18/9/09

ANNEXURE 5

16 September 2009

REFERRAL RESPONSE - HEALTH

FILE NO: DA 441/2009/1

ADDRESS: 1 New Beach Road DARLING POINT 2027

PROPOSAL: Marina redevelopment

FROM: Louie Salvatore

TO: Mr P Kauter

Comments are provided in relation to DA 441/2009/1 proposing redevelopment of the Cruising Yacht Club of Australia, 1 New Beach Road, Darling Point.

ACOUSTIC REPORTS

1. Acoustic Logic Consultancy-Noise Emission Assessment (Amended)

I refer to the acoustic report prepared by Acoustic Logic Consultancy (Reference: 2008593.1/3009A/R7/TA of 8 July, 2009) examining the potential noise impacts from the proposed development of the Cruising Yacht Club of Australia located at 1 New Beach Road, Darling Point.

The report has identified three potential noise sources likely to impact of nearby residential receivers. These sources are as follows:

- A new Shipwright workshop which is proposed to be located on the south western facade of the yacht club. The Shipwright will be operated between 7am to 6pm. The primary noise sources will be the use of tools such as lathes, saws, grinders and planers.
- Noise from a new underground car park with 77 spaces.
- Noise as a result of 9 new marina berths in Marina D.
- New mechanical plant.

The report has identified the nearest affected residential receiver to be the residences located across New Beach Road, approximately 18m from the site boundary. The closet commercial receiver is the DAlbora Marina on the north eastern boundary of the site.

Noise emissions from the site have been assessed against the DECC Industrial Noise Policy 'Intrusive & Amenity' Criterion. The 'Intrusive Criterion' controls noise impacts in the short term for residences while the 'Amenity Criterion' aims to limit

continuing increases in noise levels (maximum ambient noise level) within an area from industrial sources specified in Table 2.1 of the INP.

Background Noise Measurements

The report states that long term monitoring was conducted on the site between 15th and 27th August, 2008. The noise monitor was located on the site. The report states that 'background noise levels at this location will be indicative of the noise levels which will be received at the residences on the opposite side of the road'.

Reference is made to Health Referral Response of 23 March 2009 (Pre-DA 7/2009/1) it was questioned whether *"the logger located at this location would be appropriate for the residential receivers, the logger would be affected at times by existing noise generated by the D'Albora Marina."* In response Acoustic Logic Consultancy in the amended report states that manned measurements of background noise which were conducted on 20 May 2009 between 10pm and 11pm to confirm that the levels measured by the monitor were accurate. Because during background measurements the loudest 90% of noise are disregarded, all transient noise events are omitted. As noise sources from the operation of the site or the adjacent D'Albora Marina will be intermittent, the L_{90} noise level will not be affected even if noise from those sites is occasionally audible by the monitor. Based on this information, the Background Noise Levels provided in Table 1-Background Noise Levels of the acoustic report prepared by Acoustic Logic Consultancy (Reference: 2008593.1/3009A/R7/TA of 8 July, 2009) are accepted.

Noise Breakout from the Shipwright

Reference is made to Health Referral Response of 23 March 2009 (Pre-DA 7/2009/1) where the following response was provided:

Council cannot accept this assessment for the following reasons:

- *The report has identified that primary noise sources from the shipwright include lathes, saws, grinders and planers. To represent 'worst case scenario' it would have been expected that the assessment would have predicted the cumulative effect of the above tools being used at any one time.*
- *In any noise assessment for a redevelopment of an existing facility, it is necessary to assess all noise from the marina, not just the new noise. In this regard it is important to determine whether the existing operations currently comply with relevant criteria and make necessary modification to existing operations to ensure the combined noise from all proposed future operations meet the relevant criteria. In this regard it would be normal to consider a typical worst case 15 minute scenario for a daytime, evening and night time scenario.*

In response Acoustic Logic Consultancy states in the amended report that a planer (the loudest typical piece of machinery) has a sound power level of 103 dB(A). As an abundant precaution, the assessment has been conducted on the assumption that three of the loudest plant items being the planers are operating simultaneously.

It has been demonstrated in Table 3-Noise Emission Assessment of the acoustic report that for the New Beach Road Residences compliance is achieved with the DECC Intrusiveness Criteria for the Daytime period when the Shipwright is operating between 7am to 6pm and that compliance for the D'Albora marina is also achieved with the DECC Amenity (Commercial When In Use) Criteria for the hours of 7am to 6pm.

Vehicle Noise

Noise from vehicle use and movement to the proposed underground car park with a maximum vehicle capacity of 77 vehicles has been assessed. The assumption has been made that cars have a sound power level of 84 dB(A)Leq with the cars travelling on the driveway at 10km/h. The acoustic report prepared by Acoustic Logic Consultancy (Reference: 2008593.1/3009A/R7/TA of 8 July, 2009) correctly assumes a worst case scenario of 77 car movements in one hour period (if the entirety of the car park empties over a 1 hour period at the end of trading). The predicted noise emission was made during the likely peak period of after 10pm. The report concludes that noise emissions comply with the noise emission goal.

Reference is made to Health Referral Response of 23 March 2009 (Pre-DA 7/2009/1) where the following response was provided:

"Council requires clarification on the sound power level of the cars is based on vehicles travelling at 10km/h. There is no assessment on the impact on residential receivers from vehicle movements on New Beach Road where it would be expected that vehicles would accelerate in access of 10km/h. Would sound power levels increase as a result and therefore affecting compliance with the night time noise emission goal?"

In response Acoustic Logic Consultancy states in the amended report that noise emissions were assessed against the "Intrusiveness Criteria" because this criteria is assessed over 15 minute intervals and is appropriate for assessing short duration peak periods. Table 4-Vehicle Emission Assessment-New Beach Road Residences shows that noise levels from vehicular movements complies with the Day, Evening and Night time "Intrusiveness Noise Criterion".

Further to the question regarding increased traffic movements and acceleration of vehicles on New Beach Road, Acoustic Logic Consultancy has assessed the potential noise on the basis of 77 vehicle movements per hour travelling at 35-40 km/hr. It is estimated that the average sound power level would be 93 dB(A)L_{eq}. Table 7-Noise Associated with Traffic Generation contained within the amended report demonstrates compliance with the Night time Noise Criterion (being the strictest criteria) at the property boundary of the residents on New Beach Road.

Noise from increased number of Marina Berths and existing Operational Noise

Reference is made to Health Referral Response of 23 March 2009 (Pre-DA 7/2009/1) where the following response was provided:

"The report states that due to the distance of Marina D in relation to the residences, and the minimal increase in berths, noise from the addition of nine berths is expected to be below 1 dB(A) and imperceptible.

Again the report provides no detail as to whether the existing marina berths comply with relevant noise criteria and what would be the likely impact on additional boat movements. The assessment should address noise resulting from speeds of vessel manoeuvring in proximity to the marina, the type of vessels and noise generating capacity, Marina management regarding standard boating rules with respect to speed in proximity to the marina as issued by NSW Maritime and possible noise source computations."

In response Acoustic Logic Consultancy in the amended report states that there are presently 204 berths at the CYCA marina and approximately 100 at the adjacent D'Albora marina in addition to the other boats moored in Rushcutters Bay. There 9 new berths proposed to be located at the end of the southern-most jetty with the nearest yacht approximately 150m from the nearest residence.

The amended report states that the proposed new number of berths will not be perceptible to any increase in noise. Site visits also revealed that noise from moored boats and manoeuvring boats into and out of the marina were barely audible. In this regard compliance is achieved with the DECC noise emission guidelines for the New Beach Road residences.

In addition Acoustic Logic Consultancy has also provided an assessment of boat engine noise when manoeuvring to and from the marina where the average noise level generated is typically 85-90 dB(A)L_{eq} and assessed against the 'Sleep Disturbance Criteria'. This criterion has been used because such events occur in the sudden acceleration of a boat engine. The report correctly states that the marina services moored boats and the need for sudden acceleration would not be a typical event. Acoustic Logic Consultancy has predicted that sound power levels from such activities will be 100 dB(A)L_1. Noise emissions have been predicted on the assumption that it is the existing berths closet to New Beach Road that are generating the noise. Given that the proposed new berths are located further away from the New Beach Road residences, Table 5-Average Noise Emission of the amended report shows compliance with the 'Sleep Disturbance Noise Criterion.'

Mechanical Plant Noise Emissions

The amended report states that noise emissions from mechanical plant are to comply with the noise emission criterion as set out in Section 5 of the report, that is the DECC Industrial Noise Policy. Specific details of mechanical plant and equipment are not included in the report. The report recommends that a detailed acoustic review will be undertaken at the Construction Certificate stage. It is recommended that plant and equipment be selected on acoustic performance and installed to achieve Council's Noise Criterion for Mechanical Plant & Equipment. All proposed acoustic treatments that may be required to achieve compliance with the criteria shall also be included at the Construction Certificate stage.

2. Acoustic Logic Consultancy-Construction Noise and Vibration Management Plan

Reference is made to Health Referral Response of 23 March 2009 (Pre-DA 7/2009/1) where the following response was provided:

"No consideration has been given in the report regarding Construction Noise associated with the extension of the existing concrete hardstand south of the slipway, the extension of Arm D for the provision of 9 new yacht berths, the construction of the new 1-2 storey building and shipwright facilities. Reference to the EIS states that the duration and intensity of construction and operation will be addressed in detail. The acoustic study should identify construction noise goals, the nature and duration of construction, the impact on residential receivers and noise mitigation strategies where required."

In response Acoustic Logic Consultancy has provided a Construction Noise and Vibration Management Plan (Report No. 2008593.4/0526A/R1/TT dated 23 June 2009) outlining the development of controls and safeguards that would be applied to minimise noise emissions and protect the amenity of sensitive residential receivers surrounding the site.

Proposed construction works involve demolition of the existing building site; installation of sheet piles and ocean retaining wall; excavation for new basement car park; construction of new car park and suspended slab and construction of new buildings including shipwright and classroom. The loudest typical activities will be sheet piling, pouring of slab and excavation of soil.

The Construction and Vibration Management Plan correctly refers to the applicable noise criterion as the NSW EPA Noise Control Manual "Construction Noise and Vibration Guideline" which nominates that for construction periods of up to 6 months a noise level of 10 dB(A) above the background noise level is recommended. In addition the report also refers to AS 2436-1981 "Guide to Noise Control on Construction Maintenance and Demolition Sites". This standard requires that a reasonable suitable noise criterion be established which in this case has been based on the NSW EPA Noise Control Manual "Construction Noise and Vibration Guideline". This standard also requires practicable measures to regulate the noise; undertaking of noise monitoring where non-compliance occurs and practical engineering controls to limit noise emissions and other techniques to control noise if exceedences continue.

Section 7 of the Construction Noise and Vibration Management Plan (Report No. 2008593.4/0526A/R1/TT dated 23 June 2009) prepared by Acoustic Logic Consultancy details the assessment methodology and noise control measures that would be applied during the construction phase of the proposed development. The report recognises that during heavy construction works the predicted noise levels at New Beach Road residences may exceed the NSW EPA Noise Control Manual "Construction Noise and Vibration Guideline". Section 7 of the report thoroughly details noise control methods in dealing with such exceedences, however the report does not make it clear whether continuous noise monitoring would be undertaken during the construction phase to 'alert' of exceedences with the projected noise goals detailed in the Construction Noise and Vibration Management Plan (Report No.

2008593.4/0526A/R1/TT dated 23 June 2009). Based on the above it is recommended that;

a) The proponent shall prepare and implement a Noise Control Program during the Construction Phase of the proposed development for evaluating compliance or otherwise with the noise goal objectives set out in the Construction Noise and Vibration Management Plan (Report No. 2008593.4/0526A/R1/TT dated 23 June 2009). The reporting of the monitoring program during the Construction Phase shall identify all exceedences and be made available at all times to the appropriate certifying authority. The reporting shall describe the date, time and nature of exceedence/incident; identify the cause (or likely cause) of the exceedence/incident; describe what action has been taken and describe the proposed measures to address the exceedence/incident to the noise control methods detailed in the Construction Noise and Vibration Management Plan (Report No. 2008593.4/0526A/R1/TT dated 23 June 2009).
b) All mitigation and noise control methods, including the assessment of vibration and complaints handling detailed in the Construction Noise and Vibration Management Plan (Report No. 2008593.4/0526A/R1/TT dated 23 June 2009) shall be fully implemented.

Acid Sulfate Soils

Reference is made to the Stage 1 Land Contamination Assessment (Reference: P0802189JR03_V2.doc-June 2009) and the Acid Sulfate Soil and Stage 1 / 2 Contamination Assessment: CYCA New Beach Road, Darling Point (Refrence: P0802189JR02_v3.doc March 2009) prepared by Martens Consulting Engineers.

An assessment was conducted for the presence and extent of Acid Sulfate Soils (ASS) on the site by using the following information sources:

- Review of the Woollahra Local Environmental Plan 1995 (Amend. No 39) – Acid Sulfate Soils Planning Map to determine general risk.
- Site inspection and collection of soil samples for ASS testing.
- Laboratory analysis of ten collected soil samples by SPOCAS method to determine presence or actual ASS.
- Determination of required ASS management plan strategies.

Results

According to the Woollahra LEP – Acid Sulfate Soils Planning Map, the site is classified as being in an acid sulfate soils risk area for any works below existing ground level or works by which the water table is likely to be lowered.

Using pH_{KCL} and pHox criteria (ASSMAC 1998), all soils with a pH_{KCL} of less than 4.0 are considered actual ASS. Soils with pH_{KCL} greater than 4.0 and pHox less than 3.5 are classified as potential ASS. By this classification, no actual ASS were identified, while four samples were classified as potential ASS. Testing indicated that TPA and TSA results for four samples exceeding the guideline of 18 mol H+/tonne; and S_{POS} results for all samples exceeded the guideline of 0.03%. These results

indicate all samples have a high potential for the generation of acid upon exposure to oxygen. The majority of samples have sufficient neutralizing and buffering capacity to maintain alkaline to neutral final soil pH.

Recommendation

Based on the findings contained within the Stage 1 Land Contamination Assessment (Reference: P0802189JR03_V2.doc-June 2009) and the Acid Sulfate Soil and Stage 1 / 2 Contamination Assessment: CYCA New Beach Road, Darling Point (Refrence: P0802189JR02_v3.doc March 2009) prepared by Martens Consulting Engineers it is recommended that the Acid Sulfate Soils Management Plan as detailed in Section 3.7 of the report be fully implemented.

Soil Contamination Assessment

Reference is made to the Stage 1 Land Contamination Assessment (Reference: P0802189JR03_V2.doc-June 2009) and the Acid Sulfate Soil and Stage 1 / 2 Contamination Assessment: CYCA New Beach Road, Darling Point (Refrence: P0802189JR02_v3.doc March 2009) prepared by Martens Consulting Engineers.

The site contamination assessment was undertaken in accordance with the requirements of SEPP 55 Managing Land Contamination, Planning Guidelines, Remediation of Land (1998); Woollahra Municipal Council – 2004 "Guide for preparing land contamination reports; ANZECC/NHMRC – 1992 "Guidelines for the Assessment and Management of Contaminated Sites"; NSW DEC – 2006 "Guidelines for the NSW Site Auditor Scheme, 2nd Edition"; NSW EPA – 2000 "Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites".

Past and Present Land Uses

Available history indicates that the site has been used as a marina for up to 70 years. The site has been filled to varying depths. Marina activities have included boat building and repair, boat mooring and commercial activities. Anecdotal evidence indicates that 3 underground storage tanks and associated components were installed on the land between 20 to 40 years ago and likely used for the storage of diesel and petrol.

Observations revealed that the site has been generally free of obvious contamination such as chemical spills and soil impacts such as odours or staining. Fill material has been placed on the site to raise site levels.

Sampling

The proposed development covers an area of approximately 3250 square metres, where a minimum of 10 sample locations were required by NSW Sampling Guidelines. A total of 14 sampling locations were conducted, with 11 for general site assessment and an additional 3 to assess the conditions of the soil surrounding UST.

Heavy Metal results analysed concluded that a single sample tested (3/0.5-0.7) to be hazardous waste exceeded the SIL for commercial and industrial uses. Sample (3/1.0 & 3/1.3) were classified as solid waste.

Organochlorine Pesticides (OCP)/Organophosphate Pesticides (OPP) results were all below guideline detection limits.

Polychlorinated Biphenyls (PCBs) results were all below guideline detection limits.

Total Recoverable Hydrocarbons (TRH) – Seven samples recorded hydrocarbons above detection limits. However only three samples had TRH results above SILs for commercial land uses. These samples were located in the former UST backfill. All reported TRH levels were below the upper for general solid waste.

BTEX (Benzene, Toluene, Ethyl Benzene and Xylene) results were all below guideline detection limits.

Polycyclic Aromatic Hydrocarbons (PAH) results were found to exceed guideline limits for industrial land uses in one sample (6/0.3-0.4). The total PAH for this sample was 133.5 mg/kg compared to the detection limit of 100 mg/kg. All other samples were classified as either natural material or general solid waste excluding sample (6/0.3-0.4) which is classified as restricted soli waste.

All asbestos results were all below guideline detection limits.

Tributyltin (TBT) levels in sediment in the bay immediately below the slip way (sample 15) and from surface materials in the slip way area (sample 11) indicate levels of TBT. The TBT level of 5.95 ng/g are slightly in excess of levels considered appropriate for marine dumping and may pose a slight environmental hazard if they are discharged in large quantities.

Summary

Site investigation works and sampling indicated a range of contaminants. The heavy metals and PAH may have been imported on the site in fill material or site use. The presence of lead and TRH indicates past contamination associated with leaded fuel and the presence of TBT is consistent with long term use as a marina.

The contaminants identified are required to be removed from the site to ensure that the redevelopment of the site is suitable for the intended use.

Recommendation

Soil investigation and sampling has determined that the site is contaminated. Clause 7(1)(b) and (c) of the SEPP 55 requires that where the land is contaminated, Council must be satisfied that the land will be made suitable after remediation. In accordance with the conclusion detailed in Section 4.13 of the Acid Sulfate Soil and Stage 1 / 2 Contamination Assessment: CYCA New Beach Road, Darling Point (Refrence: P0802189JR02_v3 March 2009) prepared by Martens Consulting Engineers, it is

recommended that a Remedial Action Plan (RAP) be prepared for the site and required to be submitted to Council detailing the remediation strategy.

Light & Ventilation

The *Construction Certificate* plans and specifications, required to be submitted to the *Certifying Authority* pursuant to clause 139 of the *Regulation*, must detail all a lighting, mechanical ventilation or air-conditioning systems complying with Part F.4 of the *BCA* or clause 3.8.4 and 3.8.5 of the *BCA* Housing Provisions, inclusive of AS 1668.1, AS 1668.2 and AS/NZS 3666.1. If an alternate solution is proposed then the *Construction Certificate* application must include a statement as to how the performance requirements of the BCA are to be complied with and support the performance based solution by expert *evidence of suitability*. This condition does not set aside the mandatory requirements of the *Public Health (Microbial Control) Regulation*2000 in relation to *regulated systems*. This condition does not set aside the effect of the *Protection of the Environment Operations Act* 1997 in relation to offensive noise or odour.

Note: Clause 98 of the Regulation requires compliance with the BCA. Clause 145 of the *Regulation* prevents the issue of a *Construction Certificate* unless the *Accredited Certifier/Council* is satisfied that compliance has been achieved. Schedule 1, Part 3 of the *Regulation* details what information must be submitted with any *Construction Certificate*. It is the Applicant's responsibility to demonstrate compliance through the Construction Certificate application process. Applicants must also consider possible noise and odour nuisances that may arise. The provisions of the *Protection of the Environment Operations Act* 1997 have overriding effect if offensive noise or odour arises from the use. Applicant's must pay attention to the location of air intakes and air exhausts relative to sources of potentially contaminated air and neighbouring windows and air intakes respectively, see section 2 and 3 of AS 1668.2.

Erosion and Sediment Controls – Installation

The *principal contractor* or *owner builder* must install and maintain water pollution, erosion and sedimentation controls in accordance with:

a. The *Soil and Water Management Plan* if required under this consent;
b. "*Do it Right On Site, Soil and Water Management for the Construction Industry*" published by the Southern Sydney Regional Organisation of Councils, 2001; and
c. "*Managing Urban Stormwater - Soils and Construction*" published by the NSW Department of Housing 4th Edition" ('The Blue Book').

Where there is any conflict The Blue Book takes precedence.

Note: The International Erosion Control Association – Australasia (http://www.austieca.com.au/) lists consultant experts who can assist in ensuring compliance with this condition. Where Soil and Water Management Plan is required for larger projects it is recommended that this be produced by a member of the International Erosion Control Association – Australasia.

Note: The "Do it Right On Site, Soil and Water Management for the Construction Industry" publications can be down loaded free of charge from www.woollahra.nsw.gov.au.

Note: A failure to comply with this condition may result in penalty infringement notices, prosecution, notices and orders under the Act and/or the *Protection of the*

Environment Operations Act 1997 **without any further warning**. It is a criminal offence to cause, permit or allow pollution.
Note: Section 257 of the *Protection of the Environment Operations Act* 1997 provides inter alia that "the occupier of premises at or from which any pollution occurs is taken to have caused the pollution"
Warning, irrespective of this condition any person occupying the site may be subject to proceedings under the *Protection of the Environment Operations Act* 1997 where pollution is caused, permitted or allowed as the result of their occupation of the land being developed.

Dust Mitigation

Dust mitigation must be implemented in accordance with "*Dust Control - Do it right on site*" published by the Southern Sydney Regional Organisation of Councils.

This generally requires:
a. Dust screens to all hoardings and site fences.
b. All stockpiles or loose materials to be covered when not being used.
c. All equipment, where capable, being fitted with dust catchers.
d. All loose materials being placed bags before placing into waste or skip bins.
e. All waste and skip bins being kept covered when not being filled or emptied.
f. The surface of excavation work being kept wet to minimise dust.
g. Landscaping incorporating trees, dense shrubs and grass being implemented as soon as practically possible to minimise dust.
Note 1: "*Dust Control - Do it right on site*" can be down loaded free of charge from Council's web site www.woollahra.nsw.gov.au or obtained from Council's office.
Note 2: Special precautions must be taken when removing asbestos or lead materials from development sites. Additional information can be obtained from www.workcover.nsw.gov.au and www.epa.nsw.gov.au . Other specific condition and advice may apply.
Note 3: Demolition and construction activities may affect local air quality and contribute to urban air pollution. The causes are dust, smoke and fumes coming from equipment or activities, and airborne chemicals when spraying for pest management. Precautions must be taken to prevent air pollution.