

Alicia Desgrand
Ethos Urban
173 Sussex Street,
Sydney NSW 2000

19 February 2018

Dear Alicia

RE: Response to NSW EPA Public Submission: Western Building, University of Wollongong

Coffey Services Australia Pty Ltd (Coffey) was engaged by Donald Cant Watts Corke (DCWC) on behalf of the University of Wollongong (UOW) to prepare the following reports in support of a development application for the Arts and Social Sciences Building (i.e. the Western Building) development:

- Coffey (Sept 2017); *Contamination Assessment – Social Sciences & Law Humanities and Arts Building* (Ref: 754-WOLGE205371AB; Rev. 2)
- Coffey (July 2017); *Geotechnical Investigation – Social Sciences & Law Humanities and Arts Building* (Ref: 754-WOLGE205371AA; Rev. 1)

From your recent correspondence, we understand that the NSW Environment Protection Authority (NSW EPA) has provided comment on the Western Building development application (SSD8596). Ethos Urban has requested Coffey to consider these comments and provide a response to Comments 3 and 5 raised by the NSW EPA in their letter dated 22nd November 2017 (ref: DOC17/559015-15:CP). Please find below our response to Comments 3 and 5 raised by the NSW EPA:

3. Section 5.11.3 indicates that groundwater will be encountered during drilling of bored piles. The EIS does not include any information on how groundwater will be managed at the site as part of the proposed development. Further information should be provided to demonstrate that the project will not result in pollution of waters as defines in Section 120 of the POEO Act.

Coffey prepared the aforementioned geotechnical and contamination assessments based on limited information to describe the proposed development. Coffey is not familiar with the content of the EIS.

Our investigations encountered groundwater at 9.5mbgs. We understand that groundwater is not currently abstracted from the site for beneficial uses. Section 6.1 of the Geotechnical Report (Coffey, July 2017) provides recommendations for building foundations to comprise piles socketed into rock using either fully cased bored piling, or continuous flight auger (CFA) piling techniques. It is unclear to Coffey which piling technique has been selected for the proposed development.

Dewatering is not anticipated where CFA piling is proposed as the preferred piling technique. Dewatering is recommended to remove groundwater from pile casings where bored piles are the preferred piling technique. The methodology to dewater pile casings is typically developed as part of construction planning once the pile technique has been selected, and the building's foundation design has been finalised. As such, we consider such detail to be beyond the scope of Coffey's reports.

Extensive dewatering during construction does not appear to be anticipated based on the limited information available to describe the development at the time our reports were prepared. Notwithstanding this, Coffey offers the following comments with regard to the management of waters during site development in the context of Section 120 of the POEO Act:

- The contamination report indicates the possibility (although unconfirmed) that a septic tank may reside in the central western part of the site. The report states that 'groundwater and receiving water (ecological receptors) could potentially be impacted is a redundant septic system'. Other potential sources of contamination appear less likely to pose risks to groundwater or surface water.
- A review of the investigation records states 'Drilling closer to the potential septic was not possible due to the presence of many services and the unknown location of the structure' and hence was flagged as a data gap in the current knowledge of site conditions. Coffey make recommendations to develop contingency plans to address unexpected finds of potential contamination (which would include a septic tank).
- Investigations recorded site lithology to comprise medium to high plasticity Clay and Sandy Clays to depths between 7.0 and 8.0mbgs, which are typically characterised as low permeability deposits that would retard infiltration and lateral migration of pollutants from a septic system (if present) reducing the risk of pollution of waters as described in the POEO Act.
- Whilst piling can introduce preferential contamination migration pathways, the use of CFA or fully cased bored piling techniques would minimise the potential to cross-contaminate groundwater from sources of potential contamination identified on site.
- The reports indicate the nearest watercourse is an unnamed creek located approximately 70m to the south (topographically down gradient) of the site. The likelihood that runoff from the site during construction would enter the unnamed creek 70m south is assessed to be low given the presence of existing stormwater drains between the site and creek. Good site preparation and controls implemented during construction (i.e. diversions, silt traps etc) would further reduce the potential for pollution of waters from runoff. The development of such controls is typically undertaken as part of construction planning once further detail of the development is known, and hence beyond the scope of our reports.

5. Table LR1 in the Contamination Assessment Report prepared by Coffey Services Australia Pty Ltd dated 27th September 2017 does not appear to include the samples results for borehole location CBH05. The results are also not included with the laboratory reports provided in Appendix J of the report. Additional information should be provided to either include the results for this borehole or to clarify why the results have not been provided.

The borehole logs show that CBH05 terminated at 0.25mbgs due to refusal (i.e. hard object preventing the auger to be progressed further). The log shows that no samples were collected from CBH05. Hence, there are no results withheld. Observations from CBH05 were used within the assessment, and as such we consider this to be a valid data point for the assessment.

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We trust this meets your current requirements. Please do not hesitate to contact the undersigned if you or others in the project team have further queries regarding our reports.

Yours sincerely

Matthew Locke
Senior Associate

Certified Site Contamination Specialist (EIANZ Registration SC41057)