Project No: S14184

15 September 2015

Mirvac
Level 26
60 Margaret Street
Sydney, NSW, 2000

Attention: Amar Prashant

Dear Amar,

2 FIGTREE DRIVE, SOPA (SITE 53)

I refer to the letter prepared by Nick Hubble of Sydney Olympic Park Authority (SOPA), titled "*Site 53 – Project Delivery Agreement – State Significant Development Application – Land Owners Consent*" (attached).

Please see our response below to the items raised by SOPA in the above referenced letter.

I refer to the last bullet point on page two *Demonstration of compliance with SOPA's Stormwater Management- Water Sensitive Urban Design Policy including:*

- *An integrated water cycle management plan demonstrating how all stormwater generated on the site will be managed.*

I refer to the BG&E report "Stormwater Management Strategy", reference S14184-RPT-C-0001, Revision D, dated 06 August 2015 (attached). This report documents how the stormwater run-off from the site will be managed before being discharged off site. Since the time of writing the report, it has come to our attention that there are currently discussions between SOPA and Mirvac regarding the proposed plan of subdivision. The outcome of these discussions will influence the final proposed solution with regards to water quality and water quantity.

At the time of writing this report, there was little information regarding the rainwater harvesting and information regarding re-use rates. We can now confirm that a 100kL rainwater tank has been proposed. Further rainwater tank details and rainwater re-use rates can be found in the report prepared by JHA "Rainwater Strategy" Revision A, dated 07 August 2015 (attached).

Sydney *Office—*

Level 2, 8 Windmill Street, Sydney NSW 2000
P / +61 2 9770 3300 *E /* info@bgeeng.com
bgeeng.com—

BG&E Pty Limited
ABN / 67 150 804 603

- *Outline each element of the water sensitive urban design strategy*

  Various options WSUD options have been investigated. These primarily included the use of underground propriety products to achieve the water quality targets required by SOPA, and the option of achieving the targets by use of above ground basins and swales. The above ground options however have been discounted due to the lack of available space.

  The current proposal includes the following stormwater elements:
  - Previously, the On-site Stormwater Detention (OSD) documented with the structure basement was located approximately mid-way along the proposed road. The proposed WSUD treatment tank was located in the vicinity of the basement entrance and the relocated fig tree. Please refer to drawing S14184-DRG-C-0100_B (attached) However, it is now proposed to combine the water quality, water quantity and the rainwater tank all into one combined tank structure, in the location that previously dedicated for the WSUD tank.
  - Roofwater will be piped directly into the rainwater component of the combined tank. Once capacity is reached, this will overflow into the water quality treatment component of the combined tank.
  - Drainage from the podium will be piped into the GPT, located within the combined tank. It is proposed to use a 6 x Enviropod GPT.
  - Flows from the GPT will then be directed to the filtration system. This will consist of StormFilter consists of 25 x 690mm Phosphosorb Cartridges. This will require a footprint area of approximately 35sq.m. StormFilter cartridges will consume approximately 3.5 cubic meters of volume plus the weir wall and false floor. Remaining area will be available OSD volume. The minimum StormFilter chamber height will be 1.2m as long as multiple 900mm square access lids are provided.
  - Once the capacity of the stormfilter system is exceed, it will overflow into the outlet zone, where the outflow will be controlled by an appropriately sized orifice.

- *Design assumptions regarding the proposed infrastructure*

  Below is a list of key assumptions that were made with regards to the current proposal:

  - It has been assumed that the proposed plan of subdivision that is currently being discussed between SOPA and Mirvac will be implemented
  - The current proposal assumes that a 100kL rainwater tank will be required. Further information regarding the rainwater tank can be found in the report prepared by JHA "Rainwater Strategy" Revision A, dated 07 August 2015
  - The entire site (9,943 m2) can be discharged to the proposed tank.
  - Runoff from the roof can be discharged to the rainwater tank at a high level, strapped to the underside of the ground floor slab.
  - Run-off for the open spaces can be discharged to the GPT section of the tank at a high level, strapped to the underside of the ground floor slab.
  - If syphonic drainage is to be used, then this can be broken prior to discharge to the GPT section of the tank.
  - It is assumed the full floor height (2.8m) will be available

- *Monitoring and maintenance plan for all stormwater devices and other water sensitive urban design elements*

  Please find attached two options of payment plans supplied by Stormwater360. This document outlines the upfront installation cost of the proposed units and the yearly maintenance fees should this proposal be pursued.

Should you require further information or clarification of any of the points discussed above, please do not hesitate to contact us directly.

Yours sincerely,
For BG&E Pty Limited

Trevor Woodward
Senior Civil Engineer

enc.
01 SOPA Letter
02 S14184-RPT-C-0001 - Stormwater Management Strategy
03 Hydraulics Report
04 Drawing S14184-DRG-C-0100 Revision B
05 Stormwater360 Option Proposal (WSUD cost and maintenance fees)