

The General Manager Ku-Ring-Gai Council Locked Bag 1056 Pymble NSW 2073 November 8, 2011

Dear Sir,

Re:

## DA0110/11 Amended Drawings Statement by the Killara Golf Club Limited

We wish to withdraw the shadow diagrams attached to our letter of October 24, 2011 and replace them with the shadow diagrams attached to this letter.

The shadow patterns and accompanying data remain unchanged.

Yours sincerely The Killara Golf Club Limited

David Gazzoli General Manager



## **Attachments:**

## Shadow diagrams:

Replacement - March 21 (Autumn Equinox) at 0900, 1200 and 1500 hours Replacement - April 21 at 0900 hours Replacement - May 21 at 0900 hours Replacement - June 21 (Winter Solstice) at 0900 hours Replacement - June 21 (Winter Solstice) at 1200 hours Replacement - June 21 (Winter Solstice) at 1500 hours Replacement - June 21 (Winter Solstice) at 1500 hours Replacement - July 21 at 0900 hours Replacement - August 21 at 0900 hours



Snadow Diagram Compliation Data Proposed Landscaping on Building B and KGC Boundary

Bowling Green Location Latitude S33, 46, 09, Longitude E151,09,26

Times 0900 hours A.E.S.T (UTC+10) 1200 hours A.E.S.T (UTC+10) 1500 hours A.E.S.T (UTC+10)

Sun Angles (degrees) Altitudes 35.5, 56.2, 36.5 Azimuths 61.6E, 1.2E, 60.3W

Drawing Orientation 20 Degrees West of True North

Relative Levels Bowling Green 98.5 Ang.Cos trees 102.5 Euc.Sal trees 106.5

Tree Heights Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gardens Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

Localyptus Saligna Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 trees 15 metres

> Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

March 21 0900 hrs, 1200 hrs, 1500 Autumn Equinox



It does not depict the intensity of the individual shadows

The intensity of the shadowing on any part of the bowling green is proportional to the number trees generating the shadow in that area

Replacement Shadow Diagram Killara Golf Club Letter dated November 8, 2011

OHAUVW Diagram Compiles Proposed Landscaping on Building B and KGC Boundary

**Bowling Green Location** Latitude S33, 46, 09, Lonaitude E151,09,26

Time 0900 hours A.E.S.T (UTC+10)

Sun Angles Altitude 28.5 degrees Azimuth 50.2 degrees E

Drawing Orientation 20 Degrees West of True North

**Relative Levels Bowling Green 98.5** Ang.Cos trees 102.5 Euc.Sal trees 106.5

**Tree Heights** Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gardens Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

**Eucalyptus Saligna** Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 trees 15 metres

Shadow Diagram Proposed Landscaping on **Building B and KGC Boundary** 

April 21, 0900 hours Scale 1:500



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The intensity of the shadowing on any part of the bowling green is proportional to the number trees generating the shadow in that area

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**Replacement Shadow Diagram** Killara Golf Club Letter dated November 8, 2011

Proposed Building B Site

6A Buckingham Road Killara

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Shadow Diagram Compilation Proposed Landscaping on Building B and KGC Boundary

**Bowling Green Location** Latitude S33, 46, 09, Longitude E151,09,26

Time 0900 hours A.E.S.T (UTC

Sun Angles Altitude 22.3 degrees Azimuth 43.8 degrees E

**Drawing Orientation** 20 Degrees West of True North

**Relative Levels** Bowling Green 98.5 Ang.Cos trees 102.5 Euc.Sal trees 106.5

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**Tree Heights** Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gard Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

**Eucalyptus Saligna** Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 tree: 15 metres

Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

May 21, 0900 hours Santa 1.EAA

**Replacement Shadow Diagram** Killara Golf Club Letter dated November 8, 2011

Proposed Building B Site

6A Buckingham Road Killara

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Shadow Diagram Compilation Da Proposed Landscaping on Building B and KGC Boundary

**Bowling Green Location** Latitude S33, 46, 09, Longitude E151,09,26

Time 0900 hours A.E.S.T (UTC-

Sun Angles Altitude 19.0 degrees Azimuth 42.6 degrees E

**Drawing Orientation** 20 Degrees West of True North

**Relative Levels Bowling Green 98.5** Ang.Cos trees 102.5 Euc.Sal trees 106.5

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**Tree Heights** Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gar Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

**Eucalyptus Saligna** Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 tre 15 metres

Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

June 21, 0900 hours (Winter S Scale 1:500



It does not depict the intensity of the individual shadows

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Shadow Area

Building B 🕶

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**Proposed Building B Site** 

Shadow Diagram Compilation Dat Proposed Landscaping on Building B and KGC Boundary

Bowling Green Location Latitude S33, 46, 09, Longitude E151,09,26

Time 1200 hours A.E.S.T (UTC+

Sun Angles Altitude 32.8 degrees Azimuth 0.8 degrees W

Drawing Orientation 20 Degrees West of True North

Relative Levels Bowling Green 98.5 Ang Cos trees 102.5 Euc.Sal trees 106.5

Tree Heights Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gau Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

Eucalyptus Saligna Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 to 15 metres

Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

June 21, 1200 hours (Winter Scale 1:500



It does not depict the intensity of the individual shadows

The intensity of the shadowing on any part of the bowling green is proportional to the number trees generating the shadow in that area Replacement Shadow Diagram Killara Golf Club Letter dated November 8, 2011

**Proposed Building B Site** 

Shadow Diagram Compilation Proposed Landscaping on Building B and KGC Boundary

Bowling Green Location Latitude S33, 46, 09, Longitude E151,09,26

Time 1500 hours A.E.S.T (UTC

Sun Angles Altitude 18.1 degrees Azimuth 43.8 degrees W

Drawing Orientation 20 Degrees West of True North

Relative Levels Bowling Green 98.5 Ang.Cos trees 102.5 Euc.Sal trees 106.5

Tree Heights Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Gard Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

> Eucalyptus Saligna Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 trees 15 metres

Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

June 21, 1500 hours (Winter Sols





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Shadow Diagram Compilation Data Proposed Landscaping on Building B and KGC Boundary

Proposed Building B Site



Bowling Green Location Latitude S33, 46, 09, Longitude E151,09,26

Time 0900 hours A.E.S.T (UTC+10

Sun Angles Altitude 27.3 degrees Azimuth 50.6 degrees E

Drawing Orientation 20 Degrees West of True North

Relative Levels Bowling Green 98.5 Ang.Cos trees 102.5 Euc.Sal trees 106.5

Tree Heights Angophora Costata DA-LS01 issue B: 15 metres+ Australian National Botanic Garde Tree, height 15 to 25 metres. Height used 20 metres Spread 10 metres

Eucalyptus Saligna Drawing DA-LS01 issue B Height 15-25 metres Height used 25 metres Estimated spread group of 3 trees 15 metres

Shadow Diagram Proposed Landscaping on Building B and KGC Boundary

August 21, 0900 hours Scale 1:500