

# APPENDIX G

## Land Development Engineering Assessment

# Engineering Assessment (Land Use)

<b>Land Development Engineer</b>	<b>Christopher Gatehouse</b>
<b>Planner:</b>	Milan Covic
<b>Date:</b>	6 <sup>th</sup> August 2020
<b>Application No:</b>	LUC0329/20
<b>Applicant:</b>	Gull
<b>Property Address:</b>	68-72 Great South Road POKENO
<b>Legal Description</b>	LOT 41 DP 19787

## INTRODUCTION

- An application for the construction of a 24 hour, automated Gull service station on Great South Road Pokeno.

### Site plan



## SUPPORTING INFORMATION

The following documents that are used for engineering assessment have been submitted with or as a peer review to the land use consent application.

- Proposed Gull service station Infrastructure report, Aretec Civil: Reference 2124-R01-0: Dated 31 March 2020

- Transport Peer Review 68-72 Great South Road Pokeno: Gray Matter Ltd: Ref 17-147 dated 30<sup>th</sup> July 2020
- Gull Pokeno: Site Drawings Tehnitrades Architecture: Ref Project number 2998 dated 02-06-2020
- Gull Pokeno Proposed Public Stormwater line: Technitrades Drawing 2998-EPA-2 Revision A
- Gull New Zealand : Unmanned service station Environmental Management Plan: Dated 1st September 2019

## ASSESSMENT OF EFFECTS

### **General (include earthworks)**

- No Geotechnical Investigation report is provided for the site. This should not prove a problem as it has no habitable dwelling or a manned office. All structural work such as tanks and signs can be covered off at Building Consent stage.
- Dust control is likely to be problematic in the town centre area. Hence the strict conditions on dust control

### **Water**

- Water reticulation exists in Great South road and no problems are expected.
- Water reuse for extended detention was considered but is judged as not being appropriate for the site because of the possible oil contaminants.

### **Wastewater**

- Wastewater reticulation is available in Great South Road but is not required for this development

### **Stormwater**

- A viable stormwater system has been proposed.
- Both parties agreed that finalisation of a slightly improved design can be left to Engineering Plan Approval.
- I am confident that this approach will not result in a consent we can't give effect to.
- Water is being attenuated by tank, to pre development level.
- Treatment of stormwater is via a propriety quality treatment unit.

### **Roading**

- The site is located in a busy intersection area on a curve.
- The preliminary design shows that all vehicular activities anticipated for the site are marginally viable and safe
- The Traffic peer review by Gray Matter is more explicit about this and conditions have been written to ensure compliance
- The peer review of the applicant's traffic analysis shows that safe stopping sight distances are only just achievable and that separation distances are below code

- While the mitigation measures proposed make the site marginally safe I believe them to be unsustainable. For example the Tanker route to site is complex and has to be followed each and every time to keep the entrance and exit to and from the site safe.
- I have proposed making Gray Matter's mitigation measures a part of the conditions. HOWEVER: Some conditions will rely on third parties and are therefore ultra vires.
- To get round this our Roding Team would need to enter into a side agreement to do this work for them . Have a particular look at clause 4 A and Clause 6 below. I think they could work. Can you see a better way?

## PROPOSED ENGINEERING CONDITIONS

### Resource Consent No: LUC0329/20

#### Prior to Works

- 1 Prior to commencing any engineering design or construction works, the Consent Holder shall appoint appropriately qualified and competent **Developer's Representative/s**, acceptable to Waikato District Council, to provide all designs, supervision, certification and final signoff, in accordance with the requirements of the Regional Infrastructure Technical Specifications (RITS).
  
- 2 The consent holder shall notify Waikato District Council's Team Leader-Monitoring, in writing, of their intention to begin works, a minimum of fourteen days prior to commencing works. Such notification shall include the following details:
  - (a) Name/s and telephone number/s of the accepted **Developer's Representative/s**.
  - (b) Site address to which the consent relates.
  - (c) Works intended to be undertaken.
  - (d) Expected duration of works.
  
- 3 Prior to undertaking any soil disturbing activities, the Consent Holder shall install erosion and sediment control measures in accordance with the Waikato Regional Council's Erosion and Sediment Control Guidelines for Soil Disturbing Activities: January 2009. Once the earthworks are complete, the Consent Holder shall ensure that, as soon as possible, and within a maximum of 1 month, the areas where soil disturbing activities were undertaken are revegetated (or by other approved means) to achieve a minimum 80% coverage.
 

Erosion and sediment controls shall be maintained and remain in place until (at least) the minimum required cover is achieved, and may only be removed once the Waikato District Council's Team Leader-Monitoring is satisfied that the risk from erosion and instability has been reduced to a less than minor risk and has provided approval in writing.

- 4 All earthworks activities carried out on site shall be conducted and managed in accordance with an approved Dust Management Plan and an approved Environmental Management Plan to be prepared by the applicant unless otherwise required through the conditions of this resource consent. The plan is to be approved by Waikato District Council's Team Leader-Monitoring prior to works commencing

#### **Advice Note**

Prior to works commencing the Applicant could enter into a Development Agreement with Waikato District Council's Roading Team leader, over how to carry out the mitigation measures outlined in the Gray Matter Report Conclusion

(Transport Peer Review 68-72 Great South Road Pokeno: Gray Matter Ltd: Ref 17-147 dated 30<sup>th</sup> July 2020).

These mitigation works shall be at the cost of the applicant

For the sake of clarity the conclusions in part read as follows

- *"We consider the effects related to sight distance can be mitigated by relocating the fence at 80 Great South Road to the property boundary, removing roadside vegetation opposite Pokeno Road, maintaining planting within the site, and relocating the proposed Gull ID sign."*
- *"Identifying a preferred heavy vehicle circulation route such as shown in Figure 25 (Great South Road, Pokeno Road, Hitchen Road, Gateway Park Drive, McDonald Road), provides a way to manage effects of large vehicles driving along residential streets."*
- *"We suggest using a Site Management Plan to specify the following:*
  - *Right turn entry and right turn exit only for fuel delivery tankers;*
  - *Preferred heavy vehicle circulation route for fuel delivery tankers;*
  - *Gull ID signage location;*
  - *On-site vegetation management; and*
  - *Roadside vegetation management."*

#### **Engineering Plan Approval**

- 5 Prior to the undertaking any works on site, the following engineering designs/plans shall be submitted to, and approved by, the Waikato District Council's Senior Land Development Engineer. Engineering designs for the overall project shall be undertaken in accordance with the following documents:
- a) The Waikato District Plan (Franklin Section);
  - b) The Pokeno Structure Plan;
  - c) Hamilton Infrastructure Technical Specifications (RITS),
  - d) The Approved Plans (attached); and

- e) Any proposed departures from the RITS shall be noted in a design Statement accompanying the engineering approval plans, for approval by Waikato District Council's Senior Land Development Engineer.

These designs/plans shall be accompanied by a completed Producer Statement Design (PSI). A copy of the form is attached with this consent.

## 6 Road Safety Audit

- The proposed site shall be subject to the NZTA Road Safety Audit Procedures for Projects at detailed design stage,
- Safety audits must address the needs of all road users, including the needs of pedestrians, cyclists, motorcyclists and disabled/elderly users. Where appropriate, the requirements of these groups may demand specific audit procedures.
- Recommendations from the audit report(s) shall be implemented before the opening of the site.
- To avoid confusion The Client shall be the Road controlling authority

## 7 Stormwater

The Engineering Design Plans shall be in accordance with RITS and shall include:

- (a) The primary system shall be designed to cater for all runoff from each proposed catchment, for a 50%AEP, 10 minute storm event (with a 16.8% allowance for climate change). It is also to be demonstrated that the receiving reticulated network can accept the discharge without surcharge.
- (b) All flows in excess of the 50%AEP storm event and up to and including the 1%AEP storm event (with a 16.8% allowance for climate change) are to be contained within defined overland flowpaths.
- (c) All defined overland flowpaths crossing private property will require an easement in gross to Waikato District Council. The easement shall fully cover the extent of the 1% AEP storm (with a 16.8% allowance for climate change).
- (d) The location of stormwater lines and manholes and associated easements in gross in favour of Waikato District Council, shall be generally within 1.5m of any boundary or as agreed to by Waikato District Council's Land Development Engineer,

## Water

- 8 Engineering Design Plans for a reticulated water supply connection that is part of the works shall be designed in general accordance with the plans provided with the application except where changed by conditions of consent. The Engineering Design Plans shall be submitted to the Waikato District Council's Senior Land Development Engineer for approval.

The Engineering Design Plans shall be in accordance with RITS and shall include:

- Installation of water meters outside the property boundary in accordance with Waikato District Council drawing WDC-11 and to the satisfaction of Waikato District Council's Senior Land Development Engineer.

## During Works

- 9 All earthworks activities carried out on site shall be conducted and managed in such a manner as to ensure that all dust and particulate emissions are kept to a practical minimum to the extent that there are no dust discharges beyond the boundary of the site that cause an objectionable effect.
- 10 The consent holder shall ensure that an adequate supply of water for dust control (sufficient to apply a minimum of 5 mm/day to all exposed areas of the site during the winter period, and a minimum of 10 mm/day to all exposed areas of the site during the summer period), and an effective means for applying that quantity of water, is available at all times during construction, and until such time as the site is fully stabilised.
- 11 The consent holder shall ensure that, at all times, the soil moisture of exposed areas is maintained at sufficient levels, under prevailing wind conditions, to prevent dust generated by normal earthmoving operations from remaining airborne beyond the boundary of the work site.
- 12 The consent holder shall ensure that, outside of normal working hours, staff are available on-call at all times to operate the water application system for dust suppression.
- 13 If so required by the Waikato District Council, the consent holder carry out immediate sealing of any problematic dust generating surfaces within the site using hydro-seed/hydro-mulch (or similar paper maché based product), polymer soil stabilisers or a similar dust control product to provide instant remediation of dust effects to the satisfaction of the Waikato District Council.
- 14 Management of the Earthworks shall be in general accordance with the application document and the approved Dust Management Plan, unless otherwise agreed, in writing with Waikato District Council's Team Leader-Monitoring.
- 15 The consent holder shall take all practical measures to ensure that any debris tracking/ spillage onto any public roads as a result of the exercise of this consent shall be removed as soon as practical, and within a maximum of 24 hours after the occurrence, or as otherwise directed by the Waikato District Council's Roding Area Engineer, to the satisfaction of the Waikato District Council's Team Leader-Monitoring.

The consent holder, upon becoming aware of the need to clean up the roadway, shall advise Waikato District Council's Roding Area Engineer of the need for the road to be cleaned up, and what actions are being taken to do so.

The cost of the clean-up of the roadway and associated drainage facilities, together with all temporary traffic control, shall be the responsibility of the consent holder.

- 16 Any works undertaken within the Great South Road road reserve area shall be managed to ensure that the surface of the Great South Road (including any temporary road diversions) is maintained in a suitable, trafficable condition to minimise any adverse effects upon local road users and to the satisfaction of the Waikato District Council's Senior Development Engineer
- 17 Any fill areas shall be undertaken in accordance with NZS4431:1989 (Code of Practice for Earthfill for Residential Development) unless otherwise approved by the Waikato District Council's Senior Development Engineer.
- 18 The site shall be stabilised against erosion as soon as practicable and in a progressive manner as earthworks are finished over various areas of the site. Appropriate methods of site stabilisation may include re-spreading of topsoil and grassing, hay mulching or placement of aggregate surfaces (roads/building platforms). The consent holder shall monitor and maintain the site until stabilisation is achieved to such an extent that it prevents erosion and prevents sediment from entering any watercourse.
- 19 In the event of any archaeological artefacts being discovered the works shall, in the vicinity of the discovery, cease immediately and the Waikato District Council, New Zealand Historic Place Trust and representatives of local iwi (where artefacts are of maori origin) shall be notified within 24 hours. Works may recommence on the written approval of the Waikato District Council after considering:
- a) Tangata Whenua interests and values;
  - b) Protocols agreed upon by Tangata Whenua and the consent holder;
  - c) The consent holders interests;
  - d) Any Historical Places Trust authorisations; and
  - e) Any archaeological or scientific evidence.

## Complaints

- 20 If any complaints are received by the consent holder regarding the activities authorised by this consent, the consent holder shall notify the Waikato District Council's Team Leader-Monitoring of those complaints as soon as practicable and no longer than one working day. When/if complaints are received; the consent holder shall record the following details in a Complaints Log:
- i. Time and type of complaint, including details of the incident, e.g. duration, any effects noted;

- ii. Name, address and contact phone number of the complainant (if provided);
- iii. Location from which the complaint arose;
- iv. The weather conditions and wind direction at the time of any dust or noise complaint;
- v. The likely cause of the complaint;
- vi. The response made by the consent holder including any corrective action undertaken by the consent holder in response to the complaint; and
- vii. Future actions proposed as a result of the complaint.

The register shall be available to the Waikato District Council at all reasonable times. Complaints received by the consent holder that may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato District Council's Team Leader-Monitoring in writing within 24 hours of the complaint being received.

## Post Works

21 The Consent Holder shall:

- (a) Appoint a suitably qualified and competent person, to the satisfaction of Waikato District Council's Roding Compliance Officer who shall be responsible for gathering all information necessary for RAMM data collection for the subdivision.
- (b) This representative shall gather and submit RAMM data, which shall conform to Waikato District Council's ROAD ASSET DATA STANDARD SPECIFICATION, to the Waikato District Council's Roding Compliance Officer for assessment and technical certification. All RAMM data shall be provided on the prescribed forms.

22 A "**Producer Statement – Construction**" shall be provided for each separate works undertaken by each individual Contractor.

(An acceptable format for "Producer Statement – Construction" can be found in the Hamilton Infrastructure Technical Specifications. A copy of the form is attached with this consent. ).

23 A "**Certificate of Completion of Development Works**" prepared and signed by a Chartered Professional Engineer, shall be provided to confirm that all works in terms of the design plans submitted and approved by Council have been carried out in accordance with the approved plans, appropriate standards and all relevant reports.

## Advisory Notes

ANI The consent holder's attention is drawn to the requirement to obtain any necessary consent from the Waikato Regional Council.



**Christopher Gatehouse**  
**Land Development Engineer**  
**Date: 4<sup>th</sup> August 2020**

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