

IN THE MATTER OF THE

Resource Management Act 1991

AND

IN THE MATTER OF

Resource Consent application **CRC101948**,
CRC101950, by Prebbleton Central Limited for a
discharge permit to discharge residential
stormwater onto land and into water and Resource
Consent application **CRC101952** by Prebbleton
Central Limited for a land use consent to undertake
works within the bed of Pebbles Drain and over the
confined aquifer

DECISION OF THE HEARING COMMISSIONER

19th July 2010

Heard on the 7th July 2010 at the offices of the Canterbury Regional Council, 58 Kilmore
Street, Christchurch

HEARING COMMISSIONERS

Alec Neill (Chairperson)

APPEARANCES

Applicant:

Mr E. Duke, Civil and Environmental Engineer of Davis Ogilvie;

Mr R. Benge, Engineer of Davis Ogilvie.

Submitters:

Mr R Hill

Mr L Maw;

Section 42A reporting officer:

Mr J. Pettersson, Environmental Engineer, Tonkin Taylor Limited.

DECISION

On behalf of the Canterbury Regional Council, pursuant to sections 104, 105, 107 and 108, Resource Management Act 1991, I have determined as follows:

Resource consent application CRC101948, by Prebbleton Central Limited for a discharge permit to discharge stormwater which may contain contaminants to land in circumstances where it may enter to water from a 141 lot residential subdivision located at Prebbleton be granted. The resource consent shall be for the duration of 35 years subject to consent conditions (see Annexure 1)

Resource consent application CRC101950, by Prebbleton Central Limited for a discharge permit to discharge stormwater which may contain contaminants to surface water from a 141 lot residential subdivision located at Prebbleton be granted. The resource consent shall be for the duration of 35 years subject to consent conditions (see Annexure 1)

Resource consent application CRC101952 by Prebbleton Central Limited to undertake works within the bed of Prebbles drain and excavate over the confined aquifer located at Prebbleton be granted. The resource consent shall be for a duration of 3 years, subject to consent conditions (see Annexure 2)

INTRODUCTION

BACKGROUND AND PROCEDURAL MATTERS

1. This is the decision of Hearing Commissioner Alec Neill appointed by the Canterbury Regional Council ("CRC") to hear and decide applications by Prebbleton Central Limited ("the applicant") to discharge stormwater and contaminants onto land, and into water from 15.06 ha site with a 141 lot residential subdivision and to undertake works within the bed of Prebbles drain and excavate over the confined aquifer on the applicants property located at Prebbleton
2. The initial application was lodged on 23rd December 2009, and was publicly notified in the Christchurch Press on 13th March 2010 and the Selwyn Times on 16th March 2010 In addition to advertising, seventeen (17) potentially affected parties were sent written notice of the application. The application received three submissions within the statutory timeframe. Of the three submitters, two opposed the entire application, the other opposed both discharge consents but was neutral

on the landuse consent. All three parties initially wished to be heard at the hearing, however following additional information provided by the Applicant, a submitter the Canterbury Regional Council River Engineers withdrew their right to be heard.

3. Prior to the hearing date a report (dated 23rd June 2010) was produced pursuant to section 42A of the Resource Management Act (“the Act” or “RMA”) by the reporting officer, Mr Jared Pettersson. The report and addendum provided analyses of the matters requiring consideration by a hearing commissioner. The reporting officer concluded that the application could be granted. A suite of proposed conditions were attached for the Commissioner’s consideration.
4. The hearing commenced at 9.30am on 7th July 2010, and evidence was heard during the course of that morning. I undertook a site visit on the afternoon of 7th July 2010. The hearing was closed on 12th July 2010.

THE APPLICATION

5. The proposed development is located in Prebbleton in the Selwyn District. The applicant proposes to discharge stormwater onto land and into surface water (Prebbles Drain) for a total of 141 lot residential subdivision consisting of 32 developed Lots and 109 lots to be developed as well as undertaking excavations over the confined aquifer to provide retention basins prior to stormwater discharging into the Selwyn District Councils drainage network . The site is located near the corner of Toswill and Springs Road, Prebbleton at or about map reference NZMS 260 M36:7089-3618
6. The applicant currently holds the following consents relating to the subdivision:
 - (a) Discharge of construction phase stormwater into land (CRC101624), and consent to excavate over the coastal confined aquifer (CRC101625). These consents cover construction of the road network and installation of services for stages 2 and 3 of the residential subdivision. Both consents have a duration of 12 months, and expire on 19 March 2011.

- (b) Discharge of residential stormwater into surface water (CRC071943) from the 3.8 ha stage 1 of the residential subdivision and consisting of 28 lots. This consent expires on 31 July 2042.
7. The applicant proposes to continue to develop the 15.06 ha site with a total of a 141 lot residential subdivision. The first flush of stormwater will be treated via an infiltration basin, with additional discharge into land via a detention/infiltration basin. The combination for the two basins will also provide attenuation of flow before discharging to Prebbles Drain
8. In order to commence the next stage of the subdivision Prebbleton Central Ltd seeks the following consents:
- a. Discharge of residential stormwater, which may contain contaminants, into land (CRC101948)
 - b. Discharge of residential stormwater, which may contain contaminants, into surface water -Prebbles Drain (CRC101950)
 - c. Land use consent to undertake works within the bed of Prebbles Drain and excavate over the confined aquifer (CRC101952)
9. That upon the completion of the works and the commissioning of the stormwater first flush and infiltration/detention basins, CRC071943 will be surrendered and extinguished

THE HEARING

The applicant's case

10. **Mr Elliot Duke** conducted the applicant's case. He is a Chartered Professional Engineer employed by Davis Ogilvie and Partners Limited

In summary he made the following main points.

- The total development consists of 141 lots which includes the existing consented 32 residential development (CRC 071943). The new consent, if

granted, will replace that consent as those basins will no longer be operational

- The stormwater management system has been designed to treat run off from site and to attenuate the run off rate and volume to pre-development conditions to ensure the minimisation of effect on downstream receiving environment.
- The system has been designed of sufficient size to accommodate run off for both residential and commercial land but these applications relate to the residential subdivision.
- Treatment of first flush or water quality volume (i.e. first 25mm of rainfall is by infiltration through constructed sand soil mix. This will overlie free draining gravel and will remove suspended sediment, nutrients and pathogens prior to the treated stormwater entering groundwater.
- Weirs will divert water in excess to attenuation basin to be discharged via a rapid infiltration area and system to ground
- Flow in excess of infiltration capacity will discharge to Prebbles drain via a 525mm controlled outlet structure but below existing pre-development rates of storms up to 1:50 year return period event.
- In extreme events run off from the south catchment will be conveyed to Tosswill Road drain via surface flooding through the reserve area.
- Alternative options were considered but discharge to ground via a stormwater treatment basin with overflow to an attenuation basin that included infiltration was chosen as the best practical option.
- Discharge to Prebbles drain was preferred to discharge to Tosswill drain.
- Accepts bundled activities should be considered as discretionary activities.
- Accepts that the catchment is sensitive to flooding but proposed system will reduce run off rates to pre-development levels and reduce the total volume of stormwater to less than pre-development conditions for storms up to and including 1:50 year 60 hour duration event.
- Accepts additional mitigation measures by way of conditions to ensure system operates as intended and to ensure downstream effects are minimised.
- The effects upon Prebbles drain are less than minor.

Submitters

11. Mr Richard Hill

Richard Hill presented evidence on behalf of Richard and Annette Hill. Mr Hill had previously attended a pre hearing conference. He made the following points.

- The unnamed drain passing through our freehold property will receive the overflow of any water discharge resulting from the development. Flooding in their property has previously occurred.
- The unnamed drain is not a natural waterway and is legally within our boundaries. No easements are recorded against the title allowing for discharge of stormwater.
- The S42A officers report requires clarification in respect to clauses 50, 57, 60, 68, 69 and 74.
- That any retention and filtration basins should be of sufficient size to accommodate potential future sub-divisions within the area.
- Erosion of banks of the drain are likely in the event of higher water flows.
- Existing springs in Prebbles drain add to the flow during high water table periods.

12. Mr Lindsay Maw

Lindsay Maw presented on behalf of Lindsay and Catherine Maw. He made the following comments:

- His concerns were in respect to flooding and to contaminants entering water.
- He considered the drain was in no fit state to carry additional water.
- Inadequate maintenance has been carried out by Canterbury Regional Council in the past.
- Scouring of banks of drain is a concern. Heavy rainfall increases the spring activity, and blockages within the drain have occurred.
- The whole area is sensitive to flooding and the area is not free draining.

Section 42A Report

13. **Mr Jared Pettersson** referred to his Section 42A Report. In his opinion, but subject to conditions, the application could be granted. In his verbal evidence and in response to questions Mr Pettersson stated:

- The area is flood sensitive
- There is low ecological value in the drainage system before it reaches Dawson's creek.
- The Christchurch City Council guidelines are appropriate for this application.
- Is a not standard design but is in accord with best practise.
- Water quantity must be maintained at pre-development rates and volumes. The duration of the flow may be extended but not the volume.
- The issue of scouring has been considered at point of discharge. The discharge should not increase scouring outside the property boundaries.
- The effects are minor. Mitigation can be provided through conditions.
- Conditions need to be finalised.

Closing Submission of the Applicant

14. Mr Duke briefly exercised his right of reply.

- Accepts possible changes of conditions are likely
- That in other respects there should be no concerns and that the application should be granted.

Site Visit

15. On Wednesday 8 July 2010 I conducted a site visit. All parties were invited to attend. Elliott Duke and Geoff Ward were in attendance for the applicant. Lindsay Maw represented the submitters. I was able to view the existing sub-division and temporary retention ponds, the site of the new storm water treatment basin with overflow to an attenuation basin and entry to Prebbles drain and an inspection of Tosswill drain. It was noted that on the day of inspection the Prebbles drain was dry. I then attended at the Hill property and the Maw property. At both those

properties I inspected the unnamed drain (an extension of Prebbles drain) where there was substantial continuous flow in that reach of the drain thus confirming evidence of the existence of springs between the applicants land and the lands of the submitters to the east of the applicant's site.

ASSESSMENT

16. I have summarised the evidence presented
17. In making my assessment, I have considered the application, the assessment of environmental effects (AEE), the Section 42A Report, the submissions received, all the evidence presented at the hearing and my observations during my site visit.

Status of the Application

17. The starting point for my assessment is to determine the status of the proposed stormwater discharges and landuse consent applications. In making an overall assessment, the applications have been bundled and it is agreed the applications should be considered as a **discretionary activities**.

Statutory Considerations

18. In terms of my responsibilities for giving consideration to an application for a discharge permit and a landuse consent for discretionary activities, I am required to have regard to the matters listed in sections 104, 104B, 105 and 107 of the Act.
19. Section 104 of the Act, requires that when considering an application for resource consent and any submissions received, I must, subject to Part 2 of the Act, have regard to:
 - (a) *Any actual or potential effects on the environment of allowing the activity; and*
 - (b) *Any relevant provision of a national policy statement, a New Zealand coastal policy statement, a regional policy statement or proposed policy statement, a plan or proposed plan; and*

(c) Any other matter considered relevant and reasonably necessary to determine the application.

20. In terms of section 105, when considering a section 15 (Discharge Permit) matter, I am required to have regard to:

- (a) The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) The applicant's reason for the proposed choice; and*
- (c) Any possible alternative methods of discharge, including discharge to any receiving environment.*

21. In terms of section 107, I am prevented from granting a discharge permit allowing any discharge into a receiving environment which would, after reasonable mixing, give rise to any of the effects set out in section 107(1)(c)-(g).

Actual and Potential Effects on the Environment

22. In considering S.104(a) and having regard to the evidence before me, I must focus my assessment of actual and potential adverse effects of the proposed stormwater discharges and works within the bed of Pebbles drain and excavations over the confined aquifer.

23. Mr Pettersson has identified in his S.42A report the following list of effects considered particularly relevant to this activity:

- (a) Adverse effects of the discharge of contaminants into land and groundwater;
- (b) Adverse effects of the discharge of contaminants into surface water
- (c) Adverse effects of the reduction in flood carrying capacity of surface waters.
- (d) Adverse effects of the discharge of water into land on groundwater levels
- (e) Adverse effects of the excavation of land over a confined aquifer
- (f) Adverse effects of excavation within the bed of a waterway and the diversion on surface water quality and bank stability
- (g) Adverse effects of increased flow and of hydraulic structures on the erosion of the bed and banks of a surface water

(h) Adverse effects on Tangata Whenua values

24. I consider Mr Pettersson has appropriately identified the effects in some detail. I don't intend to repeat all that he has provided in his extensive report .I have summarised effects under three headings
- (a) Adverse effects on water quality
 - (b) Adverse effects on water quality
 - (c) Adverse effects on neighbours

Adverse effects on water quality

25. Stormwater discharge into land will be via an infiltration media with a design infiltration rate of 50mm/hr. This meets industry guidelines and will effectively treat contaminants before stormwater enters groundwater.
26. Stormwater discharge to surface water will occur after first flush and only in events which exceed the infiltration capacity of the two basins. At least 75% of suspended solids will have been removed and therefore the quality, clarity and colour of water will have improved prior to the water entering Prebbles drain.
27. During construction of Basin diversion channels and installation, contaminants could enter the aquifer or surface water. An erosion and sediment control plan (ESCP) has been provided. While there is a potential to contaminate the aquifer or surface water this can be mitigated and remedied through conditions.
28. The effects of discharge to groundwater and discharge to surface water are likely to be minor. By way of mitigation long term monitoring has been included in the conditions.

Adverse effects on water quantity

29. The discharge of stormwater to Prebbles drain could reduce the flood carrying capacity of the channel and cause flooding of surrounding land. Stormwater basins will provide attenuation to reduce peak flows. Peak flow discharges to Prebbles drain are limited by restricting the outflow with a 525mm diameter orifice plate. Peak flows will be less than pre-development. While the flows will not exceed pre-development flow the duration of the flow may continue for a longer period.

Adverse effects on neighbours

30. Submitters have expressed concerns with respect to flooding. This has already been addressed. Evidence was provided that the post development peak flows and volumes are not in excess of pre-development flows up to a design storm 1:50 year event of 60 hour duration.
31. Submitters expressed concerns with respect to possible erosion of the drain due to the development. As peak flow and volumes are not predicted to increase scour and erosion from increased velocities and flow levels should not occur.
32. It is noted that there are up to five (5) springs to the east of the applicant's site. These springs feed the unnamed drain (stream) that passes through the properties of Messrs Maw and Hill. Adverse weather conditions are likely to increase water volume and flow velocity from those springs passing through those properties adding to erosion.
33. Mr Hill has raised the issue that stormwater discharge from the applicant's site having entered Prebbles drain or Tosswill drain then passes through his freehold property without easement. While I have noted his concerns that is not a matter which I am required to turn my mind. The applicant has provided a copy of the written consent form the Selwyn District Council authorising the discharge of stormwater to drain from the site using Selwyn District Councils stormwater drainage network (Prebbles drain or Tosswill drain).
34. Submitters have expressed concerns about the increase of contaminants being discharged to Prebbles drain from site and the effects of the discharge on ecological communities in the waterways. Contaminants expected within the stormwater discharge are heavy metals hydrocarbons nutrients silts and some faecal coliforms. I am satisfied the structures designed will address submitters concerns.
35. Further I am satisfied that the ecological value of Prebbles drain is low. The discharge will have no effect on the biological communities within Prebbles drain. Due to the treatment proposed on site and the nature of the receiving environment I consider the potential adverse effects on the biological communities within

Prebbles drain, the unnamed drain, Dawsons creek and Halwsell river are minor or less than minor.

Relevant Planning Provisions

Regional Policy Statement (RPS)

- 36. An analysis of the relevant objectives and policies of the RPS has been provided in the Section 42A Report by Mr Pettersson.
- 37. In making my assessment I note Chapter 9 Water, Chapter 12 Settlement and the Built Environment, and Chapter 16 Natural Hazards.
- 38. Given the above assessment of potential environmental effects, I consider that with the imposition of appropriate consent conditions, the proposed discharges are likely to be consistent with these provisions.

Transitional Regional Plan (TRP)

- 39. The TRP has been operative since October 2001.
- 40. The subdivision is greater than 30 lots in size, and contains new hardstand areas, so the discharge to land or water is considered under the TRP is considered to be a ***discretionary activity***.
- 41. Under the North Canterbury Catchment Board Bylaw No.1 within the TRP the works in the bed, and the installation of structures within 24ft(7.3m) of the banks of Prebbles Drain requires consent as a ***discretionary activity***.
- 42. There are no relevant rules within the TRP pertaining to the excavation over a confined aquifer, and these activities are therefore ***permitted*** under the TRP

Proposed Natural Resources Regional Plan (pNRRP)

43. Chapter 4 of the PNRRP deals with water quality issues, including discharge to surface and groundwater.
44. I accept that the pNRRP is at present a proposed plan and is not operative. Variation 1 to the Proposed Natural Resources Regional Plan was publicly notified on 3 July 2004, and Variation 6 was notified on 28 July 2007. Submissions have been heard for Variation 1 and 6, and both are still currently in the deliberation stage. While the plan still remains a proposed plan I am entitled to have regard to the pNRRP.
45. Mr Pettersson provided me with an analysis of the relevant objectives and policies of the pNRRP, He drew my attention to Objective WQL 1 and Policy WQL1, Objective WQL2, Policy WQL6, and Policy WQL10 of Chapter 4. Given the above assessment of potential environmental effects, I consider that with the imposition of appropriate consent conditions the proposed discharges are likely to be consistent with these provisions and will not compromise them.
46. The Act requires me to make an overall assessment of the application against the relevant objectives and policies of the RPS and pNRRP. In having regard to the evidence before me that given the mitigation proffered and imposition of appropriate consent conditions, the proposed activity is not likely to be contrary to any of the relevant planning provisions.

Other Matters

71. I note the limits and standards recommended are consistent with other subdivision developments and recognised best practise.

Section 105 and Section 107

72. In making my assessment, I am required to have regard to the matters set out in section 105 and 107 of the Act. I am satisfied with the applicant's reasons for the

proposed choice and accept that other methods of discharge have been considered.

73. On the basis of the evidence presented, I accept that, after reasonable mixing the discharge is unlikely to give rise to any of the effects set out in section 107(1)(c)-(g) of the Act.

Part 2 of the Resource Management Act 1991

74. In accordance with Part 2 of the Act, I consider that given the mitigation proposed, the application is likely to be consistent with the principles of the sustainable management of natural and physical resources, as defined in section 5.
75. In recognising and providing for matters of national importance contained in section 6 of the Act, I am of the opinion that the granting of this consent will not compromise the existing natural character I do not consider that there are any Matters in S6(a) - (e) that will be affected or compromised by the granting of this consent.
76. In having particular regard to section 7 matters we consider that section 7 (b), (c) and (f) are of relevance. The stormwater discharge should have minimal effects on amenity values and the quality of the environment provided the erosion and sediment control management plans are implemented and conditions adhered to.
77. In forming my opinion, section 8 requires me to take into account the principles of the Treaty of Waitangi (Te Tiriti O Waitangi). The site of the proposed works is within the rohe of Taumutu Runanga. Te Runanga O Taumutu was advised of the application on 15 January 2010 and served notice at the time of public notification. The Runanga had not lodged a submission. I have no evidence before me to suggest that the proposal would offend any of the principles of the Treaty of Waitangi.

Summary

78. The evidence before me supports the view that any potential environmental effects of the stormwater discharges on water quality and water quantity are likely to be

less than minor. I am satisfied that the works within the bed of Pebbles drain and the excavations over the confined aquifer can be carried out safely. In considering the environmental effects of granting the resource consents sought, it is my overall judgement that the application is consistent with the relevant objectives and policies of the TRP RPS and pNRRP, and that the purpose and principles of the Act can be best achieved by granting consent subject to appropriate conditions.

79. I have determined it appropriate to grant the three consents.

Conditions

80. The applicant proffered a suite of consent conditions, which served as a basis for Mr Pettersson to formulate his conditions which were attached to the S.42A report. During the hearing evidence was given regarding possible changes. I requested the parties to discuss conditions and provide a set of agreed conditions. An agreed set of conditions was made available to me on 9th July 2010. I have found it necessary to make amendments to some of these conditions in order that they are capable of being enforced

81. I am satisfied the consent conditions are lawful, reasonable, practical appropriate and enforceable.

Duration

82. There are three consent applications In respect to Consent applications CRC101948 and CRC101950 the applicant has requested consent duration of 35 years. I consider this to be appropriate In respect to the land use consent to undertake works within the bed of Pebbles drain (CRC101952) the applicant did not specify a term. Mr Pettersson has recommended a duration of 3 years. I consider this term is reasonable and achievable

83. In having regard to Section 1.3.5 of Chapter 1 of the PNRRP, I am of the opinion that given the permanent nature of the development a 35 year duration for all the consents is reasonable.

Decision

On behalf of the Canterbury Regional Council, pursuant to sections 104, 105, 107 and 108, Resource Management Act 1991, I have determined as follows:

Resource consent application CRC101948, by Prebbleton Central Limited for a discharge permit to discharge stormwater which may contain contaminants to land in circumstances where it may enter to water from a 141 lot residential subdivision located at Prebbleton be granted. The resource consent shall be for the duration of 35 years subject to consent conditions (see Annexure 1)

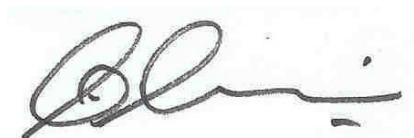
Resource consent application CRC101950, by Prebbleton Central Limited for a discharge permit to discharge stormwater which may contain contaminants to surface water from a 141 lot residential subdivision located at Prebbleton be granted. The resource consent shall be for the duration of 35 years subject to consent conditions (see Annexure 1)

Resource consent application CRC101952 by Prebbleton Central Limited to undertake works within the bed of Prebbles drain and excavate over the confined aquifer located at Prebbleton be granted. The resource consent shall be for a duration of 3 years, subject to consent conditions (see Annexure 2)

Right of Appeal (Section 120)

84. The parties are advised there is a right of appeal to the Environment Court, which must be lodged within 15 working days of this decision.

Dated at Christchurch this 19th day of July 2010



Alec Neill
Hearing Commissioner

ANNEXURE 1

Conditions – Discharge to Land and water

CRC101948 and CRC101950

Duration 35 years

Limits

- (1) The discharge shall be only stormwater from:
 - (c) Roofs;
 - (d) Green spaces;
 - (e) Hardstand areas, including driveways, roads, rights-of-way, carpark and paths; and
 - (f) Exposed soils during construction of the stormwater first flush and infiltration/detention basins;

associated with a 15.06 hectare residential subdivision located on the corner of Tosswill and Springs Road, Prebbleton, as shown on Plan CRC101948A, which forms part of this consent.
- (2) The subdivision shall consist of no more than:

18,650 square metres of roads, footpaths and rights-of-way;

42,300 square metres of roof area; and

11,300 square metres of hardstand on the residential lots.
- (3) The discharge shall be into land and into Prebbles Drain at or about map reference NZMS 260 M36:7096:3611.

Stormwater System

- (4) The discharge of stormwater shall be via the following system, as shown on Plans CRC101948B and CRC101948C, which form part of this consent:

All sumps shall have submerged outlets and be capable of trapping hydrocarbons;

A pipe network designed to convey stormwater generated from all storm events up to and including the ten percent Annual Exceedence Probability (10% AEP) storm event regardless of duration;

Overland flow paths designed to capture stormwater from the entire subdivision, up to and including that generated from the two percent (2%) AEP storm event for all durations up to 60 hours, and direct it to the basins

Flow splitter manholes up-gradient of the first flush basin that are designed to divert flow in excess of the first flush volume to the infiltration/detention basin;

A first flush infiltration basin and a detention/infiltration basin that discharge into land; and

Stormwater volumes exceeding the combined capacity of the basins shall discharge into Prebbles Drain.

(5) The first flush infiltration basin shall :

Have a minimum capacity of at least 3,000 cubic metres;

Be lined with a layer of soil 900 millimetres thick with an infiltration rate of not less than 50 millimetres per hour and not greater than 100 millimetres per hour;

Be sited over a gravel shaft that extends through the confining layer into the underlying free draining gravels; and

Be vegetated with a uniform cover of grass of a minimum height of 50 millimetres.

(6) The infiltration/detention basin shall have a:

Have a minimum capacity of 5,500 cubic metres;

Have a infiltration rate of not less than 100 millimetres per hour;

Be sited over a gravel shaft that extends through the confining layer into the underlying free draining gravels;

Have a restricted orifice outlet to Prebbles Drain of 525 millimetres diameter to limit the maximum flow for all storm events to 1.37 cubic metres per second; and

Have an overflow weir to allow stormwater to discharge into Prebbles Drain if the capacity of the basin is exceeded.

(7) The discharge to Prebbles Drain shall:

Be via an outlet structure with a flap valve to prevent backflow;

Have scour protection around the outlet and on the opposite side of the drain at the point of discharge; and

Not cause erosion, scour, and/or instability to the bed or banks of Prebbles Drain at the discharge point.

(8) The overland flow paths shall be designed to:

Convey all runoff up to 2% AEP event to the basins without encroaching on flooring within buildings; and

Convey runoff in excess of the 2% AEP event either directly into Prebbles Drain or to Tosswill Road.

Design Plans and Certification

- (9) At least one month prior to the construction of the stormwater system the consent holder shall submit to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, design plans of the stormwater system to be installed.
- (10) Within 20 working days of the installation of the stormwater system, a certificate signed by a Chartered Professional Engineer (CPEng) with stormwater system construction experience shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, to certify that the stormwater system complies with Conditions (4) to (8) of this consent. This CPEng shall also sign a statement confirming that they are competent to certify the engineering work.

Construction Phase

- (11) For the purposes of this consent, the following definitions shall apply to all conditions:
 - (a) Site construction: means all bulk earthworks and earthworks associated with the construction of the basins and immediate pipe work, construction of the diversion channel, pipe crossing and outlet structure within Prebbles Drain; and up until the basins and disturbed ground have been stabilised.
 - (b) Earthworks: means the disturbance of land surfaces by blading, contouring, ripping, moving, removing, placing or replacing soil and earth, or by excavation, or by cutting or filling operations.

Stabilised: means an area inherently resistant to erosion such as rock (excluding sedimentary rocks), or rendered resistant to erosion by the application of aggregate, geotextile, vegetation or mulch. Where vegetation is to be used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once 80 percent vegetation cover has been established.

ESCG: means Environment Canterbury, "Erosion and Sediment Control Guidelines for the Canterbury Region" Report No. CRCR06/23, February 2007.

Manager: means the Canterbury Regional Council, RMA Compliance and Enforcement Manager, or nominated CRC staff acting on the Manager's behalf.

- (12) The consent holder shall ensure that all personnel working on the site are made aware of and have access to the contents of this consent document and all associated erosion and sediment control plans and methodology.
- (13) At least 10 working days prior to the commencement of site construction, the consent holder shall inform the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, in writing, of the start date of the works.
- (14) During construction, the consent holder shall take all practicable measures to minimise the discharge of sediment-laden stormwater to ground and to Prebbles Drain. These measures may consist of, but not be limited to, the following:
- Stabilised site exit points;
 - Silt fences and hay bale barriers;
 - Diversion channels;
 - Channel stabilisation;
 - Directing sediment laden water to grassed areas; and
 - Grassed swales.
- (15) All practicable measures shall be undertaken to prevent tracking of mud, earth, or sediment onto the surrounding road(s).
- (16) The discharge of construction related runoff shall only be:
- Dewatering of water ponding in the two basins via a dewatering bag designed to remove at least 75 percent of suspended sediment; and
 - To Prebbles Drain via treatment systems designed to remove at least 75 percent of suspended solids.
- (17) The erosion and sediment control measures shall:
- Be designed to remove at least 75 percent of suspended solids; and
 - Be in accordance with the Erosion and Sediment Control Plan (ESCP) submitted as part of this consent¹.
- The ESCP may be amended at any time. Any amendments shall be:
- (i) Only for the purpose of maintaining or improving the efficacy of the erosion and sediment control measures and shall not result in reduced discharge quality; and

¹ Appendix 4 of CRC101948 "Erosion and sediment control plan – Construction of stormwater basins, Prebbleton Central, Prebbleton. Project Number 23644, Version 5, Dated December 2009. Prepared by Daniel Tyson of Davis Ogilvie & Partners Ltd

- (ii) Consistent with the conditions of this resource consent; and
 - (iii) Submitted in writing to the Manager, prior to any amendment being implemented.
- (18) Immediately following construction of the basins, Prebbles Drain and any other discharge point shall be inspected, and any visible hydrocarbons, accumulated sediment and litter or debris shall be removed immediately and any erosion shall be remedied immediately.
- (19) Prior to the commencement of the earthworks on site, a certificate signed by the person responsible for designing the erosion and sediment control plan shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, to certify that the erosion and sediment control measures are constructed and installed in accordance with the ESCP.

Inspections and Maintenance

(20)

The sumps, first flush infiltration basin and infiltration/detention basin shall be inspected at least once every six months.

Any visible hydrocarbons, accumulated sediment, and litter or debris shall be removed immediately.

Within ten working days of each inspection any accumulated sediment shall be removed.

- (21) The discharge points to Prebbles Drain shall be inspected at least every six months to check for erosion around the structures or in the bed of Prebbles Drain. Any identified erosion or scour around the outlets shall be remedied within 10 working days.

- (22) Once every five years, infiltration testing shall be undertaken:

By the double ring infiltration test method at two locations in the first flush basin;
and

By the flooded basin test method within the infiltration/detention basin:

and

The results compared to the following acceptable infiltration rates:

<u>Component</u>	<u>Acceptable infiltration rate</u>
First Flush basin	50 to 100 millimetres per hour
Infiltration/Detention Basin	Minimum of 100 millimetres per hour

- (23) If the results of the testing undertaken in accordance with Condition (22) do not meet the acceptable infiltration rates listed in Condition (22):

Remedial works shall be undertaken within two months to ensure the acceptable infiltration rates are met; and

Double ring infiltration tests shall be undertaken at the completion of the remedial works in accordance with Condition (22) to confirm the remedial works were successful in achieving the acceptable infiltration rates.

- (24) In the event of a spill of fuel or any other hazardous substance:

Every practicable measure shall be taken to prevent hazardous substances from entering the stormwater system.

Any hazardous substances that accumulates in the stormwater system shall be removed immediately and the stormwater system shall be inspected and cleaned.

The consent holder shall provide to the Canterbury Regional Council within 24 hours, details of the spill, including volumes, type of hazardous substance, time and date the spill occurred, and the emergency procedures undertaken and an assessment of any potential effects of the spill.

If the spill reaches either of the stormwater basins, two samples of the surface soil shall be taken from the invert of the first flush basin and analysed for the presence of the spilled contaminant. If the concentrations exceed the relevant guideline values (as contained in the Ministry for the Environment Contaminated Land Management Guidelines No. 2: Hierarchy and Application in New Zealand of Environmental Guideline Values), the soils must be removed offsite to a facility licensed to accept such material.

- (25) The vegetation within the first flush infiltration basin shall be maintained in a healthy and uniform state. Maintenance shall include, but not be limited to:

Removing weed vegetation.

Replanting where erosion or die-off has resulted in bare or patchy soil cover.

Maintaining grass at a length of at least 50 millimetres.

Soil monitoring

- (26) Once every five years, a representative sample of soil shall be collected:

By a person who has at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study and has at least two years environmental investigation professional work experience post-qualification;

From between zero and 50 millimetres below the ground surface; and

At the point of lowest elevation from two locations in the base of the first flush basin.

- (27) The soil samples collected under Condition (26) shall be analysed by a laboratory accredited for that method of analysis by International Accreditation New Zealand (IANZ) or an equivalent authority:

For the following contaminants:

Total copper

Total zinc

Total Lead

Total petroleum hydrocarbons (C₇-C₉)

Total petroleum hydrocarbons (C₁₀-C₁₄)

In milligrams per litre (mg/L).

By USEPA method 1312, Synthetic Precipitation Leaching Procedure (SPLP), using reagent water. The leachate shall then be tested using method APHA 3125 B 21st edition 2005 for metals, method USEPA 8270 (modified) for Benzo[a]pyrene and hexane extraction, GC-FID for banded TPH, Sonication + GC-ECD Analyses for dieldrin, or any subsequent APHA updates of these analytical methods, and the results compared against the Leachate Trigger Concentrations, as listed in Condition (28).

The analyses shall be carried out with detection limits of a maximum of 10 percent of the trigger levels set out in Condition (28), with the exception of Total Petroleum Hydrocarbons detection limits, which shall be as follows:

<u>Total Petroleum Hydrocarbons</u>	<u>Method detection limit SPLP (mg/l)</u>
C ₇ -C ₉	0.10
C ₁₀ -C ₁₄	0.20

- (28) Should any of the contaminants analysed in accordance with Condition (27) exceed the trigger concentrations set out below:

<u>Contaminant</u>	<u>Leachate Concentration (mg/L)</u>	<u>Trigger</u>
Copper	40 ¹	
Zinc	30 ²	
Lead	0.2 ¹	
TPH C7-C9	360 ³	
TPH C10-C14	7 ³	

(1) 20 x MAV (Maximum Acceptable Value) for determinand of health significance

(2) 20 x GV (Guideline Value) for aesthetic determinand

(3) 20 x Adopted guideline value sourced from MfE Oil Industry Guidelines 1999 (Table 5.2)

- (29) The soils shall be considered to be contaminated, and additional sampling to determine the lateral and vertical extent of contamination, with respect only to the contaminant(s) that exceeded a trigger concentration, shall be carried out in accordance with Ministry for the Environment (2004) 'Contaminated Land Management Guidelines - Site Investigation and Analysis of Soils' and with Conditions (27) and (28).
- (30) When the lateral and vertical extent of the contamination has been determined, excavation shall be carried out to remove all contaminated soils until contaminant concentrations in the remaining soils, as determined by a repeat of the sampling and analysis methodology in accordance with Conditions (27) and (28) are less than or equal to the Leachate Trigger Concentrations specified in Condition (28); and
- (31) Any soils imported on site to backfill any excavation resulting from Condition (30) shall not be sourced from a site where activities included in Schedule WQL3 of the Proposed Natural Resources Regional Plan or the Ministry for the Environment's Hazardous Industries and Activities list have been, or are being undertaken.
- (32) Any material removed in accordance with Condition (30) shall be disposed of at a facility authorised to receive such material. Written evidence of this disposal shall be kept.
- (33) A site validation report detailing the works and results of the remediation carried out in accordance with Conditions (30), (31), and (32) shall be submitted to the Canterbury Regional Council, Attention; RMA Compliance and Enforcement Manager, within three months of commencing the remediation.

Groundwater monitoring

- (34) Groundwater monitoring wells shall be installed:
 - (a) At one location upgradient of the stormwater basins;
 - (b) At two locations no more than 75 metres downgradient of the stormwater basins;
 - (c) To a depth of eight metres below ground level with a screened section forming the bottom four metres of each well;
 - (d) Be constructed of uPVC with machine slotted screen, and
 - (e) And the well heads surveyed to provide location co-ordinates and elevation (in metres above mean sea level – CCC Drainage Datum)
- (35) The groundwater wells shall be monitored:

At least every six months;

For water level using an electronic dip meter;

and

A water sample shall be collected:

By a person who has at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study and has at least two years environmental investigation professional work experience post-qualification; and

During a rainfall event which causes both the first flush and infiltration/detention basin to be discharging.

- (36) The water samples collected in accordance with Condition (35) shall be analysed by a laboratory accredited for that method of analysis by International Accreditation New Zealand (IANZ) or an equivalent authority:

For the following contaminants:

Total copper

Total zinc

Total Lead

In milligrams per litre (mg/L) using method APHA 3125 B 21st edition 2005 for metals or any subsequent APHA updates of these analytical methods,

The results compared against the Trigger Concentrations, as listed in Condition (37).

- (37) The contaminants analysed in accordance with Condition (36) from the downgradient wells shall be compared to the trigger concentrations set out below:

Contaminant	<u>Trigger Concentration (mg/L)</u>
Copper	2 ¹
Zinc	1.5 ²
Lead	0.01 ¹

(1) MAV (Maximum Acceptable Value) for determinand of health significance

(2) GV (Guideline Value) for aesthetic determinand)

- (38) Should any results arising from Conditions (36) show an exceedance(s) of the trigger concentrations in Condition (37), then the consent holder shall immediately undertake:

All practicable measures to determine whether the exceedance(s) are attributable to discharges from the infiltration basin discharge or they are arising from:

- (i) Up-gradient sources;
 - (ii) Natural or seasonal variations; or
 - (iii) Laboratory limitations;
- and

An assessment of the potential adverse effects on groundwater quality associated with the exceedance(s).

- (39) Following the analyses and assessments undertaken in accordance with Condition (36) to (38), should the results clearly demonstrate that the exceedance(s) in contaminant concentrations are attributable to discharges from the stormwater basins and that there are adverse effects on groundwater quality, the consent holder shall immediately:

Notify the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager;

Notify the bore owner(s) and user(s) within 1000 metres down-gradient of infiltration basin;

Offer to undertake groundwater sampling in potentially affected down-gradient bores identified in (b) above to determine if the discharges from the infiltration basin is affecting groundwater quality in down-gradient bore(s); and

Implement all necessary measures to reduce the concentration of the contamination in groundwater. Measures may include, but not be limited to:

- (i) Removal of contaminant source(s).
- (ii) Additional stormwater treatment systems.

- (40) If for a period of not less than two years following completion and house construction on 50 percent of the residential lots, trigger concentrations have not been exceeded, or if trigger concentrations have been exceeded but not attributed to the discharge in accordance with Condition (38), the sampling and analysis programme undertaken in accordance with Conditions (35) to (37) may cease.

- (41) If for a period of not less than two years following completion and house construction on 50 percent of the residential lots, trigger concentrations have been exceeded and attributed to the discharge in accordance with Condition (38), the sampling and analysis programme undertaken in accordance with Conditions

- (35) to (37) shall continue until four consecutive sampling rounds show no exceedences of trigger concentrations, or if exceedences do occur that they are not attributable to the discharge as per Condition (38).
- (42) The consent holder shall inform the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, in writing, that sampling and analyses can cease under Condition (40), and shall provide evidence that the condition has been met.
- (43) The results of the monitoring and analysis undertaken in accordance with Conditions (35) to (37) shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within ten working days of receipt of the results by the consent holder.
- (44) The consent holder shall keep records of all inspections, maintenance, and monitoring undertaken in accordance with Conditions (20) to (38). These records shall be made available to the Canterbury Regional Council on request.

Management Plan

- (45) A management plan for the operation, maintenance and monitoring of the stormwater system shall be prepared and provided to the Canterbury Regional Council, Attention RMA Compliance and Enforcement Manager, at least one month prior to the first stage of the subdivision being connected to the first flush infiltration and infiltration/detention basins. This plan shall include but not be limited to:
- (a) Identification of roles and responsibility and contact details for those persons operating, inspecting and maintaining the stormwater system;
 - (b) Identification of monitoring procedures; and
 - (c) Any other matters to ensure compliance with this consent.

Administration

- (46) The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 30 September 2015.
- (47) The Canterbury Regional Council may, once per year, on any of the last five days of April or October, 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 consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or
 - (c) Requiring the consent holder to carry out monitoring and reporting instead of, or in addition to, that required by the consent.

Annexure 2

Conditions – works in the bed of a watercourse and excavation over the confined aquifer

CRC101952

Duration: 3 years

Limits

- (1) The works shall be limited to:
 - (d) The placement of a stormwater outfall structure and a stormwater pipe in the bed of Prebbles Drain;
 - (e) The excavation and disturbance of the bed of Prebbles Drain to install the components described in Condition (1)(a) and to construct a temporary diversion channel;
 - (f) The excavation of land for the purpose of constructing a stormwater first flush basin and an infiltration/detention basin; and
 - (g) The excavation of land for the purpose of installing a utility service network.
- (2) The works carried out in accordance with Condition (1) shall be located within the Prebbleton Central Subdivision located on the corner of Tosswill Road and Springs Road, Prebbleton, at and around map reference NZMS 260 M36:7089-3618, as shown on Plan CRC101952A, which forms part of this consent.
- (3) The works within the bed of Prebbles Drain shall be undertaken in accordance with the attached design Plans CRC101952B and CRC101952C, which form part of this consent.
- (4) The excavation of land shall be limited to:
 - (a) Notwithstanding Condition (7), the excavation of silts and gravels to a depth of 3.9 metres below ground level over the 2,560 square metre footprint of the stormwater first flush basin;
 - (b) Notwithstanding Condition (7), the excavation of silts and gravels to a depth of 3.9 metres below ground level over the 35500 square metre footprint of the infiltration/detention basin;
 - (c) The backfilling of the stormwater first flush basin with clean river gravels and an overlay of clean soil, and the backfill of the infiltration/detention basin with clean river gravels; and
 - (d) Excavations of no more than 3.5 metres depth to form trenches for the installation of the utility network.

- (5) Erosion and scour protection shall be placed around the stormwater outfall structure and on the opposite bank of Prebbles Drain to prevent erosion or scour of the bed and banks of Prebbles Drain.
- (6) The diversion channel to temporarily diver the flow in Prebbles Drain shall:
 - (a) Be stabilised and lined with a geotextile or polythene liner prior to accepting flow;
 - (b) Be backfilled with soil and grassed at the completion of works in the bed of Prebbles Drain; and
 - (c) Be backfilled and stabilised within 15 working days of commencement of the diversion.
- (7) No excavations shall be undertaken into groundwater.
- (8) All excavation works shall be undertaken in dry weather during the months of September to April inclusive following confirmation that the groundwater depth exceeds the proposed excavation depth.
- (9) All works in the bed of Prebbles Drain shall be undertaken:
In dry weather during the months of September to April inclusive; and

When there is no water flowing in the drain.
- (10) Works shall only occur between the hours of 7am and 7pm inclusive.
- (11) All practicable measures shall be undertaken to:
 - (a) Prevent oil and fuel leaks from vehicles and machinery;
 - (b) Ensure there shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of the works;
 - (c) Minimise soil disturbance and prevent soil erosion, and
 - (d) Avoid placing cut or cleared vegetation, debris, or excavated material in a position such that it may enter surface water.
- (12) The consent holder shall adopt the best practicable options to prevent the discharge of sediment and contaminants into excavated land, including, but not limited to the installation of erosion and sediment control measures in accordance with the measures detailed in the application.
- (13) All practicable measures shall be undertaken to minimise adverse effects on property, amenity values, vegetation, and ecological values including effects related to dust nuisance.
- (14) To prevent the spread of Didymo or any other aquatic pest, the consent holder shall ensure that activities authorised by this consent are undertaken in accordance with the Biosecurity New Zealand's hygiene procedures.
Note: You can access the most current version of these procedures from the Biosecurity New Zealand website <http://www.biosecurity.govt.nz> or Environment Canterbury Customer Services.
- (15)
 - (a) In the event of any disturbance of Koiwi Tangata (human bones) or taonga (treasured artefacts), the consent holder shall immediately:

- (i) cease earthmoving operations in the affected area; and
 - (ii) mark off the affected area until earthmoving operations recommence; and
 - (iii) advise the Canterbury Regional Council of the disturbance; and
 - (iv) advise the Taumutu Runanga or their representative(s) (contact information can be obtained from the Canterbury Regional Council), and the New Zealand Historic Places Trust, of the disturbance.
- (b) Earthmoving operations shall not recommence until either:
- (i) the consent holder provides a certificate in writing to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, signed by Taumutu Runanga, or their representative(s) stating that appropriate action has been undertaken in relation to the discovered culturally sensitive material; or
 - (ii) after five working days after advising the Taumutu Runanga, a certificate signed by an archaeologist (i.e., a person with a post graduate degree in archaeology, and who is a member of the New Zealand Archaeological Association) is provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, that states that in the archaeologist's professional opinion appropriate action has been undertaken in relation to the discovered culturally sensitive material. That certificate shall detail the action that has been undertaken by the consent holder. A copy of the archaeologist's qualifications shall also be provided with any such certificate.

Note: This condition is in addition to any agreements that are in place between the consent holder and the Taumutu Runanga, (Cultural Site Accidental Discovery Protocol) or the New Zealand Historic Places Trust. This condition does not replace other legal responsibilities, such as those under the Historic Places Act

- 16) The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be notified at least two working days prior to the commencement of works. Where excavation is discontinued for more than seven consecutive working days the Canterbury Regional Council shall be re-notified.
- (17) Prior to commencing the works, a copy of this resource consent shall be given to all persons undertaking activities authorised by this consent.

Inspections and monitoring

- (18) Photographs and a geological log of the excavation for each basin shall be undertaken as the excavation proceeds, the photographs should include the base of the excavation with an indication of depth. These shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, not less than 5 working days following completion of excavation of the basins.

- (19) Visual inspection of the inlet and outlet of the diversion channel shall be undertaken daily during its operation to identify erosion or scour and records of the inspections kept.
- (20) The stormwater outfall structure shall be inspected monthly for the first six months, and then six monthly thereafter to identify any erosion or scour, and records of the inspections kept.
- (21) If erosion or scour is identified during either of the inspections undertaken in accordance with Conditions (19) and (20), the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be notified, and the erosion or scour shall be remedied within one month of identification.
- (22) The consent holder shall keep records of all inspections, maintenance, and monitoring undertaken in accordance with Conditions (18) to (21). These records shall be made available to the Canterbury Regional Council on request.

Administration

- (23) The Canterbury Regional Council may, once per year, on any of the last five days of April or October, 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 consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or
 - (c) Requiring the consent holder to carry out monitoring and reporting instead of, or in addition to, that required by the consent.