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PROPOSED KIAORA LANDS REDEVELOPMENT AT 1 KIAORA ROAD, DOUBLE BAY NSW 2028

HEALTH REFERRAL COMMENTS & RECOMMENDATIONS IN RELATION TO DEVELOPMENT APPLICATION No. 531/2011/1

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REFERRAL RESPONSE - HEALTH

FILE NO:	DA 531/2011/1
ADDRESS:	1 Kiaora Road DOUBLE BAY 2028
PROPOSAL:	Kiaora Lands Redevelopment comprising demolition of existing buildings and structures, a new 4 storey commercial/retail building fronting New South Head Road and including a new public library, a new 3 level commercial/retail building fronting Kiaora Lane, including a supermarket and public parking (465 spaces) and public domain improvements.
FROM:	Louie Salvatore
TO:	Mr P Kauter

1. THE PROPOSAL

The existing site proposed for re-development is currently occupied by:

- Woolworths Supermarket
- Commercial offices for Sotheby's Australia
- Residential properties
- Council owned land of Kiaora Lane and Anderson Street public car parks and public roads.

The development application is for the redevelopment of the Kiaora Lands at Double Bay involving demolition of existing structures and construction of two mixed use buildings including:

- A new library building to contain Council library, commercial and retail floor space
- A new retail, commercial and car parking building including fit-outs and signage
- Provision of public domain improvements and additional car parking.

Building fronting Kiaora Lane (Supermarket Building)

Ground Floor:	Retail floor space; Thomas Dux grocer and commercial floor space;
	travelators and lift access to retail floor; Dan Murphy's loading dock
	and Woolworths/Thomas Dux loading dock facilities; public domain
	works to Kiaora Lane including new plaza; parking for 174 cars, 19
	motor cycles and 32 bicycles.

- Level One: New Woolworths supermarket and fit-out; Dan Murphy's and fit-out; and commercial floor space.
- Roof Level: Car park for 285 spaces; plant rooms and perimeter shade structures and acoustic fencing

Building fronting	New South Head Road (Library Building)
Ground Floor:	Retail floor space; arcade and travelators; lift lobby to office; lifts to library; amenities and fire services.
Level One:	Retail floor space and library
Level Two:	Commercial floor space and library
Level Three:	Commercial floor space and library

Hours of Operation

The proposed hours of operation and trade include:

Woolworths Supermarket:

• Dock Hours: Monday to Sunday 6am to 10pm

Dan Murphy's:

- Trading Hours: Monday to Sunday 7am to 10pm
- Dock Hours: Monday to Sunday 6am to 10pm

Thomas Dux:

- Trading Hours: Monday to Sunday 9am to 10pm
- Dock Hours: Monday to Sunday 9am to 9pm

Library (to be operated by Council)

• Trading hours: Monday to Friday 8.30am to 9.00pm Saturday and Sunday 9.00am to 4.00pm

Public Car Park (to be operated by Council)

• 24 hours a day

2. SUMMARY OF COMMENTS PROVIDED IN PRE- DA LODGEMENT HEALTH REFERRAL RESPONSE OF 5 AUGUST 2011

2.1. SITE CONTAMINATION - SEPP No. 55 REMEDIATION OF LAND

Comments were provided during Pre-DA Lodgement in Health Referral Response of 5 August 2011 to the report prepared by Douglas Partners titled 'Updated Report on Preliminary Contamination Assessment: Kiaora Place, Double Bay' (Project No. 36280.02-1 February 2010). It was recommended that with the submission of the Development Application, that further reporting was required pertaining to site contamination as follows:

"A supplementary investigation of the site be undertaken in accordance with the NSW EPA Sampling Design Guidelines (1995) and the DECCW's Guidelines for the NSW Site Auditor Scheme, 2nd Edition, 2006, Appendix II to investigate, as recommended in the report prepared by Douglas Partners titled 'Updated Report on Preliminary Contamination Assessment: Kiaora Place, Double Bay' (Project No. 36280.02-1 February 2010):

- a. An assessment of the filling across the remainder of the site, in particular the area covered by the former telephone exchange and the Woolworths site.
- b. Confirmation of the contamination status of the general areas of the site.
- c. Further groundwater assessment to include at least four locations within the site boundary, with two wells placed in the vicinity of the Woolworths site and one in the vicinity of the site boundary adjacent to the Royal Dry Cleaners and/or the former telephone exchange.
- d. The analytical results of the supplementary investigation (soils and groundwater) being forwarded to Woollahra Council demonstrating whether the development site is suitable when assessed against:
 - *i.* the DECCW's Guidelines for the NSW Auditor Scheme, Appendix II; Health Based Investigation Levels (HIL) for commercial/industrial sites (HIL Column 4) and
 - *ii.* Groundwater Investigation Levels from the ANZECC Guidelines for Fresh & Marine Water Quality or the site can be made suitable after remediation.

Note: The report on the supplementary investigation of the site is to be submitted with the Development Application for the site Remediation works."

2.2 ACID SULFATE SOILS

Comments were provided during Pre-DA Lodgement in Health Referral Response of 5 August 2011 to the report prepared by Douglas Partners titled 'Updated Report on Supplementary Acid Sulfate Soil Assessment' (Project No. 36280.02-4 February 2010). The report provided a supplementary assessment in addition to the field work undertaken between the 3rd and 9th of December, 2003 in view that the 'new' proposed development will no longer accommodate basement car parking and as a consequence involve minor excavation.

It should be noted that two previous reports also addressed issues pertaining to Acid

Sulfate Soils:

- Coffey Geosciences P/L 'Fabcot Pty Ltd/Sherilyn P/L Hydrogeological Report Kiaora Road Development Double Bay (draft) (ref: E12616/1-BQ) 2 September 2003.
- Douglas Partners P/L Report on Preliminary Contamination Assessment Kiaora Place, Double Bay (Ref. No. 36280 dated 27 October 2003) and updated 15 February 2010.

On the basis that the development site is underlain with Acid Sulfate Soils, it was recommended that:

"The management options resulting from the disturbance of potential acid sulfate soils detailed in the report prepared by Douglas Partners titled 'Updated Report on Acid Sulfate Soil Management Plant: Kiaora Place, Double Bay' (Project No. DIH:jib 36280.02-3, 18 February 2010) being fully implemented during the excavation and construction stage of the development."

2.3 ACOUSTIC ASSESSMENT

Comments were provided during Pre-DA Lodgement in Health Referral Response of 5 August 2011 to the acoustic report prepared by Acoustic Logic Consultancy titled 'Kiaora Lands Redevelopment: Development Application Environmental Noise Impact Assessment' (Report No. 2010150/2203A/R4/BW dated 16 May, 2011).

Potential noise impacts from activities and other noise sources associated with the proposed Kiaora Lands re-development were assessed based on the Department of Environment & Climate Change (DECC) NSW Industrial Noise Policy, Road Traffic Policy (Environmental Criteria for Road Traffic Noise) and Woollahra Council Guidelines and Criteria (Leq descriptor not to exceed the background noise level at surrounding property boundaries). The report failed to assess potential noise impacts from activities and other noise sources from the proposed Kiaora Lands redevelopment with the acoustic standards provided for in the Double Bay Development Control Plan- Appendix 2: Kiaora Lands – 2011, A.2.5.3; A 2.5.6; and A.2.5.7.

It was recommended that with the submission of the Development Application, that further acoustic reporting was required having regard to the acoustic standards provided for in the Double Bay Development Control Plan- Appendix 2: Kiaora Lands – 2011, A.2.5.3; A 2.5.6; and A.2.5.7 in assessing traffic noise, loading dock noise, car park activity noise, and building services noise. The additional acoustical reporting was also to address the sleep arousal criterion, construction noise activity, and the garbage room & compactor area.

3. REVIEW OF DEVELOPMENT APPLICATION (DA 531/2011/1): KIAORA LANDS REDEVELOPMENT WITH REFERENCE TO PRE – DA LODGEMENT HEALTH REFERRAL RESPONSE OF 5 AUGUST 2011

3.1. REMEDIATION ACTION PLAN (SUPPLEMENTARY INVESTIGATION)

The Statement of Environmental Effects "Kiaora Lands Redevelopment" at Double Bay, Volume 1, Section 2.4 Pre-DA Notes, Table 3 Annexure F – Health refers to additional investigations conducted with respect to contamination contained in Appendix F as recommended in the Pre-DA Lodgement Health Referral Response of 5 August, 2011.

A Remedial Action Plan prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment has been included as part of the current Development Application (DA 531/2011/1)

The Remediation Action Plan

I refer to the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment.

The purpose of the RAP is to provide an appropriate remediation strategy for the subject site to ensure that the site is suitable for the proposed land use and eliminates potential exposure pathways to contaminants in the soil. In addition, the report provides a Supplementary Contamination Assessment (October 2011) which was recommended in the Pre-DA Lodgement Health Referral Response of 5 August, 2011.

The Remediation Action Plan prepared by Douglas Partners has provided for a Supplementary Contamination Assessment-Woolworths Footprint and Soil and Groundwater Assessment.

Supplementary Contamination Assessment (DP 2011a) - Part 4.2 of the RAP

The assessment has reviewed previous reports for the site (referred to in Section 4 of the RAP) and excavation of 6 hand auger bores in accessible parts of the Woolworths supermarket; the test bores were extended to nominal depths of 2 to 4m with 0.5m into natural **soils** or prior refusal or to groundwater (whichever was the lesser). There was analysis of 11 soil samples for;

- heavy metals;
- Polycyclic Aromatic Hydrocarbons (PAH);
- Total Petroleum Hydrocarbons (TPH) and benzene, toluene, ethyl benzene and xylenes (BTEX)
- Organochlorine Pesticides (OCP);
- Polychlorinated biphenyls (PCB);
- Phenols;
- Volatile Organic Compounds (VOC); and
- Asbestos.

The analytical results showed that with the exception of one benzo(a)pyrene (B(a)P) exceedance (concentration of 9.6 mg/kg in sample BH106/0.3-0.6) all other samples

were within the adopted site assessment criteria for commercial land use. The detected B(a)P exceedance was attributed to the presence of slag observed in the filling found at this location. Analysis on this sample showed that the leachable concentration of B(a)P was below laboratory limit on reporting. This suggests that the detected B(a)P was immobilised within the slag fragments present in the filling.

The results presented in the Supplementary Contamination Assessment (DP 2011a) have concluded that "whilst the Woolworths footprint had a low risk of widespread or significant soil contamination, the site could be rendered suitable for the proposed development, subject to the following;

- Development of a RAP to address B(a)P contamination in the filling at BH106. In view of the proposed development plan, wherein the Woolworths site (and practically the entire KPR site) will be sealed under permanent pavements and building slabs, it is considered that a 'cap and contain' remediation strategy would be suitable and practical remediation option;
- *Remediation and validation of the site in accordance with the RAP;*
- *Preparation of a validation report and an EMP* [Environmental Management Plan] (*at the completion of remedial works and/or construction*) to demonstrate compliance with the RAP.

Soil and Groundwater Assessment (DP 2011b) - Part 4.3 of RAP

A soil and groundwater assessment was also undertaken (as recommended in Douglas Partners report DP 2010a) which comprised sampling from four test bores placed at up and down gradient locations. With regard to groundwater concentrations, samples of TPH, BTEX, PAH, OCP, PCB, total phenols and VOCs were below reporting limits. The following heavy metal exceedances were detected:

- Concentration of arsenic in samples BH203 (5 micrograms/litre μg/L), BH204 (5 μg/L) and BD1/160911 (6 μg/L) exceeded the adopted Groundwater Investigation Levels (GIL) of 2.3 μg/L.
- Concentration of copper in samples BH201 (2 μ g/L) and BH203 (3 μ g/L) exceeded the adopted GIL of 1.3 μ g/L.
- Concentration of zinc in samples BH201 (22 μ g/L), BH202 (38 μ g/L) and BH203 (77 μ g/L) exceeded the adopted GIL of 15 μ g/L.

The detected heavy metals are considered insignificant and attributed to background concentrations in the groundwater. The report concludes that the heavy metal exceedances found in the groundwater will not require remediation due to the absence of organic contaminants in the groundwater samples, indicating "*that the groundwater at the site had not been impacted by previous and current commercial/industrial activities*".

Furthermore, the absence of PAH contamination in the groundwater suggest "that the PAHs identified in the soil samples (DPa, Supplementary Contamination Assessment) are immobilised within the slag fragments present in the filling material and that the groundwater at the site had not been impacted by previously indentified PAH exceedances in the soil."

Remediation Acceptance Criteria - Part 7 of the RAP

In accordance with the Guidelines for the NSW Site Auditor Scheme (2nd Edition) 2006, the proposed development site has been assessed against the Health-based Investigation Levels (HILs) for commercial/industrial land use which is appropriate for this development (Appendix II, Column 4 of Table 2) and NSW EPAs Guidelines for Assessing Service Station Sites (December 1994). Provisional Phytotoxicity Based Investigation Levels (PPIL) was not considered as part of the report.

Although sample results from groundwater sampling did not warrant remediation, as part of the RAP, a contingency provision has been provided in case signs of concern are observed during remedial/site development works. The applicable guidelines for groundwater are the NSW DECC (2007) Guidelines for the Assessment and Management of Contaminated Groundwater where concentrations will be compared against GILs for Drinking Water (Australian Drinking Water Guidelines NHMRC & NRMMC 2004) & Aquatic ecosystems (ANZECC & ARMCANZ 2000).

Remediation Options - Part 8 of the RAP

The purpose of the remediation works is to ensure that the site is rendered suitable for the proposed commercial development so that the site does not pose an unacceptable risk to human health and the environment. The Douglas Partners report has reviewed the following remedial options for the proposed development:

- On-site treatment and re-use of contaminated material.
- Removal of contaminated material to landfill.
- Physical barrier systems.

The first option is not considered viable because the PAHs are expected to be well bonded to the slag fragments which are not readily separable from the soil matrix.

The second remedial option is also considered unsuitable due to the lack of bulk excavation proposed under the proposed development. The removal of contaminated soil would also generate large volumes of waste and an expensive financial option.

It is considered that the third option involving the construction of a physical barrier over the contaminated fill material will eliminate the exposure pathway to site users.

Preferred Remedial Option - Part 8.6 of RAP

Given the immobile nature of the contaminants within the slag, encapsulation of the contaminated soil by a physical barrier system is the preferred option. It should be noted that most of the site will be sealed under permanent pavements or concrete building slabs. It should be noted that the detected B(a)P exceedances are located within the footprint of areas that will be under the building slab.

It is proposed that the minimum construction requirements for the cap (which will be a permanent pavement of a concrete or asphalt type) will be of at least 100 mm thickness overlying a marker layer. The placement of the marker layer of either geogrid, geotextile or other similar warning material will be placed over the entire existing Woolworths footprint and over the footprint of the existing residential properties in the

eastern section of the site. The placement of the marker layer as proposed is to ensure that future site users are aware of potential contamination, especially within the vicinity of BH106 and DP6.

In further assisting in the long term management of the site, the Douglas Partners report also recommends the preparation of an enforceable Environmental Management Plan (EMP), including a plan of the location of the contaminated material, nature of the contaminants as well as ongoing management of the cap and underlying material. The report states the "*EMP would have to be legally enforceable and will have appropriate public notification mechanisms such as inclusion on the Section 149 certificate or S.88b instrument.*"

Site Validation - Part 11 of RAP

Validation testing of remediated areas is normally required in any validation program to ensure that contaminated soils have been removed or at a level where contaminants pose no risk to human health and the environment. However, because it is proposed to cap the site validation of the site in this case will involve visual inspection and not analytical testing of samples. Sampling and analytical testing may be required if 'unexpected' finds are encountered during the remediation process and development works.

Referral Officer's Conclusion and Recommendation on the Remedial Action Plan (**RAP**)

The Contamination Assessments Reports and Remediation Action Plan prepared by Douglas Partners for the Kiaora Lands Redevelopment have concluded that areas of the existing site are contaminated when assessed against the Health-based Investigation Levels (HILs) for commercial/industrial land use (Appendix II, Column 4 of Table 2) and NSW EPAs Guidelines for Assessing Service Station Sites (December 1994). The documentation provided by Douglas Partners is adequate in providing an assessment of soil contamination at the development site and an appropriate remediation action plan to address the site contamination.

Clause 17 of *State Environmental Planning Policy – Remediation of Land* requires that a Validation and Monitoring Report must be submitted to Council within 30 days of completing remediation works. It is considered that construction works should not proceed beyond the site remediation works until the required 'Validation and Monitoring Report' has been submitted to Council. This will require the staging of the development, with an initial construction certificate being limited to siteworks and site remediation in accordance with the recommendations of the Douglas Partners RAP.

The need for an ongoing Environmental Management Plan (EMP) for the site is supported. In this regard it is considered that the most appropriate mechanism for notifying future owners of the EMP and encapsulated contamination on the site is via the creation of a Positive Covenant.

If approval is granted for the proposed development, the following **draft conditions** are recommended to be included;

A. General Conditions

A.1. Site Remediation and Staging of the Construction

The site shall be remediated in accordance with the preferred remedial option of encapsulation of the contaminated soil by physical barrier system as detailed in the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment. Any variations to the preferred remedial option must be approved by Council.

To remediate the site in accordance with the RAP the construction is to be staged, with an initial construction certificate being granted for the site works and site remediation works only. On completion of the site remediation works (capping structure) and prior to the approval of the principal construction certificate(s) for the development, a Validation and Monitoring report is to be submitted to Council confirming that the site has been remediated to a standard suitable for its proposed commercial land use, and that any residual contamination does not present an unacceptable risk to human health or the environment.

C. Conditions which must be satisfied prior to the issue of the relevant construction certificate

C.1 Staged construction

Due to the site remediation works required, pursuant to the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment, the proposed construction is to be staged, with at least two (2) construction certificates being issued for the proposed building works. The initial construction is to be limited to the site works and site remediation works.

The second or subsequent construction certificate(s) will cover the principal building works beyond the site remediation works (capping structure) and must not be issued prior to the required 'Validation and Monitoring' report being submitted to Council confirming that the site has been remediated to a standard suitable for its proposed commercial land use, and that any residual contamination does not present an unacceptable risk to human health or the environment.

C.2 Site remediation

Prior to the commencement of any works a construction certificate is to be issued for the site works and site remediation works, in accordance with the recommendations of the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment.

The initial construction certificate must not include any works beyond the site remediation works (capping structure).

C.3 Validation assessment report for the completed site remediation work

Pursuant to clause 17 of *State Environmental Planning Policy No 55 - Remediation of Land*, notice of completion of the remediation work must be given to the council within 30 days after the completion of the work and prior to the approval of the principal construction certificate.

The notice, in the form of a 'validation assessment report', must be in accordance with clause 18 of SEPP 55 and be prepared by an appropriately qualified Environmental Consultant. The validation report is to confirm that the site has been remediated to a standard suitable for its proposed commercial land use, and any residual contamination does not present an unacceptable risk to human health or the environment.

The validation report must include a summary of the information from previous investigations and detail, on survey, levels prior to and after placement of the capping structure.

C.4 Long-term Environmental Management Plan (EMP)

Prior to the approval of the principal construction certificate, an Environmental Management Plan (EMP) must be prepared and submitted to Council pursuant to the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment.

The EMP is required to detail the ongoing management requirements for the long term maintenance of the capping structure and must include, but not be limited to, the following;

- a) the maintenance and inspection requirements for the cap design that has been installed;
- b) strategies for ensuring that the caps are not breached due to unplanned excavations;
- c) requirements for prompt restoration in case of cap breaches;
- d) detail, on survey, levels prior to and after the placement of the capping structure; and
- e) responsibilities for implementing the EMP.

D. Conditions which must be satisfied prior to the commencement of any development

D.1 Construction Environmental Management Plan (CEMP)

Prior to the commencement of any development work a Construction Environmental Management Plan (CEMP) shall be prepared and submitted to the Principal Certifying Authority in accordance with the Remediation Action Plan (RAP) prepared by Douglas Partners (Project No. 36280.04-2 dated October 2011) for the Kiaora Lands Redevelopment. The required CEMP must focus on pollution control measures and include the following items;

a) Site stormwater management plan to prevent surface water/sediment run-off from excavations and stockpiles;

- b) Soil management plan to prevent the migration of contaminated soil from the designated excavation areas;
- c) Noise control plan;
- d) Dust control plan;
- e) Odour control plan; and
- f) Contingency measures for environmental incidents;

E. Conditions which must be satisfied during any development work

E.1 Compliance with Construction Environmental Management Plan (CEMP)

All development activities must be carried out in accordance with the approved Construction Environmental Management Plan (CEMP). All controls must be maintained at all times and a copy of the CEMP must be kept on-site at all times and made available to the PCA or Council on request.

F. Conditions which must be satisfied prior to any occupation or use of the building (Part 4A of the Act and Part 8 Division 3 of the Regulation)

F.1 Positive Covenant for encapsulated contamination

Prior to the occupation or use of the building or the issue of any occupation certificate, a positive covenant must be registered on the title of the land to Council's satisfaction;

- a) Giving notice of the former use and contamination of the site and the existence of the encapsulated cells containing contaminated material.
- b) Binding the owners and future owners to be responsible for ongoing maintenance, as detailed in the long-term Environmental Management Plan (EMP) and any future rehabilitation works required in terms of the encapsulated materials, including the discharge or prevention of discharge there from of any contaminants or for any works required by the Environment Protection Authority.
- **Note:** This condition has been imposed to ensure future owners (or perspective owners) are aware that the site contains under or within it encapsulated contaminated material and to ensure that they understand that they are liable for ongoing maintenance and any future remediation as may be or become necessary. Standard Condition: H21

3.2 UPDATED REPORT ON ACID SULFATE SOILS

Management options resulting from the disturbance of potential acid sulphate soils are detailed in '*Updated Report on Acid Sulfate Soil Management Plans: Kiaora Place, Double Bay (Project No. DIH:jib36280.02-3, 18 February, 2010)*' prepared by Douglas Partners which is to be implemented during the excavation and construction stages of the development.

Findings of Preliminary Acid Sulfate Soil Assessment - Part 4 of Updated Report

Findings on the potential for acid sulphate soils to exist at the development site have been previously assessed in the following reports:

- Coffey Geosciences P/L 'Fabcot Pty Ltd/Sherilyn P/L Hydrogeological Report Kiaora Road Development Double Bay (draft) (ref: E12616/1-BQ) 2 September 2003.
- Douglas Partners P/L Report on Preliminary Contamination Assessment Kiaora Place, Double Bay (Ref. No. 36280 dated 27 October 2003) and updated 15 February 2010.
- Douglas Partners P/L Report on Supplementary Acid Sulfate Soil Assessment (DP ref: 36280A), 7 May 2004, updated 17 February 2010 (DP ref: 36280.02-4).

The above reports have found that potential Acid Sulfate Soils (PASS) exists across the entire development site. Of particular note were bores known as DP101 and DP104 encountered PASS at 0.3m and 0.7m below ground level. The pH screening analysis and Peroxide Oxidation Combined Acidity and Sulphate (POCAS) testing indicates that PASS materials present on the site are mainly constituted of grey sands and silty sands; however it was noted that PASS materials are not limited to grey sands, nor are all grey sands at the site PASS materials. Therefore disturbance of soil material during excavation works will require appropriate management of acid sulphate soils.

The 'Updated Report on Acid Sulfate Soil Management Plans: Kiaora Place, Double Bay (Project No. DIH: jib36280.02-3, 18 February, 2010)' states that management of potential acid sulphate soils during excavation and construction phases of the development will require monitoring, auditing inspection and sampling of both the soils and groundwater, or leachates, to maintain acceptable levels of acidity.

It should be noted that the preferred treatment method of acid sulphate soils will require leachate holding ponds of 2 day volume capacity constructed at suitable locations in relation to any treatment areas. Provision is also being made for truck wash down water to be directed to a leachate collection pond.

Referral Officer's Conclusion and Recommendation on Updated Acid Sulfate Soil Report

On the basis that the development site is underlain with Acid Sulfate Soils, it is recommended that if approval is granted for the proposed development, the following **draft condition** be included;

E. Conditions which must be satisfied during any development work

E.1 Management of Acid Sulphate Soils

The management options resulting from the disturbance of potential acid sulfate soils detailed in Section 5 'Proposed Acid Sulfate Management Strategy' & Section 6 'Responsibilities' of the report prepared by Douglas Partners titled 'Updated Report on Acid Sulfate Soil Management Plans: Kiaora Place, Double Bay (Project No. DIH:jib36280.02-3, 18 February, 2010)' being fully implemented during the excavation and construction phase of the development.

3.3 <u>REVISED ACOUSTIC REPORT PREPARED BY REVERB ACOUSTICS</u>

The Pre-DA Lodgement referral response to the acoustic report prepared by Acoustic Logic Consultancy titled 'Kiaora Lands Redevelopment: Development application Environmental Noise Impact Assessment' (Report No. 2010150/2203A/R4/BW dated 16 May, 2011) required consideration of;

- 1. the acoustic standards provided for in the 'Double Bay Development Control Plan- Appendix 2: Kiaora Lands 2011', A.2.5.3; A 2.5.6; and A 2.5.7;
- 2. additional acoustical reporting to address;
 - a) the sleep arousal criterion;
 - b) construction noise activity; and
 - c) the garbage room & compactor area.

The above has been noted in Section 2.4, Table 3, 'Pre – DA Notes', found in Volume 1 of the Statement of Environmental Effects.

Additional Acoustical Reporting

Reference is made to the acoustic report prepared by Reverb Acoustics titled 'Noise Impact Assessment: Kiaora Lands Redevelopment, new South Head Road and Kiaora Lane, Double Bay NSW' (Report No. 11-1605-R1 and dated November 2011).

The report has relied upon the measured noise levels that were conducted by Acoustic Logic Consultancy presented in their report of 16 May, 2011 of the existing acoustic environment at residential locations at Anderson Street, Patterson Street, Kiaora Street, Court Road and Manning Road to assess the acoustic impact from the proposed development. The existing acoustic environment is presented in Table 1 of the report. It should be noted that the report has referenced the acoustic standards provided for in the 'Double Bay Development Control Plan- Appendix 2: Kiaora Lands – 2011', A.2.5.3; A 2.5.6; and A.2.5.7 and addressed the criteria.

Noise Criterion Applied to Development Site

The adopted noise criterion for the purpose of the noise assessment for operational activities and traffic movements are presented in Section 2.2 'Criteria' of the report. Noise from the proposed development site which can be categorised as follows was assessed against the Noise Criterion presented in Section 2.2 of the report:

- Road Traffic Noise
- Service Delivery Noise
- Car park and Loading Dock Noise
- Site Noise
- Sleep Arousal Criteria
- Mechanical Plant Noise

The following comments are provided in relation to the noise sources that are considered the primary concern for this development.

a) Road Traffic Noise

Road traffic noise has been assessed by the Reverb report against the 'Road Noise Policy' (RNP¹) which replaced the 'Environmental Criteria for Road Traffic Noise' (ECRTN). The roads in the vicinity of the development area have all been classified as a sub-arterial road and on this basis the relevant noise criteria as detailed in Table 4 of the RNP is as follows:

• Sub-arterial roads: Day 60 LAeq, 15hr (external) Night 55 LAeq, 9hr (external)

Traffic noise calculations are presented in Table 6 & 7 of the acoustic report demonstrating noise impacts from traffic movements on nearby residential receivers being Kiaora Road, Court Road, Manning Road and Patterson Street for day (7am-10pm) and night (10pm-midnight) periods.

The traffic noise calculations presented in Table 6 & 7 show that traffic movements associated with the development are compliant with the RNP during the day and night for residences along nearby roads. Peak vehicle noise of 64 dBA (Lmax) is predicted on occasion at night, however given that the existing Lmax noise levels on the surrounding streets regularly exceed 75-80 dBA, it is expected that these infrequent peak noise would not be noticeable.

To accept the above calculations as a true representation of vehicle movements within the area, the acoustic report fails to reference where the numbers of typical vehicle movements per period have been obtained. The previous acoustic report prepared by Acoustic Logic Consultancy made reference to a Traffic Report prepared by Halcrow (Ref. No. CTLREAr01v5 110513.doc of 16 May 2011). Reverb Acoustics should provide the above information as the equation used to calculate the Lmax vehicle noise levels is reliant upon the number of vehicle movements. Suffice to say that any increase in variance of vehicle movements will affect the calculated Lmax.

b) Delivery Vehicles

The report has made assumptions regarding the number of service vehicles that may visit the development site on any day for the purpose of goods deliveries, mainly to Woolworths Supermarket and Dan Murphys. The report assumes that 2-3 refrigerated trucks and up to 2 grocery trucks may visit the site each day (between 7am-10pm) to deliver goods to the supermarket and grocer to the Kiaora Road loading dock. It is further assumed that 3 trucks may visit the Dan Murphys Patterson Street loading dock. Up to 28 truck movements have been assumed to be entering and leaving the site servicing future speciality shops (unknown at this stage).

Calculated noise measurements from both loading dock activities (truck movements) presented in Table 8 & 9 of the acoustic report shows that noise levels for both the day and evening are compliant with the noise criterion. It would be expected that a major contributor of noise arising from loading dock activities at the development site would be from such service delivery vehicles (refrigerated trucks, light vans and the like). The above noise calculations from loading dock activities cannot be accepted based on

¹ Office of Environment & Heritage (2011) NSW Road Noise Policy

assumptions of truck movements, especially from Woolworths and Dan Murphys. A Delivery Schedule, including vehicle size, number of deliveries, and precise time frames for deliveries should be obtained from Woolworths and Dan Murphys with the report and calculations being updated to reflect actual type of vehicles expected to attend the loading docks and number of actual movements expected per day.

The report does not refer to milk deliveries where such deliveries occur before the loading dock operating hours. Large supply of milk would be expected to be delivered to Woolworths; if such deliveries are to occur outside delivery dock operating hours, the noise from such deliveries may adversely impact on surrounding residential properties. The report is to clarify the milk delivery schedule and incorporate the vehicle movements in the loading dock noise calculations

Section 3.2.2 of the acoustic report refers to noise control measures that Woollahra Council require to be incorporated into the design and operation of the loading docks. The noise control measures referred to in the Section 3.2.2 'Received Noise Levels – Loading Docks and Section 6.1 'Recommended Noise Control – Loading Docks' of the acoustic report for the Woolworths and Dan Murphys loading docks do not fully reflect noise control and design requirements provided for in the acoustic standards detailed in the Double Bay Development Control Plan- Appendix 2: Kiaora Lands – 2011, A 2.5.6. Draft conditions of development consent have been prepared at the end of this section of the referral response to address this issue.

The Traffic Report (Final dated 19 October 2011) prepared by Halcrow have provided for a Car Park and Loading Dock Plan of Management; refer to Appendix S of the SEE, Appendix B Car Park and Loading Dock Area Management Plan, which is more in line with the acoustic controls specified in the Double Bay Development Control Plan.

c) Car Park

The acoustic report has referred to 'traffic studies' conducted for similar sized developments; the report states that up to 250 vehicle movements may occur during the busiest 1 hour period, typically at opening time or on Thursday evenings and Saturday mornings, and 150 movements each hour during normal periods; this equates to approximately 2500 movements during the day with only 80 movements expected during the night. The report has also assumed that 60% of vehicles will pass residences along Kiaora Road and Court Road as they approach and depart the site and 40% along Manning Road and Patterson Street.

Car park activity noise would also be another major noise contributor at the proposed development site. The report has accepted that vehicles entering, leaving and manoeuvring in the car parks have the potential to cause disturbance to nearby residents, with the greatest disturbance will occur during peak periods.

In my opinion the calculated car park noise emission levels should have been based upon traffic flow data for the area prepared by a suitably qualified traffic consultant. The previous acoustic report prepared by Acoustic Logic Consultancy presented at Pre – DA Lodgement made reference to a Traffic Report prepared by Halcrow (Ref. No. CTLREAr01v5 110513.doc of 16 May 2011). This would provide for a more accurate representation of traffic flow rather than traffic flows being based on assumptions from similar type developments. It should also be noted that the intrusiveness criteria for the car park are based on a Rated Background Level (RBL) that has been calculated for the entire day, evening and night period. This method for calculation is biased towards the lowest LA90 noise levels during this entire day or evening period. For comparison purposes, an hourly RBLhr based on each individual one hour period across the entire monitoring period should also be calculated (based on traffic flow data for the area) to provide a more accurate representation of the background noise levels during each hourly period.

Interpretation of Tables 10 &11 in the acoustic report shows that car park noise activities (customer vehicles) will be compliant with the noise criterion at all nearby receivers during normal and peak periods providing that acoustic modifications and strategies as detailed in Section 6 of the report are incorporated into the design. It is unclear if the calculated noise emissions in Table 11 are representative of noise emissions modelled on the installation of 1200-1500 mm noise control barriers.

The acoustic control measures and strategies referred to in Section 6.2 of the acoustic report for the car park activities do not fully reflect noise control and design requirements provided for in the acoustic standards detailed in the Double Bay Development Control Plan- Appendix 2: Kiaora Lands – 2011, A 2.5.6. In particular a Car Parking Plan of Management has not been prepared and submitted with the development application.

d) Waste Collection

The acoustic report has not referred to potential noise arising from waste service vehicles when entering and leaving the development site and potential noise arising from the collection of waste. The report should be amended to include this potential noise source and calculations based on similar sized stores with respect to frequency, vehicle type and size and the type of waste streams (including recycling and grease trap collection) and the expected times of waste collection.

e) Cleaning

The report has not referred to potential noise arising from cleaning contractors at the development site. The report should be amended to include noise from cleaning contractors describing the type of cleaning work conducted; type of machinery used; time that cleaning work is to be carried out and areas of the development site when cleaning would occur.

f) Shopping Trolleys

The report briefly mentions potential noise arising from trolley contractors in the collection of shopping trolleys around the development site. Due to the noise from collection in the immediate residential area (maximum noise levels in excess of 55 dBA), the report recommends that tractors must not be used at night within the site (10pm-12am) and that manual collection should be reverted to during this time.

In an attempt to preserve both the visual and noise amenity of the immediate residential areas near the development site from the abandonment of shopping trolleys and their collection, the report should have explored a 'containment' option in controlling trolleys leaving the site. Containment systems may include trolleys with wheel locks activated

by radio signal or magnetic strip; or coin operated or any other system which demonstrates a commitment to contain trolleys within the development site. In addition, in a commitment to minimising noise the construction of the trolley should also be explored such as plastic construction or plastic sheathed metal construction.

g) Mechanical Plant

Mechanical plant details have been sourced from Woolworths/Dan Murphys Design Kit Specifications, and/or based on typical plant requirements for similar sized developments (refer to Section 3.2.5 of the report to view plant items and their location. Table 13 of the report shows a sample calculation of the noise from the mechanical plant located at the ground floor level plant room near the car park entry and potential noise impact to the nearest residential boundaries (south) in Patterson Street. Calculations show that noise emissions from mechanical plant in the ground floor level plant room will be compliant with the noise criterion of 38 dBA, Leq (that is, 0 dBA above background) at the nearest residential boundary; this is reliant upon the provision of acoustic louvres being installed. The report is unclear if the noise readings have been calculated with the assumption of the acoustic louvres being fitted.

The report does not explain why only a sample calculation was undertaken of the mechanical plant equipment and not the cumulative noise impact from all mechanical plant in operation from the Woolworths/Dan Murphys Design Kit Specifications. Section 6.3 of the report specifies noise control measures for different items of mechanical plant equipment. Given that these noise control measures are known, predicted calculations of noise emissions on nearby residential properties from the operation of all mechanical plant, as identified in Section 3.2.5 of the report could have been presented in the report to demonstrate that the nominated noise control measures would allow mechanical plant to operate in compliant with the nominated noise criterion.

I am in agreement with the comments provided in the acoustic report pertaining to future speciality shops at the development site. It is not possible to specify acoustic controls until mechanical plant has been selected for the speciality shops. Noise emissions can be controlled by way of conditions of consent when applications of proposed use of the speciality shops are received by Council (this may involve the submission of an acoustic report).

The report also refers to potential noise arising from substation kiosk(s) which must not exceed a sound pressure level of 52 dBA, Leq at a distance of 3 m; where specified noise levels are exceeded, noise control measures will be required. The report could have sourced information on substation kiosk(s) concerning noise emissions that could have been expected. Will the noise consultant undertake noise readings once the substation kiosk(s) are installed to determine if noise control measures are required?

h) Noise Management Plan

The report has not provided for a Noise Management Plan for the development site. A Noise Management Plan should be provided to compile key management information into one document. The purpose of the Noise Management Plan is to set out how the site will be managed and how the recommendations of the acoustic report will be implemented to ensure that the site will operate in a satisfactory manner. The noise

management plan should include, but not be limited to the following:

- Service Vehicles & Waste Collection Vehicles including scheduling
- Car Park Maintenance
- Whether staff, including cleaning staff will be permitted to use the car park outside operating hours
- Loading Dock operating procedures
- Hours of operation
- Cleaning
- Shopping Trolleys
- Signage
- Complaints Handling
- Unauthorised access
- i) Construction Noise & Vibration Control Strategies

Section 6.5 of the report has addressed the issue of noise associated during construction phase of the development. I am in agreement with the report that attended noise and vibration monitoring should be carried out at the commencement of each process/activity that has the potential to produce excessive noise or vibration. As the report states, "attended monitoring offers the advantage of immediate identification of noise or vibration exceedances at the receiver and ameliorative action required to minimise the duration of the exposure".

Section 5.2 of the report has identified the type of machinery and equipment that could be used at the development site and provided for predicted noise impacts at residential receivers which are within 20 m of the site. The report has predicted that a majority of the construction activities are expected to exceed the day external construction noise criterion of 52 dBA, Leq for residences. Noise levels as high as 87 dBA are expected during piling activities at the closest residential location. The report does not detail the expected time frame for use of such machinery.

It is recommended that the acoustic consultant, prior to the commencement of demolition and construction works obtains a works schedule and identifies all actual machinery & equipment to be used at the development site. The acoustic consultant is to certify that the selected machinery & equipment at each phase of demolition and construction have been fitted with noise control equipment such as silencers (or alternative options) as listed in Table 20 of the report.

The development site shall provide for acoustic screening and/or enclosures, temporary or otherwise around machinery and equipment, during each phase of demolition and construction works in accordance with the recommendations outlined in Section 6.5.3 of the acoustic report. As noted in the acoustic report, noise reductions of 7-10 dB can be achieved with the use of barriers, 15-30 dB by enclosures, 5-10 dB from silencers and up to 20-25 dB by substitution with an alternate process.

The 'Construction Noise & Vibration Control Strategies' specified in part 6.5 of the acoustic report while recommending noise and vibration monitoring does not identify the levels at which corrective action should be initiated. Accordingly, before including the strategies in any draft conditions, the acoustic report must be amended to address this shortfall.

j) Cumulative Noise Impact

Section 4.1 of the report has considered the cumulative noise impact from all activities to the nearest residential receivers during peak periods during the day and evening, and normal periods at night. The report states that the cumulative impact from activities associated with the operation of the development will be compliant with the noise criterion at all nearby residential receivers during the day, evening and night periods with the exceptions of 6 Patterson Street and 4 Patterson Street.

I cannot accept this statement provided for in the acoustic report because as mentioned earlier not all sources of noise have been identified, including noise arising from waste collection vehicles and service delivery vehicles and assumptions that have been made in the acoustic report pertaining to traffic flows and vehicle numbers.

Referral Officer's Conclusion and Recommendation on Revised Acoustic Report

The development is a large scale commercial development in close proximity to numerous residential properties. There is a high potential for operational activities of the development to give rise to noise, as identified by the above assessment and it will be necessary to ensure that the proposal either does or can, by condition, comply with numerous controls contained in the Double Bay Centre Development Control Plan 2002 before development consent can be granted.

Accordingly, depending on how the Acoustic Consultant responds to the items listed below, it may be necessary to have the final acoustic report peer reviewed by a suitably qualified acoustic engineer.

Alternatively, an independent acoustic engineer may need to be engaged by Council to ensure that any development consent conditions are achievable and will ensure the development fully satisfies the applicable acoustic controls, thereby minimising any amenity impact on the surrounding area.

With regard to the Reverb Acoustic Report titled 'Noise Impact Assessment: Kiaora Lands Redevelopment, new South Head Road and Kiaora Lane, Double Bay NSW' (Report No. 11-1605-R1 and dated November 2011) it is considered that it has not addressed all issues with regards to the potential acoustic impact of the development. Furthermore, not all remedial measures that could be implemented have been specifically described in the report.

Therefore, before further consideration can be given to the acoustic assessment of the development the following items need to be addressed by the Acoustic Consultant;

- 1. The road traffic noise assessment in the acoustic report must be based on the Traffic Report prepared by Halcrow (Ref. No. CTLREAr01v5 110513.doc of 16 May 2011) and the acoustic report is to be amended accordingly.
- 2. A delivery schedule shall be provided for all service delivery vehicles for Dan Murphy and the supermarkets including vehicle size, number of deliveries and precise time frames for the deliveries. The acoustic report is to be amended to include this information.

- 3. The acoustic report shall identify any service deliveries that may occur outside the recommended operating hours of the service docks, such as milk deliveries and incorporate these activities in the acoustic assessment.
- 4. The car park noise assessment in the acoustic report must be based on the Traffic Report prepared by Halcrow (Ref. No. CTLREAr01v5 110513.doc of 16 May 2011) and the acoustic report is to be amended accordingly.
- 5. It is considered that the Rated Background Level (RBL) calculated for the car park areas is biased towards the lowest LA90 noise levels during the entire day or evening period. Accordingly, for comparison purposes, an hourly RBLhr based on each individual one hour period across the entire monitoring period should also be calculated (based on traffic flow data for the area) to provide a more accurate representation of the background noise levels during each hourly period and the acoustic report is to be amended accordingly.
- 6. A 'Carparking Plan of Management' is to be submitted to Council complying with the requirements of control C23 of A2.5.6 'Carpark and loading dock design' of the Double Bay Centre Development Control Plan 2002.
- 7. The location and design criteria of the acoustic barriers to be located on the rooftop carpark are required to be included on the development application plans. The specific design specifications of the barriers are to be included in the acoustic report.
- 8. A detailed specification of the carpark floors and interconnecting ramp to preclude tyre squeal is required to be submitted in accordance with the requirements of control C27 of A2.5.6 'Carpark and loading dock design' of the Double Bay Centre Development Control Plan 2002.
- 9. The acoustic report is to be amended to address the potential noise arising from waste service vehicles entering and leaving the development site and from the collection of waste. The assessment must include calculations based on similar sized stores with respect to frequency, vehicle type and size and the type of waste streams (including recycling and grease trap collection) and the expected times of waste collection.
- 10. The acoustic report is to be amended to address the potential noise arising from cleaning contractors working at the completed development site. The assessment must describe the type of cleaning work that would be carried out, the type of machinery to be used, the times that cleaning work is to be carried out and the areas of the development where cleaning would occur.
- 11. The acoustic report is to be amended to provide further discussion on the likely impact of noise from shopping trolleys. The report should consider 'containment' options in controlling trolleys leaving the site and explore alternate trolley designs to minimise potential noise impact.
- 12. The mechanical plant assessment within the acoustic report must assess the cumulative noise impact from all plant in operation from the Supermarket/Dan Murphys Design Kit Specification. As the noise control measures are known

predicted calculations of noise emissions on nearby residential properties from the operation of all mechanical plant should be presented to determine if the noise control measures will achieve the noise criterion.

- 13. The acoustic report must further consider the potential impact of the substation kiosk. In this regard the report must detail the predicted noise emissions of the substation kiosk and identify the required noise control measures that are to be installed to achieve the noise criterion.
- 14. The acoustic report should consider and discuss the benefits of preparing a Noise Management Plan (NMP) for the development. A NMP would set out how the site will be managed and how the recommendations of the acoustic report will be implemented to ensure that the site will operate in a satisfactory manner with minimal impact on surrounding properties. Any NMP should include, but not be limited to the following:
 - Service Vehicles & Waste Collection Vehicles including scheduling
 - Car Park Maintenance
 - Whether staff, including cleaning staff will be permitted to use the car park outside operating hours
 - Loading Dock operating procedures
 - Hours of operation
 - Cleaning
 - Shopping Trolleys
 - Signage
 - Complaints Handling
 - Unauthorised access
- 15. Part 6.5 'Construction Noise & Vibration Control Strategies' of the acoustic report recommends the implementation of an *"attended noise and vibration"* at the commencement of each construction process/activity that has the potential to produce excessive noise and vibration. However the report fails to nominate the noise and vibration levels that are considered excessive and would require ameliorative action. Also, the report does not specify the ameliorative action that would be required to be initiated if excessive noise and vibration was encountered. Accordingly, the acoustic report is required to be amended to include such information.
- 16. Section 4 'Cumulative Noise Impact Site Operation' of the acoustic report will need to be amended following the inclusion of the additional information requested above. Not all noise sources identified by Council have been assessed in the acoustic report or included in the current cumulative assessment.
- 17. The acoustic report shall include a statement certifying that the built form of the completed development will comply with the following controls of A2.5.3 'Built form south of Kiaora Lane' of the Double Bay Centre Development Control Plan 2002;
 - "C10 All mechanical plant is to be designed on the basis that if that equipment could operate at any time of the day or night, then its noise emission component, when measured at the nearest, or at any other residential

property façade, must not exceed the nocturnal background level. The cumulative noise level from all relevant items of mechanical plant and equipment, when measured at the same location must not exceed the nocturnal background level by more than 5dB(A).

- Note: The background noise level is to be measured on a windless Tuesday night which is normally the quietest night of the week. The results of this measurement must not be degraded by the noise of passing traffic, or by the noise from vehicles entering, or exiting the Anderson Street entry and exit. This may require the background noise level to be measured when the Anderson Street entry and exit is closed."
- "C11 The use of the premises must not give rise to noise which exceeds the relevant nocturnal background sound levels by more than 5dB(A) when measured at the façade of the nearest, or any other residential premises."

The following is a preliminary set of **draft conditions** relating to the initial acoustic assessment of the proposal. These conditions will require modification on the submission and review of the additional information requested above, however they provide a guide to the type of conditions that will be required if the development is recommended for approval.

C. Conditions which must be satisfied prior to the issue of the relevant construction certificate

C.1 Noise control measures

The *Construction Certificate* plans and specification required to be submitted pursuant to clause 139 of the *Regulation* must detail the following noise control measures required pursuant to A2.5.6 of the *Double Bay Centre Development Control Plan 2002;*

- a) The loading docks are to be provided with automated doors with a surface mass greater than 3kg/m² and the sides, head and thresholds of each is to be designed to obviate, or minimise any undesirable sound leakage.
- b) The loading dock doors are to be designed so that their noise emission components when either opening or closing are no more than 5dB(A) above the background sound level when measured at the façade of the nearest, or any other residential property.
- c) The ceiling, as well as significant areas of the walls of the loading docks are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area and ensure there is minimum possibility of the loading docks impacting on neighbours.
- d) The underside of the roof of the carpark is to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.
- e) The soffit of the supermarket floor is to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.
- f) The interconnecting ramp between the ground level and rooftop carpark is to have a smooth primary surface and not parallel ribbed surfaces. The ramp should incorporate small angled parallel grooves in a chevron pattern which may be cut into the surface of the cured concrete. The surface must be designed to preclude structural vibration and adverse related intrusive noise levels (or noise radiation from the main building structure) as well as provide positive tyre adhesion in the presence of water or oil.
- g) The carpark is to be equipped with an effective electronic vacant car space identification system through which a driver may more rapidly find an

empty car space to minimise the need to circle around the carpark to find where they can park.

 h) The ceiling and walls of the entry and exit structure to Kiaora Road are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.

The *Construction Certificate* plans reflecting the above items must be accompanied by a certificate from a *professional engineer* (acoustic engineer) certifying that the plans have achieved the above design criteria.

 Note: Further information including lists of Acoustic Engineers can be obtained from:

 Australian Acoustical Society—professional society of noise-related professionals (www.acoustics.asn.au /index.php).
 Association of Australian Acoustical Consultants—professional society of noise related professionals (www.aaac.org.au). Standard Condition: C61

C.2 Acoustic Certification of Mechanical Plant & Equipment

The *Construction Certificate* plans and specification required to be submitted pursuant to clause 139 of the *Regulation* must be accompanied by a certificate from a *professional engineer* (acoustic engineer) certifying that the noise level from any proposed mechanical plant and equipment measured at any time of the day or night, at the nearest, or at any residential property façade, while the proposed mechanical plant and equipment is operating, will not exceed the *nocturnal background noise level*.

The certificate must further certify that the cumulative noise level from all relevant items of mechanical plant and equipment, when measure at the same location will not exceed the nocturnal background level by more than 5dB(A).

The *background noise level* is the underlying level present in the ambient noise, excluding the subject noise source, when extraneous noise is removed. For assessment purposes the background noise level is the $L_{A90, 15 \text{ minute}}$ level measured by a sound level meter.

Where sound attenuation is required this must be detailed on the *Construction Certificate* plans and specification.

This condition is imposed to ensure compliance with control C10 of A2.5.3 – 'Built form south of Kiaora Lane' of the Double Bay Centre Development Control Plan 2002.

Note: Further information including lists of Acoustic Engineers can be obtained from:

- 1. Australian Acoustical Society—professional society of noise-related professionals (www.acoustics.asn.au /index.php).
- 2. Association of Australian Acoustical Consultants—professional society of noise related professionals (<u>www.aaac.org.au</u>).
- 3. **The background noise level** is to be measured on a windless Tuesday night which is normally the quietest night of the week. The results of this measure must not be degraded by the noise of passing traffic, or by the noise from vehicles entering or

exiting the Anderson Street entry and exit. This may require the background noise level to be measure when the Anderson Street entry and eixt is closed.

D. Conditions which must be satisfied prior to the commencement of any development work

D.1 Site acoustic barriers/screening

Prior to the commencement of any works temporary barriers of plywood of a minimum thickness of 20mm and a minimum height of 2100mm shall be erected to the perimeter of the construction site to minimise the impact of the construction noise on the amenity of the neighbourhood. The barriers are to be maintained during the development.

D.2 Noise control measures for construction plant and equipment

Prior to the commencement of any works a certificate from a *professional engineer* (acoustic engineer) shall be submitted to the Principal Certifying Authority certifying that;

- a) a works schedule has been prepared that identifies all machinery and equipment to be used at the development site; and
- b) the nominated equipment and machinery that will be used at each stage of the development have been fitted with noise control measures to minimise their impact on the surrounding properties.

D.3 Consultation/Complaints Handling Procedure

Prior to the commencement of any works the principal contractor shall put in place a formal consultation and complaints handling procedure to address complaints from the occupants of surrounding properties.

The procedure shall include mechanisms for providing the occupants of surrounding properties with information on the progress of the development and formal notification of noisy activities, a minimum of 48 hours prior to such activities.

A copy of the required procedure shall be submitted to the Council and the Principal Certifying Authority prior to the commencement of any work.

E. Conditions which must be satisfied during any development work

E.1 Acoustic barriers/screening

To minimise the impact of construction noise on the amenity of the neighbourhood the following acoustic measures are to be implemented;

- a) Hoardings are to be erected at all exposed entries of the site acoustic barriers and doorways; and
- b) Acoustic enclosures and screens are to be placed directly adjacent to stationary noise sources such as compressors, generators and the like.

E.2 Hours of Work – Amenity of the neighbourhood

- a) No *work* must take place on any Sunday or public holiday,
- b) No *work* must take place before 7am or after 5pm any weekday,
- c) No *work* must take place before 7am or after 1pm any Saturday,
- d) The following *work* **must not** take place before 9am or after 4pm any weekday, or before 9am or after 1pm any Saturday or at any time on a Sunday or public holiday;
 - (i) Piling;
 - (ii) Piering;
 - (iii) Rock or concrete cutting, boring or drilling;
 - (iv) Rock breaking;
 - (v) Rock sawing;
 - (vi) Jack hammering; or
 - (vii) Machine excavation,
- e) No loading or unloading of material or equipment associated with the activities listed in part d) above must take place before 9am or after 4pm any weekday, or before 9am or after 1pm any Saturday or at any time on a Sunday or public holiday.
- f) No operation of any equipment associated with the activities listed in part d) above must take place before 9am or after 4pm any weekday, or before 9am or after 1pm any Saturday or at any time on a Sunday or public holiday
- g) No rock excavation being cutting, boring, drilling, breaking, sawing, jack hammering or bulk excavation of rock, must occur without a 15 minute break every hour.

This condition has been imposed to mitigate the impact of work upon the amenity of the neighbourhood. Impact of work includes, but is not limited to, noise, vibration, dust, odour, traffic and parking impacts.

- **Note**: The use of noise and vibration generating plant and equipment and vehicular traffic, including trucks in particular, significantly degrade the amenity of neighbourhoods and more onerous restrictions apply to these activities. This more invasive work generally occurs during the foundation and bulk excavation stages of development. If you are in doubt as to whether or not a particular activity is considered to be subject to the more onerous requirement (9am to 4pm weekdays and 9am to 1pm Saturdays) please consult with Council.
- **Note**: Each and every breach of this condition by any person may be subject to separate penalty infringement notice or prosecution.
- **Note**: The delivery and removal of plant, equipment and machinery associated with wide loads subject to RTA and Police restrictions on their movement out side the approved hours of work will be considered on a case by case basis.
- **Note:** Compliance with these hours of work does not affect the rights of any person to seek a remedy to offensive noise as defined by the *Protection of the Environment Operations Act* 1997, the *Protection of the Environment Operations (Noise Control) Regulation* 2000.

Note: EPA Guidelines can be down loaded from <u>http://www.epa.nsw.gov.au/noise/nglg.htm</u>. Note: see <u>http://www.epa.nsw.gov.au/resources/ci_build_sheet7.pdf</u>

Standard Condition: E6

F. Conditions which must be satisfied prior to any occupation or use of the building (Part 4A of the Act and Part 8 Division 3 of the Regulation)

F.1 Acoustic certification

Prior to the occupation or use of the building or the issue of any occupation certificate, a certificate is to be submitted to the Principal Certifying Authority from a *professional engineer* (acoustic engineer) certifying that all the acoustic and noise control measures identified by the development consent and/or detailed on the construction certificate drawings are in place and achieve the required design objectives.

F.2 Acoustic certification of mechanical plant and equipment

Prior to the occupation or use of the building or the issue of any occupation certificate, a certificate is to be submitted to the Principal Certifying Authority from a *professional engineer* (acoustic engineer) certifying that the noise level from all mechanical plant and equipment installed in the building measured at any time of the day or night, at the nearest, or at any residential property façade, while the proposed mechanical plant and equipment is operating does not exceed the *nocturnal background noise level*.

The certificate must further certify that the cumulative noise level from all installed items of mechanical plant and equipment, when measure at the same location will not exceed the nocturnal background level by more than 5dB(A) and that all required sound attenuating measures are in place.

The *background noise level* is the underlying level present in the ambient noise, excluding the subject noise source, when extraneous noise is removed. For assessment purposes the background noise level is the $L_{A90, 15 \text{ minute}}$ level measured by a sound level meter.

This condition is imposed to ensure compliance with control C10 of A2.5.3 – 'Built form south of Kiaora Lane' of the Double Bay Centre Development Control Plan 2002.

Note: Further information including lists of Acoustic Engineers can be obtained from:

- 1. Australian Acoustical Society—professional society of noise-related professionals (www.acoustics.asn.au /index.php).
- 2. Association of Australian Acoustical Consultants—professional society of noise related professionals (<u>www.aaac.org.au</u>).
- 3. **The background noise level** is to be measured on a windless Tuesday night which is normally the quietest night of the week. The results of this measure must not be degraded by the noise of passing traffic, or by the noise from vehicles entering or exiting the Anderson Street entry and exit. This may require the background noise level to be measure when the Anderson Street entry and eixt is closed.

I. Conditions which must be satisfied during the ongoing use of the development

I.1 Operational requirements of the Loading Docks

The loading docks associated with the development are to comply with the following requirements at all times;

- a) All vehicles are to enter and exit the loading docks in a forward direction. Vehicles are only permitted to reverse inside the loading docks when the loading dock door is fully closed.
- b) The operational hours of the loading docks are restricted to 7.00am to 10.00pm each day, with no deliveries permitted to take place outside of these hours.
- c) The loading dock doors are only to be open as vehicles enter and exit the loading docks. At all other times the loading dock doors are to be closed.

This condition has been imposed to protect the amenity of the neighbourhood.

I.2 Operational requirements of the carparks

The carpark areas shall operate in accordance with the approved 'Carparking Plan of Management'.

This condition has been imposed to protect the amenity of the neighbourhood.

I.3 Shopping trolleys

All shopping trolleys used in the development must operate with a 'containment system' that prevents the shopping trolleys from being removed for the site.

The use of shopping trolley tractors or other mechanical devices is not permitted within the carpark areas of the development after 10.00pm and before 7.00am on any day. During these times the collection of shopping trolleys is limited to manual collection only.

This condition has been imposed to protect the amenity of the neighbourhood.

I.4 Noise from mechanical plant and equipment

Pursuant to Control C10 of A2.5.3 – 'Built form south of Kiaora Lane' of the Double Bay Centre Development Control Plan 2002 the noise emission from all items of mechanical plant and equipment measured at any time of the day or night, at the nearest, or at any other residential property façade, must not exceed the nocturnal background level.

The cumulative noise level from all relevant items of mechanical plant and equipment, when measured at the same location must not exceed the nocturnal background level by more than 5dB(A).

This condition has been imposed to protect the amenity of the neighbourhood.

- **Note:** The background noise level is to be measured on a windless Tuesday night which is normally the quietest night of the week. The results of this measurement must not be degraded by the noise of passing traffic, or by the noise from vehicles entering, or exiting the Anderson Street entry and exit. This may require the background noise level to be measured when the Anderson Street entry and exit is closed..
- I.5 Noise control Use of the development

Pursuant to Control C11 of A2.5.3 – 'Built form south of Kiaora Lane' of the Double Bay Centre Development Control Plan 2002 the use of the premises must not give rise to noise which exceeds the relevant nocturnal background sound levels by more than 5dB(A) when measured at the façade of the nearest, or any other residential premises.

This condition has been imposed to protect the amenity of the neighbourhood.

3.4 Miscellaneous Provisions and Associated Environmental Health Conditions

Having regard to the following heads of consideration;

- Food Premises
- Light & Ventilation
- Maintenance of Environmental Controls
- Erosion & Sediment Controls
- Disposal of site waters
- Dust Mitigation
- Operation of Regulated Systems
- Site Waste Minimisation & Management.

it is recommended that the following Environmental Health conditions be imposed on any development consent for the subject proposal;

C. Conditions which must be satisfied prior to the issue of the relevant construction certificate

C.1 Food Premises – Construction Certificate Plans & Specifications

The person with the benefit of this consent must submit to Council details for the construction and fit out of all food premises including the proposed supermarkets. Such details must demonstrate compliance with the *Food Act* 2003, *Food Regulation* 2004; the *Food Standards Code* as published by Food Standards Australia and New Zealand and Australian Standard AS 4674-2004: *Construction and fit out of food premises*.

No *Construction Certificate* relating to the construction or fitout of food premises must be issued until Council's Environmental Health Officers' have advised in writing that the plans and specification are considered satisfactory.

The details for the construction and fit out of food premises, as considered satisfactory by Council's Environmental Health Officers' must form part of any *Construction Certificate*.

Note: The assessment of food premises fitout plans and specifications is subject to an adopted fee. The construction and fitout of food premises is not listed under clause 161 of the *Environmental Planning & Assessment Regulation* 2000 as a matter that a *Certifying Authority* may be satisfied as to. Hence, the detailed plans & specifications must be referred to Council and be to Council's satisfaction prior to the issue of any *Construction Certificate* for such works.

Standard Condition: C65

C.2 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 <u>AS 1668.1</u>, <u>AS 1668.2</u> and <u>AS/NZS 3666.1</u>. 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*) Regulation2000 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. Applicants 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 <u>AS 1668.2</u>.

Standard Condition C59

D. Conditions which must be satisfied prior to the commencement of any development

D.1 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 <u>www.woollahra.nsw.gov.au</u>.
- **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 <u>without any further warning</u>. 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.

Standard Condition: D14

E. Conditions which must be satisfied during any development work

E.1 Requirement to notify about new evidence

Any new information which comes to light during remediation, demolition or construction works which has the potential to alter previous conclusions about site contamination, heritage significance, threatened species or other relevant matters must be immediately notified to Council and the Principal Certifying Authority.. Standard Condition: E4

E.2 Maintenance of Environmental Controls

The *principal contractor* or *owner builder* must ensure that the following monitoring, measures and controls are maintained:

- a) Erosion and sediment controls,
- b) Dust controls,
- c) Dewatering discharges,
- d) Noise controls;
- e) Vibration monitoring and controls;
- f) Ablutions;

Note: See <u>http://www.epa.nsw.gov.au/small_business/builders.htm</u> for additional information. Standard Condition: E11

E.3 Erosion and Sediment Controls – Maintenance

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

- a) The Soil and Water Management Plan 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: 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 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 the occupation of the land being developed whether or not they actually cause the pollution.
 Standard Condition: E15

E.4 Disposal of site water during construction

The principal contractor or owner builder must ensure:

- a) Prior to pumping any water into the road or public stormwater system that approval is obtained from *Council* under section 138(1)(d) of the *Roads Act* 1993;
- b) That *water pollution*, as defined by the *Protection of the Environment Operations Act* 1997, does not occur as the result of the discharge to the road, public stormwater system or other place or any site water;
- c) That stormwater from any roof or other impervious areas is linked, via temporary downpipes and stormwater pipes, to a Council approved stormwater disposal system immediately upon completion of the roof installation or work creating other impervious areas.
- **Note**: This condition has been imposed to ensure that adjoining and neighbouring land is not adversely affected by unreasonable overland flows of stormwater and that site water does not concentrate water such that they cause erosion and water pollution. Standard Condition: E17

E.5 Prohibition of burning

There must be no burning of any waste or other materials. The burning of CCA (copper chrome arsenate) or PCP (pentachlorophenol) treated timber is prohibited in all parts of NSW. All burning is prohibited in the Woollahra local government area.

Note: Pursuant to the *Protection of the Environment Operations (Control of Burning) Regulation* 2000 all burning (including burning of vegetation and domestic waste) is prohibited except with approval. No approval is granted under this consent for any burning. Standard Condition: E22

E.6 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:** "*Dust Control Do it right on site*" can be down loaded free of charge from Council's web site <u>www.woollahra.nsw.gov.au</u> or obtained from Council's office.
- Note: Special precautions must be taken when removing asbestos or lead materials from development sites. Additional information can be obtained from <u>www.workcover.nsw.gov.au</u> and <u>www.epa.nsw.gov.au</u>. Other specific condition and advice may apply.
- **Note:** 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. Standard Condition: E23
- E.7 Food Premises Construction & Fitout

The *principal contractor* or *owner builder* must ensure that all construction and fitout of all food premises, including the supermarkets comply with the details for the food premises submitted to and considered satisfactory by Council's Environmental Health Officers but no less compliant than with the *Food Act* 2003, *Food Regulation* 2004; the *Food Standards Code* as published by Food Standards Australia and New Zealand and AS 4674-2004: *Construction and fit out of food premises*.

This condition has been imposed to protect public health and ensure that food premises are easily maintained in a clean condition fit for food preparation and consumption. Standard Condition: E29

E.8 Site waste minimisation and management – Demolition and Construction

In order to maximise resource recovery and minimise residual waste from demolition and construction activities at the Kiaora Lands Development Site, the measures outlined in the Waste Management Plan (January 2010) prepared by J D MACDONALD, Waste Management Consultants shall be fully implemented.

Soil removal from the site shall have regard to the findings outlined in the report titled 'Update of Preliminary Waste Classification - Letter Report for Kiaora Place, Double Bay' (Project 36280.02-2 dated 15 February, 2010) prepared by Douglas Partners.

F. Conditions which must be satisfied prior to any occupation or use of the building (Part 4A of the Act and Part 8 Division 3 of the Regulation)

F.1 Inspection, Certification and Registration of Regulated Systems

Prior to the occupation or use of the building or the issue of any *Occupation Certificate* for a building serviced by a *regulated system* the *principal contractor* or *owner builder* must submit to the satisfaction of the *PCA* certification by a *'competent person'* that the regulated system as installed can operate as required by Clause 9 of the *Public Health (Microbial Control) Regulation 2000.* The owner must register the regulated system with Council and provide the PCA with evidence of registration pursuant to Clause 15 of the *Public Health* (*Microbial Control*) Regulation 2000.

Note: *Regulated System* has the same mean as in the *Public Health Act* 1991. Competent person has the same meaning as in Clause 9(3) of the Public Health (Microbial Control) Regulation, 2000. The *NSW Code of Practice for the Control of Legionnaires' Disease* can be down loaded free from: http://www.health.nsw.gov.au/pubs/2004/pdf/legionnaires_disease.pdf.

F.2 Food Premises – Inspection and Registration

Prior to the occupation or use of any food premises including the supermarkets or the issue of any *Occupation Certificate;*

- a) The *principal contractor* or *owner* must arrange an inspection of the fit out of the food premises by Council's Environmental Health Officer;
- b) A satisfactory final inspection must have been undertaken by Council's Environmental Health Officer; and
- c) The *owner* or *occupier* must have registered the food premises (Notification of conduct under section 100 of the *Food Act 2003*).

Note: Notification can be don on-pine at <u>www.foodauthority.nsw.gov.au</u>

- **Note:** Inspections by Council's Environmental Health Officer are subject to the pre-payment of the adopted inspection fee
- Note: Section 100 of the Food Act 2003 requires the following;
 - "(1) The proprietor of a food business must not conduct the food business unless the proprietor has given written notice, in the approved form, of the information specified in the Food Safety Standards that is to be notified to the appropriate enforcement agency before the business is conducted.

Maximum penalty: 500 penalty units in the case of an individual and 2,500 penalty units in the case of a corporation."

Note: Accredited Certifiers are unable to issue Compliance Certificates in relation to compliance with the Food Act 2003, Food Regulation 2010, the Food Safety Standards Code and the Australian Standard AS 4674-2004: Construction and fit out of food premises, since these are not matters which an Accredited Certifier cam by satisfied in relation to under Clause 161 of the Regulation. This condition can only be satisfied following inspection and sign off from Council's Environmental Health Officer.

I. Conditions which must be satisfied during the ongoing use of the development

I.1 Operation of Regulated Systems

The occupier must operate *regulated systems* in compliance with Clause 9 of the Public Health (Microbial Control) Regulation, 2000.

Where there is any change in the regulated system the occupier must register the changes in the *regulated systems* with Council pursuant to Clause 15 of the *Public Health (Microbial Control) Regulation*, 2000.

Water cooling system must be certified by a *competent person* annually as being an effective process of disinfection under the range of operating conditions that could ordinarily be expected.

This condition has been imposed to ensure public health.

- Note:
 Regulated System has the same mean as in the Public Health Act 1991. Competent person has the same meaning as in Clause 9(3) of the Public Health (Microbial Control) Regulation, 2000. The NSW Code of Practice for the Control of Legionnaires' Disease can be down loaded free from:

 http://www.health.nsw.gov.au/pubs/2004/pdf/legionnaires_disease.pdf.

 Standard Condition: 111
- I.2 Food Premises Maintenance of Food Premises

All food premises including the supermarkets must be maintained in accordance with the *Food Act* 2003, *Food Regulation* 2004; the Food Standards Code as published by Food Standards Australia and New Zealand and Australian Standard AS 4674-2004: *Construction and fit out of food premises.*

This condition has been imposed to protect public health.

Note: The provisions of the Food Act 2003 may change over time and irrespective of this condition compliance with this *Act*, regulations, food standards and other standards adopted under the Food Act (as amended) are mandatory. The *Food Act* and applicable regulations can be accessed free of charge at <u>www.legislation.nsw.gov.au</u>.

Standard Condition: I30

Referral Officer:	Louie Savlatore
	Senior Environmental Health Officer

Reviewing Officer: Tim Tuxford Manager - Compliance