

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

## Global Dewatering Discharge Consent

**Story:** Looking after the Environment: SCIRT Global Resource Consents

**Theme:** Programme Management

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A consent granted by Environment Canterbury, providing consent to discharge water and contaminants to water.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit [www.scirtlearninglegacy.org.nz](http://www.scirtlearninglegacy.org.nz)



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8 March 2012

Christchurch City Council  
PO Box 73014  
Orchard Road  
Christchurch 8154

Dear Sir/Madam

**NOTICE OF RESOURCE CONSENT DECISION(S)**

**NUMBER(S): CRC121310**

**NAME: Christchurch City Council**

The decision of Environment Canterbury is to grant your application(s) on the terms and conditions specified in the attached resource consent document(s). Your resource consent(s) commences from the date of this letter advising you of the decision. The reasons for the decision are:

- 1) The application is consistent with the sustainable management of natural and physical resources.

For some activities a report is prepared, with officer recommendations, to provide information to the decision makers. If you require a copy of the report please contact our Customer Services section.

If you do not agree with the consent authority decision, you may object to the whole or any part. Notice of any objection must be in writing and lodged with Environment Canterbury within 15 working days of receipt of this decision.

Alternatively you may appeal to the Environment Court, PO Box 2069, Christchurch. The notice of appeal must be lodged with the Court within 15 working days of receipt of this decision, with a copy forwarded to Environment Canterbury within the same timeframe. If you appeal this decision, the commencement date will then be the date on which the decision on the appeal is determined. If you are in any doubt about the correct procedures, you should seek legal advice.

You can find online information about your consent document at <http://ecan.govt.nz/publications/General/YourConsentDocumentBooklet09.pdf> and also information regarding the monitoring of your consent at <http://ecan.govt.nz/publications/General/monitoring-your-consent-booklet.pdf>. If you have a resource consent for a **septic tank**, please also visit <http://ecan.govt.nz/publications/General/FlushedWithSuccess.pdf> for information about your on site wastewater treatment system. These booklets contain important information about your consent and answers some commonly asked questions about what will happen next in the life of your resource consent. There is an Annual Compliance Monitoring Charge associated with every consent. For details of this, please refer to page 10 of the "Monitoring Your Consent" booklet.

Environment Canterbury takes every measure to improve both applications and processes, and we appreciate your feedback as an important component in ensuring this occurs. You can complete a consents survey on-line at <http://www.ecan.govt.nz/services/resource-consents/pages/surveys.aspx>.

**Our Ref: CO6C/3222**

**Your Ref:**

**Contact: Customer Services**

Alternatively, you can call our Customer Services Section on 0800 EC INFO who will be happy to complete the survey with you.

Charges, set in accordance with section 36 of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of resource consents and for the carrying out of its functions under section 35 of the Act.

Thank you for helping us make Canterbury a great place to live.

**For all queries please contact our Customer Services Section by telephoning (03) 353 9007, 0800 ECINFO (0800 324 636), or email [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz) quoting your CRC number above.**

Yours Sincerely

A handwritten signature in black ink, appearing to be 'J. S.', written in a cursive style.

**CONSENTS PLANNING SECTION**

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**RESOURCE CONSENT CRC121310**  
*Pursuant to Section 104 of the Resource Management Act 1991*  
**The Canterbury Regional Council (known as Environment Canterbury)**

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**GRANTS TO:** Christchurch City Council

**A DISCHARGE PERMIT:** To discharge water and contaminants to water

**DATE DECISION:** 8 March 2012

**EXPIRY DATE:** 8 March 2022

**LOCATION:** Various Locations, CHRISTCHURCH CITY

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**SUBJECT TO THE FOLLOWING CONDITIONS:**

- 1) The discharge shall be only dewatering water, bore development and clarity testing and pressure testing water and contaminants taken in accordance with consent CRC121311.
- 2) The discharge shall be to land where it may enter surface water or surface waterbodies, either directly or via the Christchurch City Council stormwater network.

**PRIOR TO COMMENCING THE DISCHARGE**

- 3) The Canterbury Regional Council, attention: CRC Compliance and Enforcement Manager shall be notified at least five working days before each discharge occurs and the notification shall advise of the location of the discharge point(s), the expected start date and duration, and shall identify the contamination risk zone(s) for the site from plan CRC121310, attached to and forming part of this consent.
- 4) If the dewatering methodology is pumping water directly from the trench, the consent holder shall advise the Office of the relevant Runanga and Mahaanui Kurataiao Limited at least ten working days prior to commencing the work. If dewatering via pumping from a trench needs to occur and is unplanned, the consent holder shall advise the Office of the relevant Runanga and Mahaanui Kurataiao Limited as soon as practicable. The advice shall include the matters listed in condition 3.
- 5) The consent holder, and all persons exercising this consent, shall:
  - (a) Ensure that all personnel undertaking activities authorised by this consent are made aware of, and have access to, the contents of this consent document and the Contractor's Environmental Management Plan prior to the commencement of the works; and
  - (b) Have particular regard to any advice provided in response to condition (4) regarding practical measures for avoidance of adverse effects on sites of significance to tangata whenua.

**ENVIRONMENTAL MANAGEMENT PLAN**

- 6)
  - (a) The discharge shall be carried out in accordance with an Environmental Management Plan (EMP) produced by the relevant head contractor.
  - (b) An EMP for each head contractor shall be submitted in writing to the Canterbury Regional Council, Attn: RMA Compliance and Enforcement Manager, within three months of the first exercise of the consent.
  - (c) The EMP shall include, but not be limited to, details on the following:
    - (i) Contact details for the Contractor;
    - (ii) Sediment Control measures;

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- (iii) Spill Response Plan;
  - (iv) Dewatering Procedures Plans for Contamination Risk Zones;
  - (v) Mitigation steps to address actual and potential adverse effects on sites of significance to tangata whenua and cultural values.
- (d) The EMP may be amended at any time. Any amendments shall be:
- (i) Consistent with the conditions of this resource consent; and
  - (ii) Submitted in writing to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, prior to any amendment being implemented.
- (e) The EMP and any amendments shall be prepared by a suitably qualified person, with at least five years experience in the relevant field. The name of the person preparing any part of the EMP and their qualifications shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, on request.

**Advice Note:** The three levels of EMP associated with this project are:

- Level 1: SCIRT overarching EMP outlines high level tools, strategies and guidelines. Very broad.
- Level 2: EMPs of head contractors. These are more detailed.
- Level 3: Project level management plans / procedures. Various names for these, but are generally a hazard/risk assessment which includes site specific environmental matters.

This condition refers to a Level 2 EMP produced by the Contractor, and not a project specific Level 3 EMP.

#### DISCHARGE METHOD AND LIMITS

- 7) (a) The discharge shall not cause erosion of the bed or banks of the surface waterway.  
 (b) The discharge shall only occur over erosion protection or via an established stormwater outfall pipe. Erosion protection measures shall be inspected and maintained by the Contractor at least once per week. A record of the inspections shall be kept in a log book and provided to the Canterbury Regional Council on request.
- 8) No discharge shall occur if water within the receiving waterway, at or downstream of the discharge point, has overtopped the banks and is flooding adjacent land. The discharge may recommence once these floodwaters have receded and the flow in the waterway is completely contained within the river channel.
- 9) All dewatering water shall pass through a sediment removal device prior to discharge.
- 10) (a) The concentration of total suspended solids in the discharge leaving the site shall not exceed 150g/m<sup>3</sup>.  
 (b) The discharge may only exceed the limit specified in Condition (10)(a) if all practicable measures to reduce the suspended sediments in the discharge have been undertaken and the written agreement of the Canterbury Regional Council, RMA Compliance and Enforcement Manager has been obtained.
- 11) The discharge shall be in accordance with the Dewatering Procedure Plan, attached to and forming part of this consent, for the applicable Contamination Risk Zone identified in plan CRC121310, attached to and forming part of this consent.
- 12) When required by the Dewatering Procedure Plan, the oil water separator shall be designed and sized to remove floatable hydrocarbons and achieve a discharge concentration not exceeding 5 milligrams of total petroleum hydrocarbon per litre of water.

#### MONITORING

- 13) For the purposes of conditions (14) to (19) and the Dewatering Procedure Plan which forms part of

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this consent, a suitably qualified Environmental Specialist is defined as a person with a relevant tertiary qualification and at least two years experience in contaminated land matters, including the identification and assessment of contaminated soil and groundwater.

- 14) At least ten samples of dewatering water shall be taken per month across the infrastructure rebuild dewatering discharges. The samples shall be taken at the end of the treatment train, before the discharge leaves the site and from a variety of sites discharging under this consent (including variation in dewatering methodology, location and duration) to the satisfaction of the Canterbury Regional Council. The samples shall be analysed for total suspended solids.
- 15) A sample of dewatering water shall be taken from the first ten Zone 1 High Risk and the first ten Zone 2 Medium Risk zones, as identified on plan CRC121310, where dewatering discharges occur. The samples shall be taken at the end of the treatment train, before the discharge leaves the site. The samples shall be analysed for all contaminants that an Environmental Specialist considers are likely to occur in the discharge.

**Advice Note:** Analysis for total suspended solids in these samples is not required as this is dealt with under condition (14).

- 16) Analysis of samples taken in accordance with condition (14) and (15) or taken at the discretion of the Environmental Specialist in accordance with the Dewatering Procedure Plan, shall be undertaken using the most appropriate method by a laboratory that is certified for that method of analysis by an accreditation authority such as International Accreditation NZ (IANZ).
- 17) The results of the analyses undertaken in accordance with condition (16), along with the name(s) of the person(s) who collected the samples, the location, and the date and time of sampling shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, once per month.
- 18) The discharge shall be observed for contaminants in accordance with the Dewatering Procedure Plan for the applicable Contamination Risk Zone.
- 19) Where site visits are undertaken by an Environmental Specialist, in accordance with the Dewatering Procedure Plan, a record of the visit shall be kept. These records, including any sampling results or photographs, shall be submitted in writing to the Canterbury Regional Council, Attn: RMA Compliance and Enforcement Manager, and the Office of the relevant Runanga twice per year during the last five working days of April or October, or upon request.

#### ANNUAL REPORTING

- 20) A report shall be submitted to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, the Office of the relevant Rūnanga, and to Canterbury Regional Council and Christchurch City Council state of the environment monitoring co-ordinators, by 31 August each year addressing the following matters:
  - (a) A summary of all repair works where dewatering water was discharged during the year ending 30 June, including the location of the discharge, and a brief description of the nature of the works undertaken.
  - (b) A summary of the results of the analyses of samples obtained in accordance with conditions (14) and (15).

#### ADMINISTRATION

- 21) The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
  - (a) dealing with any adverse effect on the environment which may arise from the exercise of this

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- consent and which it is appropriate to deal with at a later stage; or
- (b) requiring the consent holder to carry out monitoring and reporting instead of, or in addition to, that required by the consent.
- 22) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 31 March 2017.

**Issued at Christchurch on 8 March 2012**

Canterbury Regional Council

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*Everything is connected*





## **CRC121310 DEWATERING PROCEDURE PLAN**

A suitably qualified Environmental Specialist in the following Dewatering Procedure Plans is defined as a person with a relevant tertiary qualification and at least two years experience in contaminated land matters, including the identification and assessment of contaminated soil and groundwater.

### **Zone 1 High Risk: Dewatering procedure plan**

Contractors need to be aware that groundwater and soils within this zone have a high risk of containing contaminants. Some of these contaminants may be visible, or be odorous but many may not be discernable at all. Therefore all dewatering water is to be treated as contaminated.

To reduce the level of contaminants in the discharge, a combination of a sediment removal system and an oil water separator is to be installed. In addition to this, the Contractor will need to observe the discharge water every two hours to check if any unusual odours, colours or any other factor suggest that there are contaminants in the discharge. A suitably qualified Environmental Specialist will visit the site once to visually assess the discharge, and this person shall also be called if the 2 hourly visual inspection indicates contaminants are in the discharge.

To effect these mitigation measures, the following procedures shall be followed in the high risk zone

- Notify the nominated Environmental Specialist of the dewatering at least one day (or as early as possible) prior to works commencing in the high risk zone
- Set up sediment removal systems as required by the construction management plan. Identify alternative discharge points, such as sewer manholes, in case they are required.
- Connect the appropriately sized oil water separator to the downstream end of the sediment removal system.
- Locate the discharge point in a manner that complies with the Construction Management Plan (prepared by others) and allows for visual observation of the discharge
- Commence dewatering and observe the water quality in the trench as well as within the sediment removal system, the oil water separator and at the discharge point
- The Environmental Specialist to observe the dewatering within the first 24 hours of dewatering commencing, and to collect a sample if they consider it necessary. The Environmental Specialist may direct additional mitigation measures as required.
- Contractor to repeat the visual inspections of the dewatering quality every 2 hours whilst on site to check for oily sheens, discolouration or unusual odours
- Contractor to maintain the system in accordance with manufacturers specifications and keep records of any incidences or observed contamination. This information shall be provided to the Environmental Specialist.
- Upon exit from Zone 1, the oil water separator may be disconnected paying careful attention to not spilling any collected hydrocarbons. These shall be decanted and removed offsite to a licensed liquid waste disposal facility.
- All collected sediment to be disposed of to Burwood Landfill under a waste manifest, or other facility licensed to receive contaminated material.

## **Zone2 Medium Risk: Dewatering procedure plan**

Contractors need to be aware that groundwater and soils within this zone have a medium risk of containing contaminants. Some of these contaminants may be visible, or be odorous but many may not be discernable at all. Therefore all dewatering water is to be treated as contaminated.

To reduce the level of contaminants in the discharge, sediment removal is the primary method of treatment. However if an oily sheen or floating contaminants are noted in the dewatering discharge an oil water separator is to be installed. To identify the need for this, the Contractor will need to observe the discharge water every two hours to check if any unusual odours, colours, oily sheen or any other factor suggest that there are contaminants in the discharge. A suitably qualified Environmental Specialist shall be contacted to visit the site if the Contractor identifies any contaminants in the discharge.

To effect these mitigation measures, the following procedures shall be followed in the medium risk zone

- Set up sediment removal systems as required by the construction management plan. Identify alternative discharge points, such as sewer manholes, in case they are required.
- Confirm that an appropriately sized oil water separator is available for the site if required.
- Locate the discharge point in a manner that complies with the Construction Management Plan and allows for visual observation of the discharge
- Commence dewatering and observe the water quality in the trench as well as within the sediment removal system and at the discharge point
- Contractor to repeat the visual inspections of the dewatering quality every 2 hours whilst on site to check for oily sheens, discolouration or unusual odours
- Contractor to call the Environmental Specialist to assess the discharge (visually and olfactory test) if they observe unusual odours, colours or sheens. The Environmental Specialist may direct the Contractor to discharge to sewer, connect an oil water separator or put in place additional mitigation measures as required. The Environmental Specialist may collect a sample to confirm their assessment.
- Contractor to maintain the system in accordance with manufacturers specifications and keep records of any incidences or observed contamination. This information shall be provided to the Environmental Specialist.
- Upon exit from Zone 2, the oil water separator may be disconnected (if used) paying careful attention to not spilling any collected hydrocarbons. These shall be decanted and removed offsite to a licensed liquid waste disposal facility.
- All collected sediment to be disposed of to Burwood Landfill under a waste manifest, or other facility licensed to receive contaminated material.

### **Zone3 Low Risk: Dewatering procedure plan**

Whilst there is a low risk of contaminants being in the ground and groundwater in this zone, there is still a chance that contaminants may be present in some instances. Some of these contaminants may be visible, or be odorous but many may not be discernable at all.

To reduce the level of contaminants in the discharge, sediment removal is the primary method of treatment. Whilst not expected in this zone, if an oily sheen or floating contaminants are noted in the dewatering discharge an oil water separator may need to be installed. To identify the need for this, the Contractor will need to observe the discharge water every to hours to check if any unusual odours, oily sheens, colours or any other factor suggest that there are contaminants in the discharge. A suitably qualified Environmental Specialist shall be contacted to visit the site if the Contractor identifies any contaminants in the discharge.

To effect these mitigation measures, the following procedures shall be followed in the medium risk zone

- Set up sediment removal systems as required by the construction management plan. Identify alternative discharge points, such as sewer manholes, in case they are required.
- Locate the discharge point in a manner that complies with the Construction Management Plan and allows for visual observation of the discharge
- Commence dewatering and observe the water quality in the trench as well as within the sediment removal system and at the discharge point
- Contractor to repeat the visual inspections of the dewatering quality every 2 hours whilst on site to check for oily sheens, discolouration or unusual odours
- Contractor to call the Environmental Specialist to assess the discharge (visually and olfactory test) if they observe unusual odours, colours or sheens. The Environmental Specialist may direct the Contractor to discharge to sewer, connect an oil water separator or put in place additional mitigation measures as required. The Environmental Specialist may collect a samples to confirm if their assessment.
- Contractor to maintain the system in accordance with manufacturers specifications and keep records of any incidences or observed contamination. This information shall be provided to the Environmental Specialist.
- Upon exit from Zone 3, the oil water separator may be disconnected (if used) paying careful attention to not spilling any collected hydrocarbons. These shall be decanted and removed offsite to a licensed liquid waste disposal facility.
- All collected sediment to be disposed of to Burwood Landfill under a waste manifest, or other facility licensed to receive contaminated material.

## Exercising of resource consent

**It is important that you notify Environment Canterbury when you first start using your consent.**

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**GRANTED TO:** Christchurch City Council  
**A DISCHARGE PERMIT:** To discharge water and contaminants to water  
**LOCATION:** Various Locations, CHRISTCHURCH CITY

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Even if the consent is replacing a previous consent for the same activity, you need to complete and return this page.

Providing this information will:

- Validate your consent through to its expiry date
- Minimise compliance monitoring charges
- Help provide an accurate picture of the state of the environment.

If consent CRC121310 is not used before 31/03/2017 this consent will lapse and no longer be valid.

**Declaration:**

I have started using this resource consent.

**Action taken:** (e.g. pasture irrigated, discharge from septic tank/boiler/spray booth etc).

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**Approximate start date** (*Note: this may be different to the date the consent was granted*): \_\_\_\_\_

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Full name of person signing** (please print): \_\_\_\_\_

**Please return to:**

Environmental Protection - Administration  
Environment Canterbury  
PO Box 345  
Christchurch