 352288  | 587825                            |
| Canterbury Street         | 7             | Lot 10 DP 2899, Lot 9 DP<br>2899, Lot 11 DP 2899, Lot<br>12 DP 2899, Lot 1 DP<br>21916 | 716119                            |
| Carmen Road               | 106G          | Lot 3 DP 338441  | 582584                            |
| Chappie Place             | 17            | Lot 1 DP 443257  | 908779                            |
| Halswell Junction<br>Road | 515           | Lot 2 DP 358423, Lot 3 DP 358423   | 587860, 587861                    |
| Hayton Road               | 115           | Lot 3 DP 353897  | 585855                            |
| Hayton Road               | 137           | Lot 2 DP 343321  | 584430                            |
| Hayton Road               | 79 & 79A      | Lot 1 DP 481286, Lot 2 DP<br>481286  | 924341, 924342                    |
| Main South Road           | 222           | Lot 1 DP 14716, Lot 1 DP<br>51993  | 750576                            |
| Main South Road           | 243 & 245     | Pt Lot 2 DP 6604, RS<br>39034, Lot 1 DP 78344,<br>Lot 2 DP 78344                       | 516213, 520964,<br>408547, 510731 |
| McAlpine Street           | 18            | Lot 8 DP 36831   | 429004                            |
| McAlpine Street           | 67            | Lot 9 DP 30936   | 428578                            |
| Parkhouse Road            | 59            | Lot 1 DP 25818   | 485608                            |
| Springs Road              | 254           | Lot 1 DP 358423  | 587859                            |
| Waterloo Road             | 60            | Lot 1 DP 80063   | 407540                            |
| Wigram Close              | 15            | Lot 1 DP 51889, Lot 2 DP 324467  | 504628, 579847                    |
| Wigram Road               | 120           | Lot 2 DP 493335  | 625647                            |
| Wigram Road               | 122           | Lot 4 DP 475888  | 621028                            |
| Wigram Road               | 120A          | Lot 1 DP 493335  | 625646                            |
| Wilmers Road              | 10            | Lot 4 DP 20669   | 817675                            |
| Wilmers Road              | 50            | Lot 5 DP 447519  | 615860                            |
| Partial Site Exclusions   | <u> </u><br>; |  |                                   |
| Street Address            | Street Number | Legal Description  | CCC Prupi                         |
| Carmen Road               | 112           | Section 27 SO 459717   | 629404                            |
| Halswell Junction<br>Road | 600           | Lot 7 DP 404845  | 609872                            |
| Harvard Avenue            | 45            | Lot 1 DP 81480   | 565026                            |
| Main South Road           | 282           | Lot 10 DP 1391   | 750597                            |

# Sites excluded from the Pūharakekenui/Styx SMP Area

| Street Address      | Street Number | Legal Description                    | CCC Prupi      |
|---------------------|---------------|--------------------------------------|----------------|
| Barnes Road         | 79-87         | Lot 1 DP 346683                      | 586324         |
| Belfast Road        | 30            | Lot 2 DP 37063                       | 425217         |
| Broughs Road        | 6             | LOT 15 DP 36871                      | 814749         |
| Broughs Road        | 7             | LOT 2 DP 36871                       | 714473         |
| Broughs Road        | 15            | LOT 3 DP 36871                       | 804901         |
| Broughs Road        | 23            | LOT 4 DP 36871                       | 874832         |
| Cavendish Road      | 150           | Lot 2 DP 401108                      | 609557         |
| Cavendish Road      | 158           | Lot 1 DP 360822                      | 587685         |
| Dickeys Road        | 13            | Pt Lot 1 DP 23890, Lot 1 DP 25116    | 437651, 438723 |
| Export Avenue       | 1             | LOT 6 DP 83863                       | 861839         |
| Export Avenue       | 2             | LOT 2 DP 304904                      | 861835         |
| Export Avenue       | 3             | LOT 5 DP 83863                       | 861838         |
| Export Avenue       | 6             | LOT 3 DP 83863                       | 861836         |
| Export Avenue       | 8             | LOT 4 DP 83863                       | 861837         |
| Johns Road          | 480           | Sec 62 SO 460822                     | 620075         |
| Johns Road          | 530           | PT LOT 1 DP 51000                    | 870081         |
| Johns Road          | 544           | PT LOT 1 DP 23615                    | 857821         |
| Johns Road          | 550           | Sec 8 SO 494743, Sec 21 SO<br>494743 | 628638, 628647 |
| Johns Road          | 568           | LOT 2 DP 51000                       | 832492         |
| Johns Road          | 600           | PT RS 40862                          | 870083         |
| Logistic Drive      | 10            | LOT 10 DP 375764                     | 891559         |
| Logistic Drive      | 11            | LOT 9 DP 375764                      | 891558         |
| Logistic Drive      | 12            | LOT 1 DP 412022                      | 900821         |
| Logistic Drive      | 14            | LOT 12 DP 375764, LOT 2              | 900822         |
| Logistic Drive      | 15            | LOT 8 DP 375764                      | 891557         |
| Logistic Drive      | 16            | LOT 13 DP 375764                     | 891562         |
| Logistic Drive      | 17            | LOT 7 DP 375764                      | 891556         |
| Logistic Drive      | 18            | LOT 100 DP 412877                    | 900774         |
| Logistic Drive      | 19            | LOT 6 DP 375764                      | 891555         |
| Logistic Drive      | 20            | LOT 101 DP 412877                    | 900775         |
| Logistic Drive      | 21            | LOT 5 DP 375764                      | 891554         |
| Logistic Drive      | 23            | LOT 4 DP 375764                      | 891553         |
| Logistic Drive      | 24            | LOT 102 DP 412877                    | 900776         |
| Logistic Drive      | 25            | LOT 3 DP 375764                      | 891552         |
| Logistic Drive      | 26            | LOT 103 DP 412877                    | 900777         |
| Logistic Drive      | 27            | LOT 2 DP 375764                      | 891551         |
| Logistic Drive      | 28            | LOT 104 DP 412877                    | 900778         |
| Logistic Drive      | 29            | LOT 1 DP 375764                      | 891550         |
| Logistic Drive      | 31            | LOT 17 DP 375764                     | 891566         |
| Logistic Drive      | 15L           | LOT 19 DP 375764                     | 891573         |
| Logistic Drive      | 29L           | LOT 20 DP 375764                     | 891574         |
| Lower Styx Road     | 361           | Lot 1 DP 508689                      | 629529         |
| Mcleans Island Road | 2             | LOT 16 DP 375764                     | 891565         |
| Mcleans Island Road | 12            | LOT 15 DP 375764                     | 891564         |

| Mcleans Island Road | 14  | LOT 1 DP 304904   | 865337 |
|---------------------|-----|-------------------|--------|
| Mcleans Island Road | 16  | LOT 2 DP 79639    | 754142 |
| Nathan Place        | 1   | PT LOT 2 DP 55072 | 870082 |
| Nathan Place        | 7   | LOT 3 DP 55072    | 864585 |
| Nathan Place        | 11  | LOT 1 DP 70619    | 864584 |
| Radcliffe Road      | 301 | Lot 4 DP 313448   | 584569 |
| Sawyers Arms Road   | 527 | LOT 1 DP 55072    | 836526 |
| Sawyers Arms Road   | 530 | PT LOT 1 DP 51000 | 870081 |
| Sawyers Arms Road   | 533 | LOT 1 DP 45800    | 858525 |
| Sawyers Arms Road   | 540 | LOT 1 DP 36870    | 817420 |
| Sawyers Arms Road   | 565 | LOT 2 DP 64781    | 771301 |
| Sawyers Arms Road   | 575 | LOT 1 DP 64781    | 771302 |
| Spencerville Road   | 25  | Lot 2 DP 53987    | 419068 |
| Turners Road        | 50  | Lot 3 DP 83312    | 568085 |
| Wairakei Road       | 656 | Lot 1 DP 6411     | 414964 |

Schedule 2: Christchurch Contaminant Load Model

#### Schedule 3: General City Conditions – Water Quality and Quantity

This table indicates minimum requirements to enable discharges under this consent from greenfield developments and re-developments in areas not yet covered by a Stormwater Management Plan. Until 1 January 2025, for any development where the Christchurch City Council (CCC) considers there are factors that require Canterbury Regional Council input it can choose to not accept a proposed discharge to its network, and therefore a consent from the Regional Council would be required. The CCC may also require a higher standard than is represented in the table below in order to mitigate effects on the network or if any special conditions exist.

| Source of Stormwater Discharge(s)                                  | SMALL SITES   | LARGE SITES  |
|--|---|--|
|  | Total area of disturbance does not exceed 1,000m <sup>2</sup>   | Total area of disturbance equals, or is greater than 1,000m <sup>2</sup>   |
| From/during land disturbance activities                            |   |  |
|  | Erosion and Sediment Control Plan is required   | Erosion and Sediment Control Plan is required  |
| From new / re-development residential roof and hardstand areas     | No discharge onto or into land where average site slope exceeds 5 degrees   | No discharge onto or into land where average site slope excee  |
|  | Sumps collecting runoff from new hardstand areas shall be fitted with submerged or trapped outlets wherever practicable   | First flush treatment is required for stormwater runoff from new copper or uncoated galvanised metal roofs or guttering/spoutin    |
|  | An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required for sites in the flat**  | An assessment of water quantity effects and provision of on-sit for sites in the flat**  |
|  | On-site rain water storage is required for new and redevelopment sites on the hills   | On-site rain water storage is required for new and redevelopm  |
| From new / re-development non-residential roof and hardstand areas | No discharge onto or into land where average site slope exceeds 5 degrees   | No discharge onto or into land where average site slope excee  |
|  | First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m <sup>2</sup> , buildings with copper or uncoated galvanised roofs or guttering/spouting and high-use sites | First flush treatment is required for stormwater runoff from new<br>or uncoated galvanised roofs or guttering/spouting and high-us |
|  | An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required**  | An assessment of water quantity effects and provision of on-sit required**   |
|  | Site management and spill procedures required for sites that engage in hazardous activities***  | Site management and spill procedures required for sites that e   |
|  |   |  |

\* CCC has discretion to waive the requirement for first flush treatment of hardstand areas on large residential sites where the amount of pollution-generating hardstand being added is considered to have less than minor effect. "Uncoated" means without a painted or enamelled coating. \*\* Quantity assessment and mitigation - The effects of the discharge on stormwater network capacity and/or the extent or duration of flooding on downstream properties are to be assessed. Where CCC considers an increase (including cumulative increases) has a more than minor effect, onsite stormwater attenuation or stormwater network upgrade shall be provided. The details of storage volume and peak discharges or network capacity required to mitigate effects on flooding or network capacity constraints shall be determined by the Christchurch City Council Planning Engineer. \*\*\* Site management and spill procedures - Procedures are to be implemented to prevent the discharge of hazardous substances or spilled contaminants discharging into any land or surface waters via any conveyance path.

eeds 5 degrees

ew hardstand areas in excess of 150m<sup>2</sup> and buildings with uting\*

-site stormwater storage or network upgrade may be required

ment sites on the hills

eeds 5 degrees

ew hardstand areas in excess of 150m<sup>2</sup>, buildings with copper -use sites

-site stormwater storage or network upgrade may be

t engage in hazardous activities\*\*\*

#### 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.

| Objective  | Attribute   | Attribute Target Level   | Basis  |
|--|---|--|--|
| Enhance ecological<br>values Ecological values are at<br>acceptable levels Adverse<br>effects on ecological values<br>do not occur due to<br>stormwater inputs   | QMCI  | Lower limit QMCI scores:<br>• Spring-fed – plains – urban waterways: 3.5<br>• Spring-fed – plains waterways: 5<br>• Banks Peninsula waterways: 5   | QMCI is an indicator of aquatic ecolor<br>indicative of better quality habitats, d<br>sensitive species. QMCI scores are to<br>the LWRP (Canterbury Regional Cour<br>wadeable sites and should therefore<br>sites. These targets can be achieved<br>and waterway restoration.  |
| Decrease sediment input to<br>prevent adverse effects on water<br>clarity and aquatic biota Adverse<br>effects on water clarity and<br>aquatic biota do not occur due<br>to sediment inputs                          | Fine sediment (<2 mm diameter)<br>percent cover of stream bed<br>TSS concentrations in surface<br>water | <ul> <li>Upper limit fine sediment percent cover of stream bed:</li> <li>Spring-fed – plains – urban waterways: 30%</li> <li>Spring-fed – plains waterways: 20%</li> <li>Banks Peninsula waterways: 20%</li> <li>Upper limit concentration of TSS in surface water: 25 mg/L<br/>during base flow, and 100 mg/L during wet weather</li> <li>No statistically significant increase in TSS concentrations in<br/>surface water</li> </ul>   | Sediment (particularly from construct<br>water, and can negatively affect the<br>primary productivity within streams, i<br>smothering of food supply, and can d<br>sediment cover Target Levels are ta<br>Styx and South-West Stormwater Ma<br>based on Table 1a of the LWRP (Ca<br>These targets should be used with ca<br>soft-bottom channels. These targets<br>contaminant loads (particularly using<br>instream sediment removal. |
| Reduce copper, lead and zinc<br>levels in surface water to prevent<br>adverse effects on aquatic<br>biotaAdverse effects on<br>aquatic biota do not occur due<br>to copper. lead and zinc inputs<br>in surface water | Zinc, copper and lead<br>concentrations in surface water  | <ul> <li>Upper limit concentration of dissolved zinc:</li> <li> <ul> <li>Ōtākaro/ Avon River catchment: 0.0297 mg/L</li> <li>Ōpāwaho/ Heathcote River catchment: 0.04526 mg/L</li> <li><u>Cashmere Stream: 0.00724 mg/L</u></li> <li>Huritini/ Halswell River catchment: 0.01919 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.01214 mg/L</li> <li>Ōtukaikino River catchment: 0.00868 mg/L</li> <li>Linwood Canal: 0.146 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> </ul> </li> </ul>      | These metals can be toxic to aquatic<br>things as fecundity, maturation, resp<br>The CCC has developed these hard<br>accordance with the methodology in<br>Environment and Conservation Cour<br>Management Council of Australia an<br>guidelines, and the species protectio<br>LWRP (Canterbury Regional Counci<br>be provided on request. These targe<br>reducing contaminant loads.  |
|  |   | <ul> <li>Upper limit concentration of dissolved copper:</li> <li> <ul> <li>Ōtākaro/ Avon River catchment: 0.00356 mg/L</li> <li>Ōpāwaho/ Heathcote River catchment: 0.00543 mg/L</li> <li><u>Cashmere Stream: 0.00302 mg/L</u></li> <li>Huritīni / Halswell River catchment: 0.00336 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.00212 mg/L</li> <li>Ōtukaikino River catchment: 0.00152 mg/L</li> <li>Linwood Canal: 0.0175 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> </ul> </li> </ul> |  |

# sis for Target

cological health, with higher numbers s, due to a higher abundance of more re taken from the guidelines in Table 1a of Council, 20178). This metric is designed for ore be used with caution for non-wadeable ved through reducing contaminant loads

ruction) can decrease the clarity of the he photosynthesis of plants and therefore s, interfere with feeding through the an clog suitable habitat for species. These te taken from the standards for the original Management Plan consents, and are Canterbury Regional Council, 20178). h caution at sites that likely naturally have ets can be achieved through reducing sing erosion and sediment control) and

atic organisms, negatively affecting such espiration, physical structure and behaviour. ardness modified trigger values in r in the 'Australian and New Zealand ouncil, and Agriculture and Resource and New Zealand' (ANZECC, 2000) ction level relevant to each waterway in the ncil, 20178). This calculation document can rgets can be achieved primarily through

| Objective  | Attribute  | Attribute Target Level  | Basi  |
|--|--|---|---|
|  |  | <ul> <li>Upper limit concentration of dissolved lead:</li> <li> <ul> <li>Ōtākaro/ Avon River catchment: 0.01554 mg/L</li> <li>Ōpāwaho/ Heathcote River catchment: 0.02916 mg/L</li> <li>Cashmere Stream: 0.00521 mg/L</li> <li>Huritīni / Halswell River catchment: 0.01257 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.00634 mg/L</li> <li>Ōtukaikino River catchment: 0.00384 mg/L</li> <li>Linwood Canal: 0.167 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> </ul> </li> <li>No statistically significant increase in copper, lead and zinc concentrations</li> </ul> |   |
| Reduce nutrient levels to limit<br>excessive growth of macrophytes<br>and filamentous algae<br>growth of macrophytes and<br>filamentous algae does not<br>occur due to nutrient inputs             | Total macrophyte and<br>filamentous algae (>20 mm<br>length) cover of stream bed | <ul> <li>Upper limit total macrophyte cover of the stream bed:</li> <li>Spring-fed – plains – urban waterways: 60%</li> <li>Spring-fed – plains waterways: 50%</li> <li>Banks Peninsula waterways: 30%</li> <li>Upper limit filamentous algae cover of the stream bed:</li> <li>Spring-fed – plains – urban waterways: 30%</li> <li>Spring-fed – plains waterways: 30%</li> <li>Banks Peninsula waterways: 20%</li> </ul>   | Macrophyte and algae cover are in<br>Targets are taken from Table 1a of<br>20178). Improvement towards thes<br>nutrient concentrations and riparian   |
| Improve instream sediment<br>quality to prevent adverse effects<br>on aquatic biota Adverse effects<br>on aquatic biota do not occur<br>due to zinc. copper. lead and<br>PAHs in instream sediment | Zinc, copper, and lead and<br>PAHs concentrations in instream<br>sediment        | <ul> <li>Upper limit concentration of total recoverable metals for all classifications:</li> <li>Copper = 65 mg/kg dry weight</li> <li>Lead = 50 mg/kg dry weight</li> <li>Zinc = 200 mg/kg dry weight</li> <li>Total PAHs = 4 <u>10</u> mg/kg dry weight</li> </ul> No statistically significant increase in copper, lead, zinc and Total PAHs   | Meta Metals can bind to sediment<br>negatively affecting biota. These tr<br>ANZECC (2000) guidelines (ANZE<br>These targets can be achieved thro<br>instream sediment removal.  |
| Enhance mana whenua<br>freshwater values Mana whenua<br>freshwater values are at<br>acceptable levels Adverse<br>effects on Mana Whenua<br>values do not occur due to<br>stormwater inputs         | Waterway Cultural Health Index<br>and State of Takiwā scores                     | <ul> <li>Lower limit averaged Waterway Cultural Health Index and<br/>State of Takiwā scores for all classifications:</li> <li>Spring-fed – plains – urban waterways: TBC-B</li> <li>Spring-fed – plains waterways: TBC-B Banks<br/>Peninsula waterways: TBC-B</li> </ul>  | The Waterway Cultural Health Inde<br>of environmental health, such as m<br>are on a scale of 1 - 5, with higher<br>No guidelines are available current<br>these targets will be developed spe<br>targets for waterways with higher v<br>through reducing contaminant load |

indicators of the quality of aquatic habitat. of the LWRP (Canterbury Regional Council, lese targets can be achieved by reduction in rian planting to shade the waterways.

nt and remain in waterways, potentially e trigger values are based on the <del>ISQG-low</del> ZECC. 2018: StuartSimpson et al. 2013). hrough reducing contaminant loads and

idex assesses cultural values and indicators is mahinga kai (food gathering). These indices er scores indicative of greater cultural values. ently for the different types of waterways, so specifically for this consent, with higher r values. These targets can be achieved ads 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   |
|--|--|--|---|
| Reduce sediment input to prevent<br>adverse effects on water clarity and<br>aquatic biota Adverse effects on<br>water clarity and aquatic biota do<br>not occur due to sediment inputs                       | TSS concentrations in surface water                        | No statistically significant increase in<br>TSS concentrations   | Elevated levels of TSS in the water column dec<br>adversely affect aquatic plants, invertebrates a<br><del>1991)</del> . For example, sediment can affect photo<br>productivity, interfere with feeding through the<br>suitable habitat for species (Crowe & Hay, 200<br>available for this parameter, so no change i<br>conservative. The target will be achieved by rusing erosion and sediment control measures)   |
| Decrease copper, lead and zinc levels<br>in water to prevent adverse effects on<br>aquatic biota Adverse effects on<br>aquatic biota do not occur due to<br>copper. lead and zinc inputs in<br>surface water | Copper, lead and zinc concentrations<br>in surface water   | Maximum dissolved metal<br>concentrations for all classes (with the<br>exception of the Operational Area of<br>the Port of Lyttelton):<br>• Copper: 0.005 0.0013 mg/L<br>• Lead: 0.005 0.0044 mg/L<br>• Zinc: 0.05 0.015 mg/L<br>No statistically significant increase in<br>copper, lead and zinc concentrations<br>(with the exception of the<br>Operational Area of the Port of<br>Lyttelton) | Metals, in particular, copper, lead and zinc, car<br>negatively affecting such things as fecundity, n<br>and behaviour (Harding, 2005). Site specific or<br>Environment Plan for the Canterbury Region (C<br>plan specifically details that this guideline is no<br>Port of Lyttelton. These targets are taken from<br>the protection of 95% of species. Theis Ope<br>area is affected by direct discharges from boat<br>of stormwater difficult, therefore the targets a<br>targets will be achieved by reducing contamina |
| Enhance mana whenua coastal<br>values <mark>Mana whenua coastal values</mark><br>are at acceptable levelsAdverse<br>effects on Mana Whenua values do<br>not occur due to stormwater<br>inputs                | Marine Cultural Health Index and State<br>of Takiwā scores | Minimum averaged Marine Cultural<br>Heath Index and State of Takiwā<br>scores for all classes:<br>• TBC-B  | The Marine Cultural Health Index and State of<br>and indicators of environmental health, such as<br>indices are on a scale of 1 - 5, with higher scor<br>No guidelines are available currently for coasta<br>specifically for this consent. These targets can<br>contaminant loads.   |

# r Target

decrease the clarity of the water and can s and fish-(Crowe & Hay, 2004; Ryan, btosynthesis of plants and therefore primary ie smothering of food supply, and can clog 004; Ryan, 1991). There is no guideline in concentrations is proposed to be y reducing contaminant loads (particularly es).

can be toxic to aquatic organisms, , maturation, respiration, physical structure criteria are set out in the Regional Coastal (Canterbury Regional Council, 2012). The not relevant for the Operational Area of the rom the ANZECC (2000) guidelines for perational Area of the Port of Lyttelton bats that will make monitoring of the effects are not applicable to this area. These inant loads.

of Takiwā scores assesses cultural values as mahinga kai (food gathering). These cores indicative of greater cultural values. stal areas, so this target will be developed an be achieved through reducing 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 Tar   |
|--|--|---|---|
| Protect drinking water<br>quality  | Copper, lead, zinc and<br><i>Escherichia coli</i><br>concentrations in drinking<br>water | Concentration to not exceed: <ul> <li>Dissolved Copper: 0.5 mg/L</li> <li>Dissolved Lead: 0.0025 mg/L</li> <li>Dissolved Zinc:0.375 mg/L</li> </ul> <li>No statistically significant increase in the concentration of <i>Escherichia coli</i> at drinking water supply wells</li> | The most important use of Christchurch groundwater is the supply. Contaminants in stormwater that infiltrate into the groupply wells and/or springs. The compliance criteria for a perspecified in the Drinking-Water Standards for New Zealand chosen for these targets, as these are contaminants present and lead are a quarter of the Maximum Acceptable Value (NDrinking Water Standards for New Zealand 2005 (revised 2) before the water quality limits in the LWRP are exceeded, w 50% of the MAV. An equivalent criteria has also been applied the LWRP water quality limits, but has a guideline in the driver. |
| Avoid widespread<br>adverse effects on<br>shallow groundwater<br>quality | Electrical conductivity in groundwater   | No statistically significant increase in<br>electrical conductivity   | Contaminants in stormwater that infiltrate into the ground co<br>groundwater quality at monitoring wells is undertaken by Ca<br>points that occur within the urban area could be impacted b<br>Electrical conductivity is to be used as an indicator for ident<br><u>quality related to rechargemetals (particularly copper, lea</u>  |

# arget

ne supply of the urban reticulated drinking water ground could impact on the quality of water potable and wholesome water supply are nd 2005 (Revised 2008). Metals and *E.coli* were ent in stormwater. The target values for copper (MAV) or Guideline Value (GV) taken from the 2008). This is to ensure investigations occur , which are that concentrations are not to exceed plied to the zinc target, which is not included in drinking water standards.

could impact on groundwater quality. Long term Canterbury Regional Council. Those monitoring I by CCC stormwater management activities. entifying <u>any general</u> changes in <u>groundwater</u> coad, zinc).

-

# **MODELLED CATCHMENTS**

Objective for the management of stormwater quantity:

To mitigate the risk of inundation, damage to downstream property or infrastructure or human safety through management of stormwater run-off volumes and will be measured against the attribute target levels for each receiving environment.

Attribute Target Level: Modelled flood levels for the 2% AEP for the assessment year critical duration event shall not increase more than the Maximum Increase modelled 2% AEP for the baseline year impervious scenario critical duration, as determined using CCC flood models. The baseline year scenario and assessment for changes to the impervious area, mitigation measures and the inclusion of any new network(s) that has arisen between the dates of the two scenario variant scenario parameters shall be as at the assessment year scenario. The critical duration shall be assessed at the monitoring location of the attribute tar

| Receiving Environment           | Monitoring Location       | Baseline Year | <u>Maxi</u> |
|---------------------------------|---------------------------|---------------|-------------|
| Ōtākaro/ Avon River             | Gloucester Street Bridge  | 2014          |             |
| Püharakekenui/ Styx River       | Harbour Road Bridge       | 2012          |             |
| <u>Ōpāwaho/ Heathcote River</u> | Ferniehurst Street        | <u>1991</u>   |             |
| Huritīni / Halswell River       | Minsons Drain confluence* | <u>2016</u>   |             |
|                                 |                           |               |             |

# NON-MODELLED CATCHMENTS

| Receiving Environment     | Attribute Target Level  | Basis for Target   |   |
|---------------------------|---|--|---|
| Ōtukaikino River          | Discharges from all new greenfield development into the<br>Christchurch City Council network are mitigated using the<br>"Partial Detention" strategy outlined in the Pūharakekenui/<br>Styx SMP <u>until such time as a monitoring location can</u><br><u>be set during review of the SMP</u> | As measured through the CCC discharge<br>authorisation compliance process for Resource<br>and Building Consents <u>until such time as an</u><br><u>Baseline Year can be set during review of</u><br><u>the SMP</u> | CCC does not monitor or<br>just begun monitoring th<br>Council does not curren<br><u>River.</u> Flooding occurs pr<br>Waimakariri River. Theref<br>of development will be im<br><u>Increase can be set duri</u> |
| Banks Peninsula (Various) | Discharges from all new greenfield development within<br>settlement areas of Te Pātaka o Rākaihautū/ Banks<br>Peninsula into the Christchurch City Council Network are<br>mitigated using the "Extra-Over Detention" strategy   | As measured through the CCC discharge<br>authorisation compliance process for Resource<br>and Building Consents  | Receiving environments v<br>Peninsula Settlements are<br>"Extra-Over Detention" is<br>sites back to pre-developr<br>of flooding and waterway<br>practice approach to mitig                                      |

\* The Minsons Drain confluence with the Huritini/Halswell River represents the southerly extent of inputs from Christchurch City catchments, but also contains discharges from Selwyn District. Inputs from catchments outside of the city shall be isolated in the CCC stormwater model for compliance assessment purposes.

| d peak flows. The degree of mitigation  |
|---|
| ise listed below when compared to the<br>ment year scenario shall be identical<br>ios and within the city limits. All non-<br>rget level.   |
| <u>ximum Increase (mm)</u>  |
| <u>50</u>   |
| <u>120 <del>00 +/- 20%</del></u>  |
| <u>30</u>   |
| <u>0</u>  |
|   |
| Notes   |
| r model flooding in the Otukaikino River has<br>the Ōtūkaikino at Dickeys Road Bridge.<br>ently model flooding in the Ōtūkaikino<br>primarily due to backwater effects in the<br>efore, a best practice approach to mitigation<br>mplemented until such time as Maximum<br>tring review of the SMP. |
| within Te Pātaka o Rākaihautū/ Banks<br>are primarily coastal. The strategy behind<br>s to mitigate peak flows from development<br>pment flow rates in order to mitigate effects<br>y channel erosion. Therefore, a best<br>igation of development will be implemented.                             |
|   |

CRC190445 – A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments ('Clean Version')

# CRC190445 A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments

Advisory Note: The following conditions for the Christchurch City Comprehensive Stormwater Network Discharge Consent have been prepared according to the agreed practices of the Joint Christchurch City Council & Canterbury Regional Council Stormwater Management Protocol, Report U10/12 (**the Protocol**). The Protocol establishes how Canterbury Regional Council and Christchurch City Council will work together to achieve integrated catchment wide stormwater management in Christchurch. The Protocol records the understanding between Canterbury Regional Council and Christchurch City Council but does not create legal obligations that are enforceable by either party. Appendix 4 of the Protocol sets out responsibilities pertaining to compliance and operations and notes the role of the Water Issues Management (**WIM**) Group in any enforcement matters.

For the purpose of this consent the following definitions and abbreviations apply to all conditions:

**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.

**area of disturbance** means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.

**Banks Peninsula** means the area within Banks Peninsula as defined by the operative Christchurch District Plan (or successor).

Best Practicable Option is as defined under the Resource Management Act 1991.

**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 these conditions as Schedule 5.

**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 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% AEP design storm event.

**facility** means a constructed method of holding or attenuating stormwater, at a larger scale than a device, 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:

- (a) the stormwater runoff generated from the first 25 millimetres of rain falling on impervious areas of a site; or
- (b) the stormwater flow rate generated from up to 5mm/hr rainfall intensity on impervious areas of a site; or
- (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.

flat land means any land where the average slope across the site is 5 degrees or less.

**greenfield** means agricultural, forest or grass land that is to be used for urban purposes, for example construction of residential or industrial subdivision, buildings, roads and associated services.

high-use site means a site that:

- (a) has an expected average daily traffic (ADT) count equal to or greater than 250 vehicles per day; or
- (b) is used for petroleum storage or transfer in excess of 5,000 litres per year, not including delivered heating oil; or
- (c) is used for storage or maintenance of 10 or more heavy vehicles (trucks, buses, trains, heavy equipment, etc.).

hill land means any land where the average slope across the site exceeds 5 degrees.

industrial site means:

- (a) any premises used for the manufacturing, assembly, wholesaling or storage of products or the processing of raw materials and other ancillary activities; or
- (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
- (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.

**Industry Liaison Group** means a group of representatives from various industries, which will include the Oil Industry Environmental Working Group, Lyttelton Port Company and

Ravensdown Limited, invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.

LWRP means Canterbury Land and Water Regional Plan.

**papatipu rūnanga** means the six Ngāi Tahu Papatipu Rūnanga within the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke/ Rāpaki Rūnanga, Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga, as represented by Mahaanui Kurataiao Ltd or its successor organisation.

**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% AEP design storm event.

QMCI means Quantitative Macroinvertebrate Community Index.

**re-development** means a change to a developed site or a site activity that results in a stormwater discharge that has the potential to increase the scale, intensity or contaminant content of the discharge that existed prior to the commencement of this resource consent.

**River Care Liaison Group** means a group of representatives from organisations with a particular interest in the protection and restoration of the natural environment of the Christchurch rivers and their tributaries including wetlands, and that are invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.

**Settlement Areas of Banks Peninsula** means those areas within Banks Peninsula that are within the following zones, or equivalent zones if they are renamed, under the Christchurch District Plan:

- Residential Banks Peninsula
- Residential Small Settlement
- Residential Large Lot
- Commercial Banks Peninsula
- Open Space Metropolitan Facilities
- Specific Purpose (Lyttleton Port)
- Industrial General
- Specific Purpose (School)
- Specific Purpose (Cemetery)
- Open Space Community Parks.

**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 water and entrained contaminants arising from precipitation on the external surface of any structure or any land modified by human action, and that has been channelled, diverted, intensified or accelerated by human intervention. Stormwater excludes discharges of groundwater, spilled or deliberately released hazardous substances and/or washdown activities.

**stormwater network** means a network owned or operated by the Christchurch City Council of pipes, swales, drains, kerbs and channels that collects stormwater, and includes any device or facility owned or operated by the Christchurch City Council for the treatment of stormwater, prior to a discharge to land, groundwater or surface water. Stormwater network excludes any system that has been constructed for the primary purpose of collection, conveyance or discharge of groundwater.

Sub-catchment means part of a catchment.

**surface water** means water in rivers, watercourses and artificial waterbodies, lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.

**TSS** means Total Suspended Solids.

**WIM** means the Water Issues Management Group, or its successor. The WIM 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 'Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)'.

#### ACTIVITY

#### **Purpose and Location**

- 1. Except where excluded under Condition 2, this consent authorises the discharge of stormwater onto or into land or into surface water which:
  - (a) is generated from within the territorial boundaries of Christchurch City Council; or
  - (b) enters the stormwater network from outside the Christchurch City Council boundary.

#### Exclusions

- 2. This consent excludes discharges:
  - (a) Emanating from land within Banks Peninsula that is outside the Settlement Areas of Banks Peninsula; and
  - (b) From private stormwater systems that bypass the stormwater network (owned and operated by Christchurch City Council) and discharge into the Coastal Marine Area; and
  - (c) Emanating from hardstand areas of non-residential existing sites discharging onto or into land via private networks unless the discharge has been previously authorised by the Christchurch City Council; and

(d) From any activity not existing at the commencement of this resource consent, redevelopment, or development site on the Canterbury Regional Council's Listed Land Use Register that is considered by the Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination; and

Advice Note: The identification of unacceptable high risk will be in the manner required by the Memorandum of Understanding for Stormwater Discharges in Christchurch City (2014), or successor document, between the Christchurch City Council and Canterbury Regional Council until a risk matrix is finalised under Condition 3 below.

- (e) Emanating from any stage of a development site with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land; and
- (f) From any site listed on the attached Schedule 1 'Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent'
  - (i) at commencement of this resource consent; or
  - (ii) as a result of the process set out in Condition 3 below; or
  - (iii) as a result of the process set out in Condition 47.

# **Transitional Arrangements**

- 3. Discharge into the stormwater network from the sites excluded by Conditions 2(d), 2(e) or 2(f) are authorised under this consent on 1 January 2025, or when current discharge permits expire or are surrendered for those sites, whichever is the latest, unless through the transitional arrangements set out below, or through the audits described in Condition 47, the Consent Holder determines that the discharge poses an unacceptably high risk of surface water or groundwater contamination. The transitional arrangements are:
  - (a) Within 6 months of the commencement of this resource consent, the Consent Holder shall engage with the Canterbury Regional Council to obtain full details of all of the consented discharges excluded from this consent until 2025, including information on site activities, conditions and compliance records;
  - (b) Within 30 months of the commencement of this resource consent, the Consent Holder shall draft a risk matrix used to identify and rate the risk associated with each of the stormwater discharges where information has been provided under Condition 3(a), and those discharges described in Condition 2(d) and 2(e). The risk matrix shall be developed as follows:
    - Within 18 months of the commencement of this consent, the Consent Holder shall prepare a draft risk matrix and provide it to the Industry Liaison Group for comment;
    - (ii) The Consent Holder shall invite the Industry Liaison Group to provide comment within 2 months of providing the draft risk matrix to them for comment;
    - (iii) Within 3 months of receiving the comment referenced in Condition 3(b)(ii), the Consent Holder shall prepare a memo and/or revised risk matrix

addressing that comment and circulate it to the Industry Liaison Group along with an invitation to an Industry Liaison Group meeting;

- (iv) Within one month of the meeting held under Condition 3(b)(iii), the Consent Holder shall circulate minutes, including points of agreement and disagreement between the parties;
- (v) Any changes to the draft risk matrix shall be provided to the Industry Liaison Group for feedback no less than 2 months prior to being submitted to Canterbury Regional Council.
- (c) Within 3 years of the commencement of this consent, the Consent Holder shall provide to the Canterbury Regional Council a Transition Plan for the discharges excluded by Conditions 2(d), 2(e) and 2(f) that includes, but is not limited to:
  - a description of the regulatory methods that will be used by the Consent Holder to ensure that previously excluded discharges will be subject to standards that achieve required environmental outcomes as described in Condition 3(e);
  - (ii) the risk matrix prepared under Condition 3(b);
  - (iii) a description of site-specific monitoring plans for particular sites from which the discharge is rated high in the risk matrix;
  - (iv) a description of the process that the Consent Holder will use to determine, in collaboration with Canterbury Regional Council and through engagement with affected site owners and/or operators, whether a site will remain excluded from authorisation under this consent due to its discharge posing an unacceptably high risk of surface water or groundwater contamination;
- (d) if as a result of the risk matrix and process set out in Condition 3(b) it is determined that the discharge poses an unacceptably high risk of surface water or groundwater contamination then that discharge will remain excluded from this consent and listed on the attached Schedule 1;
- (e) the Consent Holder shall ensure that all other sites referred to in Condition 3(a) are, from the date on which the discharges are authorised under this resource consent, subject to standards that result in the same or better 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.

Advice note: Discharge into the stormwater network will still require approval from Christchurch City Council, as owner and operator of the stormwater network, following the surrender or expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.

#### **Stormwater Management Plans**

4. The Consent Holder shall, in consultation with papatipu rūnanga, Department of Conservation, 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 and submit each SMP to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance for certification that it contains the matters required by Condition 7 and is consistent with the purpose of SMPs in Condition 6.

- 5. SMPs shall be reviewed and submitted for certification to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance every 10 years from the date of the certification of the SMP, except that:
  - (a) the Styx SMP shall be reviewed and submitted by 30 June 2023, and then 10 yearly after its certification; and
  - (b) the Halswell SMP shall be reviewed and submitted by 30 June 2021, and then 10 yearly after its certification.

| SMP Area  | Date SMP<br>Operative | Date Submitted to Canterbury<br>Regional Council     |
|---|-----------------------|--|
| Ōtākaro/ Avon River Area<br>Christchurch                |                       | Within 36 months of the commencement of this consent |
| Pūharakekenui/ Styx River<br>Area Christchurch          | 30 June 2014          |  |
| Huritīni / Halswell River Area<br>Christchurch          | 30 June 2016          |  |
| Ōpāwaho/ Heathcote River<br>Area Christchurch           |                       | Within 18 months of the commencement of this consent |
| Estuary and Coastal Area<br>Christchurch                |                       | Within 24 months of the commencement of this consent |
| Outer Area Christchurch                                 |                       | Within 30 months of the commencement of this consent |
| Te Pātaka o Rākaihautū /<br>Banks Peninsula Settlements |                       | Within 36 months of the commencement of this consent |

#### Table 1: SMP Programme

- 6. The purpose of the SMPs is to:
  - (a) Contribute to meeting the overall contaminant load reduction standards set in Condition 19 and 20;
  - (b) Set a contaminant load reduction target(s), for each catchment in that SMP area in order to demonstrate the commitment of the Consent Holder to the improvement of stormwater discharge quality over time;
  - (c) 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 7 to 10;

- Provide for discharge of stormwater to land infiltration systems where reasonably practicable as the means to demonstrate that stormwater contribution to groundwater and spring-fed stream flows will be maintained;
- (e) 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 will 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% AEP Event;
- (f) Plan the works required to mitigate the effects of stormwater discharges to the extent required by this resource consent;
- (g) Implement the conditions of this consent as they apply to each catchment, including the best practicable option for weed management in the Pūharakekenui/Styx River as determined under Schedule 4(x).
- SMPs submitted to Canterbury Regional Council after the commencement of this resource consent shall include but not be limited to the information set out in Schedule 2.
- 8. Prior to submitting a SMP or any reviewed SMP, or amendment to a SMP to the Canterbury Regional Council, other than one agreed with Canterbury Regional Council as making minor changes and corrections, the Consent Holder shall:
  - (a) In early development stages for a possible SMP, provide a briefing to and invite comments from:
    - (i) papatipu rūnanga;
    - (ii) The relevant Zone Committee(s) (or successor organisation);
    - (iii) The relevant Community Board(s) (or successor organisation); and
    - (iv) The Department of Conservation.
  - (b) Following completion of a draft SMP, provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:
    - (i) papatipu rūnanga;
    - (ii) The relevant Zone Committee(s) (or successor organisation);
    - (iii) The relevant Community Board(s) (or successor organisation); and
    - (iv) The Department of Conservation.
- 9. The Consent Holder shall amend the SMPs as it considers necessary to respond to:
  - (a) the results of the Christchurch Contaminant Load Model (C-CLM) and contaminant load reduction targets set within the SMPs, or any revisions thereof;
  - (b) The results of monitoring, including any investigations or outcomes in relation to the responses to modelling and monitoring under Conditions 56-59;

- (c) Outcomes of investigations and trials carried out under Conditions 39 and 40 and Schedules 3 and 4;
- (d) Any changes to relevant national, and/or regional planning documents including those that result from the LWRP sub-regional chapter development process;
- (e) The use of new technologies, new opportunities for additional mitigation (such as for infill areas or retro-fit) or new constraints on the implementation of mitigation due to changes in developer plans; and
- (f) New environmental data and research including updated international and national best practice technologies.
- 10. Any amendments to SMPs, other than those agreed with Canterbury Regional Council as making minor changes and corrections, shall not replace the previous version until the amendments have been certified by the Canterbury Regional Council as containing the matters required by Condition 7 and as being consistent with the purpose of SMPs in Condition 6.

#### Implementation Plan

- 11. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in Condition 12. An Implementation Plan shall be:
  - Prepared by the Consent Holder, through engagement with papatipu rūnanga under Condition 13(a), and with the Department of Conservation, within 18 months after the commencement of this resource consent;
  - (b) Updated to give effect to new, reviewed or amended SMPs within 12 months of SMPs being certified;
  - (c) Reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and
  - (d) Made available to Canterbury Regional Council and papatipu rūnanga on request.
- 12. The Implementation Plan shall include but not be limited to:
  - (a) A list and map of proposed stormwater mitigation methods and devices;
  - (b) A programme of stormwater works for Christchurch City Council and anticipated private development;
  - (c) A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, including activities undertaken under Conditions 39 and 40 and Schedules 3 and 4;
  - (d) Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.

#### Engagement with Papatipu Rūnanga

13. The Consent Holder shall engage with papatipu rūnanga:

- (a) In the development and review of the SMPs required under Conditions 4 and 8, and other amendment to SMPs, and the development of the Implementation Plan required under Conditions 11 and 12;
- (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 the engagement required by Conditions 56 to 58 on responses to modelling;
- (e) By providing the investigation report required by Condition 59 on responses to monitoring; and
- (f) By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this resource consent, and papatipu rūnanga input predicted for the next 12 month period.

Advice Note: The Christchurch City Council is committed to working in partnership with papatipu rūnanga through the implementation of the resource consent. This is aimed at achieving the goals of the resource 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 resource consent implementation.

#### **Stormwater Technical Peer Review Panel**

- 14. The Consent Holder shall establish, at its own cost, the Stormwater Technical Review Panel (**Stormwater TPRP**), for the purpose of providing scientific and technical review of:
  - (a) The draft risk matrix required by Condition 3(b) of this resource consent and any subsequent amendments of the risk matrix; and
  - (b) Each Draft SMP, including those being reviewed as required under Condition 4 and 5 of this resource consent or being amended under Condition 9, and provide technical advice to the Consent Holder as to whether it is fit for purpose and meets the requirements of Conditions 6 and 7 of this resource consent; and
  - (c) The scope of the feasibility studies and investigations required by Condition 39 and Schedule 3 (actions a - h) and Condition 40 and Schedule 4 (actions d, e, j, k, r and s) of this resource consent and review the outcomes of the feasibility studies and investigations to ensure that actions arising from them incorporate best practicable options.
- 15. The Consent Holder shall:
  - (a) Obtain a review of the draft risk matrix from the Stormwater TPRP, and attach a copy of the review to the draft risk matrix provided to the Canterbury Regional Council; and

- (b) Obtain a review of the draft SMP from the Stormwater TPRP, attach a copy of the review to the draft SMP, and provide a description within the SMP of the Consent Holder's response to that review; and
- (c) Obtain a review of the relevant feasibility study or investigation from the Stormwater TPRP, and attach a copy of the review to the relevant feasibility study or investigation provided to Canterbury Regional Council.

Advice Note: The technical reviews under Condition 14 shall be provided by the relevant experts from the Stormwater TPRP and not the whole panel.

- 16. The Consent Holder shall appoint independent Stormwater TPRP members with expertise which could include but not be limited to the following:
  - (i) Stormwater engineering and hydrological/flood modelling;
  - (ii) Freshwater and coastal water quality and ecology;
  - (iii) Hydrogeology;
  - (iv) Contaminated site/land management;
  - (v) Erosion and sediment control; and
  - (vi) Mātauranga Māori and mahinga kai.
- 17. If the Stormwater TPRP does not have expertise in any of the areas which it is required to advise the Consent Holder on, it shall inform the Consent Holder who may engage the services of a suitably qualified expert to advise it on the matter.
- 18. The Consent Holder shall provide any administrative support necessary for the Stormwater TPRP to carry out its functions.

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.

#### STANDARDS AND RESTRICTIONS

#### Stormwater Contaminant Load Modelling

- 19. The Consent Holder shall install stormwater mitigation facilities and devices that achieve the contaminant load reduction standards specified in Table 2 below as derived by the *Golder Associates (NZ) Limited 2018 Christchurch Contaminant Load Model (C-CLM)* report which is attached to these conditions as Schedule 5.
- 20. The Consent Holder shall use best practicable options to achieve the contaminant load reduction targets specified in the SMPs derived from the C-CLM or subsequent improved modelling methods and best available information.

#### Table 2: Reductions in stormwater contaminant load

|              | Contaminant<br>load<br>compared to<br>no treatment<br>as at 2018 | 5 years from<br>2018<br>compared to<br>no treatment<br>(as at 2023) | 10 years from<br>2018<br>compared to<br>no treatment<br>(as at 2028) | 25 years from<br>2018<br>compared to<br>no treatment<br>(as at 2043) |
|--------------|--|---|--|--|
| TSS          | 12 %   | 21 %  | 25 %   | 27 %   |
| Total Zinc   | 10 %   | 15 %  | 18 %   | 20 %   |
| Total Copper | 16 %   | 23 %  | 28 %   | 30 %   |

21. The Consent Holder shall provide a report to the Canterbury Regional Council, Attention: Regional Leader: Monitoring and Compliance at five yearly intervals from commencement of this resource consent on whether the contaminant load reduction standards under Condition 19 and targets developed through the SMPs are being met.

Advice note: The C-CLM is the primary means of assessing the City-wide standards for 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.

# Water Quality and Quantity Standards

- 22. 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 6.
- 23. The Consent Holder shall use best practicable options 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 7 and 8;
  - (b) 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 9; and
  - (c) water quantity. The mitigation of effects shall be measured against achievement of the Receiving Environment Objective and Attribute Target Levels monitoring described in Schedule 10.
- 24. The Consent Holder shall use reasonably practicable measures 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.

26. Until the commencement of the targeted trial required by Schedule 4(w), when the dry weather base flow water level in the Pūharakekenui/Styx River is at or above Reduced Level 10.1m Christchurch Drainage Datum, as measured at the Lower Pūharakekenui /Styx water level gauge, the Consent Holder shall ensure that the Pūharakekenui /Styx River is the next river from which weed is harvested and that this will commence no later than 40 days following the measurement date.

### **Design of Facilities and Devices**

- 27. Water quality and quantity mitigation facilities and devices shall be designed in general accordance with:
  - (a) The Christchurch City Council's Waterways, Wetlands and Drainage Guide, Infrastructure Design Standard, Construction Standard Specifications, Christchurch Rain Garden Design Criteria, Christchurch Stormwater Tree Pit Design Criteria and Stormfilter<sup>™</sup> Design Rainfall Intensity Criterion Report or their respective successor document(s); and
  - (b) Other national and international best practice design criteria adopted by the Christchurch City Council over the duration of this resource consent.
- 28. To ensure the risk of bird strike is minimised, the following design requirements shall apply to facilities within 3 kilometres of Christchurch International Airport:
  - (i) Stormwater infiltration basins shall fully drain within 48 hours of the cessation of a 2% AEP stormwater event;
  - (ii) Sufficient rapid soakage overflow capacity shall be provided to minimise the ponding of stormwater outside of the infiltration area(s); and
  - (iii) Landscape design shall limit attractiveness to birds through the use of suitable non-bird attracting species.
- 29. The Consent Holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this resource consent are designed to treat the first flush.
- 30. For all water quality mitigation facilities and devices constructed after commencement of this resource consent to service re-development, or retrofit water quality mitigation facilities for existing development, the Consent Holder shall design facilities to treat as much of the first flush as reasonably practicable.
- 31. All stormwater mitigation facilities and devices constructed after commencement of this consent shall meet any other specific requirements as specified within the Implementation Plan when prepared in accordance with Condition 11.
- 32. Christchurch City Council stormwater infiltration facilities constructed after the commencement of the resource consent shall be located to maintain the following separation distances from domestic and community drinking water supply wells that exist prior to the construction of the infiltration facility:
  - (a) Infiltration devices that only discharge roof water from a single building or that discharge stormwater generated from an impervious area less than 2,000 square metres (including roof area), shall maintain a separation distance from any domestic and community drinking-water supply well outside of a zone equivalent

to the protection areas specified in Table S1A of Schedule 1 of the LWRP, unless, in the case of private drinking water bores, the Consent Holder has made a reticulated water supply available to the property.

- (b) Infiltration devices for larger discharges than those described in (a) above shall maintain a separation distance of 2,000 metres when located up-gradient of domestic and community drinking water supply wells; and infiltration devices shall maintain a separation distance of 500 metres when located down-gradient or cross-gradient of domestic and community drinking water supply wells, unless, in the case of private drinking water bores, the Consent Holder has made a reticulated water supply available to the property.
- (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 by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance that it will have a less than minor adverse effect on domestic and community drinking water supply wells.
- (d) Within 24 months of this resource consent commencing, a site-specific assessment of contamination risk and appropriate mitigation shall also be undertaken for any existing stormwater infiltration basins that do not comply with the separation distances defined in (b) above. This assessment shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance for certification that it will have a less than minor adverse effect on domestic and community drinking water supply wells.
- 33. Christchurch City Council stormwater mitigation facilities constructed after the commencement of this resource consent shall have secondary flow paths to the downstream stormwater network.
- 34. Christchurch City Council stormwater mitigation facilities constructed after commencement of this resource consent shall include best practice features designed to capture and contain as much as reasonably practicable any spills of contaminants entering the stormwater facility.
- 35. 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 2% 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.
- 36. All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this resource consent shall have an Operations and Maintenance Manual which shall be made available on request.

#### **Stormwater Quality Investigations**

- 37. The Consent Holder shall investigate and implement methods to improve the management of stormwater quality and assess and reduce stormwater effects on the receiving environment (Stormwater Quality Investigation Programme).
- 38. The purpose of the Stormwater Quality Investigation Programme is to:
  - (a) Monitor the performance of selected stormwater treatment facilities and devices;

- (b) Assess the potential for the application of new technologies and management strategies; and
- (c) Investigate using various models and techniques of water quality improvement strategies and options.
- 39. The Consent Holder shall undertake the actions set out in Schedule 3 for the investigation required by Condition 37.

#### **Other Actions**

40. The Consent Holder shall undertake the actions set out in Schedule 4 for the purposes of improved stormwater management through: source control methods; communication, education and awareness; and Pūharakekenui/Styx River channel weed management.

#### **Erosion and Sediment Control**

- 41. The Consent Holder shall use reasonably practicable measures to ensure that a site specific Erosion and Sediment Control Plan (**ESCP**) be prepared and implemented as a means of ensuring the mitigation of the effects of construction phase stormwater discharge from any development site in accordance with the *Erosion and Sediment Control Toolbox for Canterbury* (or successor document) prior to commencement of stripping of vegetation or earthworks.
- 42. Copies of ESCPs submitted to or prepared by/for the Consent Holder shall be made available to the Canterbury Regional Council on request.
- 43. The Consent Holder shall develop a Sediment Discharge Management Plan (**SDMP**) and present it to the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance within twelve months of the operative date of this resource consent, for certification that it is consistent with the purpose and required content of the SDMP.
- 44. The purpose of the SDMP is to manage discharges of stormwater from development sites to mitigate adverse effects on water clarity and aquatic biota as far as is reasonably practicable, which will be measured against the fine sediment and TSS Attribute Target Levels for waterways and coastal areas within Schedules 7 and 8.
- 45. The required content of the SDMP shall include, but not be limited to, the following means to achieve the purpose:
  - (a) A risk matrix to determine TSS limits for the discharge of stormwater into the stormwater network under this resource consent from individual sites, depending on such factors as likely concentrations and volumes of sediment in the discharge, whether the discharge will be treated downstream by a Council treatment facility prior to reaching the receiving environment, and the sensitivity of the receiving environment;
  - A description of the process for how TSS limits will be included in authorisations by the Christchurch City Council for discharges into the network from individual sites;
  - (c) A description of the Consent Holder's process to monitor sites and monitor management of sites to ensure TSS limits are achieved;

- (d) Details of how records will be kept (such as site TSS limits, compliance monitoring and enforcement action), with records made available to the Canterbury Regional Council on request.
- 46. The Consent Holder may review and amend the SDMP so as to better achieve the purpose of the SDMP and in response to any updates to the relevant Attribute Target Levels. Any amendments to the SDMP shall not replace the previous version until the plan has been certified by the RMA compliance and Enforcement Manager of the Canterbury Regional Council as being consistent with the purpose and required content of the SDMP.

# **Industrial Site Management**

- 47. The Consent Holder shall, in collaboration with the Canterbury Regional Council:
  - (a) Maintain a desktop-based identification of industrial sites, that ranks sites for risk relative to stormwater discharge and identifies the industrial sites that pose the highest risk;
  - (b) Audit at least 15 sites per year, of which at least 10 are sites agreed with the Canterbury Regional Council;
  - (c) Vary the annual number of site audits in Condition 47(b) if agreed by the Canterbury Regional Council under Schedule 4(l);
  - (d) Inform the site owner and operator and notify the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance if the audit process and monitoring of a site determines that the site is presenting an unacceptably high risk to the receiving environment.
- 48. If the Consent Holder considers, following further engagement with the site operator and the Canterbury Regional Council, that the site is not appropriately mitigating that unacceptably high risk, the Consent Holder may, upon agreement with Canterbury Regional Council, add the site to Schedule 1.

# MONITORING AND REPORTING

#### **Environmental Monitoring Programme**

- 49. 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.
- 50. The Consent Holder may review and amend the EMP for the purposes of improved monitoring and / or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.
- 51. Any amendments to the EMP shall not replace the previous version until the EMP has been certified by the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance as complying with the requirements of Condition 49.
- 52. (a) The Attribute Target Levels in Schedule 7 for hardness modified copper, lead and zinc concentrations in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data.

- (b) Hardness modified values for copper, lead and zinc for all surface water monitoring sites (including Banks Peninsula sites) within the EMP shall be reviewed every five years, with the first review being undertaken within 2 years of the commencement of this resource consent.
- (c) Hardness modified values shall be calculated using the ANZECC (2000) methodology outlined in the EMP. Should a new method of modifying metal concentrations become appropriate, this new methodology and any subsequent change in Attribute Target Levels shall be applied. Updated values shall be incorporated into the certified EMP as an amendment, in accordance with Condition 50.
- 53. The Attribute Target Levels in Schedules 7 to 8 are taken 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 shall be incorporated into the certified EMP as an amendment, certified in accordance with Condition 50.
- 54. The Attribute Target Levels in Schedules 7 and 8 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. Updated information shall be incorporated into the EMP and presented by the Consent Holder as an amendment for certification, in accordance with Condition 51 within 24 months of the commencement of this resource consent. Once these scores, sites and monitoring methods are confirmed, monitoring of mana whenua values shall commence.
- 55. The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtākaro/ Avon, Ōpāwaho/ Heathcote and Huritīni / Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters at least every 5 years following the commencement of this resource consent. The results of model updates and a description of how they demonstrate compliance with Schedule 10 shall be included in the annual report required under Condition 61 on a 5-yearly basis following commencement of this resource consent.

#### **Responses to Contaminant Load Modelling**

- 56. Where the modelling results reported in accordance with Condition 21 show that the percentage contaminant reductions required by the standards in Table 2 in Condition 19, and/or by the targets derived under each catchment-specific SMP are not met, the Consent Holder shall 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 best practicable options to mitigate the adverse effects of stormwater have been carried out;
  - (c) If the assessment in (b) determines that best practicable options have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the implementation of correction / remediation options (if necessary); and

 (d) Submit a report to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.

### **Responses to Flood Modelling**

- 57. Where the flood modelling results show that the attribute target levels in Schedule 10 are not met, the Consent Holder shall:
  - Investigate the reasons for not achieving the attribute target levels within Schedule 10 and describe what measures will be implemented (if necessary) to meet the attribute target levels within Schedule 10;
  - (b) Assess whether best practicable options to mitigate the adverse effects of flooding have been carried out;
  - (c) If the assessment in (b) determines that best practicable options have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the implementation of correction / remediation options (if necessary);
  - (d) Submit a report to Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.
- 58. If, upon submittal of the report, where required by Condition 56 or 57, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects, the Consent Holder shall consult with the WIM 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 WIM group, or successor group, through the consultation.

Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try to establish agreed approaches prior to submitting the report.

#### **Responses to Monitoring**

- 59. If the monitoring results identify that the TSS, copper, lead and zinc Attribute Target Levels in surface water, as set out in Schedules 7 and 8, and Escherichia coli, copper, lead and zinc in groundwater, as set out in Schedule 9, are not being met, the Consent Holder shall:
  - (a) Engage with the Canterbury Regional Council about conducting an investigation into whether this is due to the effects of stormwater discharges authorised under this resource consent, with site investigations prioritised for areas with high levels of contaminants, or with sensitive or high value receiving environments;
  - (b) Carry out an investigation if required under Condition 59(a) and 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);

- (c) The report shall include, at a minimum:
  - (i) An evaluation of whether the monitoring results are due to stormwater discharges authorised under this resource consent or not;
  - (ii) An assessment of options for correction/remediation if effects are likely due to stormwater discharges authorised under this resource consent;
  - (iii) A timeline of implementation of corrective action/remediation if effects are a result of discharges authorised under this resource consent;
- (d) 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 (c) above, the Consent Holder Shall consult with the WIM 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 WIM group, or successor group, through the consultation;
- (e) The sites triggering an investigation for a given monitoring year shall be identified in the annual report referred to in Condition 61, and the subsequent investigation report shall be provided with the following annual monitoring report twelve months later; and
- (f) Implement any actions or changes identified as necessary by the WIM group, or successor group, through the consultation under (d) above.

Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try to establish agreed approaches prior to submitting the report.

### Reporting

- 60. 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.
- 61. The Consent Holder shall provide an annual report to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, Banks Peninsula and Christchurch-West Melton Zone Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 June each year following the calendar year reported on. The first annual report shall cover the calendar year following the commencement of this resource consent. This report shall also be made available on the Christchurch City Council website and shall include, where appropriate:
  - (a) A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 23, 39, 40, 49, 54, and the 5-yearly report required under Condition 55. This summary shall be presented in such a way as to assess compliance with the resource consent conditions and trigger the responses required;

- (b) A summary of the C-CLM results and contaminant load reduction targets set within SMPs, including any amendments to the model and consequential changes to expected contaminant load reductions;
- (c) A summary of any discussions, consultation or responses carried out under Conditions 56 59;
- (d) A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this resource consent occurred;
- (e) A summary of flood modelling results (if applicable) for development in greenfield areas;
- (f) The supply of updates to Schedule 1 where required;
- (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;
- (h) Records of developments authorised under this consent;
- (i) Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of mana whenua 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 in accordance with Condition 47, that have been initiated to inform the Consent Holder on stormwater management effectiveness;
- (I) Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section of the Canterbury LWRP;
- (m) Any changes to the regulatory framework that may warrant changes to the SMPs; and
- (n) Any complaints or observations received by the Consent Holder regarding spring flow and/or quality.

#### **ADMINISTRATION**

- 62. 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 resource consent.
- 63. 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 resource consent for the purposes of:
  - (a) Dealing with any adverse effect on the environment which may arise from the exercise of this resource consent;
  - (b) Complying with the requirements of a relevant rule in an operative regional plan;
  - (c) Achieving consistency of this resource consent in regard to catchment management planning and stormwater management with the provisions of the

Christchurch West Melton Sub-regional Section of the Canterbury LWRP within five years of the notification of the sub-regional section;

- Ensuring that improvements of the quality of the stormwater discharge occur over the duration of this resource consent to reduce any adverse effect on the environment;
- (e) To provide alternative standards for the expected city-wide percentage contaminant load reductions in Condition 19, or targets for the contaminant load reductions set within SMPs that become apparent through the C-CLM or alternative methods developed by the Consent Holder.
- 64. Prior to the exercise of this resource consent, the following resource consents shall be surrendered:
  - (a) CRC120223
  - (b) CRC131249.
- 65. If this resource consent is not given effect to before 30 June 2024, then it shall lapse in accordance with Section 125 of the Resource Management Act 1991.

#### Attachments

Schedule 1: Sites excluded from the Christchurch City Council Comprehensive Discharge Consent

- Schedule 2: Condition 7 Matters to be included within SMPs
- Schedule 3: Stormwater Quality Investigation Programme

Schedule 4: Other Actions by Consent Holder

Schedule 5: Christchurch Contaminant Load Model

Schedule 6: General City Conditions – Water Quality and Quantity

Schedule 7: Receiving Environment Objectives and Attribute Target Levels for Waterways

Schedule 8: Receiving Environment Objectives and Attribute Target Levels for Coastal Waters

Schedule 9: Receiving Environment Objectives and Attribute Target Levels for Groundwater and Springs

Schedule 10: Receiving Environment Objectives and Attribute Target Levels for Water Quantity

# Schedule 1: Sites Excluded from the Comprehensive Stormwater Network Discharge Consent

| 2 2       | Lot 2 DP 64248   | 704537  |
|-----------|--|---|
| 2         |  |   |
|           | Lot 1 DP 466471  | 618251  |
| 10        | Lot 2 DP 466471  | 618252  |
| 412       | Part Lot 3 DP 15178  | 466207  |
| 4/455     | Lot 1 DP 489573  | 923053  |
| 96        | Lot 2 DP 352288  | 587825  |
| 7         | Lot 10 DP 2899, Lot 9 DP   | 716119  |
|           | 2899, Lot 11 DP 2899, Lot  |   |
|           | 12 DP 2899, Lot 1 DP   |   |
|           | 21916  |   |
| 106G      | Lot 3 DP 338441  | 582584  |
| 17        | Lot 1 DP 443257  | 908779  |
| 515       | Lot 2 DP 358423, Lot 3 DP  | 587860, 587861  |
|           | 358423   |   |
| 115       | Lot 3 DP 353897  | 585855  |
| 137       | Lot 2 DP 343321  | 584430  |
| 79 & 79A  | Lot 1 DP 481286, Lot 2 DP  | 924341, 924342  |
|           | 481286   |   |
| 222       | Lot 1 DP 14716, Lot 1 DP   | 750576  |
|           | 51993  |   |
| 243 & 245 | Pt Lot 2 DP 6604, RS   | 516213, 520964,   |
|           | 39034, Lot 1 DP 78344,   | 408547, 510731  |
|           | Lot 2 DP 78344   |   |
|           |  | 429004  |
|           | Lot 9 DP 30936   | 428578  |
|           |  | 485608  |
|           |  | 587859  |
| 60        | Lot 1 DP 80063   | 407540  |
| 15        | ,  | 504628, 579847  |
|           |  |   |
|           |  | 625647  |
|           |  | 621028  |
|           |  | 625646  |
|           |  | 817675  |
| 50        | Lot 5 DP 447519  | 615860  |
|           |  |   |
|           | Legal Description  | CCC Prupi   |
|           |  | 629404  |
|           |  | 609872  |
| 000       | LUL / DF 40404J  | 009072  |
| 45        | Lot 1 DP 81480   | 565026  |
| 282       | Lot 10 DP 1391   | 750597  |
|           | 96<br>7<br>106G<br>17<br>515<br>115<br>137<br>79 & 79A<br>222<br>243 & 245<br>243 & 245<br>243 & 245<br>18<br>67<br>59<br>254<br>60<br>15<br>18<br>67<br>59<br>254<br>60<br>15<br>120<br>122<br>120A<br>10<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>50<br>254<br>60<br>15<br>120<br>122<br>120<br>120<br>122<br>120<br>120<br>122<br>120<br>120 | 96         Lot 2 DP 352288           7         Lot 10 DP 2899, Lot 9 DP<br>2899, Lot 11 DP 2899, Lot<br>12 DP 2899, Lot 1 DP<br>21916           106G         Lot 3 DP 338441           17         Lot 1 DP 443257           515         Lot 2 DP 358423, Lot 3 DP<br>358423           115         Lot 3 DP 353897           137         Lot 2 DP 343321           79 & 79A         Lot 1 DP 441286, Lot 2 DP<br>481286           222         Lot 1 DP 14716, Lot 1 DP<br>51993           243 & 245         Pt Lot 2 DP 6604, RS<br>39034, Lot 1 DP 78344,<br>Lot 2 DP 78344           18         Lot 8 DP 36831           67         Lot 1 DP 358423           60         Lot 1 DP 493335           122         Lot 4 DP 475888           120A         Lot 5 DP 447519           120A         Lot 5 DP 447519           5         Street Number         Legal Description           112         Section 27 SO 459717           600         Lot 7 DP 404845           45 |

### Sites excluded from the South West SMP Area

### Sites excluded from the Pūharakekenui/Styx SMP Area

| Street Address      | Street Number | Legal Description                 | CCC Prupi      |
|---------------------|---------------|-----------------------------------|----------------|
| Barnes Road         | 79-87         | Lot 1 DP 346683                   | 586324         |
| Belfast Road        | 30            | Lot 2 DP 37063                    | 425217         |
| Broughs Road        | 6             | LOT 15 DP 36871                   | 814749         |
| Broughs Road        | 7             | LOT 2 DP 36871                    | 714473         |
| Broughs Road        | 15            | LOT 3 DP 36871                    | 804901         |
| Broughs Road        | 23            | LOT 4 DP 36871                    | 874832         |
| Cavendish Road      | 150           | Lot 2 DP 401108                   | 609557         |
| Cavendish Road      | 158           | Lot 1 DP 360822                   | 587685         |
| Dickeys Road        | 13            | Pt Lot 1 DP 23890, Lot 1 DP 25116 | 437651, 438723 |
| Export Avenue       | 1             | LOT 6 DP 83863                    | 861839         |
| Export Avenue       | 2             | LOT 2 DP 304904                   | 861835         |
| Export Avenue       | 3             | LOT 5 DP 83863                    | 861838         |
| Export Avenue       | 6             | LOT 3 DP 83863                    | 861836         |
| Export Avenue       | 8             | LOT 4 DP 83863                    | 861837         |
| Johns Road          | 480           | Sec 62 SO 460822                  | 620075         |
| Johns Road          | 530           | PT LOT 1 DP 51000                 | 870081         |
| Johns Road          | 544           | PT LOT 1 DP 23615                 | 857821         |
| Johns Road          | 550           | Sec 8 SO 494743, Sec 21 SO        | 628638, 628647 |
|                     |               | 494743                            |                |
| Johns Road          | 568           | LOT 2 DP 51000                    | 832492         |
| Johns Road          | 600           | PT RS 40862                       | 870083         |
| Logistic Drive      | 10            | LOT 10 DP 375764                  | 891559         |
| Logistic Drive      | 11            | LOT 9 DP 375764                   | 891558         |
| Logistic Drive      | 12            | LOT 1 DP 412022                   | 900821         |
| Logistic Drive      | 14            | LOT 12 DP 375764, LOT 2           | 900822         |
| Logistic Drive      | 15            | LOT 8 DP 375764                   | 891557         |
| Logistic Drive      | 16            | LOT 13 DP 375764                  | 891562         |
| Logistic Drive      | 17            | LOT 7 DP 375764                   | 891556         |
| Logistic Drive      | 18            | LOT 100 DP 412877                 | 900774         |
| Logistic Drive      | 19            | LOT 6 DP 375764                   | 891555         |
| Logistic Drive      | 20            | LOT 101 DP 412877                 | 900775         |
| Logistic Drive      | 21            | LOT 5 DP 375764                   | 891554         |
| Logistic Drive      | 23            | LOT 4 DP 375764                   | 891553         |
| Logistic Drive      | 24            | LOT 102 DP 412877                 | 900776         |
| Logistic Drive      | 25            | LOT 3 DP 375764                   | 891552         |
| Logistic Drive      | 26            | LOT 103 DP 412877                 | 900777         |
| Logistic Drive      | 27            | LOT 2 DP 375764                   | 891551         |
| Logistic Drive      | 28            | LOT 104 DP 412877                 | 900778         |
| Logistic Drive      | 29            | LOT 1 DP 375764                   | 891550         |
| Logistic Drive      | 31            | LOT 17 DP 375764                  | 891566         |
| Logistic Drive      | 15L           | LOT 19 DP 375764                  | 891573         |
| Logistic Drive      | 29L           | LOT 20 DP 375764                  | 891574         |
| Lower Styx Road     | 361           | Lot 1 DP 508689                   | 629529         |
| Mcleans Island Road | 2             | LOT 16 DP 375764                  | 891565         |
| Mcleans Island Road | 12            | LOT 15 DP 375764                  | 891564         |
| Mcleans Island Road | 14            | LOT 1 DP 304904                   | 865337         |

| Mcleans Island Road | 16  | LOT 2 DP 79639    | 754142 |
|---------------------|-----|-------------------|--------|
| Nathan Place        | 1   | PT LOT 2 DP 55072 | 870082 |
| Nathan Place        | 7   | LOT 3 DP 55072    | 864585 |
| Nathan Place        | 11  | LOT 1 DP 70619    | 864584 |
| Radcliffe Road      | 301 | Lot 4 DP 313448   | 584569 |
| Sawyers Arms Road   | 527 | LOT 1 DP 55072    | 836526 |
| Sawyers Arms Road   | 530 | PT LOT 1 DP 51000 | 870081 |
| Sawyers Arms Road   | 533 | LOT 1 DP 45800    | 858525 |
| Sawyers Arms Road   | 540 | LOT 1 DP 36870    | 817420 |
| Sawyers Arms Road   | 565 | LOT 2 DP 64781    | 771301 |
| Sawyers Arms Road   | 575 | LOT 1 DP 64781    | 771302 |
| Spencerville Road   | 25  | Lot 2 DP 53987    | 419068 |
| Turners Road        | 50  | Lot 3 DP 83312    | 568085 |
| Wairakei Road       | 656 | Lot 1 DP 6411     | 414964 |
|                     |     |                   |        |

### Schedule 2: Condition 7 - Matters to be included within SMPs

- (a) Specific guidelines for implementation of stormwater management to achieve the purpose of SMPs;
- (b) A definition of the extent of the stormwater infrastructure, that forms the stormwater network within the SMP area for the purposes of this consent;
- (c) A contaminant load reduction target(s) for each catchment within that SMP area and a description of the process and considerations used in setting the contaminant load reduction target(s) required by Condition 6(b) using the best reasonably practicable model or method and input data;
- (d) A description of statutory and non-statutory planning mechanisms being used by the Consent Holder to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These mechanisms shall include:
  - (i) Relevant objectives, policies, standards and rules in the Christchurch District Plan;
  - (ii) Relevant bylaws; and
  - (iii) Relevant strategies, codes, standards and guidelines;
- (e) Mitigation methods to achieve compliance with the conditions of this resource consent including the requirement to improve discharge water quality under Condition 23, and to meet the contaminant load reduction targets for each catchment as determined through the SMPs and the standards for the whole of Christchurch set in Condition 19. These methods shall include:
  - (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 or Areas of Significant Natural Value under the Regional Coastal Environment Plan (Canterbury Regional Council, 2012); and areas with high contaminant loads;
- (f) Locations and identification of Christchurch City Council water quality and water quantity mitigation facilities and devices; including a description and justification for separation distances between mitigation facilities or devices and any contaminated land;
- (g) Identification of areas planned for future development and a description of the Consent Holder's consideration to retrofit water quality and quantity mitigation for existing catchments through these developments where reasonably practicable;

- (h) Identification of areas subject to known flood hazards;
- A description of how environmental monitoring and assessment of tangata whenua values have been used to develop water quality mitigation methods and practices;
- (j) Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;
- (k) Mapping of existing information from Canterbury Regional Council and the Consent Holder showing locations where discrete spring vents occur;
- Consideration of any effects of the diversion and discharge of stormwater on baseflow in waterways and springs and details of monitoring that will be undertaken of any waterways and springs that could be affected by stormwater management changes anticipated within the life of the SMP;
- (m) A cultural impact assessment;
- A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;
- 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;
- (p) Assessment and description of any additional or new modelling, monitoring and mitigation methods being implemented by the Consent Holder;
- (q) A summary of feedback obtained in accordance with Condition 8 and if / how that feedback has been incorporated into the SMP;
- (r) 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;
- (s) Identification of key locations in addition to those identified in Schedule 10 where modelled assessments of water levels and/or volumes shall be made for the critical 2% AEP event and any other relevant return interval. For each additional key location, appropriate water level reductions or tolerances for increases shall be set according to the SMP objectives and shall be reported with the model update results required under Condition 55;
- Procedures, to be developed in consultation with Christchurch International Airport Limited, for the management of the risk of bird strike for any facility owned or managed by the Christchurch City Council within 3 kilometres of the airport;
- (u) A description of any relevant options assessments undertaken to identify the drivers behind mitigation measures selected; and
- (v) An assessment of the potential change to the overall water balance for the SMP area arising from the change in pervious area and the stormwater management systems proposed.

| <u>St</u> | ormwater Quality Investigation Actions  | Action Start Date  | Action<br>Completion Date  |
|-----------|---|--|--|
| a.        | Investigate the feasibility of developing an instream<br>contaminant concentration model.<br>Consideration shall be given to:<br>(i) How applicable the model will be to -<br>• Water quality management generally<br>• The resource consent specifically<br>(ii) Timelines<br>(iii) Costs<br>(iv) What data CCC would need to collect  | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent  | Within 18<br>months of the<br>commencement<br>of the resource<br>consent |
| b.        | Develop instream contaminant concentration model<br>if the Consent Holder feasibility study in (a) provides<br>sufficient merit.  | Within 2 years of<br>the<br>commencement<br>of the resource<br>consent   | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent   |
| C.        | If the instream contaminant concentration model is<br>developed, carry out investigations and monitoring<br>to validate and refine assumptions within the model,<br>to improve the accuracy of model predictions.   | Within 4 years of<br>the<br>commencement<br>of the resource<br>consent   | Ongoing  |
| d.        | Conduct a feasibility study to establish the existing<br>knowledge base and investigate the feasibility of<br>robustly predicting the responses of the receiving<br>environment to changes in network contaminant<br>loads and resulting in-stream concentrations.<br>Consideration shall be given to how and when the<br>receiving environment might respond to changes in<br>contaminant concentrations, how much work would<br>be involved to predict results, what sort of models<br>are possible, how would monitoring to obtain real<br>world results be carried out, how long would it take<br>the biological community to respond (i.e. lag<br>effects), and gaps of knowledge. | Within 12<br>months of the<br>commencement<br>of the resource<br>consent | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent   |
| e.        | If the Consent Holder considers that the feasibility<br>study under (d) shows sufficient merit, and the<br>Council considers it warranted, instigate a<br>programme of research, monitoring and/or<br>modelling to quantify expected responses in the<br>receiving environment. For example: Undertake<br>selected monitoring of discharges at "end of pipe",   | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent   | Ongoing  |

### Schedule 3 - Stormwater Quality Investigation Programme

| -  |  |   |  |
|----|--|---|--|
|    | into the receiving environment to assist model development and calibration.  |   |  |
| f. | Investigate the impacts of applying alternative<br>modelling tools (including 'deterministic' models) to<br>characterise the relationship between contaminant<br>loads, concentrations and the receiving<br>environment, and the processes which influence<br>that relationship. Such tools may include the<br>MEDUSA and MUSIC modelling tools.   | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent   | Ongoing  |
| g. | Investigate the feasibility of techniques for<br>remediating adverse effects of stormwater sediment<br>discharges on receiving environments. This shall<br>include consideration of sediment cover of the bed,<br>and copper, lead, zinc and PAHs contamination.   | Within 1 year of<br>the<br>commencement<br>of the resource<br>consent   | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent |
| h. | If the Consent Holder determines that it is feasible,<br>instigate an instream sediment remediation<br>programme.  | Within 3 years of<br>the<br>commencement<br>of the resource<br>consent  | Ongoing  |
| i. | Monitor the actual TSS, zinc and copper reduction<br>performance of selected stormwater treatment<br>facilities and devices in order to improve certainty of<br>performance values relating to TSS, zinc and<br>copper in contaminant load modelling. Report<br>findings and outcomes in annual report to CRC.   | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent | Ongoing  |
| j. | Apply the monitoring output, along with other<br>stormwater modelling and monitoring data being<br>gathered, to inform the planning and design of<br>stormwater systems and facilities, including in the<br>development of Implementation Plans and reviews<br>of SMPs, IDS and WWDG.  |   |  |
| k. | Carry out targeted wet weather monitoring of<br>surface water in selected receiving environments, to<br>improve knowledge of the state of the receiving<br>environment, contaminant inputs and treatment<br>efficiency, and to inform mitigation options under<br>the SMPs. Selected areas may include new<br>stormwater developments and retrofits and known<br>existing hotspots of contaminants. Sampling shall<br>focus on detailed methods to characterise inputs,<br>such as the use of auto-sampling, rather than grab<br>sampling. | Within 6 months<br>of the<br>commencement<br>of the resource<br>consent | Ongoing  |

### Schedule 4: Other Actions by Consent Holder

| <u>Ot</u> | Other Actions         Activity Start Date         Activity Completion           Date         Date         Date   |   |  |  |  |
|-----------|--|---|--|--|--|
| So        | ource Control  |   |  |  |  |
| a.        | Lodge a submission to central government seeking<br>national measures and industry standards to reduce<br>the discharge of contaminants including zinc and<br>copper from metal roofs, car tyres and brake<br>linings.   | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Within 1 year of the<br>commencement of<br>the resource<br>consent       |  |  |
| b.        | Conduct a cost/benefit analysis of options for<br>carrying out a targeted trial for contaminant<br>reduction from increased level of selective street<br>sweeping and sump cleaning (For consideration as<br>part of Council Annual Planning process).   | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Within 1 year of the<br>commencement of<br>the resource<br>consent       |  |  |
| c.        | If the Consent Holder Determines that the<br>cost/benefit analysis under Item (b) shows that it is<br>warranted, carry out trials for increased<br>targeted/selective street sweeping and sump<br>cleaning.  | Within 1 year of<br>the<br>commencement of<br>the resource<br>consent   | Within 3 years of<br>the<br>commencement of<br>the resource<br>consent   |  |  |
| d.        | Conduct a cost/benefit analysis of options of<br>alternate methods of stormwater treatment and<br>discharge including consideration of redirection to<br>sewer and Managed Aquifer Recharge/Discharge<br>(For consideration as part of Council Annual<br>Planning process).  | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Within 18 months<br>of the<br>commencement of<br>the resource<br>consent |  |  |
| e.        | If the Consent Holder determines that the cost/benefit analysis under Item (d) shows that it is warranted, carry out trials for alternate methods of stormwater treatment and discharge.   | Within 2 years of<br>the<br>commencement of<br>the resource<br>consent  | Within 4 years of<br>the<br>commencement of<br>the resource<br>consent   |  |  |
| f.        | Apply the results of trials on street sweeping, sump<br>cleaning and alternate methods of stormwater<br>treatment (actions b and c above), along with<br>results from other stormwater modelling and<br>monitoring data being gathered, to the planning and<br>design of stormwater systems and facilities,<br>including in the development and review of SMPs,<br>IDS and WWDG. |   |  |  |  |
| g.        | If the Consent Holder determines it warranted as a result of the trials in Item (c) above, increased frequency of street sweeping of selected areas.   | Within 2 years of<br>the<br>commencement of<br>the resource<br>consent  | Ongoing  |  |  |
| h.        | If the Consent Holder determines it warranted as a result of the trials in Item (c) above, increased frequency of sump cleaning at selected locations.   | Within 2 years of<br>the<br>commencement of<br>the resource             | Ongoing  |  |  |
| i.        | Instigate, in the building consent approval and<br>inspection process, a requirement for and process<br>for approval and inspection of erosion and sediment<br>control measures prior to site clearances   | Within 6 months of<br>the<br>commencement of                            | Ongoing  |  |  |

|    | commencing and throughout the construction process.  | the resource consent  |  |
|----|--|---|--|
| j. | Develop a programme for operational inspection of<br>a sample of private stormwater treatment and/or<br>retention devices on non-industrial sites for the<br>purposes of ensuring proper function and<br>maintenance.  | Within 2 years of<br>the<br>commencement of<br>the resource<br>consent  | Ongoing  |
| k. | <ul> <li>Conduct a cost/benefit analysis of options to further improve source control that considers:</li> <li>(i) allocation of staff/resources to undertake industrial site audits;</li> <li>(ii) expected contamination risk and possible risk reduction of industrial sites; and</li> <li>(iii) other source control measures in Schedule 3 as required by Condition 39.</li> </ul>                                  | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Within 18 months<br>of the<br>commencement of<br>the resource<br>consent |
| I. | Apply, through agreement between the Consent<br>Holder and Canterbury Regional Council, the<br>results of the cost/benefit analysis under Item (k)<br>above to prioritise source control measures in<br>SMPs and the Implementation Plan and to<br>determine the number of audits conducted under<br>Condition 47(b).  | Within 2 years of<br>the<br>commencement of<br>the resource<br>consent  | Ongoing  |
| Co | mmunication, Education and Awareness   |   |  |
| m. | Make reasonable endeavours to establish a<br>community water engagement programme involving<br>Council, Canterbury Regional Council, Ngai Tahu,<br>DoC, MfE, Universities, industry representatives<br>and Community Groups with the objective of<br>encouraging awareness and community actions to<br>reduce stormwater contaminant discharges and<br>improve waterways through source control and<br>behaviour change. | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Ongoing  |
|    | Possible initiatives of the community water engagement programme are:  |   |  |
|    | <ul> <li>Providing information for property owners on<br/>quick actions that they can undertake around<br/>the home to stop contaminants from entering<br/>stormwater (based on 2017 Community<br/>Waterway Survey findings conducted by<br/>Christchurch City Council).</li> </ul>  |   |  |
|    | <ul> <li>(ii) Implement a sustainable behaviour change<br/>programme. Actions aimed at stopping<br/>contaminants getting into the stormwater<br/>network, such as: sediment, litter, bacterial<br/>contaminants.</li> </ul>  |   |  |
|    | (iii) Undertaking a wider educational programme for schools.   |   |  |
|    | (iv) Educating dog owners about effects of faecal matter.  |   |  |
|    | (v) Seeking industry behaviour change.   |   |  |
| n. | The Consent Holder shall convene the River Care Liaison Group meeting at least once annually. At   | Within 1 year of the  | Ongoing  |

| F  |  |   |  |
|--|--|---|--|
| <ul> <li>each meeting the Consent Holder's<br/>River Care Liaison Group and rece<br/>matters relating to the exercise of t<br/>consent, including but not limited to<br/>(i) Relevant capital and maintena<br/>completed in the past year and<br/>programmed by the Consent H</li> <li>(ii) Development and refinement of<br/>flood modelling;</li> <li>(iii) Any new technologies in storm<br/>contaminant reduction or prevent<br/>measures; and</li> <li>(iv) Compliance and monitoring result<br/>under Condition 61.</li> </ul>   | ive feedback on<br>his resource<br>c:<br>nce works<br>d currently<br>folder;<br>of the C-CLM and<br>water<br>entative                            | commencement of<br>the resource<br>consent                              |  |
| o. Minutes of the River Care Liaison C<br>shall be circulated by the Consent<br>River Care Liaison Group within for<br>meeting.  | Holder to the  |   |  |
| <ul> <li>p. The Consent Holder shall convene<br/>Liaison Group meeting at least once<br/>each meeting the Consent Holder so<br/>Industry Liaison Group and receiver<br/>matters relating to the exercise of t<br/>consent, including but not limited to<br/>(i) development of the risk matrix<br/>Condition 3(b) (ii);</li> <li>(ii) implementation of the industria<br/>process under Condition 47;</li> <li>(iii) any new technologies in storm<br/>contaminant reduction or preve-<br/>measures; and</li> <li>(iv) Compliance and monitoring re<br/>under Condition 61.</li> </ul> | e annually. At<br>shall update the<br>feedback on<br>his resource<br>o:<br>required under<br>I site audit<br>water<br>entative                   | Within 1 year of<br>the<br>commencement of<br>the resource<br>consent   | Ongoing  |
| <ul> <li>q. Minutes of the Industry Liaison Gro<br/>be circulated by the Consent Holde<br/>Liaison Group within four weeks of</li> </ul>   | r to the Industry  |   |  |
| Puharakekenui/Styx River Weed  | Management   |   |  |
| <ul> <li>r. Investigate the degree to which varriver channel weed (macrophyte) m practices mitigate flood effects on t Pūharakekenui/Styx River under a flow scenarios. Factors to be consi include: <ul> <li>(i) International weed manageme similar settings; and</li> <li>(ii) the factors which promote or s of the specific prolific weed sp Pūharakekenui/Styx River, inc sediments, dry weather flows, discharges covered by the res other discharges, shading and</li> </ul> </li> </ul>   | hanagement<br>he<br>range of river<br>dered shall<br>nt practices in<br>uppress growth<br>ecies in the<br>luding<br>stormwater<br>ource consent, | Within 6 months of<br>the<br>commencement of<br>the resource<br>consent | Within 18 months<br>of the<br>commencement of<br>the resource<br>consent |
| s. Based on the results of the investig<br>Condition 39(r), and through engag<br>Canterbury Regional Council, the C  | ement with   | Within 2 years of the commencement of                                   | Within 3 years of the commencement of                                    |

|          | a la sub falla subfacilita da ser a constructiva da la ser da ser face. |                     |                   |
|----------|---|---------------------|-------------------|
|          | shall identify the best practicable options for                         | the resource        | the resource      |
|          | mitigating flooding through river channel weed                          | consent             | consent           |
|          | management. Factors to be considered shall                              |                     |                   |
|          | include:  |                     |                   |
|          | (i) A range of river flow scenarios including dry                       |                     |                   |
|          | weather (spring-fed) flows and storm flows                              |                     |                   |
|          | where operational/maintenance management                                |                     |                   |
|          | will be beneficial;   |                     |                   |
|          | (ii) A range of river channel   |                     |                   |
|          | operational/maintenance management                                      |                     |                   |
|          | scenarios;  |                     |                   |
|          | (iii) Flooding effects including level, extent and                      |                     |                   |
|          | duration;   |                     |                   |
|          | (iv) Available technical knowledge;                                     |                     |                   |
|          | (v) Potential for practical implementation of                           |                     |                   |
|          | options;  |                     |                   |
| 1        | (vi) Costs for implementing options;                                    |                     |                   |
| 1        | (vii) Available regulatory mechanisms;                                  |                     |                   |
|          | (viii) Consideration of ecological effects; and                         |                     |                   |
|          | (ix) Consideration of overlapping powers and                            |                     |                   |
|          | responsibilities between Canterbury Regional                            |                     |                   |
|          | Council and Christchurch City Council under                             |                     |                   |
|          | other legislation.  |                     |                   |
|          | •   |                     |                   |
| t.       | Conduct a cost/benefit analysis of the identified                       | Within 3 years of   | Within 4 years of |
|          | best practicable options for carrying out a targeted                    | the                 | the               |
|          | trial for achieving reduced flooding from changes in                    | commencement of     | commencement of   |
|          | the weed management of the Pūharakekenui/Styx                           | the resource        | the resource      |
|          | River.  | consent             | consent           |
| <u> </u> |   | Within 2 years of   | Within 4 years of |
| u.       | Determine the best approach to incorporating the                        | Within 3 years of   | Within 4 years of |
| 1        | variable weed condition within the                                      | the                 | the               |
| 1        | Pūharakekenui/Styx River hydraulic model and                            | commencement of     | commencement of   |
| 1        | resulting design flood scenarios.                                       | the resource        | the resource      |
|          |   | consent             | consent           |
| v.       | Test the Pūharakekenui/Styx River model                                 | Within 3 years of   | Within 4 years of |
| 1        | calibration against other storm events, as they                         | the                 | the               |
| 1        | arise, to calibrate/validate model sensitivity to                       | commencement of     | commencement of   |
| 1        | varying weed conditions.  | the resource        | the resource      |
| <u> </u> |   | consent             | consent           |
| w.       | Apply, through engagement with the Canterbury                           | Within 4 years of   | Within 5 years of |
|          | Regional Council, the results of the cost/benefit                       | the                 | the               |
| 1        | analysis in a targeted trial for the selected best                      | commencement of     | commencement of   |
| 1        | practicable options for weed management of the                          | the resource        | the resource      |
|          | Pūharakekenui/Styx River river channel.                                 | consent             | consent           |
| <u> </u> | ,   |                     |                   |
| х.       | If the Consent Holder determines it warranted as a                      | Within 5.5 years of | ongoing           |
| 1        | result of the trials in Item 39(u) above, implement                     | the                 |                   |
| 1        | the selected best practicable option within the                         | commencement of     |                   |
| 1        | Pūharakekenui/Styx River Area SMP.                                      | the resource        |                   |
| 1        |   | consent             |                   |

## Schedule 5: Christchurch Contaminant Load Model Report



### Schedule 6: General City Conditions – Water Quality and Quantity

This table indicates minimum requirements to enable discharges under this consent from greenfield developments and re-developments in areas not yet covered by a Stormwater Management Plan. Until 1 January 2025, for any development where the Christchurch City Council (CCC) considers there are factors that require Canterbury Regional Council input it can choose to not accept a proposed discharge to its network, and therefore a consent from the Regional Council would be required. The CCC may also require a higher standard than is represented in the table below in order to mitigate effects on the network or if any special conditions exist.

| Source of Stormwater<br>Discharge(s)                                     | SMALL SITES<br>Total area of disturbance does not exceed 1,000m <sup>2</sup>   | LARGE SITES<br>Total area of disturbance equals, or is greater than 1,000m <sup>2</sup>   |
|--|--|---|
| From/during land disturbance activities                                  | Erosion and Sediment Control Plan is required  | Erosion and Sediment Control Plan is required   |
| From new / re-development<br>residential roof and<br>hardstand areas     | No discharge onto or into land where average site slope exceeds 5 degrees<br>Sumps collecting runoff from new hardstand areas shall be fitted with<br>submerged or trapped outlets wherever practicable<br>An assessment of water quantity effects and provision of on-site stormwater<br>storage or network upgrade may be required for sites in the flat**<br>On-site rain water storage is required for new and redevelopment sites on<br>the hills   | No discharge onto or into land where average site slope exceeds 5 degrees<br>First flush treatment is required for stormwater runoff from new hardstand<br>areas in excess of 150m <sup>2</sup> and buildings with copper or uncoated galvanised<br>metal roofs or guttering/spouting*<br>An assessment of water quantity effects and provision of on-site stormwater<br>storage or network upgrade may be required for sites in the flat**<br>On-site rain water storage is required for new and redevelopment sites on the<br>hills |
| From new / re-development<br>non-residential roof and<br>hardstand areas | No discharge onto or into land where average site slope exceeds 5 degrees<br>First flush treatment is required for stormwater runoff from new hardstand<br>areas in excess of 150m <sup>2</sup> , buildings with copper or uncoated galvanised<br>roofs or guttering/spouting and high-use sites<br>An assessment of water quantity effects and provision of on-site stormwater<br>storage or network upgrade may be required**<br>Site management and spill procedures required for sites that engage in<br>hazardous activities*** | No discharge onto or into land where average site slope exceeds 5 degrees<br>First flush treatment is required for stormwater runoff from new hardstand<br>areas in excess of 150m <sup>2</sup> , buildings with copper or uncoated galvanised roofs<br>or guttering/spouting and high-use sites<br>An assessment of water quantity effects and provision of on-site stormwater<br>storage or network upgrade may be required**<br>Site management and spill procedures required for sites that engage in<br>hazardous activities***  |

\* CCC has discretion to waive the requirement for first flush treatment of hardstand areas on large residential sites where the amount of pollution-generating hardstand being added is considered to have less than minor effect. "Uncoated" means without a painted or enamelled coating.

\*\* Quantity assessment and mitigation - The effects of the discharge on the stormwater network capacity and/or the extent or duration of flooding on downstream properties are to be assessed. Where CCC considers an increase (including cumulative increases) has a more than minor effect, onsite stormwater attenuation or stormwater network upgrade shall be provided. The details of storage volume and peak discharges or network capacity required to mitigate effects on flooding or network capacity constraints shall be determined by the Christchurch City Council Planning Engineer.

\*\*\* Site management and spill procedures – Procedures are to be implemented to prevent the discharge of hazardous substances or spilled contaminants discharging into any land or surface waters via any conveyance path.

### Schedule 7: 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 51.
- TBC-B = To Be Confirmed following engagement with papatipu rūnanga, through an update to the EMP, in accordance with Condition 53.

| Objective  | Attribute  | Attribute Target Level  | Basis for Target  |
|--|--|---|---|
| Adverse effects on<br>ecological values do<br>not occur due to<br>stormwater inputs                            | QMCI   | <ul> <li>Lower limit QMCI scores:</li> <li>Spring-fed – plains – urban waterways: 3.5</li> <li>Spring-fed – plains waterways: 5</li> <li>Banks Peninsula waterways: 5</li> </ul>  | QMCI is an indicator of aquatic ecological health, with higher<br>numbers indicative of better quality habitats, due to a higher<br>abundance of more sensitive species. QMCI scores are taken<br>from the guidelines in Table 1a of the LWRP (Canterbury<br>Regional Council, 2018). This metric is designed for wadeable<br>sites and should therefore be used with caution for non-wadeable<br>sites. These targets can be achieved through reducing<br>contaminant loads and waterway restoration.  |
| Adverse effects on<br>water clarity and<br>aquatic biota do not<br>occur due to sediment<br>inputs             | Fine sediment (<2 mm<br>diameter) percent cover<br>of stream bed<br>TSS concentrations in<br>surface water | <ul> <li>Upper limit fine sediment percent cover of stream bed:</li> <li>Spring-fed – plains – urban waterways: 30%</li> <li>Spring-fed – plains waterways: 20%</li> <li>Banks Peninsula waterways: 20%</li> <li>Upper limit concentration of TSS in surface water: 25 mg/L</li> <li>No statistically significant increase in TSS concentrations in surface water</li> </ul>  | Sediment (particularly from construction) can decrease the clarity<br>of the water, and can negatively affect the photosynthesis of<br>plants and therefore primary productivity within streams, interfere<br>with feeding through the smothering of food supply, and can clog<br>suitable habitat for species. The sediment cover Target Levels<br>are taken from the standards for the original Styx and South-West<br>Stormwater Management Plan consents, and are based on Table<br>1a of the LWRP (Canterbury Regional Council, 2018). These<br>targets should be used with caution at sites that likely naturally<br>have soft-bottom channels. These targets can be achieved<br>through reducing contaminant loads (particularly using erosion<br>and sediment control) and instream sediment removal. |
| Adverse effects on<br>aquatic biota do not<br>occur due to copper,<br>lead and zinc inputs in<br>surface water | Zinc, copper and lead<br>concentrations in surface<br>water  | <ul> <li>Upper limit concentration of dissolved zinc:</li> <li>Ōtākaro/ Avon River catchment: 0.0297 mg/L</li> <li>Ōpāwaho/ Heathcote River catchment: 0.04526 mg/L</li> <li>Cashmere Stream: 0.00724 mg/L</li> <li>Huritīni / Halswell River catchment: 0.01919 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.01214 mg/L</li> <li>Ōtūkaikino River catchment: 0.00868 mg/L</li> <li>Linwood Canal: 0.146 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> </ul> | These metals can be toxic to aquatic organisms, negatively<br>affecting such things as fecundity, maturation, respiration,<br>physical structure and behaviour. The CCC has developed these<br>hardness modified trigger values in accordance with the<br>methodology in the 'Australian and New Zealand Environment<br>and Conservation Council, and Agriculture and Resource<br>Management Council of Australia and New Zealand' (ANZECC,<br>2000) guidelines, and the species protection level relevant to<br>each waterway in the LWRP (Canterbury Regional Council,<br>2017). This calculation document can be provided on request.<br>These targets can be achieved primarily through reducing<br>contaminant loads.  |

| Objective   | Attribute   | Attribute Target Level   | Basis for Target  |
|---|---|--|---|
|   |   | <ul> <li>Upper limit concentration of dissolved copper:</li> <li>Ötākaro/ Avon River catchment: 0.00356 mg/L</li> <li>Öpāwaho/ Heathcote River catchment: 0.00543 mg/L</li> <li>Cashmere Stream: 0.00302 mg/L</li> <li>Huritīni / Halswell River catchment: 0.00336 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.00212 mg/L</li> <li>Ötūkaikino River catchment: 0.00152 mg/L</li> <li>Linwood Canal: 0.0175 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> <li>Upper limit concentration of dissolved lead:</li> <li>Ötākaro/ Avon River catchment: 0.01554 mg/L</li> <li>Gashmere Stream: 0.00521 mg/L</li> <li>Karo/ Avon River catchment: 0.01257 mg/L</li> <li>Cashmere Stream: 0.00521 mg/L</li> <li>Huritīni / Halswell River catchment: 0.01257 mg/L</li> <li>Pūharakekenui/ Styx River catchment: 0.00634 mg/L</li> <li>Ötūkaikino River catchment: 0.00384 mg/L</li> <li>Linwood Canal: 0.167 mg/L</li> <li>Banks Peninsula catchments: TBC-A</li> </ul> |   |
| Excessive growth of<br>macrophytes and<br>filamentous algae does<br>not occur due to<br>nutrient inputs | Total macrophyte and<br>filamentous algae (>20<br>mm length) cover of<br>stream bed | <ul> <li>Upper limit total macrophyte cover of the stream bed:</li> <li>Spring-fed – plains – urban waterways: 60%</li> <li>Spring-fed – plains waterways: 50%</li> <li>Banks Peninsula waterways: 30%</li> <li>Upper limit filamentous algae cover of the stream bed:</li> </ul>  | Macrophyte and algae cover are indicators of the quality of<br>aquatic habitat. Targets are taken from Table 1a of the LWRP<br>(Canterbury Regional Council, 2018). Improvement towards<br>these targets can be achieved by reduction in nutrient<br>concentrations and riparian planting to shade the waterways. |

| Objective   | Attribute   | Attribute Target Level  | Basis for Target   |
|---|---|---|--|
|   |   | <ul> <li>Spring-fed – plains – urban waterways:<br/>30%</li> <li>Spring-fed – plains waterways: 30%</li> <li>Banks Peninsula waterways: 20%</li> </ul>  |  |
| Adverse effects on<br>aquatic biota do not<br>occur due to zinc,<br>copper, lead and PAHs<br>in instream sediment | Zinc, copper, lead and<br>PAHs concentrations in<br>instream sediment | <ul> <li>Upper limit concentration of total recoverable metals for all classifications:</li> <li>Copper = 65 mg/kg dry weight</li> <li>Lead = 50 mg/kg dry weight</li> <li>Zinc = 200 mg/kg dry weight</li> <li>Total PAHs = 4 10 mg/kg dry weight</li> <li>No statistically significant increase in copper, lead, zinc and Total PAHs</li> </ul> | Meta Metals can bind to sediment and remain in waterways,<br>potentially negatively affecting biota. These trigger values are<br>based on the ANZECC guidelines (ANZECC, 2018). These<br>targets can be achieved through reducing contaminant loads and<br>instream sediment removal.  |
| Adverse effects on<br>Mana Whenua values<br>do not occur due to<br>stormwater inputs                              | Waterway Cultural Health<br>Index and State of<br>Takiwā scores       | <ul> <li>Lower limit averaged Waterway Cultural Health<br/>Index and State of Takiwā scores for all<br/>classifications:</li> <li>Spring-fed – plains – urban waterways:<br/>TBC-B</li> <li>Spring-fed – plains waterways: TBC-B<br/>Banks Peninsula waterways: TBC-B</li> </ul>  | The Waterway Cultural Health Index assesses cultural values<br>and indicators of environmental health, such as mahinga kai<br>(food gathering). These indices are on a scale of 1 - 5, with<br>higher scores indicative of greater cultural values. No guidelines<br>are available currently for the different types of waterways, so<br>these targets will be developed specifically for this consent, with<br>higher targets for waterways with higher values. These targets<br>can be achieved through reducing contaminant loads and habitat<br>restoration. |

### Schedule 8: Receiving Environment Objectives and Attribute Target Levels for Coastal Waters

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- 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 53. •

| Objective   | Attribute   | Attribute Target Level   | Basis for Target  |
|---|---|--|---|
| Adverse effects on water<br>clarity and aquatic biota do<br>not occur due to sediment<br>inputs             | TSS concentrations in surface<br>water                      | No statistically significant<br>increase in TSS<br>concentrations  | Elevated levels of TSS in the water column decrease the clarity of the water and can adversely affect aquatic plants, invertebrates and fish. 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. 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). |
| Adverse effects on aquatic<br>biota do not occur due to<br>copper, lead and zinc inputs<br>in surface water | Copper, lead and zinc<br>concentrations in surface<br>water | Maximum dissolved metal<br>concentrations for all classes<br>(with the exception of the<br>Operational Area of the Port of<br>Lyttelton):<br>• Copper: 0.0013 mg/L<br>• Lead: 0.0044 mg/L<br>• Zinc: 0.015 mg/L<br>No statistically significant<br>increase in copper, lead and<br>zinc concentrations | 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). These targets are taken from the ANZECC (2000) guidelines for the protection of 95% of species. The Operational Area of the Port of Lyttelton is affected by direct discharges from boats that will make monitoring of the effects of stormwater difficult, therefore the targets are not applicable to this area. These targets will be achieved by reducing contaminant loads.   |
| Adverse effects on Mana<br>Whenua values do not occur<br>due to stormwater inputs                           | Marine Cultural Health Index<br>and State of Takiwā scores  | Minimum averaged Marine<br>Cultural Heath Index and State<br>of Takiwā scores for all<br>classes:<br>• TBC-B   | The Marine Cultural Health Index and State of Takiwā scores<br>assesses cultural values and indicators of environmental health, such<br>as mahinga kai (food gathering). These indices are on a scale of 1 - 5,<br>with higher scores indicative of greater cultural values. No guidelines<br>are available currently for coastal areas, so this target will be<br>developed specifically for this consent. These targets can be achieved<br>through reducing contaminant loads.  |

### Schedule 9: 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<br>water quality   | Copper, lead, zinc and<br><i>Escherichia coli</i><br>concentrations in<br>drinking water | <ul> <li>Concentration to not exceed:</li> <li>Dissolved Copper: 0.5 mg/L</li> <li>Dissolved Lead: 0.0025 mg/L</li> <li>Dissolved Zinc:0.375 mg/L</li> </ul> No statistically significant increase in the concentration of <i>Escherichia coli</i> at drinking water supply wells | 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<br>adverse effects on<br>shallow<br>groundwater<br>quality | Electrical conductivity<br>in groundwater  | <ul> <li>No statistically significant<br/>increase in electrical conductivity</li> </ul>  | 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.  |

### Schedule 10: Receiving Environment Attribute Target Levels for Water Quantity

#### MODELLED CATCHMENTS

Objective for the management of stormwater quantity:

To mitigate the risk of inundation, damage to downstream property or infrastructure or human safety through management of stormwater run-off volumes and peak flows. The degree of mitigation will be measured against the attribute target levels for each receiving environment.

Attribute Target Level: Modelled flood levels for the 2% AEP for the assessment year critical duration event shall not increase more than the Maximum Increase listed below when compared to the modelled 2% AEP for the baseline year impervious scenario critical duration, as determined using CCC flood models. The baseline year scenario and assessment year scenario shall be identical except for changes to the impervious area, mitigation measures and the inclusion of any new network(s) that has arisen between the dates of the two scenarios and within the city limits. All non-variant scenario parameters shall be as at the assessment year scenario. The critical duration shall be assessed at the monitoring location of the attribute target level.

| Receiving Environment     | Monitoring Location       | Baseline Year | Maximum Increase (mm) |  |
|---------------------------|---------------------------|---------------|-----------------------|--|
| Ōtākaro/ Avon River       | Gloucester Street Bridge  | 2014          | 50                    |  |
| Pūharakekenui/ Styx River | Harbour Road Bridge       | 2012          | 120                   |  |
| Ōpāwaho/ Heathcote River  | Ferniehurst Street        | 1991          | 30                    |  |
| Huritīni/ Halswell River  | Minsons Drain confluence* | 2016          | 0                     |  |
| NON-MODELLED CATCHMENTS   |                           |               |                       |  |

| Receiving Environment | Attribute Target Level  | Basis for Target  | Notes  |
|-----------------------|---|---|--|
| Ōtūkaikino River      | Discharges from all new greenfield development into the<br>Christchurch City Council network are mitigated using the<br>"Partial Detention" strategy outlined in the<br>Pūharakekenui/ Styx SMP until such time as a monitoring<br>location can be set during review of the SMP | As measured through the CCC discharge<br>authorisation compliance process for<br>Resource and Building Consents until<br>such time as an Baseline Year can be set<br>during review of the SMP | CCC has just begun monitoring the<br>Ōtūkaikino at Dickeys Road Bridge.<br>Council does not currently model<br>flooding in the Ōtūkaikino River.<br>Flooding occurs primarily due to<br>backwater effects in the Waimakariri<br>River. Therefore, a best practice<br>approach to mitigation of<br>development will be implemented<br>until such time as Maximum Increase<br>can be set during review of the SMP. |

| Banks Peninsula (Various) | Discharges from all new greenfield development within<br>settlement areas of Te Pātaka o Rākaihautū/ Banks<br>Peninsula into the Christchurch City Council Network are<br>mitigated using the "Extra-Over Detention" strategy | As measured through the CCC discharge<br>authorisation compliance process for<br>Resource and Building Consents | Receiving environments within Te<br>Pātaka o Rākaihautū/ Banks<br>Peninsula Settlements are primarily<br>coastal. The strategy behind "Extra-<br>Over Detention" is to mitigate peak<br>flows from development sites back to<br>pre-development flow rates in order<br>to mitigate effects of flooding and<br>waterway channel erosion.<br>Therefore, a best practice approach<br>to mitigation of development will be<br>implemented. |
|---------------------------|---|---|--|
|---------------------------|---|---|--|

\* The Minsons Drain confluence with the Huritīni/Halswell River represents the southerly extent of inputs from Christchurch City catchments, but also contains discharges from Selwyn District. Inputs from catchments outside of the city shall be isolated in the CCC stormwater model for compliance assessment purposes.

#### References

ANZECC (Australian and New Zealand Environment and Conservation Council, ANZECC, and Agriculture and Resource Management Council of Australia and New Zealand, ARMCANZ), 2000. Australian and New Zealand guidelines for fresh and marine water quality. Volume 1: The guidelines. ANZECC & ARMCANZ, Artarmon, New South Wales.

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