



TaylorThomsonWhitting

21 April 2015

141191

Health Infrastructure
 c/o Aurora Projects Pty Ltd
 Level 6, 50 Berry Street
 North Sydney NSW 2059

Attention: Mr Malcolm Naylor

**PROPOSED GOSFORD HOSPITAL AND STAGE 1 OF HEALTH AND WELL
 BEING PRECINCT
 ACID SULPHATE SOIL**

Dear Malcolm

As requested, TTW have reviewed the available geotechnical information in relation to potential acid sulphate soils at the Gosford Hospital and Stage 1 of Health and Well Being Precinct Sites.

1. Geotechnical / Ground Contamination Investigations

Douglas Partners have carried out Geotechnical and Environmental Services in a number of stages for the sites. These include

- Detailed geotechnical investigation in connection with the proposed multi-storey hospital extension at the north-western area of the hospital grounds, together with a preliminary geotechnical investigation in connection with the proposed 'Health and Well Being Precinct (HWP)' adjacent to Holden Street.
- Preliminary site investigation (PSI) for Contamination for the proposed multi-storey hospital building;
- Detailed Site Investigation (DSI) for Contamination for the proposed multi-storey hospital building; and
- Preliminary Site Investigation (PSI) for Contamination for the proposed HWP.
- Desktop review and report on previous geotechnical investigations that had been carried out on The Gosford Hospital site.

DP has prepared separate reports for each of the above listed components, with these being issued between July 2014 and December 2014.

Additionally, Douglas Partners have provided a further letter dated 6 March 2015, incorporating modifications to the site areas for the HWP. In this letter they confirm the advice provided in previous reports is not changed with the modified extent of the HWP.

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Traffic

Facade

Engineers

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 G Bills BE Hons MIEAust
 G Petschack JP
 M Raddatz

Manager Facade

N McClelland BSc BE Hons MBA MIEAust

A copy of this letter is attached as Appendix 1, which includes the extent of the HWP and hospital sites as Figure 1.

2. Acid Sulphate Soils

In their report 75799 – Report on Detailed Site Investigation for Contamination, December 2014 - they note:

“The local acid sulphate soil risk map indicates that the site is located in an area mapped as having no known occurrence of acid sulphate soils. Based on the site’s elevation (12-38m AHD) and the acid sulphate soil risk mapping, further assessment for acid sulphate soils within the site was not warranted.” (A copy of the relevant page of the report is attached as Appendix 2)

Based on the information in the report and advice from Douglas Partners, for this case there is no acid sulphate soil present, and therefore no management plan is required. We also note that TTW were engineers for the previous 2004 major building adjoining the new site, and acid sulphate soils were not encountered in this stage.

Yours faithfully

TAYLOR THOMSON WHITTING (NSW) PTY LTD



ROBERT MACKELLAR
Director

Appendix 1: Letter from DP dated 6 March 2013

Appendix 2: Extract from DP Report 75799.01

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APPENDIX 1

LETTER FROM DP DATED 6 MARCH 2013

Health Infrastructure
c/- Aurora Projects Pty Ltd
55 Clarence Street
Sydney NSW 2000

Project 75799.01
6 March 2015
BJK:DRC

Attn: Simone Sharp

Email: S.Sharp@auroraprojects.com.au

Dear Sirs,

**Proposed Health and Wellbeing Precinct
(Formerly Identified as Proposed Entry Hub)
Holden Street, Gosford**

1. Introduction

In response your email dated 23 February 2015, Douglas Partners Pty Ltd (DP) understands that the development area on the eastern side of Holden Street that was previously identified as the "Entry Hub" has been renamed the "Health and Wellbeing Precinct" (HWP). It is understood that development of this area is proposed in connection with a major redevelopment of Gosford Hospital.

DP has been advised that the area of the HWP has changed to include several additional lots on the western side of Showground Road.

2. Recent Investigations

DP has been engaged to provide geotechnical and environmental services in connection with the proposed Gosford Hospital Redevelopment. This included the following:

- Detailed geotechnical investigation in connection with the proposed multi-storey hospital extension at the north-western area of the hospital grounds, together with a preliminary geotechnical investigation in connection with the proposed "Entry Hub" adjacent to Holden Street;
- Preliminary site investigation (PSI) for Contamination for the proposed multi-storey hospital building;
- Detailed Site Investigation (DSI) for Contamination for the proposed multi-storey hospital building; and,
- Preliminary site investigation (PSI) for Contamination for the proposed "Entry Hub".

DP has prepared separate reports for each of the above listed components, with these being issued between August 2014 and December 2014.

3. Revised HWP Area

The original development area understood by DP at the time of preparing the earlier reports is identified in Drawing 1 (attached). At the time of conducting the investigations for the proposed “Entry Hub”, the area consisted of lots that mainly fronted onto Holden Street. The attached drawing was sourced from the PSI report but has been amended to show the current proposed HWP area.

The revised development area is identified on a concept design drawing prepared by Fitzpatrick + Partners (Project 21421, Drawing SK-02, Issue 02). An excerpt of this drawing is shown below.



Figure 1: Area of proposed Health and Wellbeing Precinct (red dashed outline)

The revised area now includes 66 – 78 Showground Road, which is along the eastern side of the HWP site.

4. Preliminary Site Investigation for Contamination

A brief review of the PSI report indicates that the additional lots, located on the western side of Showground Road, had similar current and past land uses to the lots that were assessed earlier for the proposed “Entry Hub”.

On this basis, the conclusions provided in DP’s PSI report (Ref 1) would also apply to the revised development area. In summary, the results of the PSI indicated that the site can be made compatible with the proposed commercial redevelopment from a contamination standpoint, on the proviso that the following further works are completed:

- A development specific Detailed Site Investigation (DSI) for Contamination to be undertaken for the finalised Health and Wellbeing Precinct area. The DSI should target specific areas of environmental concern including areas of suspected filling, areas where deleterious materials were observed at the ground surface and building footprints. These additional investigations could be undertaken prior to or following completion of the demolition works.
- Development of an Unexpected Finds Protocol to manage any asbestos fragments, or other unexpected contamination, either encountered at the ground surface or within soils during the redevelopment works at the site. It is noted that this PSI identified suspected asbestos cement materials (ACM) on the ground surface at several locations.

The PSI did not include a hazardous building materials survey. It is recommended that such a survey be undertaken prior to the demolition or refurbishment of any buildings.

5. Geotechnical Investigation

Geotechnical investigation carried out for the proposed Gosford Hospital Redevelopment mainly focused on the area of the proposed multi-storey extension in the north-western portion of the hospital site and included the drilling of boreholes to provide information on subsurface conditions for the design of foundations, retaining walls, earthquake design parameters, etc.

In conjunction with the investigation for the multi-storey building, DP also carried out investigation drilling within a few scattered hospital-owned properties to the east of Holden Street. These were to provide preliminary information for future planning, as, at that stage, the extent and type of development for this area was not known.

Section 6.3 of the report (Ref 2) that DP issued for the geotechnical investigation provides a summary of the subsurface conditions encountered in the boreholes that were drilled in the area to the east of Holden Street. Of these boreholes, Bores 101 – 103, 108 and 109 were drilled in the vicinity of the proposed HWP. Reference can be made to the borehole logs that were included in Appendix B of the earlier report (Ref 1) for details of the subsurface profile at these particular locations. Drawing 1, attached, shows the locations of the previous boreholes, together with the area of the proposed Health and Wellbeing Precinct.

Given that the geotechnical investigation was carried out to provide preliminary information on subsurface conditions in the Entry Hub / HWP area, no revision of the comments given in the previous report is currently required. Further investigation will, however, be required at a later date to assist with the detailed design of the HWP structures.

6. Limitations

This letter should be attached to and read in conjunction with the referenced PSI report and geotechnical investigation report. Specific reference be made to the limitations sections provided in each of those reports.

If you have any queries please do not hesitate to contact the undersigned.

Yours faithfully
Douglas Partners Pty Ltd

Brent Kerry
Senior Associate



Reviewed by
Darryl Carson
Senior Associate

Attachments:

Drawing 1 – Locations of Tests

References:

1. *Report on Preliminary Site Investigation for Contamination, Proposed Entry Hub Redevelopment, Holden Street, Gosford, Project 75799.01, Douglas Partners Pty Ltd, December 2014.*
2. *Report on Geotechnical Investigation, Proposed Gosford Hospital Redevelopment, Holden Street, Gosford, Project 75799.00, Douglas Partners Pty Ltd, November 2014.*



LEGEND

- Location of Douglas Partners Borehole
- Approximate Area of Former Proposed Entry Hub Redevelopment
- Area of Proposed Health and Wellbeing Precinct

NOTES

- 1. Drawing adapted from survey plan produced by Trehay Ingold Neate

 Douglas Partners <i>Geotechnics Environment Groundwater</i>	CLIENT: Health Infrastructure		TITLE: Locations of Tests Proposed Health and Wellbeing Precinct – Gosford Hospital Holden Street, Gosford	PROJECT No: 75799.01	
	OFFICE: Central Coast	DRAWN BY: DRC		DRAWING No: 1	
	SCALE: 1:2000 @ A3	DATE: 6.3.2015		REVISION: A	

APPENDIX 2

EXTRACT FROM DP REPORT 75799.01

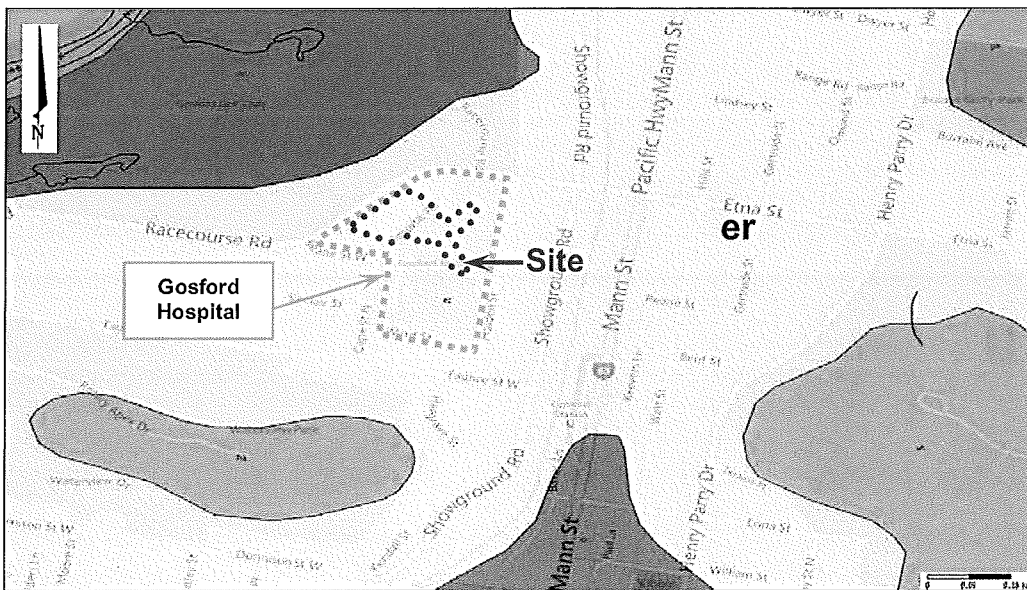


Figure 5: Site Soil Landscape Mapping

(Image sourced from Microsoft Virtual Earth with Gosford-Lake Macquarie 1:100,000 Soil Landscapes Sheet overlay)

3.4 Acid Sulfate Soils

The local acid sulfate risk mapping indicates that the site is located within an area that has no known occurrence of acid sulfate soils. Based on the site's elevation (12 – 38 m AHD) and the acid sulfate soil risk mapping, further assessment for acid sulfate soils within the site was not warranted

Figure 6 is a street map of the local area and shows the site in relation to areas mapped as having a probability of acid sulfate soils.

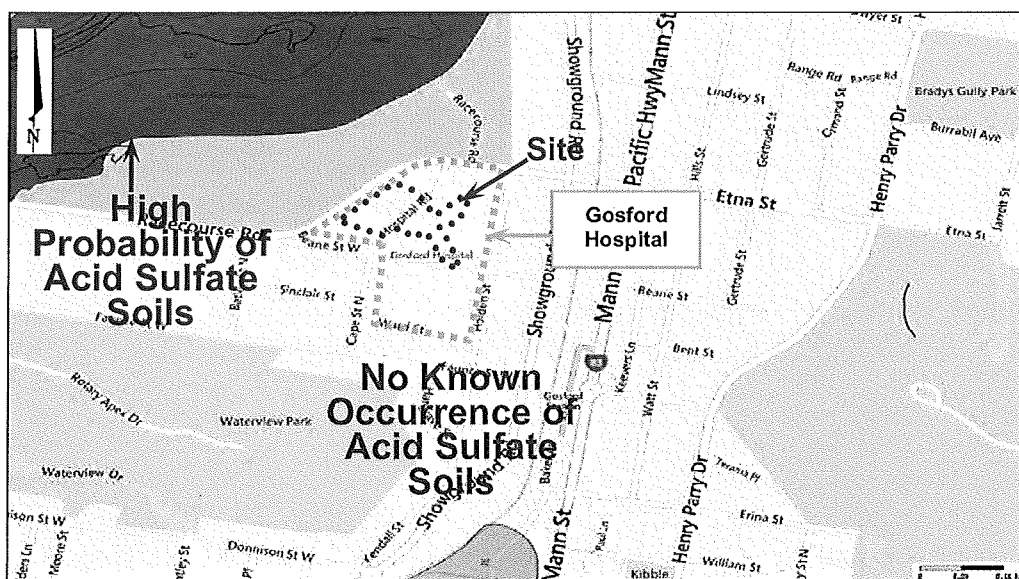


Figure 6: Site Acid Sulfate Soil Risk Mapping

(Image sourced from Microsoft Virtual Earth with Acid Sulfate Risk Mapping Sheet overlay)