

Monday, 14th December 2015

Mr Scott Marchant
 King and Campbell Pty Ltd
 PO Box 243
 Port Macquarie
 NSW 2444

Delivery via: Email [scottm@kingcampbell.com.au]

ABN 81 127 154 787

Head Office

PO Box 3401
 Helensvale Town Centre
 QLD 4212

Phone 1300 319 954

info@naturecall.com.au

www.naturecall.com.au

Dear Scott,

**RE: Review of Extent of the Endangered Ecology Community –
 Swamp Oak Floodplain Forest on Coastal Floodplains in the Eastern Creek
 on Lot 1 DP 1193553, Ocean Drive Bonny Hills – Concept Approval 06_0085.**

As requested, following the geotechnical investigations undertaken by Regional Geotech Solutions (2015), I inspected the drainage line in the upper northwest of the site and its associated vegetation.

The drainage is both extremely short and shallow, hence I can see (as the geotechnical specialist has demonstrated) how alluvial processes would not be the dominant geomorphological process until the junction with the plain where soil would be deposited by material accumulated and/or eroded from the drainage line. In respect to erosion, a channel only becomes defined near the bottom of the drainage line.

This and the soil data results are in line with the Quaternary mapping which shows the area is a colluvial-alluvial fan, which presents on site (as expected) as a gradational (with slope) spectrum of geomorphological processes (ie colluvial dominant in the northwest, alluvial dominant in the southeast).

In terms of vegetation, the drainage line is dominated by Swamp Oak, as is most of the overall remnant. Swamp Oak has very broad edaphic requirements, as demonstrated on site where it occurs on alluvial, colluvial and residual soils. The former nursery is located just out of the drainage line (the original sketch map from 2003 is correct). Its extent is indicated by Spotted Gum which have grown out of pots and established. I recommend retaining these trees as Spotted Gum offers a key nectar source for a range of fauna.

In terms of the Final Determination and legal precedents, the topographic formation considered to be associated with a coastal floodplain has to be derived from fluvial processes which is in turn evidenced by a soil profile of alluvial soils (*Gales Holdings Pty Limited v Tweed Shire Council [2008] NSWLEC 209*). The upper limit of the alluvial soil profile has been indicated by the geotechnical specialist in Figure 1 of RGS (2015). This upper limit of the alluvial soil landscape can thus be considered to be consistent with the upper extent of the EEC – *Swamp Oak Floodplain Forest on Coastal Floodplains*.

It is anticipated this correspondence contains all the relevant information you require, however if any additional information is required, or you wish to discuss the project further please don't hesitate to contact Jason on 0410 522 399.

Yours faithfully,



Jason Berrigan,

B. Nat. Res. (Hons). Grad. Cert. (Fish).
MECANSW, MRZNSW, MABS, MAHS, MAPCN, MRBIA

Principal Ecologist and National Coordinator

Mobile: 0410 522 399

Email: jason.berrigan@naturecall.com.au



Head Office

Phone: 1300 319 954

Email: info@naturecall.com.au

Office: 1/52 Newheath Drive, Arundel, QLD

All Mail: PO Box 3401 Helensvale Town Centre QLD 4212

NSW Office

Phone: 1300 319 954

Email: info@naturecall.com.au

Office: Level 1, Suite 3, 64 Clarence Street, Port Macquarie

Regional Geotech Solutions (2015). St Vincent's Foundation Pty Ltd - Eastern Creek, Rainbow Beach Project, Ocean Drive, Bonny Hills - Geotechnical Assessment. Unpublished report to St Vincent's Foundation. RGS, Port Macquarie.