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BUSHFIRE HAZARD ASSESSMENT



Site Details: Lot 4 DP (Unknown) (Parent Lot/DP 31/5464) House No. (Unknown) Warriewood Road Warriewood NSW 2102

Report Prepared for: Mr Holl & Ms Nield C/- Rawson Homes Pty Ltd Building F, Level 2, Suite 1 1 Homebush Bay Drive Rhodes NSW 2138

Construction of a two storey dwelling

Executive Summary

As required by Northern Beaches Council a bushfire risk assessment has been carried out in accordance with the procedures and requirements outlined in *Planning for Bushfire Protection* (2006) *Addendum – Appendix 3* (2010) as issued by the NSW Rural Fire Service (RFS). A summary of the findings of this assessment are provided below. Subject to the recommendations proposed in this report, the proposed development has the potential to comply with the aims and objectives of *Planning for Bushfire Protection* (2006).

Site Add	ress				ŀ	rent Lot/ House No Warr	P (Unknown) DP 31/5464) . (Unknown) iewood Road d NSW 2102
GPS Coo	rdinates				Latit Longit		-33.687224 151.300439
Aspect Fire Dan	ger Index A	pplied					North
	on Classifica						FDI 100
North	Managed Land	East	Managed Land	South	Managed Land	West	Managed Land
Distance North	to Vegetati >140m	on East	>140m	South	>140m	West	>140m
Effective North	Slope 0-5° Downslope	East	N/A	South	N/A	West	N/A
Bushfire North	Attack Leve BAL-LOW	el East	BAL-LOW	South	BAL-LOW	West	BAL-LOW

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1. Project Brief

We have been engaged by Rawson Homes Pty Ltd to assess the threat posed to the development in the event of a bushfire. Current fire maps prepared by Northern Beaches Council in accordance with the requirements of Section 146 of the *Environmental Planning and Assessment Act 1979* (as amended) (EPAA) indicate that the site is situated within a bushfire prone area (BPA). The aim of this report is to identify the Bushfire Attack Level (BAL) to which the proposed development should be constructed under *AS 3959-2009: Construction of buildings in bushfire-prone areas* and the NSW variations as contained within *Addendum: Appendix 3* of *Planning for Bushfire Protection* (2010) by the NSW Rural Fire Service to outline the provisions required to facilitate the fighting of bushfires.

The site is located at Lot 4, DP (Unknown), (Parent Lot/DP 31/5464), Warriewood Road, Warriewood NSW 2102.

This report will supplement the development application to Northern Beaches Council for the proposed development of a new dwelling and has been prepared in accordance with the procedures and requirements contained within *Planning for Bushfire Protection* (2006) – *A Guide for Councils, Planners, Fire Authorities and Developers'* with *Addendum: Appendix 3* (2010) as issued by the NSW Rural Fire Service.

The report relies upon the following information:

- Inspection of the site
- Details of the proposed dwelling as produced by Rawson Homes Pty Ltd (See Appendix 2)

2. Introduction

As required by Northern Beaches Council and in accordance with the requirements of Section 79BA of EPAA, a bushfire assessment of the proposed development has been carried out. This was done in accordance with the procedures and requirements contained within *AS* 3959–2009 and *Addendum: Appendix* 3 (2010) of *Planning for Bushfire Protection* (2006) as issued by the NSW Rural Fire Service. The findings have been outlined in this report to determine compliance with the Building Code of Australia.

The assessment of the site found that any development on the site is <u>not</u> at significant risk of bushfire attack and accordingly, construction to a Bushfire Attack Level of **BAL-LOW** to all elevations of the proposed dwelling is recommended.

3. The Proposed Development

The proposed development is a two storey dwelling. Internally the dwelling will feature a living room, dining, kitchen, leisure, four bedrooms with three bathrooms and garage. The development will have a building footprint area totalling $154.91m^2$. Landscaped areas are proposed to cover approximately $201.35m^2$ (51.22%) of the site.

The building will be on a reinforced concrete slab with timber frames and timber roof trusses. A brick, cladding and rendered finish veneer with a colorbond sheet roof covering will form the façade of the dwelling.

4. Assessment of Site Characteristics

The site is located in suburb of Warriewood, within Northern Beaches Local Government Area. The site is situated on Warriewood Road, which will also provide access to the property. The site borders onto vacant lots ready for construction on the eastern, southern and western aspects. The northern aspect of the site faces a roadway, then onto managed lands.

The site is rectangular in shape, with a street frontage of 15.97 metres along Warriewood Road, with the total subject lot size being $393.1m^2$.

The development site has a downward slope from the front of the property to the rear. Figure 1 below displays the allotment boundaries as given by the NSW Government 'SixMaps' website. The satellite image is dated, and does not accurately reflect the current surrounding landscape of the allotment.



Figure 1 – Aerial Mapping showing the lot boundary (NSW SixMaps 2019)

All aspects of the subject site face towards vacant lots ready for the construction of similar dwellings or public infrastructure assets such as roadways and footpaths. These properties and assets present reduced vegetation forms (i.e. maintained lawns and gardens) as well as areas of non-vegetation (i.e. dwellings, roads, paths, ancillary structures) and as such, are not considered to harbour any predominant vegetation formations which are described in *Planning for Bushfire Protection* (2006). Any future developments within this area should also come under the R3 – Medium Density Residential planning codes as per Pittwater Local Environmental Plan 2014 and should present with similar sized dwellings and managed landscaping.



Figure 2 – Photograph showing the northern aspect of the site



Figure 3 – Photograph showing the eastern aspect of the site



Figure 4 – Photograph showing the southern aspect of the site



Figure 5 – Photograph showing the western aspect of the site

As seen within Figures 2-5, all aspects of the site look towards a landscape that is classified as 'Managed Land' as defined within *AS 3959-2009*. This landscape surrounds the entire site from a 140m distance, with no prominent vegetation formations in this area. As such this vegetation was noted in accordance with the Site Methodology procedure given in Section A3.5 of *Addendum: Appendix 3* of *Planning for Bushfire Protection* (2010) however it was not considered to warrant any BAL construction requirements as specified in Table 2.4.2 of *AS 3959-2009*.

4.1 Surrounding Vegetation Types

The fuel categories in *Planning for Bushfires Protection* are described using botanical terminology, such as "forest" and "grassy woodland". It should be noted that when used for bushfire hazard assessment these terms refer to the fuel production capacity and flammability of different vegetation types. Therefore their meaning and application for bushfire hazard assessment may differ from their use in a strictly botanical context.

There are not any prominent forms of vegetation within a 140m distance of the dwelling location. This is based on measurements taken during the site inspection and supplemented by satellite image data from Nearmap. Figure 6 displays a 140m radius surrounding the site.



Figure 6 – 140m radius of the proposed dwelling (Nearmap 2019)

Using the information provided on the site plan produced by Rawson Homes Pty Ltd and by measuring distances as part of the site inspection, the distance between the proposed developments façade to predominant vegetation was determined and is given in Table 2.

Facade	Distance to Predominant Vegetation
Northern	>140m
Eastern	>140m
Southern	>140m
Western	>140m

Table 2:	Setbacks	from	vegetation

4.2 Category of Bushfire Attack

In accordance with the Table 2.4.2 of *AS 3959-2009*, all elevations of the proposed development have been determined as being located within an area of a Bushfire Attack Level considered LOW (BAL-LOW). This is due to there being insufficient risk to warrant specific Bushfire construction requirements. This is predicated on low threat vegetation and non-vegetated areas surrounding the site. Table 3 outlines the construction requirements for the proposed development elevations.

Elevation	Level of Construction as per AS 3959-2009
Northern	BAL – LOW
Eastern	BAL – LOW
Southern	BAL – LOW
Western	BAL – LOW

Table 3: BAL construction requirements for the development

5. Construction and Landscaping Recommendations

This site has been assessed to be within an area that will require a bushfire attack level of **BAL-LOW for all elevations of the dwelling**. Attached as an Appendix 1 are the construction requirements for BAL-LOW from Section 4 of Australian Standard *AS3959-2009: Construction of buildings in bushfire prone areas.*

However, even though the dwelling is not located within 140m of bushfire threatening vegetation, the following construction and landscaping techniques are recommended to mitigate the risk of potential ember attack from this vegetation:

- Using non-combustible gutter and valley guards in the dwelling to limit the accumulation of debris in gutters.
- Storage of combustible materials as far from the dwelling as possible

6. Conclusion

In conclusion, construction standards for building within bushfire-prone areas are set out in Australian Standard AS 3959–2009: Construction of Buildings in Bushfire Prone Areas. Addendum: Appendix 3 (2010) of Planning for Bushfire Protection (2006) provides a procedure for determining the category of bushfire attack and the appropriate level of construction. It is considered that the proposed dwelling is <u>not</u> at particular risk warranting a specific construction standard as given in AS 3959-2009, hence a **BAL-LOW rating** is recommended to the proposed development.

However, even though the development is not located within 140m of bushfire threatening vegetation, the following recommendations are made for the dwelling to mitigate the risk of ember attack:

- Using non-combustible gutter and valley guards in the dwelling to limit the accumulation of debris in gutters.
- Storage of combustible materials as far from the dwelling as possible

thendy

Craig Hardy MBA; M.App.Sc.(Env.Toxicology); B.App.Sc.(Env.Health) Accredited Certifier – Building Surveying A2 – 0167 BPAD-D Certified Practitioner – 24168

February 2019

7. References

- Nearmap Pty Ltd (2019) *PhotoMaps by Nearmap*. Available: http://maps.au.nearmap.com/. Last accessed 28/02/2019
- NSW Rural Fire Service (2006) *Planning for Bushfire Protection, A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.* NSW Rural Fire Service, Lidcombe NSW.
- NSW Rural Fire Service (2010) *Planning for Bushfire Protection: Addendum Appendix 3*. NSW Rural Fire Service, Lidcombe NSW.
- NSW State Government. (2019). *SixMaps.* Available: https://maps.six.nsw.gov.au/. Last accessed 28/02/2019
- Ramsay C & Dawkins D (1993) *Building in Bushfire Prone areas Information and Advice*. CSIRO and Standards Australia.
- Standards Australia (2009) *Australian Standard AS 3959–2009: Construction of Buildings in Bushfire-Prone Areas*. SAI Global Ltd, Sydney.

8. Appendices

- 1. Construction Levels for BAL-LOW from AS 3959-2009: Construction of buildings in bushfire-prone areas.
- 2. Proposed Development Plans as produced by Rawson Homes Pty Ltd job no. A/8854, Issue B, Dated 09/11/2018



ADDENDUM TO SPECIFICATION BUSHFIRE CONSTRUCTION REQUIREMENTS FOR BUSHFIRE ATTACK LEVEL BAL-LOW



Owner/s

Address

Development Consent Number:

Construction Certificate:

Complying Development Certificate Number:



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SECTION 4 CONSTRUCTION FOR BUSHFIRE ATTACK LEVEL LOW (BAL-LOW)

This Standard does not provide construction requirements for buildings assessed in bushfire-prone areas in accordance with Section 2 as being BAL—LOW.

'Text deleted'

The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements. It is predicated on low threat vegetation and non-vegetated areas (see Clause 2.2.3.2).





APPENDICES

BUSHFIRE CONSTRUCTION REQUIREMENTS APPENDICES D, F, G, AND H of AS3959-2009





APPENDIX D ILLUSTRATIONS (Normative)

The following illustrations (Figures D1 to D4) support requirements of this Standard:



(b) Continuous roof with veranda, carport or awning roof separated from main roof



FIGURE D1 VERANDA, CARPORT OR AWNING ROOFS SHOWING CONTINUOUS AND DISCONTINUOUS ROOF TYPES



A1

FIGURE D2 DECKING WITHIN HORIZONTAL AND VERTICAL LIMITS OF GLAZED ELEMENTS



105

FIGURE D3 EXTERNAL WALLS OR EXTERNAL GLAZING, OR EXTERNAL DOORFRAMES WITHIN LIMITS ABOVE GROUND, DECKS, CARPORT ROOFS



FIGURE D4 VEHICLE ACCESS DOORS (GARAGE DOORS)

APPENDIX F

BUSHFIRE-RESISTING TIMBER

111

(Normative)

F1 GENERAL

A3

Bushfire-resisting timber is timber that is in solid, laminated or reconstituted form is deemed to be acceptable to withstand exposure up to a BAL—29 condition.

Timber may be 'bushfire-resisting' by means of one or more of—

- (a) the inherent properties of the material itself;
- (b) being impregnated with fire-retardant chemicals; or
- (c) the application of fire-retardant coatings or substrates.

F2 TESTING

The following apply:

- (a) To satisfy the requirements for bushfire-resisting timber, timber shall be tested in accordance with AS/NZS 3837 and shall meet the following criteria:
 - (i) The maximum heat release rate shall be not greater than 100 kW/m^2 .
 - (ii) The average heat release rate for 10 min following ignition shall be not greater than 60 kW/m^2 when the material is exposed to an irradiance level of 25 kW/m^2 .
- (b) Where the timber has been altered by chemicals, the test samples shall be subjected to the regime of accelerated weathering described in Paragraph F3 except that where the timber is protected from the weather, as described in AS 1684.2 and AS 1684.3 (for example, cladding protected by a veranda), accelerated weathering of the test samples is not required before being tested to AS/NZS 3837.

External timbers are deemed to be protected if they are covered by a roof projection (or similar) at 30 degrees or greater to the vertical and they are well detailed and maintained (painted or stained and kept well ventilated).

NOTE: The purpose of testing is to assess timber performance rather than to simulate a bushfire. The irradiance set for the test is not to be considered to be correlated to the BAL.

F3 ACCELERATED WEATHERING

Where accelerated weathering is required before testing to AS/NZS 3837, external fireretardant-coated substrates shall be subjected to the ASTM D2898 Method B weathering regime, with the water flow rate modified to be the same as that within ASTM D2898 Method A.

A2

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F4 BUSHFIRE-RESISTING SPECIES

Some species have been tested and have met the requirements of Paragraph F2 above. NOTE: For bushfire-resisting species, see Appendix H.

APPENDIX G

EXPLANATION OF BUSHFIRE ATTACK LEVELS (BALs)

(Informative)

G1 GENERAL

A1

To determine the construction requirements for a building site, the threat or risk of bushfire attack needs to be assessed.

G2 1999 and 2009 EDITIONS OF AS 3959

The 1999 edition of AS 3959 provided four levels of risk: Low, Medium, High, Extreme.

This Standard provides six levels of risk: BAL—LOW, BAL—12.5, BAL—19, BAL—29, BAL—40, BAL—FZ.

The BAL system of levels (see Paragraph G4) is based on the potential exposure of the site to heat flux exposure thresholds, expressed as kW/m^2 (see Table G1). Because the site assessment methodology has changed, it is NOT appropriate to compare the construction requirements from a level in the 1999 edition with those of a level in this Edition.

G3 RADIANT HEAT THRESHOLDS OF PAIN AND IGNITION

In a bushfire, radiant heat levels may be unsafe for humans and could also ignite combustible materials in the vicinity. Table G1 provides an indication of the potential effects of radiant heat levels on both humans and selected materials to assist the reader in understanding the implications of the different BALs.

TABLE G1

TYPICAL RADIANT HEAT INTENSITIES FOR VARIOUS PHENOMENA

Phenomena	kW/m ²
Pain to humans after 10 s to 20 s	4
Pain to humans after 3 s	10
Ignition of cotton fabric after a long time (piloted) (see Note 2)	13
Ignition of timber after a long time 13 (piloted) (see Note 2)	13
Ignition of cotton fabric after a long time (non-piloted) (see Note 3)	25
Ignition of timber after a long time (non-piloted) (see Note 3)	25
Ignition of gaberdine fabric after a long time (non-piloted) (see Note 3)	27
Ignition of black drill fabric after a long time (non-piloted) (see Note 3)	38
Ignition of cotton fabric after 5 s (non-piloted) (see Note 3)	42
Ignition of timber in 20 s (non-piloted) (see Note 3)	45
Ignition of timber in 10 s (non-piloted) (see Note 3)	55

NOTES:

1 Source AS 1530.4—2005.

2 Introduction of a small flame to initiate ignition.

3 Flame not introduced to initiate ignition.

G4 BUSHFIRE ATTACK LEVELS (BALs) EXPLAINED

- The 2009 edition of AS 3959 (this Standard) explains Bushfire Attack Levels (BALs) as follows:
 - (a) **BAL—LOW** The risk is considered to be **VERY LOW**.

There is insufficient risk to warrant any specific construction requirements but there is still some risk.

(b) **BAL—12.5** The risk is considered to be **LOW**.

There is a risk of ember attack.

The construction elements are expected to be exposed to a heat flux not greater than 12.5 kW/m^2 .

(c) **BAL—19** The risk is considered to be **MODERATE**.

There is a risk of ember attack and burning debris ignited by wind borne embers and a likelihood of exposure to radiant heat.

The construction elements are expected to be exposed to a heat flux not greater than 19 kW/m^2 .

(d) **BAL**—29 The risk is considered to be **HIGH**.

There is an increased risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to an increased level of radiant heat.

The construction elements are expected to be exposed to a heat flux not greater than 29 kW/m^2 .

(e) **BAL**—40 The risk is considered to be **VERY HIGH**.

There is a much increased risk of ember attack and burning debris ignited by windborne embers, a likelihood of exposure to a high level of radiant heat and some likelihood of direct exposure to flames from the fire front.

The construction elements are expected to be exposed to a heat flux not greater than 40 kW/m^2 .

(f) **BAL—FZ** The risk is considered to be **EXTREME**.

There is an extremely high risk of ember attack and burning debris ignited by windborne embers, and a likelihood of exposure to an extreme level of radiant heat and direct exposure to flames from the fire front.

The construction elements are expected to be exposed to a heat flux greater than 40 kW/m^2 .

A1

A2

APPENDIX H

BUSHFIRE-RESISTING SPECIES

(Informative)

The following species have been tested and have met the requirements of Paragraph F2, Appendix F:

Standard trade name	Botanical name	
Ash, silvertop	Eucalyptus sieberi	
Blackbutt	Eucalyptus pilularis	
Gum, red, river	Eucalyptus camaldulensis	
Gum, spotted	Corymbia maculata	
	Corymbia henryi	
	Corymbia citriodora	
Ironbark, red	Eucalyptus sideroxylon	
Kwila (Merbau)	Intsia bijuga	
Turpentine	Syncarpia glomulifera	





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CLIENT:	HOUSE TYPE	
MR. T. HOLL & MS. K. J. NIELD	MODEL:	HUNTLEY 27
	FACADE:	MAJESTIC
SITE ADDRESS:	TYPE:	DOUBLE GARAGE
LOT 4 (DP UNREG.)	SPECIFICATION	LUX
WARRIEWOOD ROAD	DRAWING TITLE	
WARRIEWOOD NSW 2102	COVER	
	COVER	SULLI

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SITE NOTES:

BEFORE STARTING WORK ON SITE CHECK FOLLOWING:

- 1. SERVICE LOCATIONS
- 2. SEWER CONNECTION POSITION
- 3. DRIVEWAY ALIGNMENT & LEVELS

DP • INDICATES DOWNPIPE LOCATION



DRAWN BY: DATE DRAWN: CHECKED BY: APPROVED FOR CONSTRUCTION DD QC 12.11.18 COUNCIL AREA: SCALE: PITTWATER 1:200 DRWG No: ISSUE: JOB No: A008854 02 В

24m² (6m x 4m) PRINCIPAL PRIVATE OPEN SPACE.

LOT 12

LOT 4 393.1m² **DP UNREG**.



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	^{CLIENT:} MR. T. HOLL & MS. K. J. NIELD	HOUSE TYPE MODEL: FACADE:	HUNTLEY 27 MAJESTIC
	SITE ADDRESS: LOT 4 (DP UNREG.)	TYPE: SPECIFICATION	DOUBLE GARAGE
	WARRIEWOOD ROAD WARRIEWOOD NSW 2102	DRAWING TITLE	

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	F	FLOOR AREAS		
	GROUND I	LOOR	101.73 m ²	
	FIRST FLC	OR [^]	102.81 m²	
	GARAGE	3	39.43 m²	
	PORCH	4	2.83 m²	
	ALFRESCO		11.22 m ²	
TOTAL		258.01 m ²		
 DRAWN BY:	DATE DRAWN:	CHECKED BY		
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COUNCIL AREA:		SCALE:		
PITTWATER		1 : 100		
JOB No:		DRWG No:	ISSUE:	
A0088	54	03	B	

NOTES:

- ALL EXTERNAL DOORS TO BE FITTED WITH DRAFT EXCLUSION DEVICE
- WC DOORS TO BE FITTED WITH LIFT-OFF HINGES
- WINDOW OPENING SIZES TO BE CHECKED BEFORE FRAMES ARE CONSTRUCTED
- FRAMES & TRUSSES TO SATISFY AS 1684 SAA TIMBER FRAMING CODE
- ROOF SPACE TO BE VENTILATED BY EAVE VENTS HEIGHT OF ALL SQ. SETS 2150mm FROM FFL UNLESS OTHERWISE
- SHOWN TO FIRST FLOOR HEIGHT OF ALL INTERNAL DOORS 2040mm FROM FFL TO FIRST FLOOR

NOTE: RESTRICTORS TO BE FITTED TO ALL 1st FLOOR OPENABLE WINDOWS WITH A SILL HEIGHT LESS THAN 1.7m ABOVE FFL IN ACCORDANCE WITH BCA CLAUSE 3.9.2.5





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* ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES

RAWSON HOMES

1 HOMEBUSH BAY DRIVE, BLDG. F FAX 02 8765 8099 Builder's licence No. 33493C

CLIENT: MR. T. HOLL & MS. K. J. NIELD SITE ADDRESS: LOT 4 (DP UNREG.) WARRIEWOOD ROAD WARRIEWOOD NSW 2102 HOUSE TYPE MODEL: HUNTLEY 27 FACADE: MAJESTIC TYPE: DOUBLE GARAGE SPECIFICATION: LUX DRAWING TITLE: FIRST FLOOR			
SITE ADDRESS: TYPE: DOUBLE GARAGE LOT 4 (DP UNREG.) SPECIFICATION: LUX WARRIEWOOD ROAD DRAWING TITLE:		MODEL: HUNTLEY 27	
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STAIR VOID

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ACCORATE - HOWEVER IN ORMATION WRITTEN INTO INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS ALL DIMENSIONS ARE IN MILLIMETRES DO NOT SCALE - USE WRITTEN DIMENSIONS	LEVEL 2, SUITE 1 RHODES NSW 2138 TELEPHONE 02 8765 5500	SITE ADDRESS: LOT 4 (DP UNREG.)	TYPE: DOUBLE GARAGE SPECIFICATION: LUX
* ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES	FAX 02 8765 8099 Builder's licence No. 33493C	WARRIEWOOD ROAD WARRIEWOOD NSW 2102	DRAWING TITLE: ELEVATIONS 1-2

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<u>RID</u> G <u>E</u> HEIGHT	NOTE: NYLON MESH FLYSCREENS TO ALL OPENING WINDOWS & STACKER DOORS (EXCLUDING HINGED DOORS)

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NOTES: PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO	RAWSON HOMES 1 HOMEBUSH BAY DRIVE, BLDG. F	^{CLIENT:} MR. T. HOLL & MS. K. J. NIELD	HOUSE TYPE MODEL: HUNTLEY 27 FACADE: MAJESTIC
INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS ALL DIMENSIONS ARE IN MILLIMETRES DO NOT SCALE - USE WRITTEN DIMENSIONS	LEVEL 2, SUITE 1 RHODES NSW 2138 TELEPHONE 02 8765 5500	site address: LOT 4 (DP UNREG.)	TYPE: DOUBLE GARAGE SPECIFICATION: LUX
* ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES	FAX 02 8765 8099 Builder's licence No. 33493C	WARRIEWOOD ROAD WARRIEWOOD NSW 2102	DRAWING TITLE: ELEVATIONS 3-4

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NOTES: PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO			^{CLIENT:} MR. T. HOLL & MS. K. J. NIELD	HOUSE TYPE MODEL: FACADE:	HUNTLEY 27 MAJESTIC
 NO BE ACCORATE - HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS * ALL DIMENSIONS ARE IN MILLIMETRES * DO NOT SCALE - USE WRITTEN DIMENSIONS * ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES 	LEVEL 2, SUITE 1 RHODES NSW 2138 TELEPHONE 02 8765 5500		SITE ADDRESS: LOT 4 (DP UNREG.)	TYPE: DOUBLE GARAGE	
	FAX 02 8765 8099 Builder's licence No. 33493C		WARRIEWOOD ROAD WARRIEWOOD NSW 2102	DRAWING TIT	REA DETAILS

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	LAUNDRY / WC • PROVIDE SKIRTING TILE TO PERIMETER WALLS OF LAUNDRY • TILED SPLASHBACK OVER LAUNDRY TUB & BENCH @ 650mm HIGH BATHROOM
M TAPS UB	 PROVIDE 2100 HIGH TILES TO SHOWER RECESS 500 OVER BATH & SKIRTING TILE TO PERIMETER WALL 1900H SHOWER HEAD FROM FFL TO UNDERSIDE OF SHOWER HEAD FLOATING VANITIES 340H TILED SPLASHBACKS ABOVE VANITIES WITH FLOATING MIRROR OVER ON 32mm BOARD, 130mm FROM SIDE OF VANITY, MAX. HEIGHT 880mm PROVIDE KICKER TO BATH HOB 140H x 70W WALL MOUNTED TAPS & SPOUT TO VANITIES & BATH SMART FLOOR WASTE TO ALL WET AREAS





CLIENT: HOUSE TYPE NOTES: **RAWSON HOMES** HUNTLEY 27 MODEL: MR. T. HOLL & MS. K. J. NIELD PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED 1 HOMEBUSH BAY DRIVE, BLDG. F MAJESTIC TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO FACADE: SITE ADDRESS: LEVEL 2, SUITE 1 INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS DOUBLE GARAGE TYPE: * ALL DIMENSIONS ARE IN MILLIMETRES **RHODES NSW 2138** LOT 4 (DP UNREG.) SPECIFICATION: LUX * DO NOT SCALE - USE WRITTEN DIMENSIONS TELEPHONE 02 8765 5500 WARRIEWOOD ROAD * ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY DRAWING TITLE: FAX 02 8765 8099 EXCLUDING FINISHED SURFACES WARRIEWOOD NSW 2102 SITE ANALYSIS & SEDIMEN Builder's licence No. 33493C

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SEDIMENT CONTROL

INSTALL SEDIMENT CONTROL STRUCTURES IN LOCATIONS INDICATED ON THIS DRAWING AND AS OTHERWISE REQUIRED TO CONTROL SEDIMENT DURING ALL EXCAVATIONS AND WHILST AREAS OF THE SITE ARE EXPOSED TO EROSION. REVIEW CONTROL MEASURES AND MAINTAIN STRUCTURES DURING

IF ADDITIONAL MEASURES ARE REQUIRED FOR EROSION AND CONTROL OR BY COUNCIL REQUIREMENTS, REFER TO "URBAN EROSION AND SEDIMENT CONTROL" GUIDELINES PREPARED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT.



- * DO NOT SCALE USE WRITTEN DIMENSIONS
- * ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY
- EXCLUDING FINISHED SURFACES

RHODES NSW 2138 TELEPHONE 02 8765 5500 FAX 02 8765 8099 Builder's licence No. 33493C

	CLIENT: MR. T. HOLL & MS. K. J. NIELD SITE ADDRESS: LOT 4 (DP UNREG.) WARRIEWOOD ROAD WARRIEWOOD NSW 2102	HOUSE TYPE MODEL: HUNTLEY 27 FACADE: MAJESTIC TYPE: DOUBLE GARAGE SPECIFICATION: LUX
		DRAWING TITLE: SHADOW DIAGRAMS

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CLIENT: HOUSE TYPE **RAWSON HOMES** HUNTLEY 27 MODEL: MR. T. HOLL & MS. K. J. NIELD PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED 1 HOMEBUSH BAY DRIVE, BLDG. F MAJESTIC TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO FACADE: SITE ADDRESS: LEVEL 2, SUITE 1 INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS DOUBLE GARAGE TYPE: * ALL DIMENSIONS ARE IN MILLIMETRES **RHODES NSW 2138** LOT 4 (DP UNREG.) SPECIFICATION: LUX * DO NOT SCALE - USE WRITTEN DIMENSIONS TELEPHONE 02 8765 5500 WARRIEWOOD ROAD * ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY DRAWING TITLE: FAX 02 8765 8099 EXCLUDING FINISHED SURFACES WARRIEWOOD NSW 2102 **KITCHEN DETAILS** Builder's licence No. 33493C

NOTES:





SCALE: 1:50

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