

Attachment 2

**Example of Wellington Regional permit
conditions to enable adaptive management regime**

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Discharge permit WGNXXXX [YYYY] to discharge sediment laden water (including chemical flocculant) to land where it may enter water and to the waters of Stream from areas of bulk earthwork associated with the construction of a road.

Adaptive Management (includes pre-works requirements)

1. The permit holder shall engage a suitably qualified, experienced and independent ecologist to prepare and submit a **Stream Quality Monitoring Plan (SQMP)** for approval to the Manager, Environmental Regulation, Wellington Regional Council for approval at least 20 working days prior to baseline monitoring being initiated (in accordance with this condition). The ecologist that the permit holder engages shall be to the approval of the Manager, Environmental Regulation, Wellington Regional Council.

The purpose of the **SQMP** is to establish and implement scientifically robust monitoring methods at representative locations to monitor the health of the streams receiving discharges.

The **SQMP** shall include the following:

- Monitoring locations:
 - monitoring shall be undertaken at three appropriate locations, upstream of the all discharges; another at a maximum distance of 70m from the point the last discharge point and another point prior to the confluence of A Stream with B Streams;
 - Each of the monitoring locations shall be numbered and shown on a scaled aerial map. GPS locations shall be given for each of the monitoring locations.
- Monitoring methodology for invertebrate sampling, including, but not limited to:
 - The technique(s) that will be used to carry out the samples;
 - The area that sampling will be undertaken over;

- Analysis methods that will be used to record and present the data i.e. MCI and QMCI;
- Any other assessments that will be undertaken i.e. physical habitat assessments.
- How often sampling will be undertaken for the following periods at each of the monitoring locations:
 - Baseline monitoring (including the date when monitoring will be first initiated). Sampling *shall* be undertaken on a minimum of two occasions. All baseline monitoring sampling shall be completed prior to any works authorised under consent XXXX [YYYY].
 - Monitoring during bulk earthworks; and
 - Monitoring once the site is completely stabilised.
- Monitoring methodology for deposited sediment, including, but not limited to:
 - The techniques(s) that will be used to carry out the samples i.e. quorer method, Molman particle size method.
 - The area that sampling will be undertaken over;
 - The number of samples that will be undertaken at each sample site;
 - Analysis methods that will be used to present the data;
 - Any other assessments that will be undertaken. This shall include photographs of the stream bed at each sample site, prior to the sampling being undertaken, and of any potential influence (i.e. landslip, failed erosion and sediment control measure) that may have had an affect on the results;
 - How often monitoring will be undertaken for the following periods at each of the monitoring locations:
 - Baseline monitoring (including the date when monitoring will be first initiated). Sampling *shall* be undertaken on a minimum of

two occasions. All baseline monitoring sampling shall be completed prior to any stream works authorised under consent WGNXXX [YYYY];

- Monitoring during bulk earthworks;
- Monitoring once the site is completely stabilised.

o Identification of any additional monitoring that will be undertaken at any time that the results of the invertebrate sampling and deposition monitoring indicate significant adverse effects have or could potentially occur i.e. conducting additional sampling points to show the significance and extent of adverse effects.

- o Monitoring methodology for rainfall monitoring, including, but not limited to:
 - The design of the rainfall gauge that will be used; and
 - How often rainfall is going to be recorded during the following periods:
 - Baseline monitoring;
 - Monitoring during bulk earthworks;
 - Monitoring once the site is stabilised.

Note: For the purposes of Conditions 1, 3, 13, 15, 24, 26, 32 and 33 “stabilised” in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and as specified in Wellington Regional Council’s Erosion and Sediment Control Guidelines for the Wellington Region, September 2002. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by the Manager, Environmental Regulation, Wellington Regional Council, an 80% vegetative cover has been established.

2. The **Stream Quality Monitoring Plan (SQMP)**, prepared and submitted under Condition 1 of this permit, shall be implemented in accordance with the approved plan (under Condition 1 of this permit). Changes to the **SQMP** shall not be made without the prior approval of the Manager, Environmental Regulation, Wellington Regional Council.
3. The permit holder shall provide a **Stream Quality Monitoring Report (SQMR)** to the Manager, Environmental Regulation, Wellington Regional Council within the timeframes listed below. The **SQMR** shall be prepared and submitted by a suitably qualified, experienced and independent ecologist and shall detail the findings of the Stream Quality Monitoring Plan (SQMP) (implemented under Condition 2). The ecologist that the permit holder engages shall be to the approval of the Manager, Environmental Regulation, Wellington Regional Council.
 - Baseline monitoring – within one month of the last sampling occasion;
 - Monitoring during bulk earthworks – within one month of each sampling occasion;
 - Monitoring once the site is stabilised – within one month of the last sampling occasion.The **SQMR** shall include, but not be limited to:
 - The results of the monitoring undertaken under the SQMP;
 - An analysis of the results and what this indicates in regards to the effects that discharges are having on the aquatic ecosystems in each particular monitoring location and stream as a whole;
 - Recommendations for approval to the Manager, Environmental Regulation, Wellington Regional Council, to remedy or mitigate any significant adverse effects that have occurred or to avoid foreseen significant adverse effects. This may include, but not be limited to:
 - Changes in the management or implementation of erosion and sediment control measures;
 - Methods to remedy the significant adverse effects; and

- Mitigation measures to offset the significant adverse effects.

Note: for the purposes of this condition “significant adverse effects” are those effects which are determined to be significant in the professional opinion of the engaged ecologist.

Note: for the purposes of this condition “stabilised” has the same definition as that set out in Condition 1 of this permit.

4. Those recommendations approved from the **Stream Quality Monitoring Report (SQMR)** under Condition 3 of this permit shall be undertaken by the permit holder to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and within the timeframe specified by the Manager, Environmental Regulation, Wellington Regional Council.

Note: A resource consent may be required to undertake the works recommended within the **Stream Quality Monitoring Report (SQMR)**.

Chemical flocculation (pre-works requirement)

5. The permit holder shall prepare and submit a **Flocculation Management Plan (FMP)** for approval to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council, at least 20 working days prior to any flocculation works commencing. The FMP shall include, but not be limited to:
 - Details that specify that the flocculation will be triggered following a 10mm rain event;
 - Details of optimum dosage rate calculated from the soils in the ponds catchment including details of the calculation (e.g. bench testing);
 - Procedures for the storage of flocculation chemical(s) onsite;
 - A flocculation chemical spill contingency plan; and
 - Methods and responsibilities for monitoring and maintenance of the system; and
 - Identification of a suitably qualified and experienced person and their specific responsibilities for ensuring the operation, monitoring and maintenance of the chemical flocculation system to ensure that each sediment retention pond is operated as outlined in the FMP.