

14 May 2020

520 GSR Limited  
PO Box 1190  
Shortland Street  
Auckland 1040

Attn: Mr Fraser Heaven

Dear Fraser

**RE: Response to Request for Further Information - 520 Great South Road, Papakura, Auckland**

**(Our Reference: 15932.000.000\_04)**

## **1 Introduction**

ENGEO Limited was requested by 520 GSR Limited to prepare this letter in response to a request for further information from Auckland Council regarding the application for a plan change to rezone the site at 520 Great South Road, Papakura, Auckland.

The intent of this letter is to respond to geotechnical queries from Council. These are primarily related to the Geotechnical Investigation Report (GIR) prepared by ENGEO dated 2 July 2019 (Project Reference 15932.000.000\_02, Revision 1). We received comments from Sanjay Bangs on 6 April 2020 (forwarded from Rachel Morgan), titled Clause 23 RMA Further Information - 520 Great South Road Private Plan Change Request, with the below requests for further information.

Additionally, we understand that separately from the Plan Change, the Applicant has lodged an application for Resource Consent for a residential development on the site, and this is currently being processed by the Council.

Further to this request for information, we have also recently (post submission of our geotechnical investigation report) been supplied with a Geotechnical Investigation Report (prepared by others) for the property at 21 Gatland Road and a set of earthworks plans for the proposed development of the site. This new information is reflected in our responses below.

## **G1 Land Modifications**

*"Please assess the geotechnical constraints that may arise within the watercourse in the eastern corner of the site, and provide recommendations on further site investigations required."*

The Plan Change is seeking to rezone the site to 'Mixed Housing Urban'. Future development will be assessed through the resource consent process. However, we understand that housing lots are proposed within the low lying portion of the site adjacent to the northern boundary (outside of the stream alignment).

The Maven Consultants earthworks plan set provided to us – reference 135014 dated 06/03/2020 indicates that fills of up to 3.5 m in height are proposed within the lots adjacent to the watercourse.

The retaining wall proposed along the northern extent of the lots in the area adjacent to the watercourse will need to be designed by a chartered professional engineer and this wall design should include consideration of the global stability of the wall.

Given the extent of the development proposed, it is expected that further geotechnical investigation and laboratory soils testing will be required along the alignment of the retaining wall and within this fill area. This work is required to determine the nature (strength and composition), of the underlying soils and to determine their susceptibility to settlement under the fill loads proposed.

As a result of this further investigation, it may be that settlement monitoring will be required for these fills. This will be addressed as part of the Resource Consent process. Monitoring is used to determine when the underlying soils have consolidated to an acceptable degree - such that any remaining settlement does pose a risk of unacceptable total or differential settlement to future dwellings.

The nature and location of detailed geotechnical site investigations required will be determined through the resource consent process. This is likely to include further boreholes within the north-eastern portion of the site and CPT investigations across the site.

## G2 Watercourse

*“Please provide comment on perceived geotechnical constraints if the low lying watercourse area was to be filled, and clarify what further site investigation will likely be required to assess these (for example, during a Resource Consent phase). This should also consider the point raised in G1 above.”*

The Maven Consultants plan set provided shows that the watercourse along the northern boundary is to be left in place and that development will be limited to a zone set back from the stream as shown on the earthworks plan set.

Filling is limited to outside of the watercourse area as shown on the plans and will be retained by a specifically designed retaining wall.

Likely investigations and design considerations for this proposal will be considered through the Resource Consent process and are outlined in our response to query G1.

## G3 21 Gatland Road

*“Please clarify the nature of future site investigations for 21 Gatland Road.”*

We have just recently (following submission of our report), been provided with a previously completed geotechnical investigation report for the property at 21 Gatland Road. This report was completed by Riley Consultants Limited in December 2018 (reference 180432-B), in support of a previous application for Resource Consent for that site.

As such, we consider that the investigation records and conclusions of that report are relevant to this plan change application and that no further geotechnical investigation works are required within the site at 21 Gatland Road to support this plan change application.

Further investigations regarding deep soil conditions may be required for resource consent, though the Maven Consultants plan set provided does not include the 21 Gatland Road site, so this will need to be determined once development plans are available for this area.

## G4 Seismicity

*“Please provide comment on likely seismic site class and also the proximity of the site to any active faults.”*

ENGEO proposes to address this query within a ‘Supplementary GIR’ for the overall site including 21 Gatland Road. Seismic site class determination and location of the nearest fault(s) will be addressed as part of the Resource Consent process.

## G5 Liquefaction

*“Please clarify whether more detailed liquefaction analyses of a deeper soil profile will be a necessary requirement for further assessment (e.g. during a Resource Consent stage).”*

Yes, a detailed liquefaction study that considers the deeper soil profile will be required. ENGEO proposes to address this query within a Supplementary GIR, to be undertaken as part of the Resource Consenting process.

## 2 Limitations

- i. We assume the remaining comment items will be addressed by other members of the design team.
- ii. This Limitation should be read in conjunction with the Engineering NZ / ACENZ Standard Terms of Engagement.
- iii. This report is not to be reproduced either wholly or in part without our prior written permission.

We trust that this information meets your current requirements. Please do not hesitate to contact the undersigned on (09) 972 2205 if you require any further information.

Report prepared by



**Grant Caldwell**

Engineering Geologist

Report reviewed by



**Paul Fletcher, CMEngNZ (CPEng)**

Associate Geotechnical Engineer