

## **REFERRAL RESPONSE – ESD**

**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:** Chris Munro- Team Leader Environment & Sustainability

**TO:** Mr P Kauter

**NOTE:** The Team Leader Environment & Sustainability was involved in the preparation of the ESD Review undertaken by AECOM Australia Pty Ltd in April 2011. It is understood and agreed that Woollahra Council's Sustainability Team Leader has been required to provide advice at both the design stage and at the DA assessment stage.

I refer to the following documents received for this report:

- Statement of Environmental Effects, written by Tpg, dated November 2011.
- Woolworths Sustainable Design Summary, dated MAY 2011
- Kiaora Lands Development ESD Review, AECOM, 5 April 2011
- Site Analysis Plan No 3109\_DA\_001-D, Drawn by Nettleontribe dated November 2011
- Architectural Plan No's 3109\_DA\_003-D-3109\_DA\_0012-D & 3109\_D\_013-C, drawn by Nettle tribe dated November 2011.
- Streetscape Elevations No's 3109\_DA\_021-C & 024-C, drawn by Nettleontribe dated November 2011.
- Stormwater Concept Plan No. SKC03, drawn by BG & E, dated 16<sup>th</sup> of November 2011.
- Landscape Concept Documentation No's LSK 09582-001-003&011E, designed by Context, dated November 2011.

- Hydrological report

## **Double Bay DCP**

The relevant sections of the Double Bay Centre Development Control Plan 2002 include Section 6.6 Sustainable design principles and Apenndix 2: Kiaora Lands 2011.

### **A2.5.9 Environmentally Sustainable Design**

To ensure that the development meets best practice standards in environmentally sustainable design.

*CI Development must be designed to provide for best practice environmentally sustainable design outcomes as may be established through the Green Star Certified Rating system, or a similar tool.*

### **Comments**

The Green Star Rating system can NOT be used to assess the Kiaora lands development as there is currently no Green Star rating tool for mixed use buildings or Supermarkets.

The submitted ESD review prepared by AECOM includes the results of an assessment of the relative energy and water consumption of the Kiaora Lands project against the NABERS (National Australian Built Environment Rating System) Retail and Office Energy and Water Rating Tools.

NABERS (National Australian Built Environment Rating System) is a performance-based rating system for buildings. NABERS rates a commercial office, hotel or residential building on the basis of its measured operational impacts on the environment.

The development proposal is satisfactory in terms of ESD subject to compliance with the Conditions of Consent outlined in this referral response.

### **ISSUES**

- Amendments are required to the Landscape Plan, Stormwater Plan, and Hydrological Plan to include Water Sensitive Urban Design (WSUD) elements such as permeable onsite drainage, permeable tree pits, landscaped infiltration beds, bioretention systems and raingardens.
- Further detail is required regarding proposed rainwater tank connections to downpipes and connections to end uses such as toilets and pumping station/s for irrigation systems.
- Further detail is required regarding plant space for office air conditioning in supermarket building.
- Further detail is required regarding location and size of gas driven HVAC equipment for both buildings.

- Amended Landscape Concept Plan required- *see Condition C.1.*
- Amended Stormwater Concept Plan required- *see Condition C.2.*
- Amended Hydrological plan required – *see Condition C.3.*
- Amended Architectural Plans are required to show details of plant space for Supermarket building, HVAC equipment and rainwater tanks. Sectional and or photomontage drawings for the Rainwater Tanks are required. If the rainwater tanks are to be installed underground further detail is required.

### **Amended Stormwater Drainage Plan**

There is an opportunity to improve onsite drainage, reduce localised flooding, improve water quality and reduce construction impacts on the existing trees to be retained on the development site.

The proposed Stormwater Drainage Plan should include WSUD elements to provide for best practice environmentally sustainable design. To maximise permeable onsite drainage, tree pits designed to collect surface drainage, bio retention and rain gardens should to be integrated into the stormwater drainage plan.

Roof runoff and rainwater collection should be included in the stormwater drainage plan, showing downpipe connections and inlets to rainwater tanks and outlet connections to end uses. End uses include toilets and irrigation pumping stations.

### **Amended Landscape Plan**

Include WSUD elements in the Landscape Plan to provide for best practice environmentally sustainable design. To maximise permeable onsite drainage, the plan shall include tree pits designed to collect surface drainage, recycled water sourced for irrigation, bio retention and raingardens are to be integrated into Landscape plan.

To minimise water use drought tolerant species should be selected. The Landscape Plan should include the extent of irrigation required as this will depend on the amount of rain naturally falling in the area. Further information on the proposed irrigation system and the connection to a recycled water source is required.

### **Amended Hydrology Plan**

To provide for best practice environmentally sustainable design the proposed Hydrology Plan should include further information on the roof runoff volume, the rainwater collection system as well as the greywater collection and reuse system.

### **Water**

**The proposed development should include the recommendations within the AECOM ESD report.**

### ***Fixtures & Fittings***

Both buildings are to be fitted with 6 star WELS rated fixtures wherever possible. Amendments are required to the Woolworths Sustainable Design Summary to include 6 star WELS in line with the AECOM report.

### ***Rainwater Tanks***

There are 3 rainwater tanks shown on the Stormwater Plan and Hydraulics Plan as follows:

- A 50K litre rainwater tank located at the rear of the library building,
- A 100K litre tank is located under the access ramp to car park; and,
- A 5K litre tank is located on the South West corner of the supermarket building.

The collection points and end use need to be clarified. The Library building can achieve a 5 Star rating using efficient fixtures, greywater reuse and rainwater Capture. To achieve a 5 star NABERS water rating the supermarket building would need to capture rainwater from the roof. However, as the roof is a car park the captured water would require costly treatment so an alternative proposal is to capture water from the shade structures on the car park roof.

Further detail is required for rainwater collection and reuse. Designs for rainwater collection, down pipes, tank inlets and connections to end uses (toilets & irrigation) are required.

The location and size of the rainwater tanks must be included on the landscape concept plan and Architectural Plans.

### **Greywater Reuse**

Further detail is required for Grey water collection and reuse. Designs for collection points, storage tanks, treatment and reuse allocation is required for both buildings.

### **Energy**

AECOM have undertaken an energy assessment using the NABERS energy retail and office Energy Tools.

The results demonstrate that the proposed development will meet the equivalent of a 5 star NABERS energy requirement for the office HAVAC system and the retail car park ventilation system.

Further detail is required regarding the allocated plant space for the office air conditioning in the supermarket building.

Further detail is also required regarding the location and size of the gas driven HVAC equipment for both buildings.

## **RECOMMENDATIONS**

Council's Team Leader Environment & Sustainability has determined that the development proposal is satisfactory in terms of ESD subject to compliance with the following Conditions of Consent.

### **CONDITIONS OF CONSENT**

*Please note that the standard conditions of consent are generally modified by the Technical Services Department to suit a particular development application. Please ensure all*

*Technical Services conditions of consent are cut and pasted from this document only, and not inserted as standard conditions using the automatically generated (F3) function*

## **General Conditions**

### **Approved Plans and supporting documents**

<b>Reference</b>	<b>Description</b>	<b>Author/Drawn</b>	<b>Date(s)</b>
Appendix O	Woolworths Sustainable Design Summary	Woolworths	May 2011
Appendix O	ESD Review	AECOM	November 2011

Standard Condition: A5

### **Conditions which must be satisfied prior to the demolition of any building or construction - NONE**

### **Conditions which must be satisfied prior to the issue of any construction certificate**

#### **C.1 Amended Landscape Plan**

An amended Landscape Plan, prepared by a qualified Landscape Architect or Landscape Designer, in accordance with Councils Development Application Guide Annexure 8 and conforming to the conditions of this Development Consent must be submitted to Council for further assessment. Additionally the amended landscape plan must include the following:

- 1) Consideration of plant species that do not require irrigation.
- 2) If irrigation is necessary in some area, the proposed location of the irrigation pump room and point of supply from rainwater tanks.
- 3) The use of WSUD elements to integrate the landscaped plan with the stormwater drainage plan through permeable areas, tree pits, bio retention, rain gardens and garden beds.
- 4) The use of tree pits and landscape areas that collect stormwater drainage for passive irrigation and drainage
- 5) The location and size of rainwater tanks must be included in the revised Landscape Plan.

#### **C.2 Amended Stormwater Drainage Plan**

To provide for best practice environmentally sustainable design, concepts for WSUD elements within the Stormwater Drainage Plan are to be submitted to Council for approval prior to issue of the Construction Certificate. The revised Stormwater Drainage Plan is to include permeable onsite drainage, tree pits designed to collect surface drainage, bio retention and/or raingardens to be integrated into the stormwater drainage plan.

Existing trees to be retained are to be included in WSUD designs to minimise root loss or damage.

### **C.3 Amended Hydrological Plan**

To provide for best practice environmentally sustainable design, a revised Hydrological Plan including concepts for Rainwater Tank intake and distribution is to be submitted to Council for approval prior to issue of the Construction Certificate.

The amended Hydrological Plan is to include further detail on rainwater collection and reuse. Designs for rainwater collection, down pipes, tank inlets and connections to end use (toilets & irrigation) are required.

### **C.4 Detail for office plant space, Gas HVAC equipment and rainwater tanks**

Amended Architectural Plans which include the following details must be submitted to Council for approval

- 1) Detail on plant space for offices located in the supermarket building
- 2) Cross sections and levels for Rainwater Tanks
- 3) Further detail on plant space for Office air conditioning in Supermarket building.
- 4) Further detail regarding location and size of the gas driven HVAC equipment for both buildings.

### **C.5 Fixtures & Fittings**

Both buildings are to be fitted with 6 star WELS rated fixtures wherever possible. Amendments are required to the Woolworths Sustainable Design Summary to include 6 star WELS in line with the AECOM report. Water efficient fixtures are to be included are outlined below:

- 1) Low flow water urinals are to be installed with a minimum 6 star WELS rating
- 2) Low flow toilets are to be installed with a minimum 4 star WELS rating
- 3) Hand wash basin taps to be installed with a minimum 6 star WELS rating
- 4) Kitchen Taps to be installed with a minimum 5 star WELS rating
- 5) Commercial kitchens to be installed with a minimum 3 Star WELS rating
- 6) Dishwashers & washing machines must have a minimum 5 star WELS rating
- 7) Office Showers to be installed with a minimum 3 Star WELS rating

Chris Munro  
Team Leader - Environment & Sustainability