

March 2022

Napier City Council

Private Bag 6010

NAPIER 4142

Attention : Paul O'Shaughnessy (Napier City Council)

170 Broadway Avenue
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New Zealand

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RE-Bayswater (RM190053) LVA Peer Review

Dear Paul,

Designgroup Stapleton Elliott writes in response to your request for further information relating to the above Resource Consent Application for Bayswater Vehicles.

This letter sets out and responds to each comment individually below.

1. *Detail the extent of the cut over which the mesh/jupp [jute] matt solution was being proposed. This has not been identified? Unless in the Geotech details I haven't seen?*

DGSE is aware that this has been removed from the Geotech design as a solution.

2. *Confirm the colour of mesh to be used – can a lighter colour product be used? This has not been identified? What product will be used? Specifications etc?*

As per above.

3. *Discuss with Ian Jennings the ability to reduce the number of benches proposed to as to commence the benching from a lower point and to increase the depth of the benches to say 1m (within the concept agreed to by the Geotech Peer Reviewer) Some detail provided – how will the planting work on the benches? A detail would be good.*

See attached landscape plans.

4. *Discuss with Ian Jennings the ability to extend the benches around the face of the cut to provide greater ability for revegetation via benching (within the concept agreed to by the Geotech Peer Reviewer) As above – is there a geotech detail for this that I've missed?*

DGSE's understanding is that the benches proposed in the attached landscape plans are unable to continue along the slope behind the extended building. Refer to comments provided by Cheal in the appendix.

5. *Confirm how the benches will be constructed to retain sufficient topsoil to establish/sustain planting (within the concept agreed to by the Geotech Peer Reviewer) As above?*

See attached landscape plans.

6. *Provide more examples of vegetation being established via the benching approach – examples to be similar to the concept proposed. By providing examples I hoped to see local examples of successful revegetation, with locations? The examples provided could be from the south island or overseas? More detail is needed here. Hawkes Bay is very dry, how will they establish, what if its constructed in the wrong growing season? Who is the supplier of the seed, what plant species will be used?*

Please find attached report done by Cheal that was submitted with the original RC documents. We have been in contact with local companies regarding hydroseeding. Both Instant Green and Evergreen Landcare have looked at the project and are confident that the application will work both in terms of slope stabilisation and hydroseeding. Seed mix can be determined by the client however they have both said that native species are less likely to establish or take more time to establish but are confident that a common exotic species will take well to both the soil and site conditions and are a viable solution.

Examples in the previous revision were based on common factors relating to the site with similar soil conditions and in part shade, semi coastal areas from Bay of Plenty and Central North Island.

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7. *Provide more examples of vegetation being established via the mesh/jupp matt approach – examples to be similar to the concept proposed. As above. This doesn't give me any more confidence in the design than it did previously and my concerns about failure and the mesh and jute being exposed on the escarpment.*

Mesh/jupp approach has been taken out of the Geotech design and is not being used as a solution. The proposal is to plant the benches and Hydroseed the slopes.

Section 8

- a. *Provide more examples of vegetation being established via the mesh/jupp matt approach – examples to be similar to the concept proposed. As above. This doesn't give me any more confidence in the design than it did previously and my concerns about failure and the mesh and jute being exposed on the escarpment.*

As above.

- b. *What about potential soil loss over time and plant success and health? Not responded to? Maintenance methodologies would assist here.*

See attached plant schedule and palette. Plants have been chosen specific for the site conditions and for their hardy tolerate capabilities. It is our expectation that little to no maintenance should be required for a project of this nature. However, we do recommend a period of 24months for any replacement of failure in any of established planting.

- c. *Is 750mm wide benching wide enough to establish meaningful vegetation? I remain sceptical in absence of supporting information. Wider benching is proposed which is good, but no detail of planting, soil, mesh etc.*

See attached Landscape plans.

- d. *How is the face and benching accessed for maintenance? The concept proposes no access to the benching, and therefore how is the face maintained? If at all? Again, wider benching would allow for maintenance access along the benches (potential lead wire system for maintenance personnel to attached to for safety). Wider benching provided but no concept of how to service benches.*

As per the above comments regarding planting selection. We see that a project of this nature will require little to no maintenance as the planting will establish naturally. We recommend that a condition be set for replacement of any failed planting over a 24month period.

- e. *How do the benches tie back into the existing face for ease of access, and drainage (lateral overland flow across the bench?) No response?*

As per above comments and Cheal's comments in the appendix.

- f. *Are there examples of the 'Flex MSE' walls providing successful vegetation? What if the planting fails and the flex MSE bags are exposed again and the visual effect of this infrastructure – i.e. would the lime face be more appropriate if planting fails than artificial face of bags or geogrid? What colour do the bags come in? Only black? Does this design require a sprayed cover crop to hold the face together? Can the cover crop have native seed in it? No detailed response provided. What product was decided upon for mesh/jute? what seed mix if hydro seed? No proof that it will work- did they talk to manufacturers? I would have expected specification from manufacturers at least, and whether this system has worked on cuts this size? How would they reach the face with hoses?*

As per above responses.

- g. *I am not aware of a management plan having been submitted with the proposal which would provide assurances of enduring sustainability of the mitigation measures. Not provided?*

As per above.

- h. *Can it be designed with a less extreme slope grade – something more conducive to successful revegetation? Some changes in benching shown.*

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Benching has been altered as per Landscape plans.

- i. *Vegetation clearing – is this monitored, what is the extent of clearance. If removing wilding pines, the effect may grow beyond the site boundaries due to root zones/ extents that the roots are stabilising the cliff face. **Not Provided?***

DGSE unable to comment.

- j. *Does the geotechnical solution have to tie back further than the cut face? **With this I was referencing the extent of mesh to the face – what is the extent of this and what will it look like? Will it go over the top of batter and interface with the steps etc? What effect does the cut have on the neighbouring site at 33 Faraday Street and the stability of the May Ave steps? I will defer to the Geotech engineers here.***

See above responses and also appendix for comments by Cheal.

- k. *Where have these mitigation measures been tested before locally and has been successful? **As noted above, I would have expected proof of concept through specification and chat with manufacturers etc and local examples of planting establishing on a similar escarpment, similar scale?***

As per above also see attached document prepared previously by Cheal.

Yours faithfully

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APPENDIX

In general, the benching was added to have a purely landscaping function and to support appropriately sized plants to break up the visual consistency of the cut face.

In response to c. and d.: -

It was never the intension that the benches would be access or maintained once they were constructed and planted. It is anticipated that the benches would include some topsoil and any water collected on the bench would remain and be taken up by vegetation as with any planted environment.

In term of Item d:- the existing cut face is sub-vertical and relatively heavily vegetated. We anticipate that the proposed earthworks along this face will be relatively minor in terms of the volume to be removed, and is likely to include " shaving" back the face to expose a more competent substrate.

The cut design has been externally peer reviewed and the reviewer has agreed that the proposed design includes acceptable factors of safety, which include both static and seismic analysis.

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