Project Reference: BGL000170A

24 April 2024

SB Civil Ltd
8 College Hill,
Freemans Bay,
Auckland, 1011

Attention: Alistair McCourtie

Phase 2 – Geotechnical response to s92 requests for the proposed managed fill at Lot 2 DP 77813 Ararimu Road , Papakura, Auckland

1 Introduction

SB Civil Limited (SBC) are proposing construction of a managed fill at Part Lot 2 DP 77813, No 1618 Ararimu Road, Auckland. We understand SBC have been granted access and usage rights to place managed fill on the neighbouring eastern property Lot 8 DP 369781. For clarity, this s92 response refers to both land parcels as "the site".

Baseline Geotechnical Limited (BGL) prepared a geotechnical assessment report[1] that set out design aspects relating to front-face angles and fill heights of the proposed landform to support a resource consent application.

Auckland Council (AC) are processing the application and has technically reviewed the geotechnical aspect of the consent application. The reviewer examined the report[1] and made a formal s92 request for further geotechnical information or clarification.

Eleven queries were raised; these are set out below along with our responses and recommended actions.

[1] Geotechnical Assessment Report, Ararimu Road Managed Fill issued on 15 September 2023 BGL000170 v2.0.

2 s92 response

2.1 Plan of completed investigations

Query Q.78: *Please provide a clear site plan showing the location of the proposed managed fill, location of investigations undertaken, locations of noted instabilities and locations of cross sections.*

We have re-issued our geotechnical assessment report (Version 2.1) to include this plan at Appendix C.

2.2 Sub-surface drainage layout plan

Query Q.79: *Please provide a preliminary proposed sub-surface drainage layout plan.*

Query Q.82: *Please provide geotechnical assessment and input on the suitability of the proposed fill drainage plan in terms of geotechnical risk.*

We have re-issued our geotechnical assessment report (Version 2.1) to include this plan at Appendix J. This plan is annotated with where we anticipate Type 1 and Type 2 drains will be required. BGL consider the proposed fill sub-surface drainage plan can provide an appropriate level of groundwater management commensurate with that adopted in our stability modelling. It adequately addresses the geotechnical instability risk for the proposed clean fill.

2.3 Fill management plan - review and update

Query Q.84: *Please update the Fill Management Plan with the fill compaction criteria and monitoring plan, including fill test and porewater pressure monitoring.*

We have provided information to Williamson Water and Land Advisory (WWLA) to incorporate into a revised Fill Management Plan (FMP), at Section 4.4. Our geotechnical assessment report should be incorporated into the FMP as an Appendix.

2.4 Fill management plan – groundwater monitoring and piezometers

Query (Q.76): *Section 8.4 "Rate of fill placement" of the provided geotechnical report by Baseline Geotechnical states, "We recommend installing vibrating piezometers in each gully within the natural material to monitor the excess porewater pressure development during the filling operations". Please provide the following in relation to the recommended piezometers:*

a. *The provided fill management plan did not include provision for the installation of the recommended piezometers. Please include the installation of piezometers in the fill management plan.*
b. *Please provide a Monitoring and Contingency Plan for the proposed porewater pressure monitoring, including but not limited to the site plan showing locations of the proposed piezometers, proposed alert and alarm levels for the porewater pressure monitoring, proposed contingency plan, proposed frequency of the piezometer monitoring etc.*

BGL have addressed this request in a revised geotechnical assessment report (Version 2.1) and recommended a summary section be incorporated in a revised FMP between 4.4 and 4.5.

2.5 Temporary stability during construction

Query Q.77: *Please provide comment on the temporary [undrained] stability of the slopes during the bulk fill placement.*

We have re-issued our geotechnical assessment report (Version 2.1) to include a summary of temporary (undrained) stability at Section 7.3.6.

In summary, this assessment indicates acceptable levels of temporary stability provided rate of filling can be appropriately managed.

2.6 Site preparation for areas of instability

Query Q.80: *It is noted that a general guidance on placement of fill was provided in the geotechnical report. For safety during construction, please provide a detailed methodology for preparing the foundations or clearing debris in the noted areas of instability, including any limitations on plant to be used and sequence of construction, if applicable. This is to avoid mobilising existing landslides during construction.*

We have included commentary around managing existing areas of instability at Section 8.1 of our revised geotechnical assessment report (Version 2.1).

2.7 Stockpiling on site

Query Q.81: *Please provide comment on the proposed stockpiling areas in terms of geotechnical risk, including recommendations on areas that should be avoided for placing stockpiles, if applicable.*

We have re-issued our geotechnical assessment report (Version 2.1) to include a discussion of temporary stockpiling in Section 8.3.4.

2.8 Review of the Fill Management Plan

Query (Q.83): *Please undertake a review of the "Fill Management Plan" by a geo-professional to confirm the lodged development plan comply with the geotechnical recommendations present in the Baseline Geotechnical report.*

We confirm that we have completed a review of the FMP and confirm that it complies with our geotechnical recommendations. The FMP shall append the geotechnical assessment report and be revised to include any future revision (current version 2.1 incorporating S92 responses) or geotechnical addendum report.

3 Closure

This report has been prepared for the exclusive use of our client SB Civil Limited and Auckland Council with respect to the resource consent application for which it has been prepared. It may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We trust that this letter report meets your present requirements. If you have any queries or wish to discuss any aspect, please contact the undersigned.

For and on behalf of Baseline Geotechnical Limited

Cameron Lines

Director