

**BEFORE COMMISSIONER WASLEY APPOINTED BY NEW PLYMOUTH DISTRICT COUNCIL**

**UNDER**

the Resource Management Act 1991 ("RMA")

**IN THE MATTER**

of an application under section 88 of the Act by **GREGORY AND DEBORAH HOW** to the **NEW PLYMOUTH DISTRICT COUNCIL** for land use consent application to establish and operate commercial accommodation at 1844 Egmont Road, Kaimiro.

**STATEMENT OF WASTEWATER ENGINEERING EVIDENCE OF IAN DONALD STEELE ON BEHALF OF GREGORY AND DEBORAH HOW**

**1. INTRODUCTION**

- 1.1 My name is Ian Donald Steele. I hold the qualifications of BE (Hons)(Civil)(2002) and Graduate Certificate (Infrastructure Asset Management)(2011); and I am a Chartered Member of Engineering NZ (CMEngNZ) and registered as a Chartered Professional Engineer (CPEng)(#255539).
- 1.2 Over my 19 year career, I have worked as a design engineer (Apex Consultants), mostly working on infrastructure design projects such as stormwater, road renewals, upgrades and road safety projects within Taranaki. I was the Road Network maintenance contract team leader for South Taranaki District (Apex Consultants), responsible for the design and maintenance supervision of the South Taranaki Road network including the role of Traffic Management Co-ordinator (TMC).
- 1.3 I have received Road Safety Auditor training, and my role prior to joining BTW Company was as Team Leader (Queensland / NT) - Infrastructure Management with ARRB Group, where I completed numerous project evaluations, road safety audits pavement assessments, road asset management plans and the like.
- 1.4 I have been employed by BTW Company since October 2011, currently as the director of Engineering. My role for BTW Company, New Plymouth

includes design, supervision and reporting and investigation of various civil projects including many related to road, transport/traffic and site development engineering.

1.5 This evidence is given in support of the land use consent application ("the application") lodged by Gregory and Deborah How ("the applicant"), to construct and operate commercial accommodation at 1844 Egmont Road, Kaimiro including 10 chalets, 24 powered sites for motorhomes and a utilities building with dwelling.

1.6 I am authorised to give this evidence on behalf of the applicant.

## **2. INVOLVEMENT IN THE PROJECT**

2.1 My involvement in the application has included:

(a) Prior to completing this evidence, I had been aware of initial layout plans undertaken by BTW Company as part of the Application, and had contributed in an informal way in some aspects of the layout including traffic matters and general configuration of the site;

2.2 I have also reviewed the material produced with the application, including the AEE dated 12 March 2019, the section 92 RMA response dated 20 September 2019 and the amended application details submitted to New Plymouth District Council ("NPDC") on 31 July 2020, and the applicant's further information response dated 25<sup>th</sup> September 2020 (in the context of my expertise).

## **3. CODE OF CONDUCT**

3.1 I confirm that I have read the Code of Conduct for expert witnesses contained in the 2014 Environment Court Practice Note and that I agree to comply with it. I confirm I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

## **4. PURPOSE AND SCOPE OF EVIDENCE**

4.1 In this matter, I have been asked by the applicant to address wastewater matters.

4.2 I confirm that I have read the submissions on the Application and the Council Officer's Report, including the materials noted in paragraph 2.2 above.

4.3 My evidence is structured as follows:

- (a) Summary (Section 5);
- (b) The Application
- (c) Site Conditions
- (d) Onsite wastewater management
- (e) Matters raised in submissions
- (f) Council Officer's Report
- (g) Proposed conditions of consent and
- (h) Concluding comments.

## **5. SUMMARY**

5.1 The key wastewater related issues in my opinion are:

- (a) Suitable soil type/conditions for onsite wastewater management;
- (b) Suitable available land and geometry to provide suitable onsite wastewater management; and,
- (c) Further to the above, specifically the ability to comply with regulatory requirements including the New Zealand Building Code.

## **6. THE APPLICATION**

6.1 Details of the application are well described in the Section 42a report and Assessment of environmental effects (AEE) and Mr Twigley's evidence.

6.2 My evidence does not repeat the general details of the application site, and my focus is on pertinent wastewater related matters.

## **7. SITE CONDITIONS**

7.1 There is no sewer reticulation available to the site, and onsite wastewater management must be utilised.

- 7.2 BTW Company undertook a soil investigation for the purposes of due diligence for Resource Consent, that report 'Civil Engineering Report – 1844 Egmont Road Resource Consent Due Diligence' (August 2018)(Jess Battaerd and Steve Tooley (CPEng)), reported (Section 2.2) that the soil as generally:

*'The subsoil on site has been identified as a topsoil layer approximately 300 mm thick over a silty sand layer. A hardpan layer of silty sand was encountered at roughly 1400 – 1900 mm BEGL. Below this the subsoil has been identified as a sandy silt.'*

Note: BEGL = Below existing ground level

- 7.3 Testing undertaken for the BTW report was undertaken in August 2018, at a time of year that the watertable would likely be at its highest/worst elevation. The investigation confirmed a water table level at or just below the ground level.
- 7.4 From my experience, this soil type and condition is not uncommon in the general area.
- 7.5 The site at 1844 Egmont Road is a 47.46 ha section with an existing dwelling and associated other structures. The portion of the property related to the proposed retreat site is approximately 2.62 ha. The site is currently grass covered paddocks, with some mature trees. It is generally flat, with a slight fall towards the north.

## **8. ONSITE WASTEWATER MANAGEMENT**

- 8.1 In New Zealand, it is common to have properties serviced by onsite wastewater. In short, onsite wastewater management utilises Primary and Secondary treatment.
- 8.2 The most common system is one where wastewater is initially put through a septic tank, and then discharged to an appropriately sized effluent bed (a below ground piped distribution system within a gravel bed) for final treatment by soil microbes. It is not uncommon to need an alternative to this system in instances of confined space and high watertables.
- 8.3 The proposed site presents soil conditions that will require specific design. System options for consideration, for example, include a mound system connected to a primary treatment system, or a secondary treatment system and then distribution to land via a shallow dripper line network or sprayer system. I understand the Applicant is not keen on the mound option, due to the above ground aesthetic impact.

- 8.4 The design of such systems is covered by the New Zealand Standard NZS1547:2012 'On-site domestic wastewater management' and includes provisions for residential dwellings, Tearooms, Community Halls, Schools, Rural Factories, shopping centres and Camping Grounds.
- 8.5 Typical recommended setbacks include 1.5 metres from any property boundary and 50 metres from any water bore or open water body. From my review of the site the specific design will achieve required setbacks from the Building Code and other regulatory plans.
- 8.6 The NZ standard includes provision for calculating wastewater demand, and also treatment system design.
- 8.7 Water re-use is a common feature of water management for sites that require onsite wastewater management. Re-use of grey water and the like is incentivised as re-use systems are more cost effective than simply increasing wastewater treatment system size.
- 8.8 From my review of the likely demand, there is suitable land area to provide for a treatment system(s), and also dispersion area that will meet the Building Code and other requirements, without creating adverse effects.

## **9. SUBMISSIONS**

- 9.1 I have reviewed the submissions received by Council which raise the following particular matters within my field of expertise:
- (a) Site suitability for onsite wastewater management;
  - (b) Effects to neighbouring properties;
  - (c) Wastewater volumes;
  - (d) Wastewater system extents / size.
- 9.2 With respect to these matters, I believe my evidence above has addressed these points and I have nothing further to add in response.

## **10. RESPONSE TO COUNCIL OFFICER S42A REPORT**

- 10.1 I have read the Officers report (Cate Southworth) dated 13 October 2020 and have the following comments:
- 10.2 I agree with the Officers conclusion that no adverse wastewater effects will arise from the proposed activity.

10.3 I also agree with the proposed wastewater related conditions, should consent be granted.

**11. CONCLUSION**

11.1 My evidence has assessed the matters that I am aware of in relation to the Application and I can safely conclude that:

- (a) Following specific design at building consent stage, the proposed site has suitable ground conditions, size and layout to accommodate onsite wastewater management to manage the wastewater demand from the proposed retreat site activities.
- (b) I have reviewed the submissions and believe that suitable mitigation is provided for the proposed activity in this context.
- (c) The Officer report recommends consent is granted and I agree with this conclusion.

**Ian Steele**  
**BTW Company Ltd**

**27 October 2020**