



ATTACHMENTS

Planning and Development Committee Meeting

06 May 2015

5.30pm

City of Albany Council Chambers

PLANNING AND DEVELOPMENT COMMITTEE
ATTACHMENTS –06/05/2015

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40

8m Access Easement

Range Rd

178.94

Gravel Track

26

26m Pad Level

26

Water Tank

267.04

3.1205ha

170.47

81.74

74

76

75

149

79.92

150

7.28

344

12

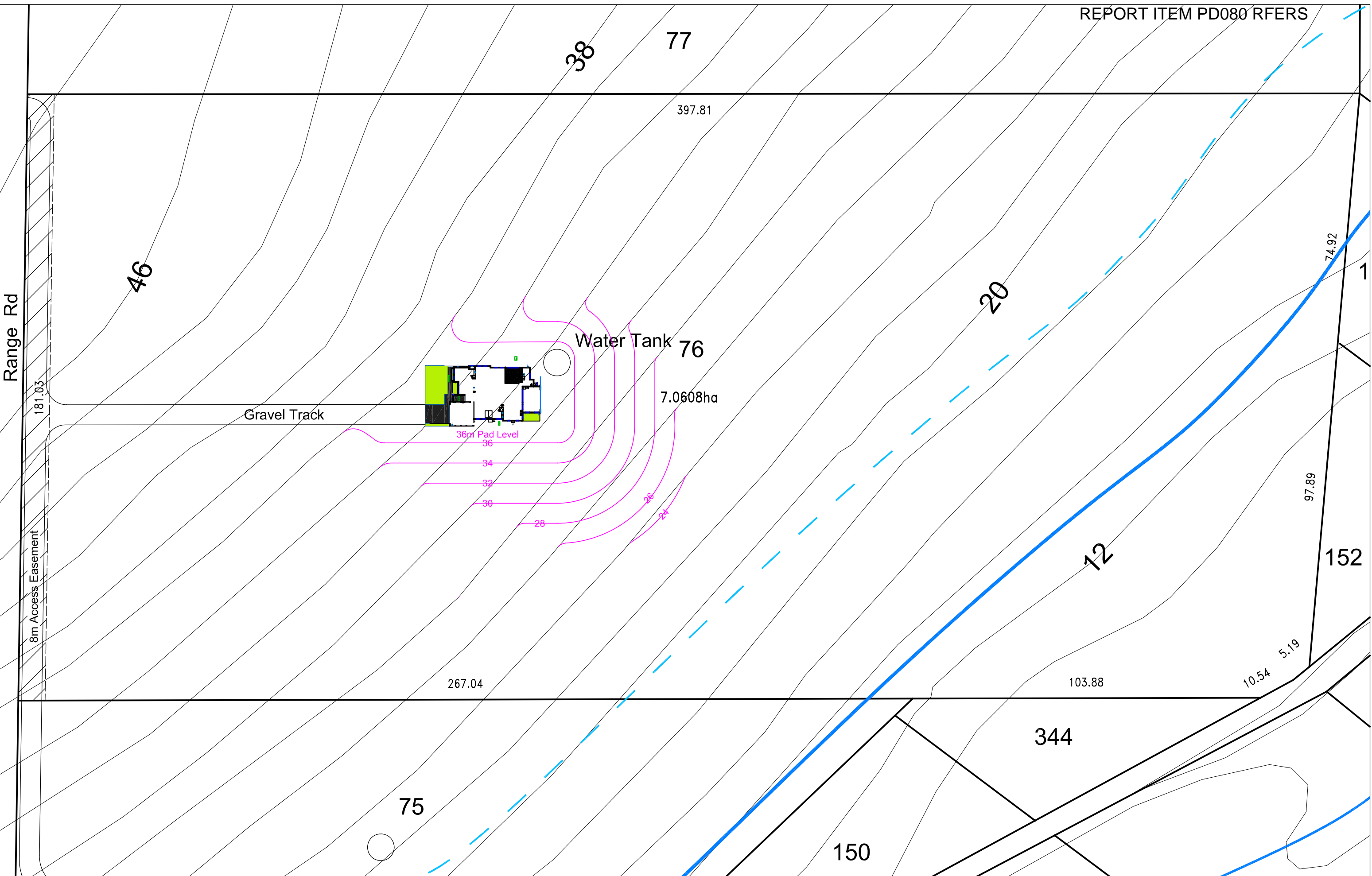
Wetland Conservation Area

Building Pad Landfill

50m Wetland Buffer

1


AMENDED SITE PLAN
Lot 75, RANGE ROAD
YAKAMIA



Range Rd

8m Access Easement

Scale 1:1000
26 March 2015
916/2015/House Site Plans2.dwg

-  Wetland Conservation Area
-  50m Wetland Buffer
-  24 Building Pad Landfill

AMENDED SITE PLAN
Lot 76, RANGE ROAD
YAKAMIA

NOTES:

ROOF:

1. TIMBER FRAMED ROOFS CONSTRUCTED TO A S 1684
2. ROOF TIE DOWN TO BE MIN. 25x100mm GAL. STEEL STRAPS @ MAX. 1.2m CTS CORRESPONDING W/ RAFTER POSITIONS. BUILT 50mm INTO MASONRY INNER LEAF & 18mm BELOW TOP OF WALL. CHECK ENGINEERS DRAWINGS FOR SPECIFIC TIE DOWN DETAILS.
3. TILED ROOF, PITCH AS NOTED ON ELEVATIONS, SECTIONS & ROOF PLAN.
4. PROVIDE REFLECTIVE ROOF TILING SARKING.

GLAZING:

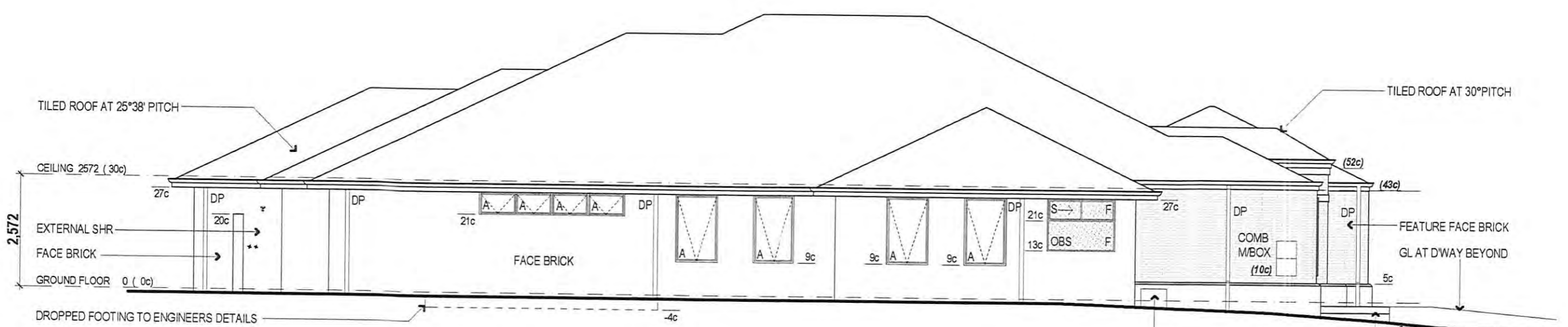
1. GLAZING TO BE TONED (COMFORTONE GREY) LINO
2. OBTAIN GLAZING SHOWN SHADING ON ELEVATIONS
3. SKYLIGHTS DOUBLE CLEAR

NOTE:

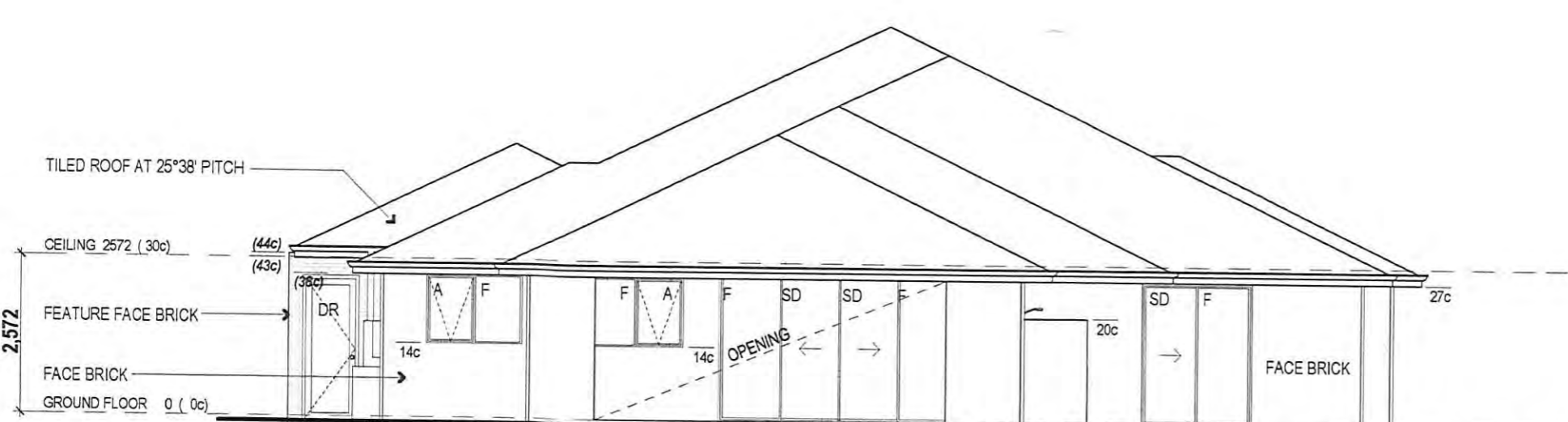
FEATURE FACE BRICK TO BE MIDLAND BRICKS (GEROGIAN RANGE 230x110x60). FOR CLARITY ALL FEATURE FACE BRICK COURSING HEIGHTS SHOWN BOLD IN BRACKETS (800). REFER TO DETAIL OF SHEET A6 FOR SETOUT.



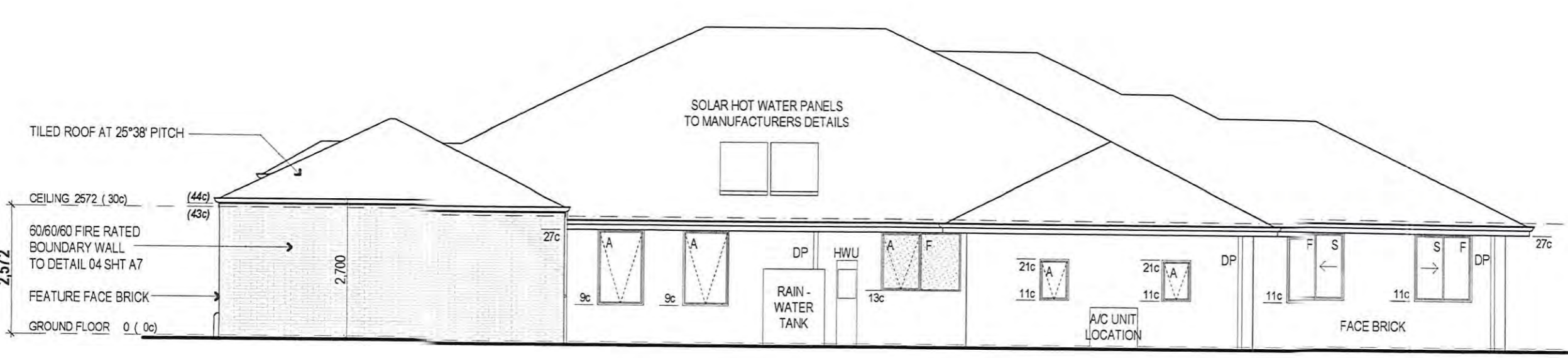
ELEVATION 1 (WEST)
SCALE 1:100



ELEVATION 2 (NORTH)
SCALE 1:100



ELEVATION 3 (EAST)
SCALE 1:100



ELEVATION 4 (SOUTH)
SCALE 1:100

Drawn: ELEVATIONS
Date: 3 of A9
Revision: 1

NOTES:

GENERAL:

1. DO NOT SCALE FROM THESE DRAWINGS.
2. ALL SUBCONTRACTORS TO CHECK DIMENSIONS AND NOTES PRIOR TO COMMENCING ANY WORKS. DISCREPANCIES TO BE REPORTED TO THE SITE SUPERVISOR WITHOUT DELAY.
3. DRAWINGS TO BE READ IN CONJUNCTION WITH STRUCTURAL ENGINEERS DRAWINGS & DETAILS.

BRICKWORK:

1. ALL DIMENSIONS TO BRICKWORK ONLY AND DO NOT INCLUDE PLASTER, RENDER THICKNESS OR SPLAYED EDGES/PICERS.
2. NOMINATED BRICK COURSING HEIGHTS ARE RELATIVE TO 0c FLOOR LEVEL.

ROOF:

1. TIMBER FRAMED ROOFS CONSTRUCTED TO A S 1684
2. ROOF TIE DOWN TO BE MIN. 25x100mm GAL. STEEL STRAPS @ MAX. 1.2m CTS CORRESPONDING W/ RAFTER POSITIONS. BUILT 50mm INTO MASONRY INNER LEAF & 18mm BELOW TOP OF WALL. CHECK ENGINEERS DRAWINGS FOR SPECIFIC TIE DOWN DETAILS.
3. TILED ROOF, PITCH AS NOTED ON ELEVATIONS, SECTIONS & ROOF PLAN.
4. PROVIDE REFLECTIVE ROOF TILING SARKING.

CEILING:

1. 10mm GYPOCK TO ALL INTERNAL CEILINGS, INC ALFRESCO

MOULDINGS / SHELVINGS / FIXINGS:

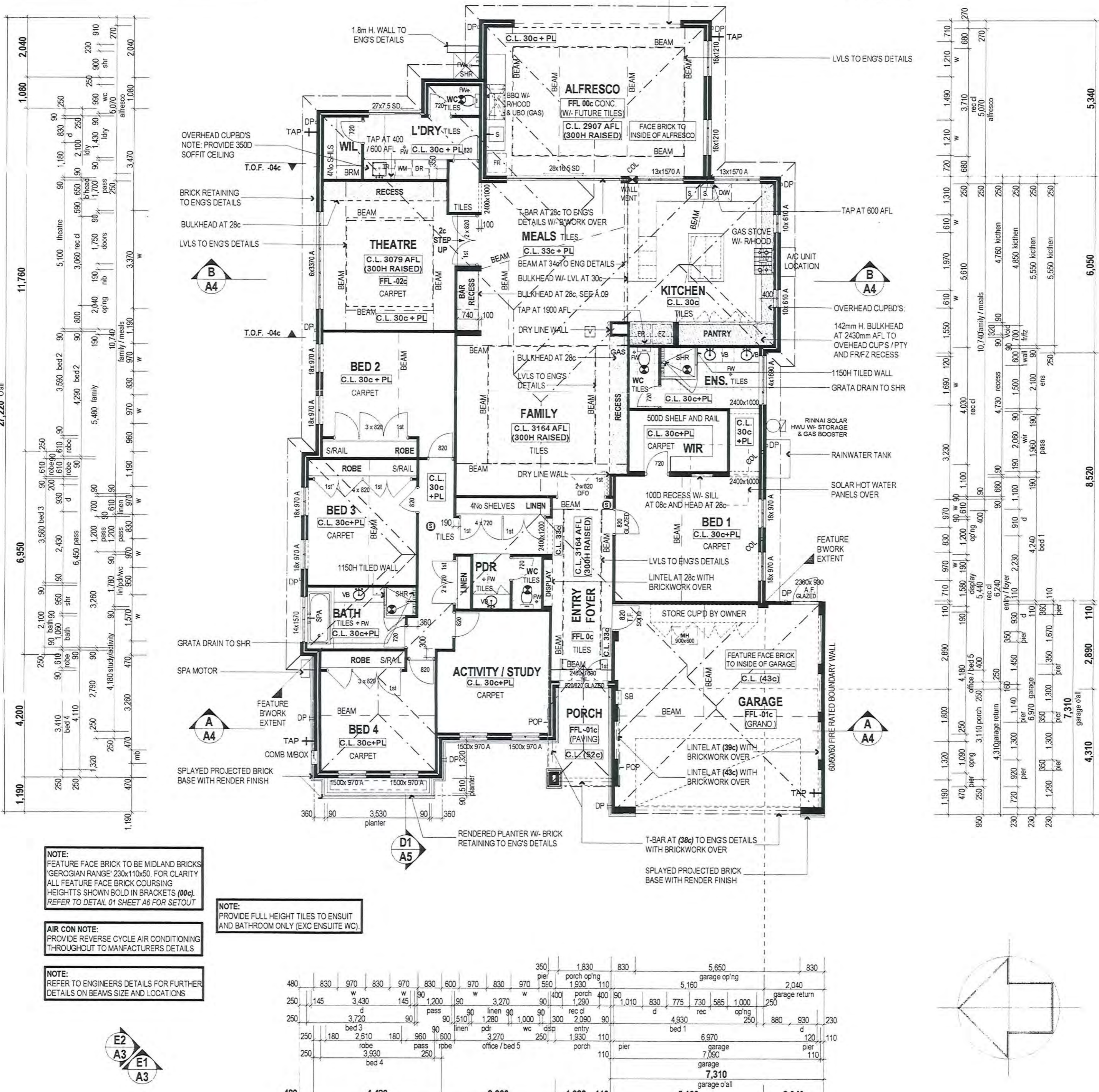
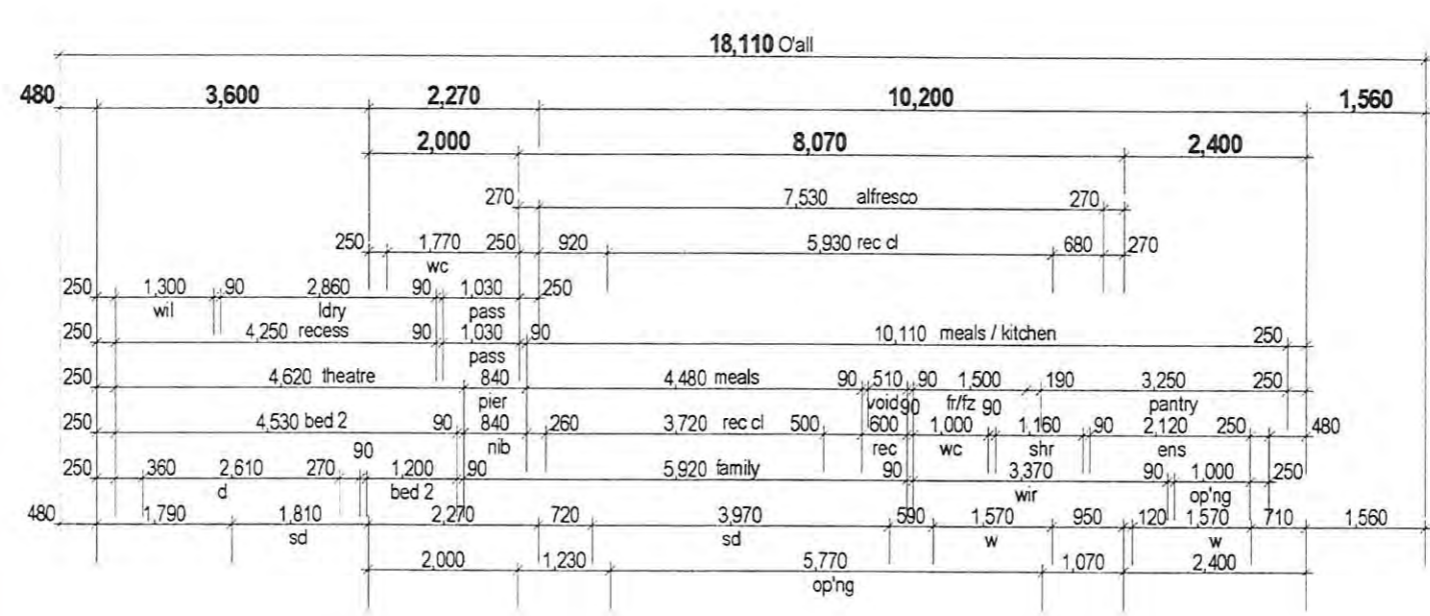
1. REFER TO ROOM LAYOUTS

INSULATION / ENERGY EFFICIENCY:

1. INSTALL R4 CEILING INSULATION THROUGHOUT RESIDENCE, INC GAR
2. ALL MECHANICAL VENTILATION SHALL HAVE SELF CLOSING BLADES

GLAZING:

1. GLAZING TO BE TONED (COMFORTONE GREY) LINO
2. OBTAIN GLAZING SHOWN SHADING ON ELEVATIONS
3. SKYLIGHTS DOUBLE CLEAR



NOTE:

FEATURE FACE BRICK TO BE MIDLAND BRICKS (GEROGIAN RANGE 230x110x60). FOR CLARITY ALL FEATURE FACE BRICK COURSING HEIGHTS SHOWN BOLD IN BRACKETS (800). REFER TO DETAIL OF SHEET A6 FOR SETOUT.

AIR CON NOTE:

PROVIDE REVERSE CYCLE AIR CONDITIONING THROUGHOUT TO MANUFACTURERS DETAILS.

NOTE:

REFER TO ENGINEERS DETAILS FOR FURTHER DETAILS ON BEAMS SIZE AND LOCATIONS

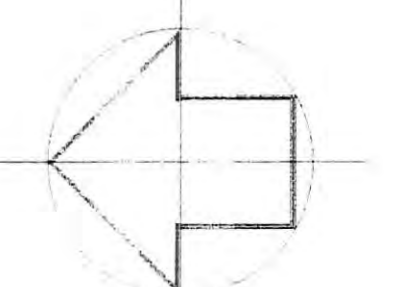
NOTE:

PROVIDE FULL HEIGHT TILES TO ENSUITE AND BATHROOM ONLY (EXC ENSUITE WC).

GROUND FLOOR AREAS:

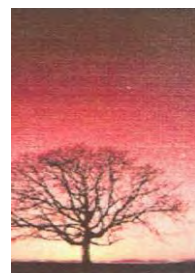
LIVING:	300.84m ²
PORCH:	6.87m ²
GARAGE:	53.44m ²
ALFRESCO:	42.06m ²
TOTAL:	403.21m²

F.F.L. 00c
(R.L. 36.00)



BUSH FIRE MANAGEMENT PLAN

**Lot 75&76
Range Road
Yakamia
City of Albany**



FirePlan WA

January 2015

REPORT ITEM PD080 RFERS

Fire Management Plan.

Prepared For Peter Goff
MGA Planners
26 Mayfair Street
West Perth
WA 6005

Prepared By
FirePlan WA
10 Bracken Road
Thornlie WA 6108

T: 0468344488 E: tonymoran@iinet.net.au

Document Status

Version	Comment	Reviewer	Review Date
Version 1.			

Disclaimer: The measures contained in this fire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bush fire. All surveys, forecasts, projections and recommendations made in this report associated with the project are made in good faith on the basis of information available to FirePlan WA at the time; and achievement of the level of implementation of fire precautions will depend among other things on the actions of the landowners or occupiers over which FirePlan WA has no control. Notwithstanding anything contained therein, FirePlan WA will not, except as the law may require, be liable for any loss or other consequences (whether or not due to the negligence of the consultants, their servants or agents) arising out of the services rendered by the consultants.

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1.0 INTRODUCTION

The purpose of this Bush Fire Management Plan (BFMP) is to detail the bushfire mitigation methods and requirements that will be implemented for the development of Lots 75 & 76 Range Road Yakamia City of Albany refer Figure 1: Location Plan. The owner has contracted Fireplan WA to complete a plan to the satisfaction of the City of Albany that complies with the requirements of Planning for Bush Fire Protection (PfBFP) and have regards to the yet to be enacted State Planning Policy 3.7.7.

This Fire Management Plan complies with the acceptable solutions detailed in Appendix 2 of *Planning for Bush Fire Protection* Edition 2 2010 and as summarized in 'Compliance Checklist for Performance Criteria and Acceptable Solutions' at the end of this Fire Management Plan (Section 8).

This Fire Management Plan will likewise outline the responsibility and timing for implementing and maintaining the fire protection measures and strategies contained within, allocating these responsibilities between individual land owners, the developers and the City of Albany.

As fire management strategies may require altering to meet changing weather, environment and land use needs, it must be advised that the provisions of the *Bush Fires Act 1954* may still be enforced, in addition to this Fire Management Plan.

The City of Albany will be responsible for initiating a review of this Fire Management Plan as it may deem necessary to do so.

In the event of large bushfires it is essential that landowners understand that fire appliances may not be available to protect each dwelling/building.

The City of Albany require the preparation of a "Fire Management Plan" to support the proposed future development. This document has been prepared to satisfy that requirement and becomes operational as a condition of development.

Appendix A shows the development site on an aerial photo base.

2.0 OBJECTIVE OF THE PLAN

The Objectives of this plan are:

1. Evaluate the bush fire fuels and slope in accordance with PfBFP.
2. Prescribe access water and fuel modification measures to be implemented.
3. Prescribe construction standards for dwellings.
4. Prescribe building protection and hazard separation zones.
5. Allocate responsibility for each of the required mitigation measures.

The BFMP will recognise and comply with the objectives and policy measures of SPP3.77 and PfBFM guideline and the City of Albany Firebreak Notice.

Within section 4 of this plan the vegetation and slope will be reviewed to assess the potential bushfire threat currently existing at the site.

Section 5 will document the mitigation measures to be enacted within the site during development, construction and ongoing mitigation works to be carried out annually to ensure future inhabitants of the area are living in a bushfire environment that complies with the requirements of AS3959.

Section 6 will document the responsibilities for the implementation, maintenance and review of the requirements of this plan.

3.0 DESCRIPTION OF SUBJECT AREA

The subject land is situated within the City of Albany and is located fronting an unmade section of Range Road at the eastern end of Target Rd Yakamia.

The land is sloping with significant vegetation over both lots, there are existing firebreaks on both lots.

The vegetation type is (B 2.2.05) Jarrah /Sheoak / Melaleuca woodland classified from the vegetation type and class table 1 from PfBFP guidelines. The current land use in the general area is urban zoned with mostly developed housing. However immediately west of the lots are another two undeveloped lots with similar vegetation. To the north is a cleared undeveloped lot while further out to the north east there are a number of urban rural life style lots of similar size to Lots 75 and 76.

The Water Corp water supply will not be connected to these lots which will require domestic water supplies to be obtained via water tanks on site.

A wetland dependant vegetation area exists in the south east section of the two lots which will not be impacted by the requirements of this plan, there is also a 50 metre buffer on both lots - see map *Figure 2 page 7*.

Figure 1 Locality Map

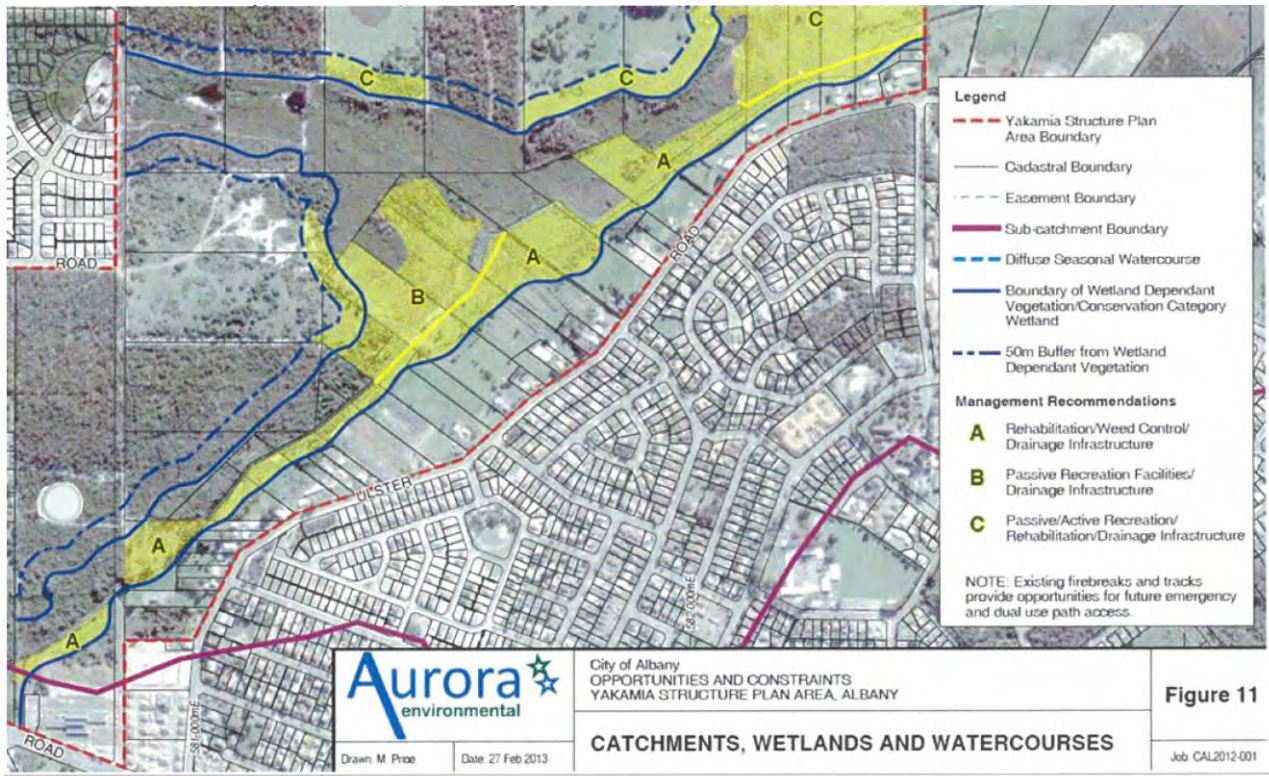


Figure 2 Wetland Dependant Vegetation areas



- Boundary of Wetland Dependant Vegetation/Conservation Category Wetland
- - - 50m Buffer from Wetland Dependant Vegetation

4.0 BUSH FIRE HAZARD ASSESSMENT

Bush Fire Hazard Assessment is determined by rating the vegetation type in accordance with Table 1 and Figure 2 of Planning for Bush Fire Protection 2010. It is also based on the underlying assumption that land in Western Australia is predominantly undulating with relatively short, steep inclines. In Planning for Bush Fire Protection (Edition 2 2010) the bush fire hazard assessment methodology identifies 3 three levels low, moderate and extreme.

The Bush Fire Hazard Assessment for the proposed development area is rated “Extreme” (Woodland type 2.2.05) in the areas containing vegetation.

The bush fire hazard assessment is based on the vegetation types and class (e.g. “Extreme” (Woodland Class B type 2.2.05) as described in Figure 1 of Planning for Bush Fire Protection. This bush fire assessment does not relate directly to the fuel loading within that vegetation. Fuel loading is described as grass, leaf litter and live vegetation

The Mediterranean climate experienced by this area is such that the majority of rain falls in late autumn through to early spring. This rainfall supports substantial vegetation growth which dries off in Summer/Autumn.

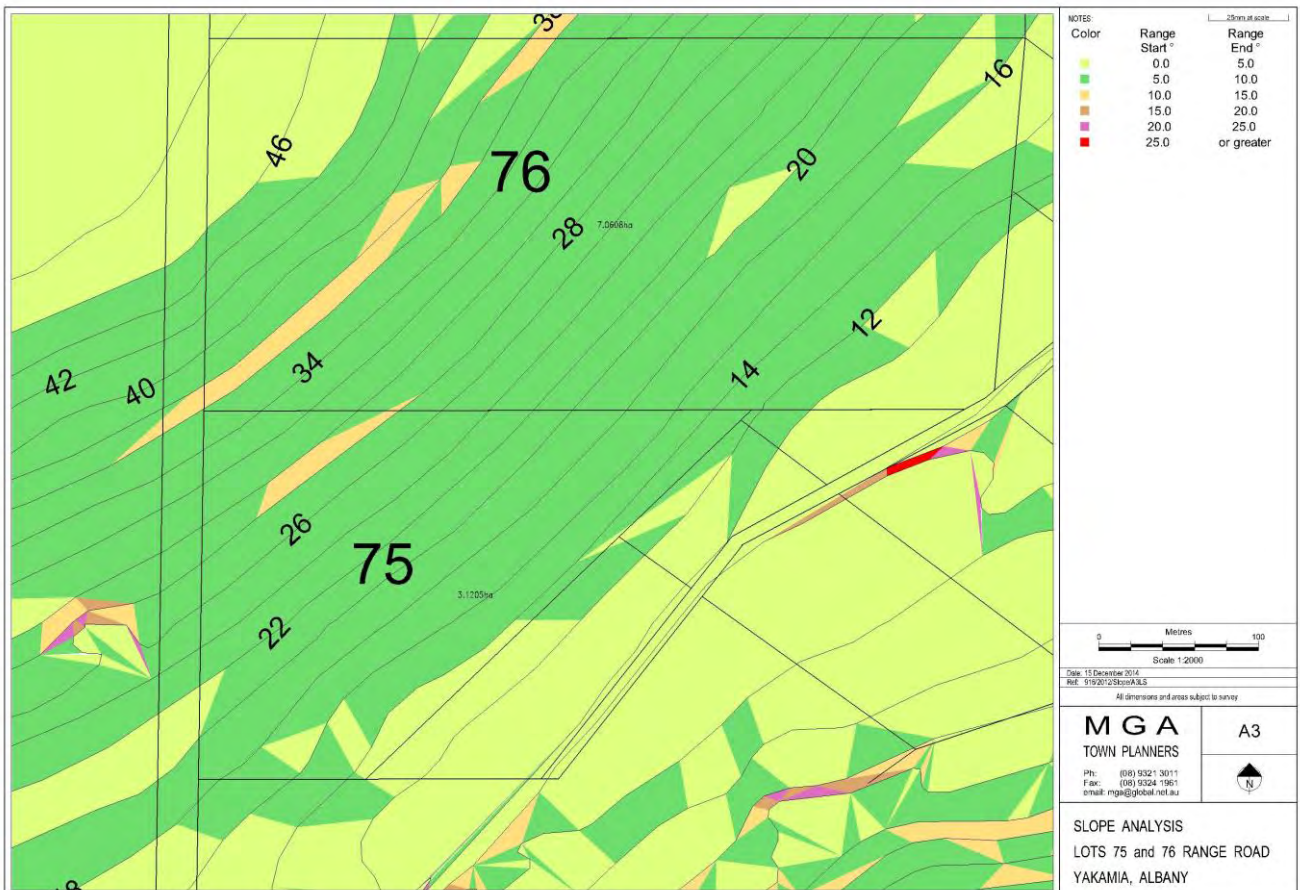
Figure 3 Hazard Map



Figure 4 Sample of vegetation of Range Rd at junction of Lot 75/76



Figure 5 Slope Assessment.



5.0 BUSH FIRE MITIGATION

In this Section of the Fire Management Plan when complying with the Acceptable Solution detailed in *Planning for Bush Fire Protection Edition 2 2010* it will be shown as (A2.1) meaning Acceptable Solution 2.1 of the guidelines and so on.

The development has been designed so as to take into account the following fire mitigation measures:-

- Element 1 Location of Development
- Element 2 Vehicle Access
Public Roads, Private Driveways and Emergency Access
- Element 3 Water Supplies
- Element 4 Siting of Development
Building Protection Zones, Hazard Separation Zones, Hazard Reduction, Planting of trees & Dwelling Construction Standards
- Element 5 Design of Development

5.1 ELEMENT 1 LOCATION OF DEVELOPMENT

The Bush Fire Hazard Assessment has identified the subject land and adjoining land as having “Extreme” bush fire hazard levels. All proposed new buildings are going to be located in areas that are rated as having an Extreme bush fire hazard. Building Protection Zones and Hazard Separation zones will be introduced to increase protection around new dwellings, which will be constructed to AS 3959.

5.2 ELEMENT 2 VEHICLE ACCESS

5.2.1 Internal Road System

The Access to the lots is from Range Road, the standard of this road will be developed to the satisfaction of the City of Albany.

5.2.2 Private Driveways

Access to lots from an extension of Range Road will be by private drive way constructed in accordance with the requirements of the City of Albany.

5.2.3 Firebreaks

The developer/owner/occupier of the land will, at all times, comply with the requirements of the City of Albany Firebreak Notice as published annually, in addition to this fire management plan (A2.9).

5.3 ELEMENT 3 WATER SUPPLIES

5.3.1 Domestic Water Supply

Water supplies for domestic use will be from rain water tanks in accordance with the City of Albany planning requirements.

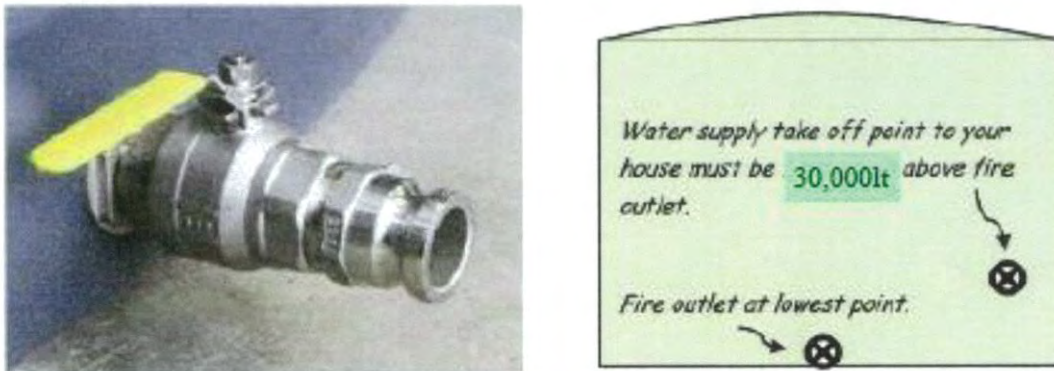
5.3.2 Water Supplies for Bushfire Fighting

Each property shall at all times store a minimum of 30,000 litres of water for firefighting purposes and each owner shall be responsible to replenish water used by fire fighters at the property owner's cost.

To enable standardisation of access to this supply, each private domestic vessel shall be fitted with a minimum 50mm Gate Valve and a 50 mm male camlock fitting with a blanking cap. This coupling and valve shall be installed and maintained in a correct operating condition at all times at the property owner's expense. The firefighting outlet is to be placed at the bottom of the tank and the domestic outlet above the bottom of the tank so that 30,000 litres of water remain in the tank at all times. See Diagram Below

The domestic vessel shall be located in an area that will enable fire appliances to backup in accordance with City of Albany standards for private driveway construction.

Figure 6 Domestic Water Supply fittings.



5.3.3 Fire Service

The site is within the area covered by the Albany Fire and Rescue Service with additional resources available from other bushfire brigades.

5.4 ELEMENT 4 SITING OF DEVELOPMENT

Parts of proposed site contain vegetation that has a Bush Fire hazard of "Extreme". With the installation of Building Protection Zones, Hazard Separation Zones and an increase in Building construction standards for new buildings in accordance with AS 3959-2009 this plan complies with the acceptable solution detailed in A4.1 and A4.2.

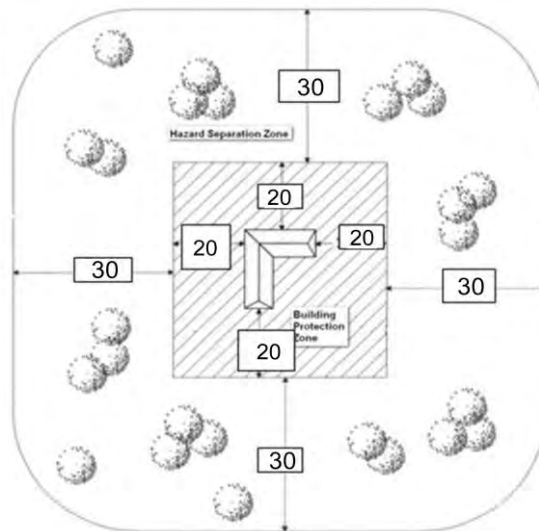
The minimum distance of 100 metres from vegetation (rated 'Moderate' or 'Extreme') to proposed dwellings may be reduced in compliance with AS 3959. Under AS 3959 as the distance from the vegetation is reduced, the construction standard must be increased. Table 2.4.3 AS 3959 sets out this relationship and Section 2 of AS 3959 details the methodology of determining the Bushfire Attack Level (BAL).

See Section 5.4.6 for details of BAL Ratings.

5.4.1 Building Protection Zone (BPZ)

The aim of the Building Protection Zones 20 metres wide in each direction from the dwelling wall, is to reduce the amount of accumulated bush fire fuel and to lower the intensity of the impact of a bush fire by flame contact or radiated heat. The Building Protection Zone is to be installed by the landowner prior to the commencement of new dwelling construction and maintained by the landowner.

Non-flammable features such as driveways, paths, vegetable patches, reticulated lawn, or landscaped gardens should form part of Building Protection Zones. Isolated trees and shrubs may be retained within Building Protection Zones. A Building Protection Zone of 20 metres is to be constructed within the Lot around all buildings. Refer to specifications in Appendix B. Building Protection Zones are to be installed and maintained in perpetuity by the landowner. Complies with (A4.3).



5.4.2 Hazard Separation Zone (HSZ)

To provide additional fire protection there must be a physical separation between the buildings and the surrounding vegetation to reduce the impact of bush fires upon the structures within the Building Protection Zone including ember attack. As the occurrence of bush fires in this district may occur and will burn in accordance with the prevailing weather and fuel conditions at the time, it is essential that property owners maintain HSZ on their land to have any degree of safety.

Hazard Separation Zone outside the Building Protection Zone is required See Appendix C. (A4.4). The size of the Hazard Separation Zone will be in accordance with the AS3959. The size of the HSZ will vary depending on the slope of the land, see section 5.4.6 for details.

The BPZ HSZs are to be created prior to the construction of the dwellings.

Removal of bush fire fuels may be carried out by burning or mechanical means preference is for mechanical removal of selected trees and understorey. If burning is used it must be carried out in accordance with the provisions of the Bush Fires Act 1954 and the City of Firebreak Notice.

5.4.3 Hazard Reduction Program within the Site

Hazard reduction within the building protection zones and hazard separation zones can be achieved by slashing or planned prescribed burning. Property owners have a responsibility to reduce bush fire hazards and maintaining properties annually in preparation for the summer season. The City of Albany can provide advice on appropriate techniques to achieve bush fire hazard reduction for individual properties.

As a guide, property owners should carry-out the following Fire Prevention activities:

Autumn to Winter (May – August)

- Tree pruning – remove lower branches; check that power lines are clear.
- Reduce fuel levels around the house – clear long grass, leaves, twigs and flammable shrubs.
- Ensure petrol and other flammables are safely stored away from the main dwelling.
- Make sure your firefighting equipment is in good working condition and serviced where required.
- Make sure all residents are aware of your emergency plan including evacuation routes.

Spring (September – November)

- Move woodpiles and stacked timber away from the main dwelling.
- Keep grass short – not to exceed 50mm in height.
- Clean gutters and roof debris.
- Install and maintain firebreaks in accordance with this plan and the firebreak notice.
- Maintain Hazard Separation Zone in compliance with standards detailed in Section 5.4.2 of this Fire Management Plan

Summer (November – May)

- Water lawns, trees and shrubs near the buildings to keep them green.
- Re-check firefighting equipment, screens, water supplies and that gutters remain clear.
- Maintain Firebreaks in accordance with the City of Albany Firebreak Notice.
- Maintain Building Protection Zone (annually) to the standard detailed in Section 5.4.1 of this Fire Management Plan

Long Term Precautions

- Ensure firebreaks are prepared in accordance with this fire management plan, the latest Firebreak Notice and any variation to the fire order issued by council.
- Ensure that any planting of wind breaks or trees is in accordance with this fire management plan and will not be detrimental to fire suppression requirements in future years.

- Make sure that the buildings are safe – fit ‘wire’ fly screens and shutters, fill gaps in roof/wall spaces, fit fire screens to evaporative air conditioners and have them operable to provide a water only supply.
- Give consideration to installing external building sprinkler systems with static water supply and ‘back-up’ power for emergencies.
- Get basic training in firefighting from your local bush fire brigade or even join your local brigade.
- Join or start a local Bushfire Ready Awareness Group.

5.4.5 Planting of Trees and Vegetation

Planting of new trees and shrubs is not permitted within 6 metres of the centre of any firebreak. Trees planted within the BPZ and HSZ must comply with the standard outlined in Section 5.4.1 and 5.4.2 respectively.

Any planting of trees and re-vegetation within the site is to be carried out so as not to increase the fire risk to existing and proposed dwellings/ buildings and also to ensure a safe refuge for residents in the event of bush fires.

5.4.6 Dwelling Standards

Individual dwellings on all lots shall be designed and built to conform with:

- The Building Code of Australia; and
- AS 3959 *Construction of Buildings in a Bushfire Prone Area*;

The minimum distance of 100 metres (from vegetation rated ‘Moderate’ or ‘Extreme’) may be reduced in compliance with AS 3959. Under AS 3959 as the distance from the vegetation is reduced, the construction standard must be increased. Table 2.4.3 AS 3959 sets out this relationship and Section 2 of AS 3959 details the methodology of determining the Bushfire Attack Level (BAL).

BAL (Bushfire Attack Level) Determination Using Methodology from Section 2.2.1 of current adopted AS 3959- 2009 and Table 2.4.3 applies to both lots.

Table 1 Summary of Determination of BAL using Fire Danger Index 80

	Vegetation is downslope (building is upslope) >5 to 10 degrees				
A. Forest	<26	26-<33	33-<46	46-<61	61-<100
B. Woodland	<16	16-<22	22-<31	31-<43	43-<100
C. Shrubland	<12	12-<17	17-<24	24-<35	35-<100
D. Scrub	<8	8-<11	11-<17	17-<25	25-<100
E. Mallee/Mulga	<7	7-<10	10-<15	15-<23	23-<100
F. Rainforset	<11	11-<15	15-<22	22-<31	31-<100
	Vegetation is downslope (building is upslope) >10 to 15 degrees				
A. Forest	<33	33-<42	42-<56	56-<73	73-<100
B. Woodland	<21	21-<28	28-<39	39-<53	53-<100
C. Shrubland	<14	14-<19	19-<28	28-<39	39-<100
D. Scrub	<9	9-<13	13-<19	19-<28	28-<100
E. Mallee/Mulga	<8	8-<11	11-<18	18-<26	26-<100
F. Rainforset	<14	14-<19	19-<28	28-<39	39-<100

The construction standard for both dwellings will be AS3959 BSL 12.5

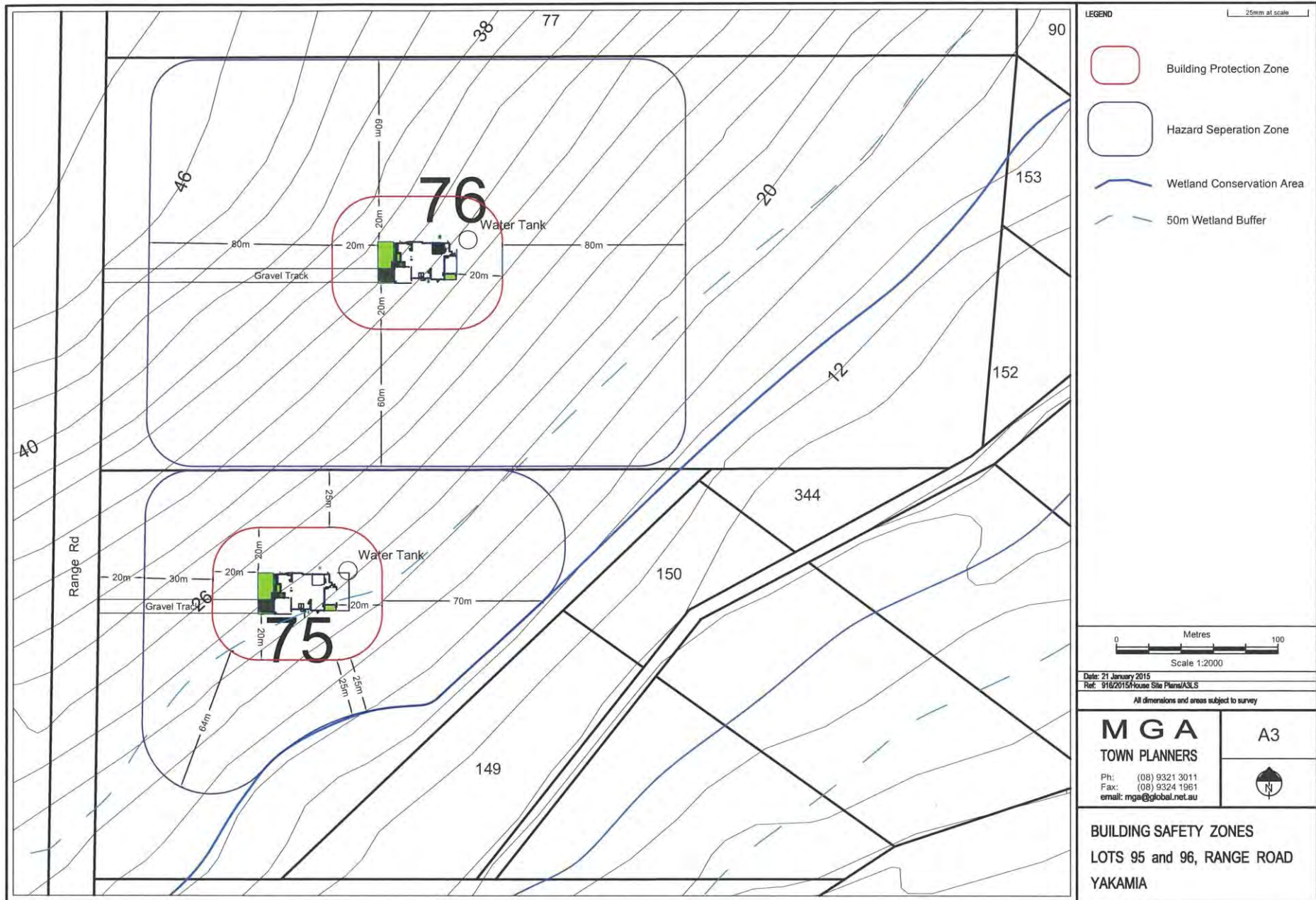
Lot 75 BPZ is to be a nominal 20 metres out from the dwelling and the HSZ is 25 metres from the northern BPZ, 30 metres from the western BPZ, the south ranges from 64 to 25 metres out from the BPZ to accommodate the protected wetland. The east HSZ is to be 70 metres again following the perimeter of the wetland boundary.

Lot 76 the BPZ is to be a nominal 20 metres out from the dwelling and the HSZ is 60m from the northern and southern edge of the BPZ, the west and east HSZ will be 80 metres out from the BPZ.




The diagram on page 16 shows the location of the BPZ/HSZ. While the standards for both the BPZ and HSZ are attached as appendix C and D

A Lot owner or the City of Albany (at the landowners cost) may request that a Building Site Assessment is carried out by a competent Fire Consultant as part of the Building License Application to confirm the width of the BPZ, HSZ and dwelling construction standard in accordance with the current version of AS 3959 to determine the BAL (Bushfire Attack Level).

Copies of *The Homeowners Bush Fire Survival Manual, Prepare Act Survive, This Fire Management Plan* and City of Albany Firebreak Notice or other suitable documentation will be issued to each property owner by the developer. Bushfire preparedness information is available from the City of Albany website.




LEGEND 25mm at scale

-  Building Protection Zone
-  Hazard Separation Zone
-  Wetland Conservation Area
-  50m Wetland Buffer

Metres
0 100
Scale 1:2000

Date: 21 January 2015
Ref: 916/2015/House Site Plans/ASLS

All dimensions and areas subject to survey

MGA	A3
TOWN PLANNERS	
Ph: (08) 9321 3011 Fax: (08) 9324 1961 email: mga@global.net.au	

BUILDING SAFETY ZONES
 LOTS 95 and 96, RANGE ROAD
 YAKAMIA

5.5 ELEMENT 5 DESIGN OF DEVELOPMENT

The development complies with acceptable solutions A4.1, A4.2, A4.3 & A4.4. subject to the proposed dwellings being re-sited as shown in this plan.

All dwellings/buildings will have a BPZ and HSZ installed around each dwelling appropriate to the slope of the Lot and each dwelling will be constructed to the required BAL for that specific Lot.

6.0 SUMMARY

6.1 OVERALL FIRE THREAT

The design of this proposed development and the facilities constructed at the time of development are such that with implementation of this Fire Management Plan, fire threat to persons and property within the subdivision is reduced.

6.2 PROPERTY OWNER'S RESPONSIBILITIES

To maintain the reduced level of risk and threat of fire, the owners/occupiers of lots created subject of this proposal will be responsible for undertaking, complying and implementing measures protecting their own assets from the threat and risk of bush fire.

- Maintain internal firebreaks clear of flammable material on their property by the dates shown on the City of Albany Firebreak Notice as detailed in Section 5.4.3 and relevant Appendices.
- Maintain in good order and condition all property fencing and gates ensuring that vegetation does not encroach over the firebreak;
- Ensure all dwellings have Building Protection Zones, Hazard Separation Zones, Hazard Reduction
- Ensure dwellings are constructed to AS 3959-2009.
- Planting of trees/shrubs and re-vegetation are implemented and maintained as detailed in Sections 5.4.3 and 5.4.5.
- Each property shall store a minimum of 30,000 litres of water for firefighting purposes and each owner shall be responsible for replenishing water used by firefighters at the property owner's cost.

6.3 DEVELOPER'S RESPONSIBILITIES

The developer/landowner shall be required to carry out the following works as described below.

- Lodging a 70A 'Notification' on each Certificate of title. The Notification shall alert purchasers of land and successors in Title of the responsibilities of this Fire Management Plan;
- Construct internal firebreaks prior to the construction of dwellings.

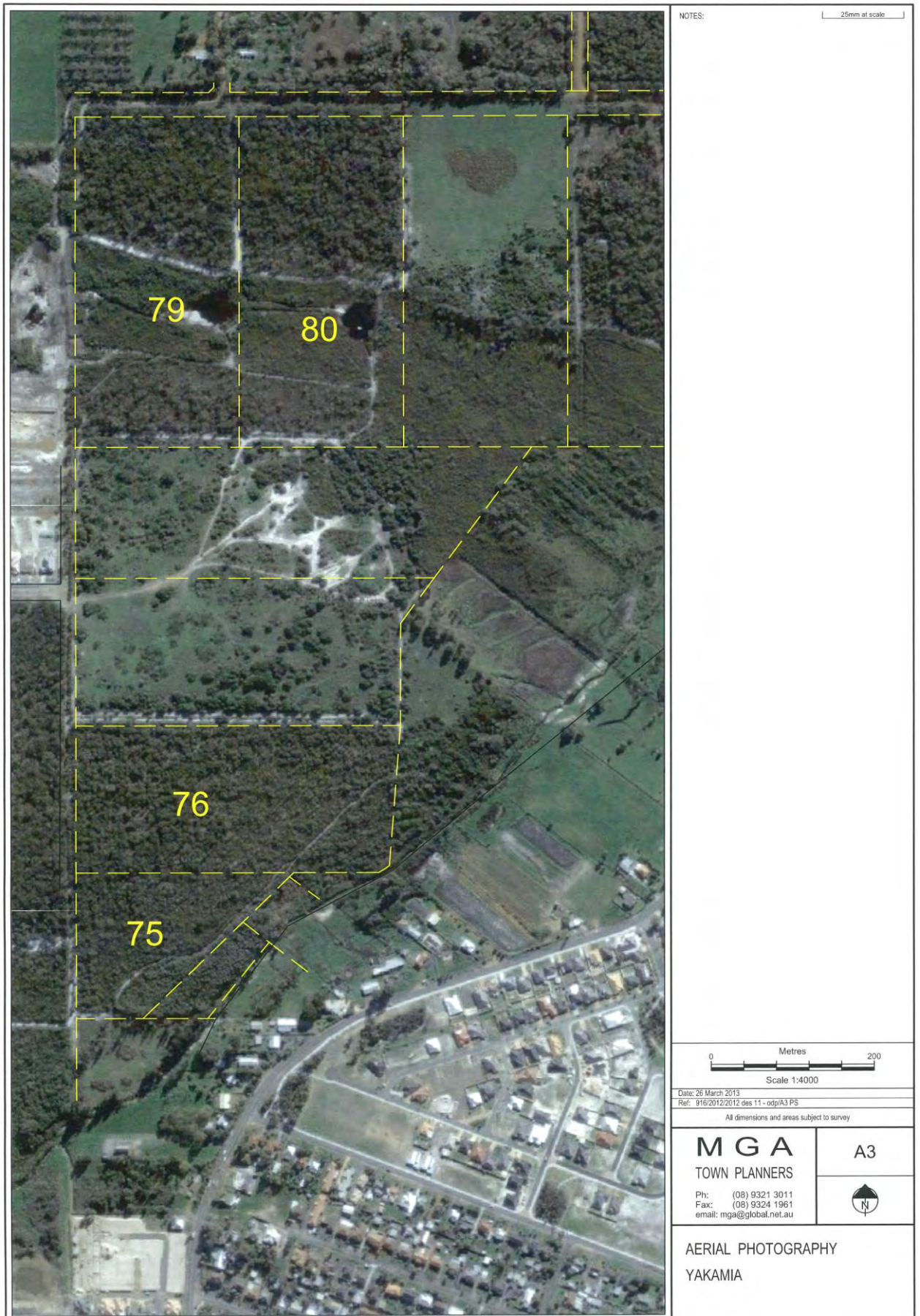
6.4 CITY OF ALBANY RESPONSIBILITIES

The responsibility for compliance with the law rests with individual property owners and occupiers and the following conditions are not intended to unnecessarily transfer some of the responsibilities to the City of Albany.

The City of Albany shall be responsible for:

- Developing and maintaining District Fire Fighting Facilities;
- Providing advice on appropriate techniques to achieve bush fire hazard reduction for individual properties;
- Maintaining in good order the condition of the district water tanks and the apparatus for firefighting purposes;
- Ensure that dwellings are designed to the appropriate AS 3959 BAL rating at the Building License Application stage.

Appendix A Development Site



Appendix B Building Protection Zone

Building Protection Zone standards are:-

- Bush Fire fuels to be maintained at or below 2 tonnes per hectare and dry. Grass must be maintained below a height of 50mm;
- The first 5m around all building is to be cleared of all flammable material. Reticulated gardens may be located in this zone;
- The spacing of trees should be 15-20 metres apart to provide for a separation of 10 metres between crowns;
- Trees are to be under/low pruned, to a height of 2 metres;
- No tall shrub or tree is to be planted within 2 metres of a building including windows;
- There are no tree crowns over hanging the building;
- Shrubs within the building protection zone have no dead material within the plant;
- Trees in the Building protection zone have no dead material within the plant's crown or on the bole (tree trunk);
- Sheds within the Building Protection Zone are to be constructed using non combustible materials (e.g. colourbond iron, brick, limestone);
- Branches, must be removed at least 2 metres back from the eaves of all buildings;
- All leaves, twigs, logs, branches must be periodically removed from within the building protection zone. Annual falls of leaf litter must be raked up and removed or burnt.

Appendix C Hazard Separation Zone

Hazard Separation Zone Standards are:-

- Bush fire fuel loadings must be maintained within the Hazard Separation Zone to a maximum of 4-6 tonnes/ha.
- Dry grass is to be slashed to 50 mm in height
- All accumulated litter, twigs, bark of trees, fallen tree branches and logs should be removed from the area on a regular basis prior to and during the Bush Fire Season.

The developer is to modify fuel loadings on all lots at the time of subdivision and/or development so as to achieve the requirements of the Building Protection Zone and Hazard Separation Zone prior to the sale of lots. Landowners are also required to maintain building protection zones and hazard separation zones in perpetuity (i.e. from date of purchase irrespective of whether a dwelling is to be constructed or not) in accordance with this fire management plan.

Removal of bush fire fuels may be carried out by burning or mechanical means preference is for mechanical removal of selected trees and understorey. If burning is used it must be carried out in accordance with the provisions of the Bush Fires Act 1954 and the City of Albany Firebreak Notice.

FIRE MANAGEMENT PLAN

Compliance checklist for performance criteria and acceptable solutions

PROPERTY DETAILS: Lot 75 and 76 Range Rd Yakamia

Local Government: City of Albany

Element 1: Location

Does the proposal comply with the performance criteria by applying acceptable solution A1.1?

Yes No

Element 2: Vehicular Access

Does the proposal comply with the performance criteria by applying acceptable solution A2.1?

Yes No

Does the proposal comply with performance criteria by applying acceptable solution A2.2?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A2.3

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.4

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.5?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A2.6?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.7?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.8

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.9?

Yes No

City of Albany annual Firebreak Notice.

Does the proposal comply with the performance criteria by applying acceptable solution A2.10?

Yes No

N/A

Element 3: Water

Does the proposal comply with the performance criteria by applying acceptable solution A3.1

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A3.2
Domestic tanks with fittings.

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A3.3?

Yes No

N/A

Element 4: Siting of Development

Does the proposal comply with the performance criteria by applying acceptable solution A4.1?
BPZ, HSZ installed increase in construction standard

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A4.2?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A4.3?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A4.4?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A4.5?

Yes No

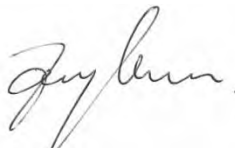
N/A

Applicant Declaration:

I declare that the information provided is true and correct to the best of my knowledge.

Name of Person Preparing the Fire Management Plan:

Full Name: AC Moran *for* FirePlan WA



Date: 01/01/2015

Developer:

Full Name:

_____ **Signature:** _____

Date:

A guide to assessing your property's Bushfire Attack Level (BAL)

This guide responds to the community's desire to determine the potential level of bushfire risk their homes are likely to endure. It explains how to assess a property's BAL under the new residential building Standard using an easy six-step approach.



By following the six steps in the guide accurately you should be able to determine your building site's BAL. However, you will still need to satisfy the relevant building surveyor that the BAL is correct.

Contents:

Six steps to a successful BAL assessment	3
Step one – Determine your Fire Danger Index (FDI)	5
Step two – Determine your site's vegetation types	5-7
Step three – Determine the distance from the site to the vegetation	8
Step four – Determine the slope of the land under the vegetation	8-10
Step five – Determine the BAL	11-13
Step six – Apply the construction requirements set out in Australian Standard AS 3959-2009	13
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Bushfire Building Advice Line

 **1300 360 320**

Building Commission (9am – 5pm Monday to Friday)



Six steps to a successful BAL assessment

Victoria has endured Australia's worst ever natural disaster with more than 2,000 properties destroyed and countless others damaged.

As a community we have quickly responded to the needs of the many thousands of people who have been displaced by this ordeal.

The Victorian Government understands the desire for many bushfire affected people to now start the rebuilding process. At the same time, it was essential that the right building measures were in place to provide certainty to people that their new homes, repairs, alterations and additions would be safer with higher levels of bushfire protection.

That's why Victoria acted to become the first State to adopt the Australian Standard AS 3959-2009 through its *Building Regulations 2006* on 11 March 2009.

The new Australian Standard applies to the whole State, and sites are now defined under six Bushfire Attack Level (BAL) categories from low to extreme. There are increasing construction requirements ranging from ember protection to direct flame contact protection.

This guide responds to the community's need to determine the potential level of bushfire risk their homes are likely to be under. It explains how to assess a property's BAL under the new building Standard using its simplified method in an easy six-step approach.

By following the six steps in the guide accurately you should be able to determine your building site's BAL. However, you will still need to satisfy the relevant building surveyor that the BAL is correct. This guide is an indication of your site's BAL only.

Importantly, if the BAL is accurate then the appropriate construction methods will need to be incorporated in the design documents and specifications that you submit to your relevant building surveyor for a building permit.

For further information on the new residential building Standard contact your builder, architect, building designer, private or local Council's Building Surveyor. The Building Commission publication *A guide to building in Victoria after the bushfires* is also available at your local Council or via the website www.buildingcommission.com.au

You can also contact the **Bushfire Building Advice Line on 1300 360 320**.

Six steps to assess your property's Bushfire Attack Level (BAL)

- | | |
|-------------------|---|
| Step one | Determine your Fire Danger Index (FDI) |
| Step two | Determine your site's vegetation types |
| Step three | Determine the distance from the site to the vegetation |
| Step four | Determine the slope of the land under the vegetation |
| Step five | Determine the BAL |
| Step six | Apply the construction requirements set out in Australian Standard AS 3959-2009 |

A guide to assessing a property's Bushfire Attack Level (BAL)

The aim of the residential building standard Australian Standard, AS 3959-2009, is to improve the ability of buildings to withstand attack from bushfires. This provides greater protection for the occupants of a building while the fire front passes as well as to the building itself.

The Standard sets out construction requirements based on Bushfire Attack Levels (BAL). The BAL takes into consideration a number of factors including the Fire Danger Index, the slope of land, types of surrounding vegetation and its proximity to any building. The chart below describes the six bushfire attack levels (BAL) that are used in the Standard.

Bushfire Attack Levels under the Australian Standard 3959-2009

Bushfire Attack level (BAL)	Description of predicted bushfire attack and levels of exposure
BAL – LOW	There is insufficient risk to warrant specific construction requirements
BAL – 12.5	Ember attack
BAL – 19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5 and 19 kW m ²
BAL – 29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19 and 29 kW m ²
BAL – 40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames
BAL – FZ	Direct exposure to flames from fire front in addition to heat flux and ember attack

A site assessment can be made by an owner, architect, building designer, building surveyor or builder to ascertain its BAL, which determines the construction methods that must be used. The construction methods must be included on the design documents lodged for a building permit. The relevant building surveyor will check that these requirements are met.

The information in this guide summarises the simplified method for people to determine their BAL using an easy six-step approach. Sufficient information should be provided to the relevant building surveyor to allow confirmation of the assessment. A more accurate assessment can be attained using the detailed method in Appendix B of Australian Standard AS 3959 – 2009.

Six-steps to assess your BAL

Step one

Determine your Fire Danger Index (FDI)

The Fire Danger Index (FDI) is a measure of the probability of a bushfire starting, its rate of spread, intensity and difficulty of suppression according to various combinations of temperature, relative humidity, wind speed and estimate of fuel state, all of which is influenced by daily rainfall and the time elapsed since the last rainfall.

Under the simplified method in the Standard there are two levels of FDI that apply to Victoria. The Fire Danger Index is either 50 in an alpine area or 100 elsewhere. Most properties in Victoria will be 100. This will then determine which of the final BAL tables to use to assess your property in Step five.

Step two

Determine your site's vegetation types

Classifying the vegetation type is not difficult. The Standard provides tables that set out in words and visually seven types of vegetation classification. Just look for the description and drawings that are most like your site's vegetation type in the tables on the following pages.

The Standard does contain some exclusions for vegetation types. The vegetation would be classified at the lowest bushfire attack level BAL-LOW if it is one or a combination of the following:

- Vegetation that is more than 100 metres from the site
- Single areas of vegetation less than 1 hectare in area and not within 100 metres of other classifiable vegetation
- Multiple areas of vegetation less than 0.25 hectares in area and not within 20 metres of the site or each other
- Strips of vegetation less than 20 metres in width and not within 20 metres of the site or each other or other areas of classifiable vegetation
- Non-vegetated areas including waterways, roads, footpaths, buildings or rock outcrops
- Low threat vegetation including managed grassland, maintained lawns, golf courses and public reserves.

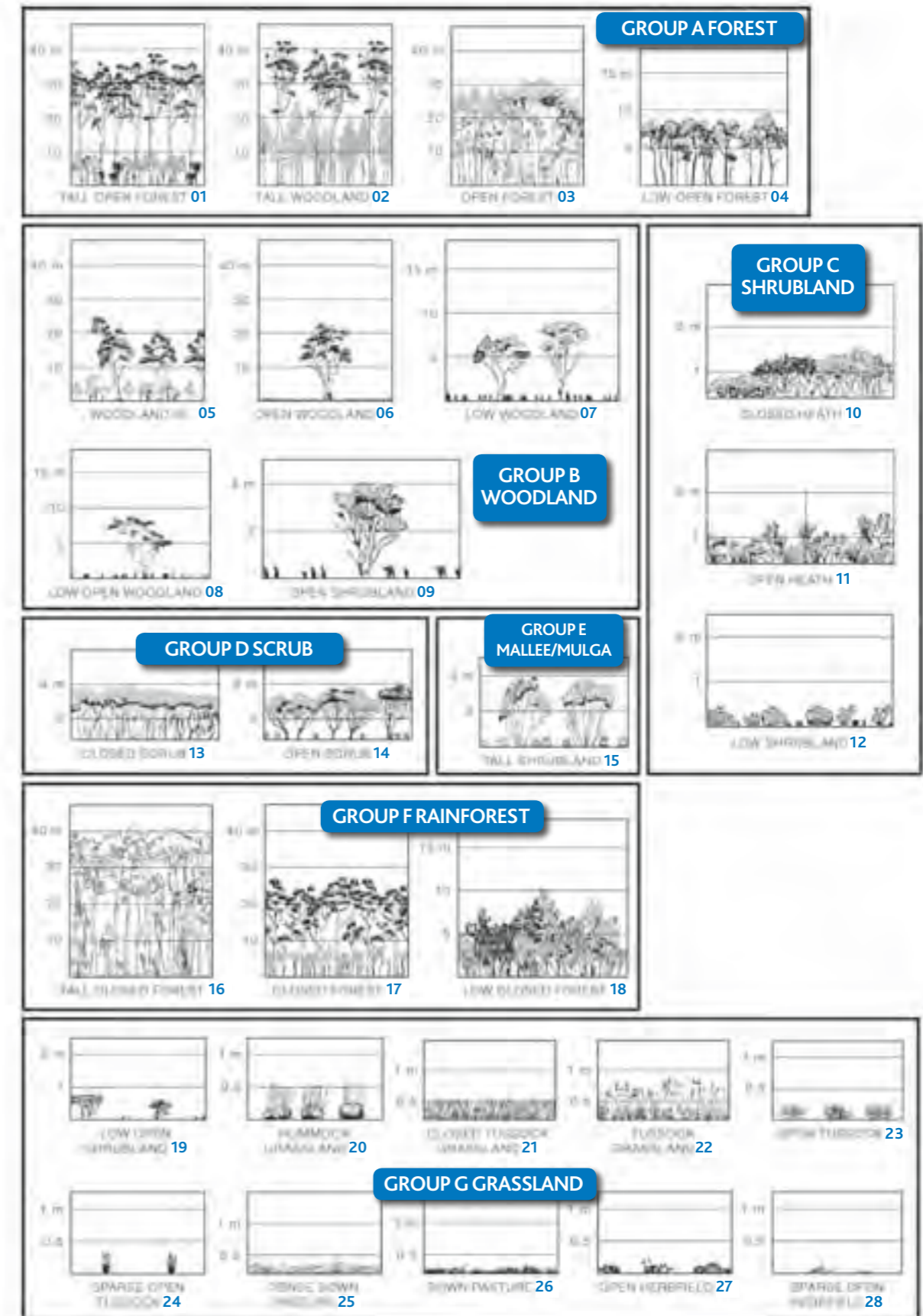


Textual classification of vegetation

Vegetation classification	Vegetation type	Figure No. (see page 7)	Description	
A Forest	Tall open forest Tall woodland	01 02	Trees over 30 m high; 30–70% foliage cover (may include understorey ranging from rainforest and tree ferns to low trees and tall shrubs). Found in areas of high reliable rainfall. Typically dominated by eucalypts.	
	Open forest Low open forest	03 04	Trees 10–30 m high; 30–70% foliage cover (may include understorey of sclerophyllous low trees and tall scrubs or grass). Typically dominated by eucalypts.	
	Pine plantation	Not shown	Trees 10–30 m in height at maturity, generally comprising Pinus species or other softwood species, planted as a single species for the production of timber.	
B Woodland	Woodland Open woodland	05 06	Trees 10–30 m high; 10–30% foliage cover dominated by eucalypts; understorey low trees to tall shrubs typically dominated by Acacia, Callitris or Casuarina.	
	Low woodland Low open woodland Open shrubland	07 08 09	Low trees and shrubs 2–10 m high; foliage cover less than 10%. Dominated by eucalypts and Acacias. Often have a grassy understorey or low shrubs. Acacias and Casuarina woodlands grade to Atriplex shrublands in the arid and semi-arid zones.	
	Closed heath Open heath	10 11	Found in wet areas affected by poor soil fertility or shallow soils. Shrubs 1–2 m high often comprising Banksia, Acacia, Hakea and Grevillea. Wet heaths occur in sands adjoining dunes of the littoral (shore) zone. Montane heaths occur on shallow or waterlogged soils.	
		Low shrubland	12	Shrubs <2 m high; greater than 30% foliage cover. Understoreys may contain grasses. Acacia and Casuarina often dominant in the arid and semi-arid zones.
D Scrub	Closed scrub	13	Found in areas wet enough to support eucalypt trees, which are affected by poor soil fertility or shallow soils. >30% foliage cover. Dry heaths occur in rocky areas. Shrubs 1–2 m high. Typical of coastal wetlands.	
	Open scrub	14	Trees greater than 2 m high, 10–30% foliage cover. Dominated by eucalypts or co-dominant Melaleuca and Myoporum with a mixed understorey.	
E Mallee/Mulga	Tall shrubland	15	Vegetation dominated by shrubs (especially eucalypts and Acacias) with a multi-stemmed habit; usually greater than 2 m in height <30% foliage cover. Understorey of widespread to dense low shrubs (Acacia) or sparse grasses.	
F Rainforest	Tall closed forest Closed forest Low closed forest	16 17 18	Trees 10–40 m in height; >90% foliage cover; understorey may contain a large number of species with a variety of heights.	
	G Grassland (FDI 50 only)	Low open shrubland	19	All forms, including situations with shrubs and trees, if the overstorey foliage cover is less than 10%.
		Hummock grassland	20	
Closed tussock grassland		21		
Tussock grassland		22		
Open tussock		23		
Sparse open tussock		24		
Dense sown pasture		25		
Sown pasture		26		
Open herbfield	27			
Sparse open herbfield	28			

NOTES:
 1 Grassland, although classified as unmanaged, is not considered in the Bushfire Attack Level (BAL), except in Tasmania.
 2 Overstoreys of open woodland, low open woodland, tall open shrubland and low open shrubland should be classified to the vegetation type on the basis of their understoreys; others to be classified on the basis of their overstoreys.
 3 Vegetation height is the average height of the top of the overstorey.

Visual classification of vegetation



Step three

Determine the distance from the site to the vegetation

After determining your site's vegetation type, the next step is to determine the distance from your site to the vegetation itself.

This is because the proximity of the vegetation to the building site will have an influence on the level of bushfire risk.

You must measure this horizontally from the edge of the vegetation (closest to the building site) to the external wall of the proposed building, or for parts of the building that do not have external walls (including car ports, verandahs, decks, landings, decks ramps) to the supporting posts or columns.

The following parts of the building are excluded from determining the distance from the vegetation to the building site:

- Eaves and roof overhangs
- Rainwater and domestic fuel tanks
- Chimneys, pipes, cooling and heating appliances or other services
- Unroofed pergolas
- Sun blinds
- Landings, terraces, steps and ramps, not more than one-metre in height.

Step four

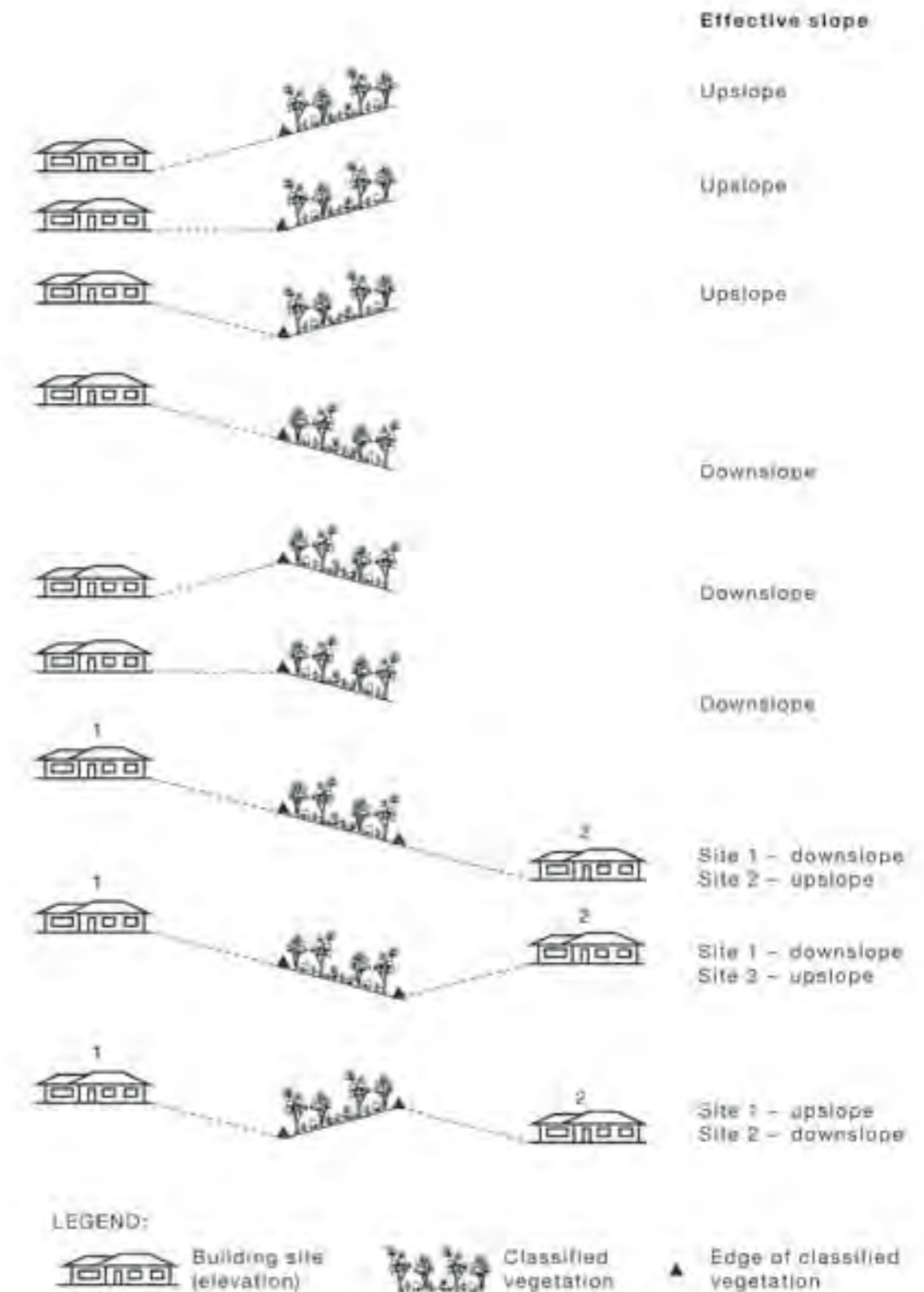
Determine the slope of the land under the vegetation

The slope of the land under the vegetation has a direct influence on the severity of a bushfire and consequently is considered in assessing your site's BAL. Bushfires have a tendency to move up more rapidly than down hills.

When determining your slope, it is the slope **under the classified vegetation** in relation to the building – not the slope between the classified vegetation and the building.

The following diagrams are useful in helping you determine whether the vegetation in relation to your building site is on an upslope or a downslope.

Determination of effective upslope and downslope



NOTE: Effective 'slope' refers to the slope under the classified vegetation in relation to the building – not the slope between the classified vegetation and the building.

The approximate slope of the land must also be estimated in degrees. The table below will assist with converting the gradient (see **ratio** – right column) of the land to the slope in degrees (see **degrees** – left column). If your site is on an upslope or flat land, it assumes a value of 0 degrees, skip Step four and proceed to Step five.

Determination of slope in degrees

Slope Comparisons

Degrees	Ratio
45	1:1
34	1:1.5
26	1:2
21	1:2.5
18	1:3
15	1:3.5
14	1:4
12	1:4.5
11	1:5
10	1:5.5
9	1:6
9	1:6.5
8	1:7
8	1:7.5
7	1:8
7	1:8.5
6	1:9
6	1:10
5	1:11
5	1:12
4	1:13
4	1:14
4	1:15
4	1:16
3	1:17
3	1:18
3	1:19
3	1:20

Most people will determine the angle of their slope of land visually. However to accurately assess the slope in degrees, the diagram below will help with converting the gradient or ratio of the land to the slope in degrees.

The ratio of a slope is expressed comparing the length of the run to each 1 unit of measurement of the rise. To work out the length of the run for each unit rise, divide the run by the rise.

$$\frac{X (=10m)}{Y (= 2.5m)} = 4$$

The ratio is then expressed as 1:4 (that is for each 1m of rise, there is 4m of run)

Note: The table to the left then converts this 1:4 ratio to 14 degrees.

Step five

Determine the BAL

To determine the BAL start by selecting the appropriate tables below, dependent on the Fire Danger Index (FDI) of 100 or 50 that you determined in Step one.

DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL) – FDI 100 (1090 K)

Vegetation classification	Bushfire Attack Levels (BALs)				
	BAL – FZ	BAL – 40	BAL – 29	BAL – 19	BAL – 12.5
	Distance (m) of the site from the predominant vegetation class				
	All upslopes and flat land (0 degrees)				
A. Forest	<19	19-<25	25-<35	35-<48	48-<100
B. Woodland	<12	12-<16	16-<24	24-<33	33-<100
C. Shrubland	<10	10-<13	13-<19	19-<27	27-<100
D. Scrub	<7	7-<9	9-<13	13-<19	19-<100
E. Mallee/Mulga	<6	6-<8	8-<12	12-<17	17-<100
F. Rainforest	<8	8-<11	11-<16	16-<23	23-<100
	Downslope >0 to 5 degrees				
A. Forest	<24	24-<32	32-<43	43-<57	57-<100
B. Woodland	<15	15-<21	21-<29	29-<41	41-<100
C. Shrubland	<11	11-<15	15-<22	22-<31	31-<100
D. Scrub	<7	7-<10	10-<15	15-<22	22-<100
E. Mallee/Mulga	<7	7-<9	9-<13	13-<20	20-<100
F. Rainforest	<10	10-<14	14-<20	20-<29	29-<100
	Downslope >5 to 10 degrees				
A. Forest	<31	31-<39	39-<53	53-<69	69-<100
B. Woodland	<20	20-<26	26-<37	37-<50	50-<100
C. Shrubland	<12	12-<17	17-<24	24-<35	35-<100
D. Scrub	<8	8-<11	11-<17	17-<25	25-<100
E. Mallee/Mulga	<7	7-<10	10-<15	15-<23	23-<100
F. Rainforest	<13	13-<18	18-<26	26-<36	36-<100
	Downslope >10 to 15 degrees				
A. Forest	<39	39-<49	49-<64	64-<82	82-<100
B. Woodland	<25	25-<33	33-<45	45-<60	60-<100
C. Shrubland	<14	14-<19	19-<28	28-<39	39-<100
D. Scrub	<9	9-<13	13-<19	19-<28	28-<100
E. Mallee/Mulga	<8	8-<11	11-<18	18-<26	26-<100
F. Rainforest	<17	17-<23	23-<33	33-<45	45-<100
	Downslope >15 to 20 degrees				
A. Forest	<50	50-<61	61-<78	78-<98	98-<100
B. Woodland	<32	32-<41	41-<56	56-<73	73-<100
C. Shrubland	<15	15-<21	21-<31	31-<43	43-<100
D. Scrub	<10	10-<15	15-<22	22-<31	31-<100
E. Mallee/Mulga	<9	9-<13	13-<20	20-<29	29-<100
F. Rainforest	<22	22-<29	29-<42	42-<56	56-<100

1. If you are on the border of BALs, choose the higher of the two.
2. As fire travels slower down a hill, all classified vegetation that is upslope will assume a value of 0 degrees the same as flat land.

DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL) – FDI 50 (1090 K)

Vegetation classification	Bushfire Attack Levels (BALs)				
	BAL – FZ	BAL – 40	BAL – 29	BAL – 19	BAL – 12.5
	Distance (m) of the site from the predominant vegetation class				
All upslopes and flat land (0 degrees)					
A. Forest	<12	12-<16	16-<23	23-<32	32-<100
B. Woodland	<7	7-<10	10-<15	15-<22	22-<100
C. Shrubland	<10	10-<13	13-<19	19-<27	27-<100
D. Scrub	<7	7-<9	9-<13	13-<19	19-<100
E. Mallee/Mulga	<6	6-<8	8-<12	12-<17	17-<100
F. Rainforest	<5	5-<6	6-<9	9-<14	14-<100
G. Tussock moorland	<7	7-<9	9-<14	14-<20	20-<100
Downslope >0 to 5 degrees					
A. Forest	<14	14-<19	19-<27	27-<38	38-<100
B. Woodland	<9	9-<12	12-<18	18-<26	26-<100
C. Shrubland	<11	11-<15	15-<22	22-<31	31-<100
D. Scrub	<7	7-<10	10-<15	15-<22	22-<100
E. Mallee/Mulga	<7	7-<9	9-<13	13-<20	20-<100
F. Rainforest	<6	6-<8	8-<12	12-<17	17-<100
G. Tussock moorland	<8	8-<10	10-<16	16-<23	23-<100
Downslope >5 to 10 degrees					
A. Forest	<18	18-<24	24-<34	34-<46	46-<100
B. Woodland	<11	11-<15	15-<23	23-<32	32-<100
C. Shrubland	<12	12-<17	17-<24	24-<35	35-<100
D. Scrub	<8	8-<11	11-<17	17-<25	25-<100
E. Mallee/Mulga	<7	7-<10	10-<15	15-<23	23-<100
F. Rainforest	<7	7-<10	10-<15	15-<22	22-<100
G. Tussock moorland	<9	9-<12	12-<18	18-<26	26-<100
Downslope >10 to 15 degrees					
A. Forest	<22	22-<30	30-<41	41-<56	56-<100
B. Woodland	<14	14-<19	19-<28	28-<40	40-<100
C. Shrubland	<14	14-<19	19-<28	28-<39	39-<100
D. Scrub	<9	9-<13	13-<19	19-<28	28-<100
E. Mallee/Mulga	<8	8-<11	11-<18	18-<26	26-<100
F. Rainforest	<9	9-<13	13-<19	19-<28	28-<100
G. Tussock moorland	<10	10-<13	13-<20	20-<29	29-<100
Downslope >15 to 20 degrees					
A. Forest	<28	28-<37	37-<51	51-<67	67-<100
B. Woodland	<18	18-<25	25-<36	36-<48	48-<100
C. Shrubland	<15	15-<21	21-<31	31-<43	43-<100
D. Scrub	<10	10-<15	15-<22	22-<31	31-<100
E. Mallee/Mulga	<9	9-<13	13-<20	20-<29	29-<100
F. Rainforest	<12	12-<17	17-<25	25-<35	35-<100
G. Tussock moorland	<11	11-<15	15-<23	23-<33	33-<100

1. If you are on the border of BALs, choose the higher of the two.
2. As fire travels slower down a hill, all classified vegetation that is upslope will assume a value of 0 degrees the same as flat land.

Next, using the table go to the section that corresponds to your upslope or downslope degrees calculation that you determined in Step four. Then select the vegetation classification you determined at Step two, use the distance from your building site that you determined at Step three and finally, select the highest BAL obtained.

Congratulations, you have assessed your site's BAL!

Step six
Apply the construction requirements set out in the Australian Standard AS 3959-2009

Now you can apply the construction requirements set out in the Australian Standard AS 3959-2009 that correspond to the BAL.

Importantly, this will improve the ability of your building to withstand a bushfire attack at a higher temperature level, providing better protection to the occupants.

While the Australian Standard AS 3959-2009 will improve protection for new homes, as well as alterations and additions built in Victoria's bushfire-prone areas, it is important to note that it does not guarantee a building will survive a fire due to the unpredictable and often devastating nature of bushfires.

Checklist to assess your BAL (see tables at Step five)

- Step one** Determine your Fire Danger Index (FDI) **50 or 100?**
- Step two** Determine your site's vegetation types **A-G?**
- Step three** Determine the distance from the site to the vegetation **What is the distance?** m
- Step four** Determine the slope of the land under the vegetation (If upslope or flat 0 degrees applies) **Upslope or downslope?**
Angle of slope in degrees? °
- Step five** Determine the BAL **See BAL FDI 50 or 100 on pages 11 or 12**
- Step six** Apply the construction requirements set out in Australian Standard AS 3959-2009 **Talk to your builder or architect, building designer, private or local Council Building Surveyor.**

Standards Australia is acknowledged as the source for material contained in this document.

Notes

Lined area for handwritten notes on page 14.

Notes

Lined area for handwritten notes on page 15.

Things to do

Two columns of checkboxes for task lists on page 15.

Bushfire Building Advice Line

 **1300 360 320**

Building Commission (9am – 5pm Monday to Friday)

Need more information?

Building Commission

Level 27, Casselden Place, 2 Lonsdale Street, Melbourne, Victoria 3000

Telephone +61 3 9285 6400 Facsimile +61 3 9285 6464

www.buildingcommission.com.au



Government of **Western Australia**
Office of the **Environmental Protection Authority**
Strategic Policy and Planning Division



Doc No: City of Albany Records
File: ICR15170537
Date: A86503
06 MAR 2015
Officer: PLA:MPS

Attach:
Box:
Col:
Box+Vnl:

Mr Graham Foster
Chief Executive Officer
City of Albany
PO Box 484
ALBANY WA 6331

Your Ref: EF15100585 - A86503
Our Ref: ER06-2013-0077
Enquiries: Liesl Rohl, 6145 0858
Email: liesl.rohl@epa.wa.gov.au

ATTENTION: Adrian Nicoll

Dear Mr Foster

Development Applications - Lots 75 and 76 Range Road, Yakamia

I refer to the email dated 12 February 2015 from Adrian Nicoll, Senior Planning Officer, City of Albany regarding the above development applications for single dwellings on Lots 75 and 76 Range Road.

As you are aware, the Office of the Environmental Protection Authority (OEPA) has provided extensive advice to the City of Albany on the draft Yakamia/Lange Structure Plan in order to reach a strategic outcome which allows for development while also adequately protecting the environment.

The OEPA supported the draft Yakamia/Lange Structure Plan on the basis that areas identified in the draft Structure Plan (attached) for Foreshore Protection and Enhancement and Environment Protection and Biodiversity Conservation are retained.

The development applications for single dwellings on Lots 75 and 76 Range Road are not consistent with the draft Structure Plan. In discussions with the OEPA, the City of Albany has indicated that both Lots 75 and 76 would be retained within an Environment Protection and Biodiversity Conservation area.

Lots 75 and 76 Range Road hold vegetation in 'Very Good' to 'Excellent' condition which supports significant ecological communities, priority flora and habitat for threatened fauna protected under State and Commonwealth legislation. The vegetation within these Lots is part of a consolidated area of native vegetation which contains multiple vegetation units (catena from upland to wetland) identified as having high conservation value in the Albany Regional Vegetation Survey. It is noted that clearing for building envelopes and bushfire protection will impact 3.1205 hectares of native vegetation on Lot 75 and 7.0608 hectares on Lot 76.

In light of the above, the OEPA's preference is that development be consistent with the draft Yakamia/Lange Structure Plan.

Referral to the Commonwealth is likely to be required as the developments may have a significant impact on Matters of National Environmental Significance.

If you have any questions in relation to this letter please contact Liesl Rohl, Manager Environmental Planning Branch, on 6145 0858.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Bridget Hyder', written in a cursive style.

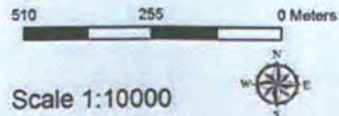
Bridget Hyder
A/DIRECTOR

27 February 2015

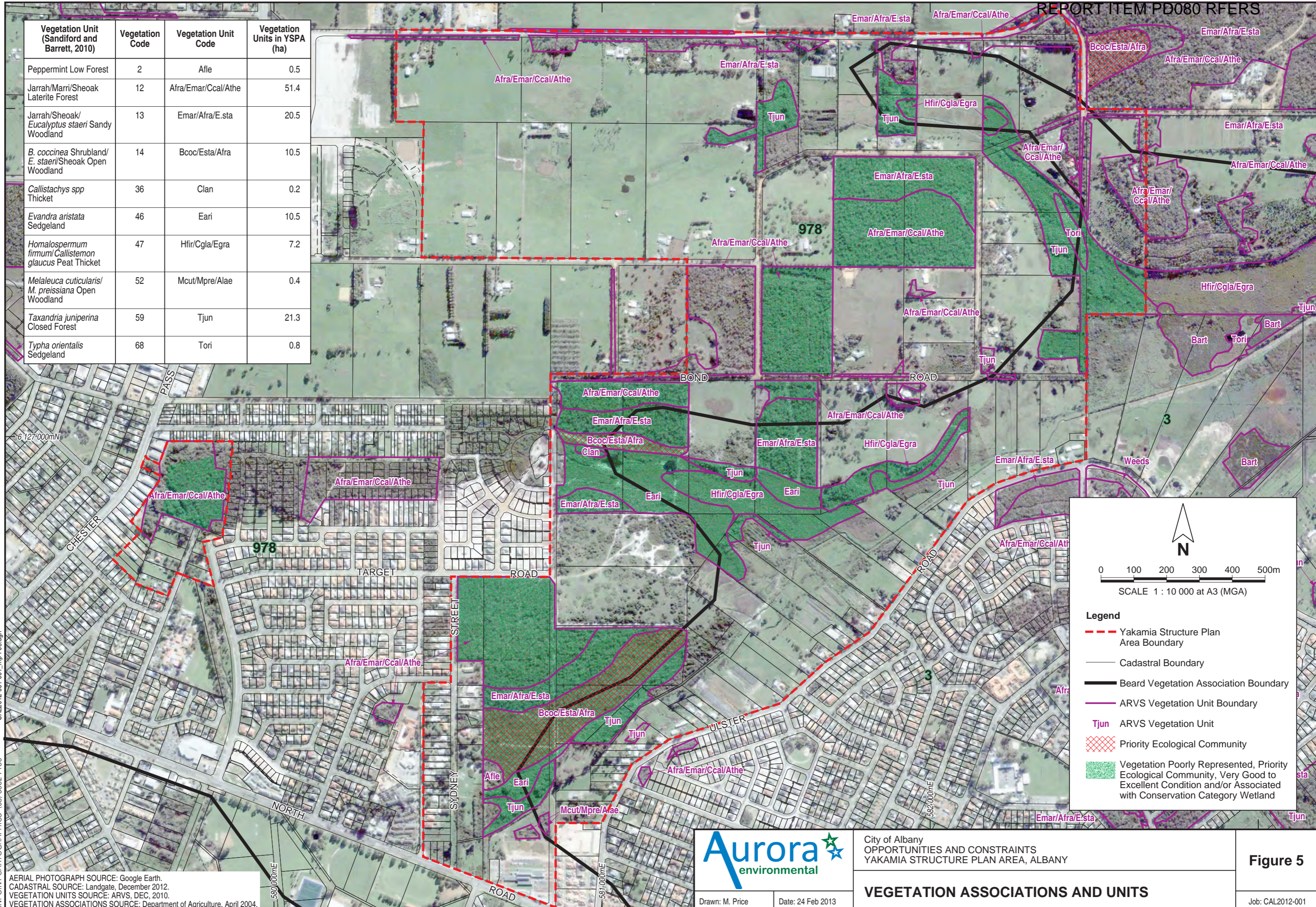
Yakamia/Lange Structure Plan

Legend

- Subject Area
- Referral to Commonwealth
- Residential
- Density
- Foreshore Protection and Enhancement area
- Environment Protection and Biodiversity Conservation
- School
- Public Service
- Special Use
- Western Power Substation
- Landscaped buffer to Substation
- Public Open Space (Recreation)
- Drainage Basin
- 1:100 Year Flood Boundary
- Pedestrian Path
- Range Rd - Future Link Rd
- Barnesby Dr - Future Link Rd
- Indicative Road
- Intersection treatment



Vegetation Unit (Sandiford and Barrett, 2010)	Vegetation Code	Vegetation Unit Code	Vegetation Units in YSPA (ha)
Peppermint Low Forest	2	Afle	0.5
Jarrah/Marri/Sheoak Laterite Forest	12	Afra/Emar/Ccal/Athe	51.4
Jarrah/Sheoak/ <i>Eucalyptus staeri</i> Sandy Woodland	13	Emar/Afra/E.sta	20.5
<i>B. coccinea</i> Shrubland/ <i>E. staeri</i> /Sheoak Open Woodland	14	Bcoc/Esta/Afra	10.5
<i>Callistachys</i> spp Thicket	36	Clan	0.2
<i>Evandra aristata</i> Sedgeland	46	Eari	10.5
<i>Homalospermum firmum</i> / <i>Callistemon glaucus</i> Peat Thicket	47	Hfir/Cgla/Egra	7.2
<i>Melaleuca cuticularis</i> / <i>M. preissiana</i> Open Woodland	52	Mcut/Mpre/Alae	0.4
<i>Taxandria juniperina</i> Closed Forest	59	Tjun	21.3
<i>Typha orientalis</i> Sedgeland	68	Tori	0.8



Legend

- Yakamia Structure Plan Area Boundary
- Cadastral Boundary
- Beard Vegetation Association Boundary
- ARVS Vegetation Unit Boundary
- Tjun ARVS Vegetation Unit
- Priority Ecological Community
- Vegetation Poorly Represented, Priority Ecological Community, Very Good to Excellent Condition and/or Associated with Conservation Category Wetland

CAL2012-001-001_mp-F05.dgn
PINPOINT CARTOGRAPHICS (08) 9562 7136

AERIAL PHOTOGRAPH SOURCE: Google Earth.
 CADASTRAL SOURCE: Landgate, December 2012.
 VEGETATION UNITS SOURCE: ARVS, DEC, 2010.
 VEGETATION ASSOCIATIONS SOURCE: Department of Agriculture, April 2004.

Aurora
 environmental

City of Albany
 OPPORTUNITIES AND CONSTRAINTS
 YAKAMIA STRUCTURE PLAN AREA, ALBANY

Drawn: M. Price Date: 24 Feb 2013

VEGETATION ASSOCIATIONS AND UNITS

Figure 5

Job: CAL2012-001