

Kapiti Views Trust
C/-CPG New Zealand Limited
PO Box 13-875
Christchurch 8141

10 June 2011

Attention: Janice Carter

Dear Janice

Plan Change 60 – Maxwell Hills Zone – Request for Further Information

I refer to the request for above private plan change submitted on 13 May 2011.

The request has been assessed by Council officers and their consultants and the following further information is requested pursuant to Clause 23 to the First Schedule of the Resource Management Act 1991 (the Act).

1 Water Supply

The plan change refers to two options for water supply in Section 5.4.3 (page 27) –the take of groundwater at New Renwick Road or connection to Council's reticulated supply.

1. In respect of the groundwater take, can you please provide any information that you may have regarding the potable water supply, and fire fighting supply, if you have any information on the quantity and quality of the water available that would be appreciated.

2 Traffic Assessment

1. In terms of the Traffic Concepts Report (Appendix C) please comment as to whether the sealed carriageway width of Taylors Pass Road will be of sufficient width for safety purposes in terms of AustRoads when the site is developed, particularly given the popularity of the road for cyclists.

3 Geotechnical Assessment

1. In respect of the Riley Report (Appendix E) Section 6.1.4 please provide further details on the proposal to use chemically stabilised fill, how the loess/colluvial materials are to be chemically stabilised and an assessment of the effectiveness of this treatment. In this respect it is noted that on the Wither Hills slaking and disaggregation occurs both below and above the fragipan and treatment can involve large volumes of soil material.

2. In terms of Section 6.5.1 please provide further details of the proposed "local recontouring" including the location and the techniques to be utilised.

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3. It appears mitigation measures such as recontouring and planting will occur in areas that are not subject to the rezoning. Please confirm this and the legal mechanisms to ensure these works will be undertaken and maintained.

4 Flood Assessment

1. In respect of the Riley report (Appendix F) please discuss the impact of changes over say the next 50 years including the effects of climate change and sediment deposition.

2. Given the evidence of soil creep and bank erosion please address the potential of sediment entering the stormwater system and causing loss of efficiencies and blockages.

3. Given the proposed density of development what are the likely management implications for Council in respect of the Maxwell Creek and Taylor River corridors in terms of such matters as maintenance of capacity of the waterways.

4. Please define the flood boundary level in more detail in respect of the proposed development in order that areas susceptible to flooding are clearly defined. In particular can you confirm the bund wall on the west bank of Maxwell stream will provide protection for the lots shown fronting Maxwell Stream notwithstanding the location of these lots in the inundation area?

5 Schedule of Changes-Appendix G

In respect of the Schedule of Changes in Appendix H could you please comment on the following

1. Rule 2.2.2.6 – How are “stable land areas” defined?

2. Rule 2.2.8.1-See query 5 in Wastewater Disposal section

3. Rule 2.2.6.1.1-How does the 8m setback relate to the specialist reports and is it consistent with the reports?

4. Rule 2.2.6.1.3 – The Hazard Overlay area does not appear to be clearly shown on the Outline Development Plan.

5. Please note that Council does not maintain a hazards register.

6. Rule 2.2.7.1.1- Please identify where the stopbanks are in the proposed zone

7. Rule 2.2.8- How are discharges of stormwater dealt with –are they non complying activities?

8. Rule 2.2.8.2.1 (d)-This condition is vague and unlikely to be enforceable. Please comment

9. Rule 2.2.8.3- It appears that this rule only applies to odour and potentially allows the discharge of potentially noxious particulates etc. Please confirm?

10. Rule 2.3.1.2.3- This rule is potentially more permissive than other similar rules in other zones. What is the justification for non notification?

11. Rule 2.4.1 Last bullet point and Outline Development Plan. Many of the items shown on the Outline Development Plan are not within the zoned area and therefore not subject to the zone provisions. This includes the reserve area, esplanade strip, and pedestrian and cycle links and Pond D. How will these items/features be implemented.

12. Has consideration been given to showing a conceptual layout of lots as shown in the Riley Stormwater Report for the Outline Development Plan to provide more certainty?

6 Stormwater Assessment

1. The Riley Stormwater Report (Appendix H) refers to the use of soakpits (Section 4.1). Please comment on the feasibility of soakpits in relation to the water table and the thickness of the loess overlying the gravels (to which the report indicates soakage should be achieved) and.

2. Will soakpits be located on sloping sites.

3. Is it anticipated secondary flow paths over land will require channelling with methods such as armouring with rock?

4. While the report states that overland flow paths should preferably not be located within individual lots the concept plan shows that this will occur including outside the zoned area. It is presumed these areas will be protected by easements. Please clarify.

5. Under 4.3 Note on page 5 the report refers to the "creation of further development areas within each catchment" will result in the recalculation of proposed pond sizes. Please clarify where the further development areas are?

6. What are the implications for water quality of those development areas that do not drain to the water quality ponds in Catchments A-E (top of page 6 of Riley report).

7. In Table 5.2 does the "land type" include roofed areas of dwellings?

8. Who will own and maintain the water quality ponds?

7 Wastewater Disposal

There appears to be a disconnect between the Riley report and the Innoflow proposals as follows:

- (a) The Riley reference to grinder pumps feeding the pressure sewer system is incompatible with a sewer design based on filtered septic tank effluent as proposed by Innoflow.
- (b) If a mix of grinder flow and septic effluent flow was adopted, then a sewer system compatible with the former would be required as a separate grinder sewer system serving parts of any development alongside a separate septic effluent sewer system serving other parts of the development would be quite uneconomical.

- (c) Grinder pump flows or mixed grinder pump and septic effluent flows would require a communal pre-treatment stage via septic tank (thus doubling up on pre-treatment on-site plus communal).

The Innoflow proposal is cited as the preferred servicing system [App. I-Sect. 5.2, p. 5]. Innoflow does not refer to grinder pumps at all but only to the septic effluent collection system (which is known as a STEP "septic tank effluent pump" system).

Given the advice from Innoflow in Appendix A to the Riley Report as to the use of a STEP collection system, what role is seen for grinder pumps in the proposed development (taking into account items (a) to (c) above)?

2. An Advantex recirculating textile packed bed reactor (rtPBR) unit is proposed for secondary treatment of primary treated wastewater flows. The Riley report has a communal blend/septic tank feeding the rtPBR (App. I-Sect. 5.3.3, p. 6), whereas Innoflow has the incoming primary wastewater flow (from on-lot screened vault septic tanks) discharging direct to the recirculation tank which feeds the rtPBR (Innoflow p. 4, Figure 1).

Confirmation is required as to whether the Innoflow treatment process summary shown in Figure 1 of Appendix A to the Riley report (which indicates on-lot interceptor tanks) is to be the proposed treatment layout, or that the use of grinder pumps and a communal septic tank at the treatment plant site is to be adopted.

3. Some four areas have been identified as viable for treated effluent land application (App. I-Sect. 5.4, p.7 and Appendix B to App. I). Site and soil constraints have indicated that design loading rates (DIR "design irrigation rate" values) of 2mm/d or 3mm/day are applicable for the upper slope areas with slow draining silty soils (App. I-Sect. 4.1, p.3), with up to 4mm/d applicable on low to moderate slopes planted out with suitable plantings. Gravelly soil types for the lower irrigation area alongside the Taylor River are expected to handle higher DIR at 10mm/d to 15mm/d.

It is not clear how the above DIR values have been determined as no information is provided within the report or appendices regarding the soil categories within each of the four areas identified in Appendix B to App. I. Soil category determination in accordance with AS/NZS 1547:2000 should be used as the basis on which the DIR values are based.

Innoflow point out that the use of "trickle" (drip) irrigation into the topsoil enables further treatment within the biologically active soil to ensure complete treatment of effluent as well as maximising potential for evapotranspiration [Innoflow p. 8]. This requires low DIR values to ensure effluent retention and uptake within the topsoil layer to facilitate biological uptake of effluent organic residuals and nutrients such as nitrogen. Final polishing of the effluent occurs via plant utilisation or subsoil treatment.

Confirmation is required as to the ability of the proposed irrigation DIR values at 2mm/d to 4mm/day for upper areas and 10mm/d to 15mm/d for lower irrigation areas are suitable for:

- (a) maximising topsoil uptake and treatment;
- (b) minimising subsoil infiltration;
- (c) avoiding potential for tunnel erosion in loess soils;

(d) preventing infiltration to groundwater of undesirable levels of nutrient, specifically nitrogen.

The confirmation of DIR values should be supported by soil and site information for each of the four identified irrigation areas.

4. The main report states that the use of a technologically advanced communal wastewater treatment and disposal system with discharge of effluent to identified discharge areas will have minimal adverse effects on the environment (Sect. 5.4.1, p. 26). The Riley report states that potential detrimental effects on the environment are minimised by the use of a high level treatment plant producing a “consistently high quality, environmentally benign effluent” with treated effluent loading rates in irrigation areas based on “specific soil and environmental constraints” (App. I-Sect. 6.1, p. 8).

The following observations are made in respect the assessment of environmental effects:

- (a) It is evident that no nutrient budget has been undertaken for the lands in question, nor any attempt made to assess the need for nitrogen reduction to be carried out within the treatment system as referred to in 3.2 above.
- (b) No indication is provided as to the nitrogen application rates to the land areas being used for irrigation, and given the nature of the subsoil onto which the effluent is being applied, as to whether these application rates are sustainable.
- (c) The property for which the rezoning is proposed, including the four effluent land application areas, all appear to drain to the Taylor River and thence to the lake behind the Taylor Dam. No assessment of potential nutrient loading on the lake waters and the potential for enhancement of eutrophication has been undertaken.
- (d) Given the high DIR values proposed for the river flat areas alongside the Taylor River upstream of the proposed rezoned area, it would appear that direct loading of nitrogen to the river water would occur for a majority of the total nitrogen applied to land.
- (e) That to minimise environmental effects of the use of the rezoned land and achieve the objectives for a sustainable subdivision, then a nitrogen budget should be provided to show that the overall contribution of nitrogen from any development including both housing and effluent irrigation areas, is zero.

An assessment is required of the nutrient nitrogen generated by both housing development and the land areas used for effluent irrigation. This assessment should be applied to determining the effects on downstream catchments below such areas, including the potential effects on water quality in both the Taylor River and lake behind the Taylor Dam. The assessment should take into account the matters raised in points (a) to (e) above.

5. It is proposed wastewater will be treated by a communal wastewater system. However proposed Rule 2.2.8.1 refers to connection to a “public system” which implies a different system and connection to Council’s reticulation system. Please clarify.

6. The proposed wastewater disposal areas are outside the Maxwell Hills Zone. It is therefore assumed that discharges to these areas will not be subject to Rule 2.3.1.2, rather they will be subject to the General and Rural Zone rules. Please confirm.

7. Please clarify the type of management structure that will operate the wastewater treatment plant particularly having regard to its long term operation. It is noted a robust structure will be required given that the system comprises number of components from the individual on lot septic tanks to the disposal fields. In this respect please comment as to whether proposed clause 2.3.1.1.2 (h) and 2.3.1.2.2 (k) relating to the ownership structures are matters that Council can exercise its discretion.

8. Please also clarify the relationship of the management structure with the operation of the disposal areas which it appears will be in "private ownership". Are these areas available and how will their availability be maintained?

Please note if you wish to contact me to discuss any of the above that I am currently on leave until the 12 July. If there is anything urgent please contact Mark Caldwell at the Council.

Yours sincerely

Paul Whyte

Associate - Planning

on behalf of

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