BUSHFIRE THREAT ASSESSMENT

FOR
THE PROPOSED NEWCASTLE MAITLAND SIKH TEMPLE
AT
53-57 SPITFIRE PLACE,
RUTHERFORD NSW 2320

Prepared by:

Firebird ecoSultants Pty Ltd
ABN – 16 105 985 993

PO Box 354
Newcastle NSW 2300

Mob: 0414 465 990
Ph: 02 4910 3939
Fax: 02 4929 2727
Email: sarah@firebirdeco.com.au

Site Details:	53-57 Spitfire Place, Pokolbin NSW 2320
Prepared by:	***Sarah Jones B.Env.Sc.,G.Dip.DBPA (Design in Bushfire Prone Areas)*** ***Firebird ecoSultants Pty Ltd*** **A**BN – 16 105 985 993 PO Box 354, Newcastle NSW 2300 M: 0414 465 990 Email: sarah@firebirdeco.com.au T: 02 4910 3939 Fax: 02 4929 2727
Prepared for:	Perception Planning
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Disclaimer

Not withstanding the precautions adopted within this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.

Executive Summary

In summary, a Bushfire Risk Assessment has been undertaken for the Sikh Temple at 53-57 Spitfire Place, Rutherford NSW 2320. The proposed Temple is considered a Public Assembly Building in accordance with Section 8.3.11 of PBP.

Public assembly buildings are not defined as SFPP by the RF Reg but require referral under EP&A Act s4.14 to the NSW RFS. Assembly buildings can accommodate large numbers of various physical capabilities. Emergency management planning for these developments must account for the total number of occupants and be commensurate with the risk. These developments must not experience radiant heat levels of > 10kW/m2.

If the recommendations contained within this report are duly considered and incorporated, it is considered that the fire hazard present is containable to a level necessary to provide an adequate level of protection to life and property on the subdivision. In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements for the proposed subdivision:

- The proposed development has been assessed as BAL-LOW from all elevations.
- APZs are required in accordance with Table 4-1 of this report between the surrounding grassland vegetation and the proposed building.
- Fencing – All new fencing and gates shall be constructed in accordance with the NSW Rural Fire Service Guideline: Fast Fact – Fences or Gates in Bushfire Prone Areas.
- A Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the NSW RFS document: A Guide to developing a Bush Fire Emergency Management and Evacuation Plan. This requirement can be included in the conditions of the DA consent.

Sarah Jones
B.Env.Sc., G.Dip.DBPA (Design for Bushfire Prone Areas)
FPA BPAD-A Certified Practitioner (Certification Number BPD-26512)
Ecologist / Bushfire Planner

Terms & Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419 -2005	Australian Standard – Fire Hydrant Installations
AS3959-2018	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BCA	Building Code of Australia
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BFPL Map	Bush Fire Prone Land Map
BPMs	Bush Fire Protection Measures
BFSA	Bush Fire Safety Authority
CC	Construction Certificate
MCC	Maitland City Council
EPA Act	*NSW Environmental Planning and Assessment Act 1979*
FFDI	Forest Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection 2019
PoM	Plan of Management
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation

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1 INTRODUCTION

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd at the request of Perception Planning for a proposed Sikh temple at 53-57 Spitfire Place, Rutherford, hereafter referred to as the "site" (refer to Figure 1-1 for site locality). Refer to Appendix A for Proposed Site Plans.

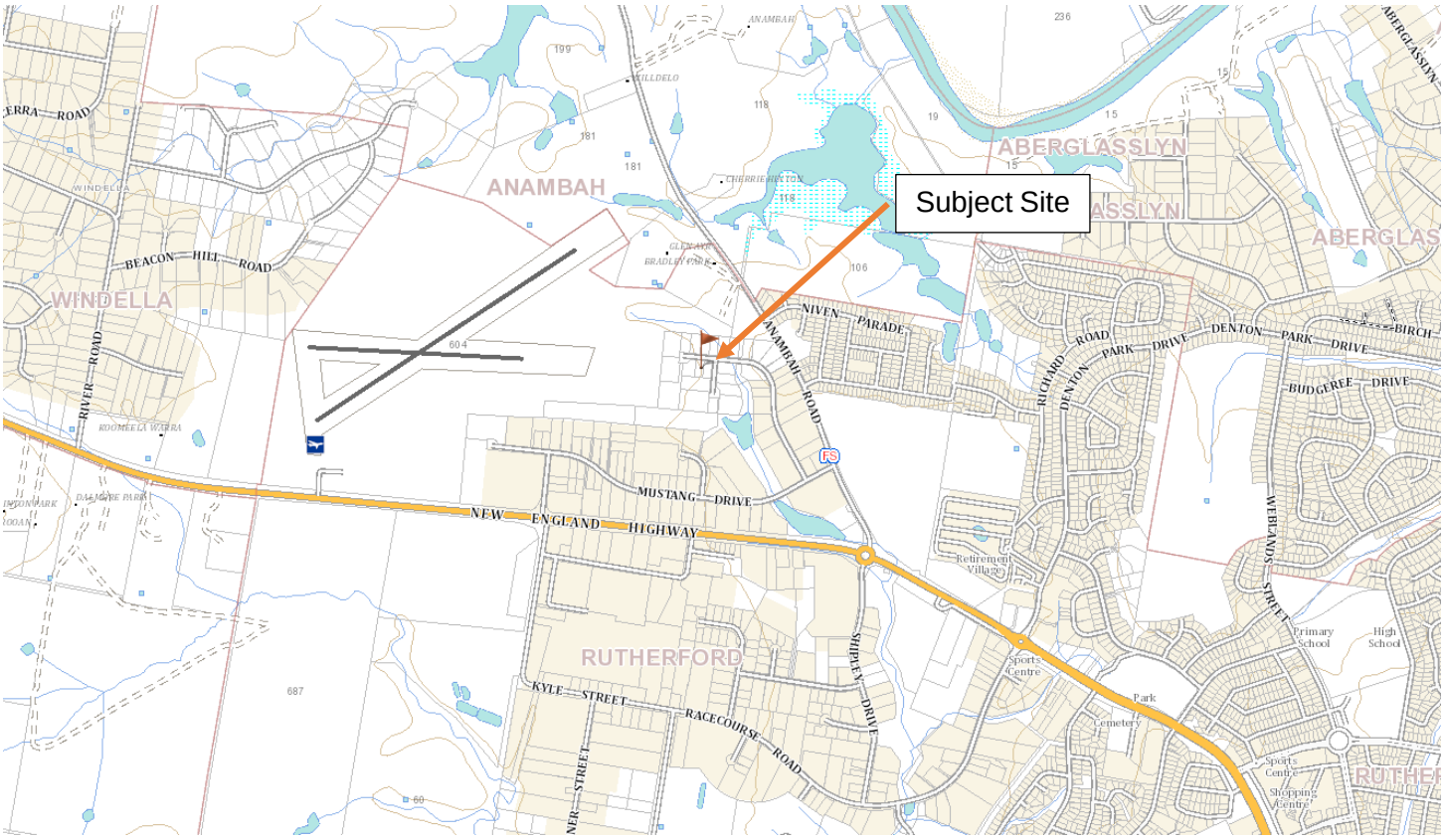
This BTA is suitable for submission with a Development Application (DA) and provides information on measures that will enable the development to comply with 'Planning for Bushfire Protection' (NSW RFS, 2019), hereafter referred to as PBP (RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to such a proposal, and to outline the minimum mitigative measures which would be required in accordance with the provisions of the Environmental Planning and Assessment Amendment (Planning for Bushfire Protection) Regulation 2007 and the Rural Fires Amendment Regulation 2007 (RF Amendment Regulation 2007).

1.1 Site Particulars

Locality:	53-57 Spitfire Place, Rutherford NSW 2320
LGA:	Maitland City Council
Current Land Use:	Vacant lots
Forest Danger Index:	100 FFDI

Figure 1-1: Site Location



1.2 Description of the Proposal

This DA relates to the proposal for The Sikh Temple at 53-57 Spitfire Place Rutherford, NSW 2320. Refer to Appendix A for proposed plans.

1.3 Legislative Requirements

The Site has been mapped as Bush Fire Prone Land Map (BFPLM) by MCC.

This report forms part of the supporting documentation for a Development Application (DA) to be submitted to MCC.

This BTA has been prepared using current legislative requirements and associated guidelines for assessment of bushfire protection, these being:

- PBP (RRS, 2019); and
- AS3959-2018 Construction of Buildings in Bushfire Prone Area; and

1.4 Objectives of Assessment

This report has been prepared to address the requirements of Clause 44 of the Rural Fires Regulation. This BTA also addresses the six key Bush Fire Protection Measures (BFRMs) in a development assessment context being:

- The provision of clear separation of buildings and bush fire hazards, in the form of fuel-reduced APZ (and their components being Inner Protection Areas (IPA's) and Outer Protection Areas (OPA's);
- Sitting and design of the proposal;
- Construction standards;
- Appropriate access standards for residents, fire-fighters, emergency workers and those involved in evacuation;
- Adequate water supply and pressure, and utility services; and
- Suitable landscaping, to limit fire spreading to a building.

2 METHODOLOGY

2.1 Vegetation Assessment

Vegetation surveys and vegetation mapping carried out on the site has been undertaken as follows:

- Aerial Photograph Interpretation to map vegetation cover and extent
- Confirmation of the vegetation assemblage typology present.

2.2 Slope Assessment

Slope assessment has been undertaken as follows:

- Aerial Photograph Interpretation in conjunction with analysis of electronic contour maps with a contour interval of 2m.

3 SITE ASSESSMENT

The following assessment has been undertaken in accordance with the requirements of PBP (RFS, 2019).

3.1 Vegetation & Slope Assessment

In accordance with PBP (RFS 2019), an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the site. This assessment is depicted in Table 3-1 that shows the vegetation post development.

In accordance with PBP (RFS 2019), an assessment of the slope that the vegetation considered a bushfire hazard was undertaken and the results are presented in Table 3.1 below.

Table 3-1: Vegetation Classification

Proposed Building		
Direction	**Vegetation Type**	**Slope**
North	Managed Land	N/A
East	Managed Land	N/A
South	Managed Land	N/A
West	Forest Vegetation	Flat ground

*Land surrounding the site is managed as part of Anambah Business Park.

4 BUSHFIRE ATTACK ASSESSMENT

Building design and the materials used for construction of future dwellings should be chosen based on the information contained within AS3959-2018, and accordingly the designer / architect should be made aware of this recommendation. It may be necessary to have dwelling plans checked by the architect involved to ensure that the proposed dwellings meet the relevant Bushfire Attack Level (BAL) as detailed in AS3959-2018.

The determinations of the appropriate BAL are based upon parameters such as weather modelling, fire-line intensity, flame length calculations, as well as vegetation and fuel load analysis. The determination of the construction level is derived by assessing the:

- Relevant FFDI = 100
- Flame temperature
- Slope
- Vegetation classification; and
- Building location.

The following BAL, based on heat flux exposure thresholds, are used in the standard:

(a) **BAL – LOW** The risk is considered to be **VERY LOW**

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

(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 k/m2.

(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/m2.

(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 no greater than 29 kW/m2.

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

There is 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 no 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, 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.

4.1 Determination of Bushfire Attack Levels

Using a FFDI of 100, the information relating to vegetation, slope and according to Table A1.12.5 of PBP 2019 that determined the appropriate BAL. The results from this bush fire risk assessment are detailed below in Table 4-1–Bush Fire Attack Assessment and Figure 4-1 shows the vegetation.

Table 4-1: Determination of BALs for the proposed building

Vegetation Type & Direction	Separation Distance from vegetation	Bushfire Attack Level (BAL)
Managed Land to the North	N/A	BAL-LOW
Managed Land to the East	N/A	BAL-LOW
Managed Land to the South	N/A	BAL-LOW
Forest Vegetation to the West	>113m	BAL-LOW

Given the information in Table 4-1, the proposed Sikh Temple has been assessed as **BAL-LOW.**

Note:
Boundaries are not survey accurate.
Although all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

FIGURE 3-1: VEGETATION MAP

CLIENT	Client
SITE DETAILS	No.53-57 Spitfire Place Rutherford
DATE	20 October 2021

Legend

- Subject Site
- 100m Buffer
- Open Forest

NORTH

0 20 40 60

SCALE 1200 @ A3

PIXELDRAFTING

Ref No 2985

Firebird ecoSultants Pty Ltd
ABN - 16 105 985 993
Level 1, 146 Hunter Street, Newcastle NSW 2300
P O Box 354 Newcastle NSW 2300

firebird

5 COMPLIANCE

The proposed Sikh Temple is considered a Public Assembly Building in accordance with Section 8.3.11 of PBP. Public assembly buildings are not defined as SFPP by the RF Reg but require referral under EP&A Act s4.14 to the NSW RFS. Assembly buildings can accommodate large numbers of various physical capabilities. Emergency management planning for these developments must account for the total number of occupants and be commensurate with the risk. These developments must not experience radiant heat levels of > 10kW/m2.

Table 5-1: Proposed Compliance with Special Fire Protection Purpose Development Standards

Acceptable Solutions	Performance Criteria	Compliance
ASSET PROTECTION ZONES		
〉 the building is provided with an APZ in accordance with PBP 2019 (Table A1.12.1 in Appendix 1).	〉 radiant heat levels of greater than 10kW/m² (calculated at 1200K) will not be experienced on any part of the building.	**Complies with acceptable solution** – the building is provided with an APZ in accordance with PBP 2019.
〉 APZs are located on lands with a slope less than 18 degrees.	〉 APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	**Complies with acceptable solution** – APZs are located on lands with a slope of less than 18 degrees.
〉 the APZ is managed in accordance with the requirements of Appendix 4 of this document, and is wholly within the boundaries of the development site; 〉 APZ are wholly within the boundaries of the development site; and 〉 other structures located within the APZ need to be located further than 6m from the refuge building.	〉 APZs are managed and maintained to prevent the spread of fire to the building. 〉 the APZ is provided in perpetuity	**Complies with acceptable solution –** APZs are wholly within the boundaries of the site.
LANDSCAPING		
〉 landscaping is in accordance with Appendix 4; and	〉 landscaping is designed and managed to minimise flame contact and radiant heat to	**Complies with acceptable solution** – landscaping and fencing is to comply.

〉 fencing is constructed in accordance with section 7.6.	buildings, and the potential for wind-driven embers to cause ignitions	
CONSTRUCTION STANDARDS		
〉 a construction level of BAL-12.5 under AS 3959 or NASH Standard and section 7.5 of PBP is applied.	〉 the proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.	**Complies with acceptable solution –** The proposed building site has been assessed as BAL-LOW.
ACCESS		
〉 SFPP access roads are two-wheel drive, all-weather roads; 〉 access is provided to all structures; 〉 traffic management devices are constructed to not prohibit access by emergency services vehicles; 〉 access roads must provide suitable turning areas in accordance with Appendix 3; and 〉 one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression	〉 firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	**Complies with acceptable solution** – Direct access is provided to Spitfire Place.
〉 the capacity of road surfaces and any bridges/ causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating.	〉 the capacity of access roads is adequate for firefighting vehicles.	**Complies with acceptable solution** – road access is adequate for emergency vehicles.
〉 hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;	〉 there is appropriate access to water supply.	**Complies with acceptable solution** – the site is connected to reticulated water.

〉 hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005; and 〉 there is suitable access for a Category 1 fire appliances to within 4m of the static water supply where no reticulated supply is available.		
PERIMETER ROADS		
〉 there are two-way sealed roads; 〉 minimum 8m carriageway width kerb to kerb; 〉 parking is provided outside of the carriageway width; 〉 hydrants are to be located clear of parking areas; 〉 there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 〉 curves of roads have a minimum inner radius of 6m; 〉 the maximum grade road is 15 degrees and average grade of not more than 10 degrees; 〉 the road crossfall does not exceed 3 degrees; and 〉 a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	〉 perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	**Complies with Performance Criteria** – Spitfire Place allows for safe access and egress for firefighting vehicles while occupants are evacuating, as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management. Bushfire hazard is >100m away from development and other developments will be established between the proposed development and the bushfire hazard.

NON-PERIMETER ROADS		
〉 minimum 5.5m carriageway width kerb to kerb; 〉 parking is provided outside of the carriageway width; 〉 hydrants are located clear of parking areas; 〉 there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 〉 curves of roads have a minimum inner radius of 6m; 〉 the maximum grade road is 15 degrees and average grade of not more than 10 degrees; 〉 the road crossfall does not exceed 3 degrees; and 〉 a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	〉 non-perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating.	Complies with Acceptable Solution – 〉 minimum 5.5m carriageway width kerb to kerb; 〉 parking is provided outside of the carriageway width; 〉 hydrants are located clear of parking areas; 〉 there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 〉 curves of roads have a minimum inner radius of 6m; 〉 the maximum grade road is 15 degrees and average grade of not more than 10 degrees; 〉 the road crossfall does not exceed 3 degrees; and a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.
WATER SUPPLY		
〉 reticulated water is to be provided to the development, where available; or 〉 a 20,000 litres minimum static water supply for firefighting purposes is provided for each occupied building where no reticulated water is available.	〉 an adequate water supply for firefighting purposes is installed and maintained.	**Complies with acceptable solution** – reticulated water is supplied to the building.
〉 fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005; 〉 hydrants are not located within any road carriageway; and	〉 water supplies are located at regular intervals. 〉 the water supply is accessible and reliable for firefighting operations.	**Complies with acceptable solution** – hydrants are appropriately positioned.

〉 reticulated water supply to SFPPs uses a ring main system for areas with perimeter roads.		
〉 fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.	〉 flows and pressure are appropriate.	**Complies with acceptable solution** – fire hydrant flows and pressures are assumed compliant.
〉 all above-ground water service pipes external to the building are metal, including and up to any taps.	〉 the integrity of the water supply is maintained.	**Complies with acceptable solution** – all above ground pipes on site will comply with the acceptable solution.
〉 a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; a 65mm Storz outlet with a ball valve is fitted to the outlet; 〉 ball valve and pipes are adequate for water flow and are metal; 〉 supply pipes from tank to ball valve have the same bore size to ensure flow volume; 〉 underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank; 〉 a hardened ground surface for truck access is supplied within 4m of the access hole; 〉 above-ground tanks are manufactured from concrete or metal; 〉 raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F AS 3959); 〉 unobstructed access is provided at all times; 〉 tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters; and 〉 underground tanks are clearly marked,	〉 water supplies are adequate in areas where reticulated water is not available	**N/A** – the site is connected to reticulated water.

〉 all exposed water pipes external to the building are metal, including any fittings; 〉 where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; Any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and 〉 fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with the relevant clauses of AS 2441:2005 *Installation of fire hose reels.*		
ELECTRICITY SERVICES		
〉 where practicable, electrical transmission lines are underground; 〉 where overhead, electrical transmission lines are proposed as follow: ○ lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and ○ no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.	〉 location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	**N/A** – the site is already connected to electricity.
GAS SERVICES		
〉 reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;	〉 location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	**Complies with acceptable solution** – all gas services to the site will comply with the acceptable solution.

〉 all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side; 〉 connections to and from gas cylinders are metal; 〉 if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion; 〉 polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and 〉 above-ground gas service pipes external to the building are metal, including and up to any outlets.		
EMERGENCY MANAGEMENT		
〉 Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the: ○ The NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan; ○ NSW RFS Schools Program Guide; ○ Australian Standard AS 3745:2010 Planning for emergencies in facilities; and ○ Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities (where applicable). ○ the Bush Fire Emergency Management and Evacuation Plan	〉 a Bush Fire Emergency Management and Evacuation Plan is prepared.	**Complies with acceptable solution** – a Bush Fire Emergency Management and Evacuation Plan will be prepared for the site and is consistent with the appropriate sources listed. This will be conditioned within the DA consent.

should include planning for the early relocation of occupants Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.		
〉 an Emergency Planning Committee is established to consult with residents (and their families in the case of aged care accommodation and schools) and staff in developing and implementing an Emergency Procedures Manual; and 〉 detailed plans of all emergency assembly areas including on-site and off-site arrangements as stated in AS 3745:2010 are clearly displayed, and an annually emergency evacuation is conducted.	〉 appropriate and adequate management arrangements are established for consultation and implementation of the Bush Fire Emergency Management and Evacuation Plan.	**N/A** – the site is not a school or aged care facility.
Given the information in the above table the proposed development does not meet the acceptable solution of PBP. As such the development application needs to be referred to the NSW Rural Fire Service (RFS).		

6 CONCLUSION & RECOMMENDATIONS

In summary, a Bushfire Risk Assessment has been undertaken for the Sikh Temple at 53-57 Spitfire Place, Rutherford NSW 2320. The proposed Temple is considered a Public Assembly Building in accordance with Section 8.3.11 of PBP.

Public assembly buildings are not defined as SFPP by the RF Reg but require referral under EP&A Act s4.14 to the NSW RFS. Assembly buildings can accommodate large numbers of various physical capabilities. Emergency management planning for these developments must account for the total number of occupants and be commensurate with the risk. These developments must not experience radiant heat levels of > 10kW/m2.

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- The proposed development has been assessed as BAL-LOW from all elevations.
- APZs are required in accordance with Table 4-1 of this report between the surrounding grassland vegetation and the proposed building.
- Fencing – All new fencing and gates shall be constructed in accordance with the NSW Rural Fire Service Guideline: Fast Fact – Fences or Gates in Bushfire Prone Areas.
- A Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the NSW RFS document: A Guide to developing a Bush Fire Emergency Management and Evacuation Plan. This requirement can be included in the conditions of the DA consent.

7 BIBLIOGRAPHY

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APPENDIX A PROPOSED SITE PLANS

Sheet List	
Sheet Number	Sheet Name
DW.01	COVER SHEET
DW.02	SITE PLAN
DW.2.1	SIGNAGE PLAN
DW.03	GROUND FLOOR PLAN
DW.04	KITCHEN DETAILS
DW.05	TOILET DETAILS
DW.06	ELEVATIONS
DW.07	ELEVATIONS
DW.08	SEDIMENT CONTROL
DW.09	LANDSCAPE PLAN
DW.10	STORMWATER CONCEPT
DW.11	FINISHES SCHEDULE
DW.12	NOTIFICATION PLAN

SITE LOCATION

arc INOVATIONZ
design & construction
Office: 46 Buller St, North Parramatta, NSW 2151
Tel:02 96 307 307
Fax: 02 8076 1576
M:0423 211 914
www.arcinovationz.com.au
info@arcinovationz.com.au

General Notes:
1.Figured Dimensions shall be taken in preferance to scaling.
2.Check all Dimensions and Levels on site before commencing work or ordering materials.
3.All Existing Ground Lines and tree locations are approximate, therefore to be verified on-site by the builder.
4.Any discrepancies to be reported to arcINOVATIONZ before proceeding.
5.All Workmanship and materials shall comply with all the relevant codes and Australian Standards.
6.All Plans are copyright work of arcINOVATIONZ.

CLIENT:

PROJECT :

LOT 509 & 510, DP-1270343 53 & 57 SPITFIRE PLACE, RUTHERFORD

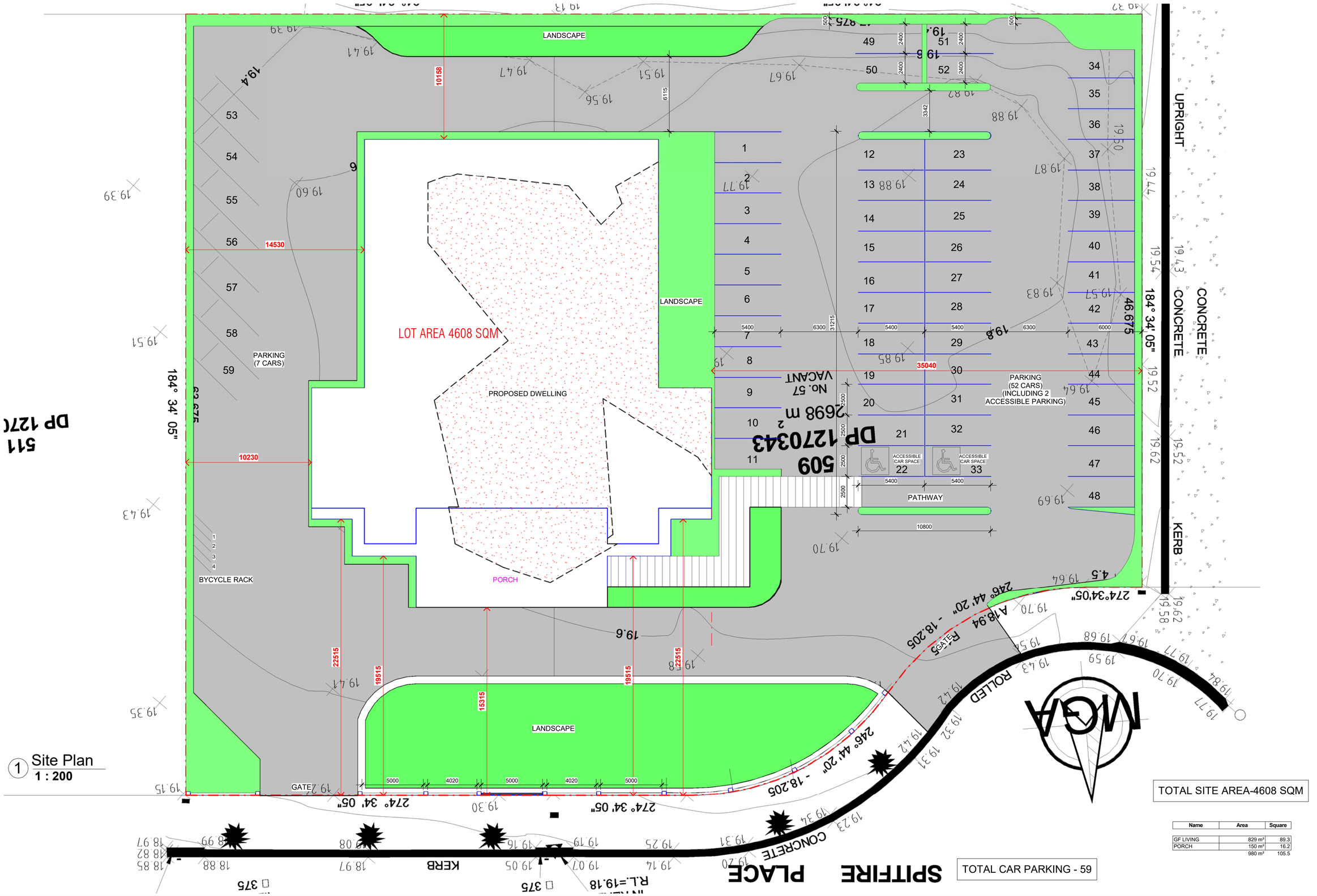
COVER SHEET

Project number	202100162
Date	08.10.21
Drawn by	DM
Checked by	JS
Scale	

DW.01

DESCRIPTION	DATE	ISSUE

G:\Shared drives\2021\202100162_Newcastle Sikh temple\CAD\Newcastle Maitland Sikh Temple _08.10.21.rvt



1 Site Plan
1 : 200

Name	Area	Square
GF LIVING	829 m²	89.3
PORCH	150 m²	16.2
	980 m²	105.5

arc INOVATIONZ
design & construction
Office: 46 Buller St, North Parramatta, NSW 2151
Tel:02 96 307 307
Fax: 02 8076 1576
M:0423 211 914
www.arcinovationz.com.au
info@arcinovationz.com.au

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CLIENT:

PROJECT :

LOT 509 & 510, DP-1270343 53 & 57 SPITFIRE PLACE, RUTHERFORD

SITE PLAN

Project number	202100162
Date	08.10.21
Drawn by	DM
Checked by	JS
Scale	1 : 200

DW.02

DESCRIPTION	DATE	ISSUE

G:\Shared drives\2021\202100162_Newcastle Sikh temple\CAD\Newcastle Maitland Sikh Temple_08.10.21.rvt

LANDSCAPE

LANDSCAPE

LOT AREA 4608 SQM

PROPOSED DWELLING

PARKING
(7 CARS)

PARKING
(52CARS)
(INCLUDING 2
ACCESSIBLE PARKING)

ACCESSIBLE
CAR SPACE

ACCESSIBLE
CAR SPACE

PATHWAY

BYCYCLE RACK

PORCH

DROP OFF ZONE

LANDSCAPE

GATE

GATE

ENTRY ONLY

ENTRY ONLY

ROLLED CONCRETE

SPITFIRE PLACE

CONCRETE

UPRIGHT

KERB

KERB

DP 1270343
509
2698 m²
No. 57
VACANT

DP 1270
511

184° 34' 05"

184° 34' 05"

46.675

63.675

14530

10230

34800

10158

22515

19515

15315

5000

4020

5000

4020

5000

2500

5400

5400

10800

4.5

NO ENTRY

STOP

ENTRY ONLY

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SIGNAGE PLAN 1 : 200	CLIENT:
Office: 46 Buller St, North Parramatta, NSW 2151 Tel:02 96 307 307 Fax: 02 8076 1576 M:0423 211 914 www.arcinovationz.com.au info@arcinovationz.com.au	PROJECT : LOT 509 & 510, DP-1270343 53 & 57 SPITFIRE PLACE, RUTHERFORD

SIGNAGE PLAN

Project number	202100162	DW.2.1	
Date	08.10.21		
Drawn by	Author		
Checked by	Checker	Scale	1 : 200

DESCRIPTION	DATE	ISSUE

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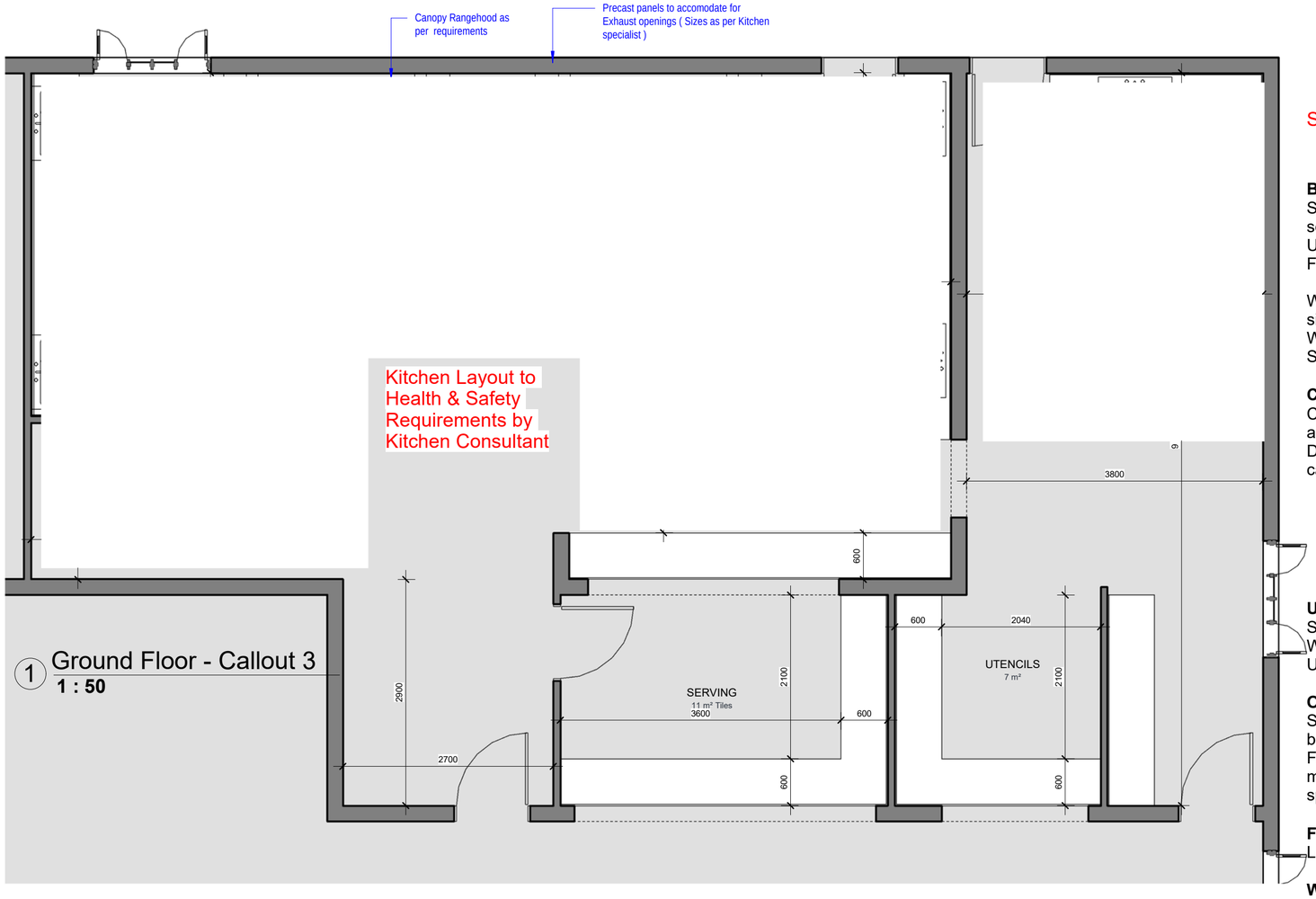

STAINLESS STEEL

Benching
Stainless steel bench tops should be 1.6 mm, 304 grade, and No 4 (satin) finish complete with waterproof plywood and sealed with epoxy resin, rendering underside vermin and moisture proof.
Under side of benches to be sealed to walls, rendering vermin proof by silicone seal and stainless steel angle.
Front of bench to be bent down minimum 50 mm and under 15 mm so as to form a fascia.

Where specified, all bench tops to have minimum of 100 mm splash back with 45 degree tile edge which should be silicone sealed to wall.
Wet areas or draining boards will be recessed 20 mm from working height forming a wet edge.
Subject to individual specification raised stainless steel sections may be required for relevant tap wear.

Cupboards
Cupboard shall be manufactured from minimum 1.2 mm stainless Steel complete with stainless steel ends, base, back, adjustable shelf and hinged (piano type hinges plus magnetic lock) or sliding doors.
Doors to be complete with recessed type handles and edges are to be folded for strength, being careful not to form a cavity.

Under Shelves
Should be formed as an integral part of the bench.
Where under shelf is not required, a horizontal tube shall be welded to legs for strength and support.
Under shelves to be stiffened or braced where necessary.

Over Shelves
Stainless steel over shelves should be 1.2 mm, 304 grade, No 4 (satin) finish and supported on 32 mm sq stainless steel brackets complete with welded and polished ends.
Front of over shelf to be bent down minimum 25 mm and under 15 mm so as to form a fascia, rear to have minimum 25 mm
splashback.

Frame
Legs to be maximum 1200 mm centres.

Wall Cladding
Wall cladding shall be manufactured from 1.2 mm stainless steel sheet with No 4 finish, folded edges and securely bonded to 6 mm fibro cement sheeting.

Sinks
All stainless steel sinks shall have minimum 25 mm radius to corners.All stainless steel sinks are to be complete with in-sink dry basket arresters.Each sink must have in-built fall to drain.
Bowls must be fully welded, ground and polished on the inside and polished to visible faces on the outside (satin finish).

Troughs/Perforated Insert
Shall be manufacture and welded similarly as sinks and to be complete with in-built fall to 20 mm drain spigot.
Perforated insert will be complete with finger hole for easy removal.

Hand Basins
It is currently a NSW health code regulation that an active hand basin be positioned every 5 metre within a commercial kitchen.
Bowl size should be a minimum of 350 mm x 350 mm.
Spout to hand basin shall be of either knee operated or electronic as specified complete with relevant mixing sets and valves.
Each hand basin must have relevant soap and towel dispensers installed above.

EXHAUST VENTILATION
· It is the Contractors' responsibility that the exhaust ventilation system relevant to the
Contractors' works is compliant with Australian Standard Regulations AS1668 parts 1 and 2.
· Canopies to be manufactured from minimum 1.2 mm stainless steel welded sheet complete with approved honeycomb filter system.
· Where the installation of the total system is required it is the Contractors' responsibility to also supply a Certificate of Compliance on completion.
· It is the Contractors' responsibility to coordinate the installation of the exhaust canopy with the relevant Mechanical Contractor. This will include spigot positioning and sizes to suit ductwork.
· External pop rivets will not be accepted.
· Recessed fluorescent light assemblies to be installed at one metre spacings.

FIRE REGULATIONS

· All gas equipment is to be fitted with integral flame failure devices.
· The Contractor should assist in coordinating relevant penetrations to suit Smoke Detectors and/or Fire Sprinkler Systems.
· Any penetrations and/or core holes made by the Contractor must comply with relevant statutory regulations eg fire collars.

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KITCHEN DETAILS

Project number	202100162
Date	08.10.21
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Checked by	JS
Scale	1 : 50

DW.04

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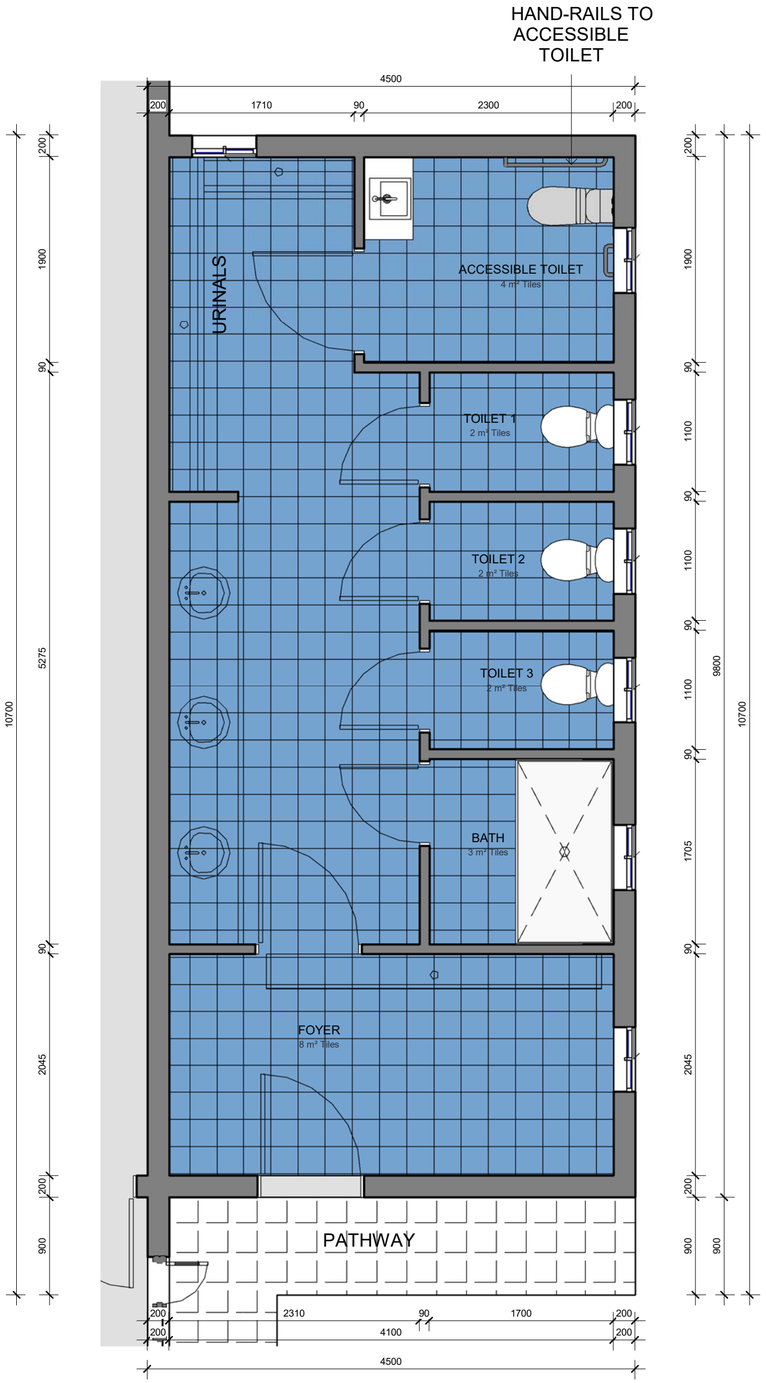


1 Ground Floor - Callout 1
1 : 40

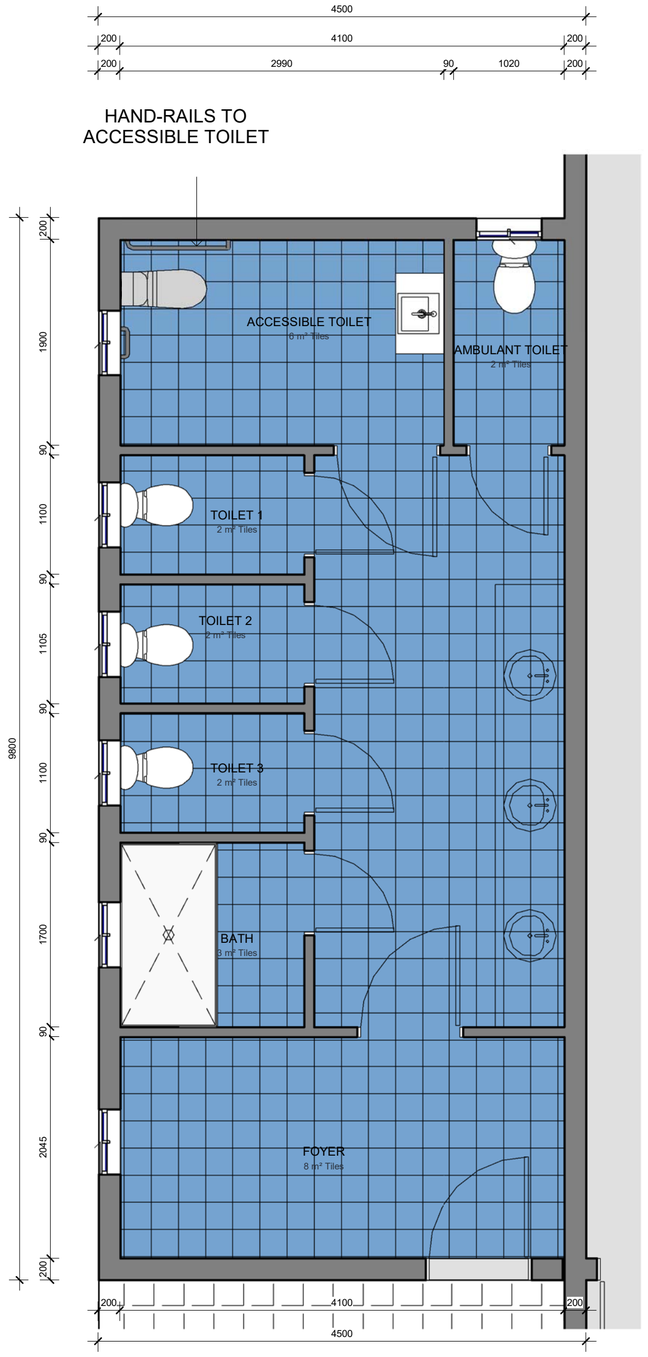
MALE TOILETS

Requirements for an Ambulant Toilet are detailed in Clause 16 of AS 1428.1 and include:

- Clear circulation spaces of 900mm x 900mm on either side of the airlock (toilet entry) door
- 900-920mm width inside the cubicle
- Full signage specifications in the AS1428.1
- 900mm distance between the door swing (if door is swinging inwards) and the toilet pan or 900mm distance between the door opening and the toilet pan (if door is swinging outwards)
- The washbasin for each ambulant toilet must be outside the circulation spaces outlined above
- A minimum clear opening in the ambulant cubicle doorway of 700mm

Requirements for an Accessible Bathroom include:

- 2300 x 1900mm clear circulation space.
- Full signage specifications in the AS1428.1.
- Doors can be hinged or sliding but must be easy to open (less than 20 Newtons).
- In use indicator / privacy latch with a bolt or catch and easy to grip snib which is at least 45mm from the centre of the spindle.
- Wash basin to be provided at 800 to 830mm from floor and allow for room underneath for footplate and knee clearance.



FEMALE TOILETS

2 Ground Floor - Callout 2
1 : 40

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TOILET DETAILS

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Scale 1 : 40

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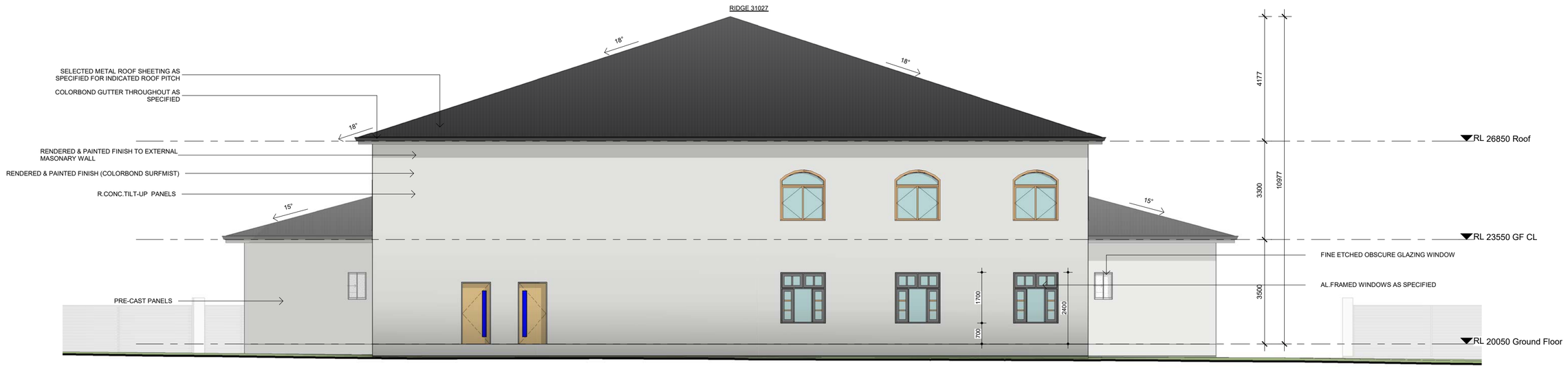
1 East
1 : 100



2 North
1 : 100

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ELEVATIONS

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DW.06

DESCRIPTION	DATE	ISSUE

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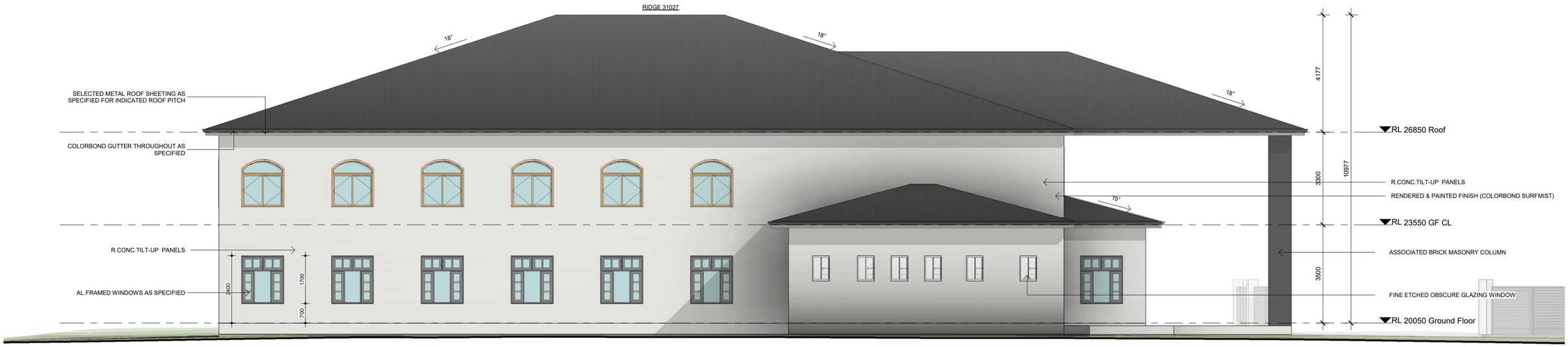
1 South
1 : 100



2 West
1 : 100

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ELEVATIONS

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DW.07

DESCRIPTION	DATE	ISSUE

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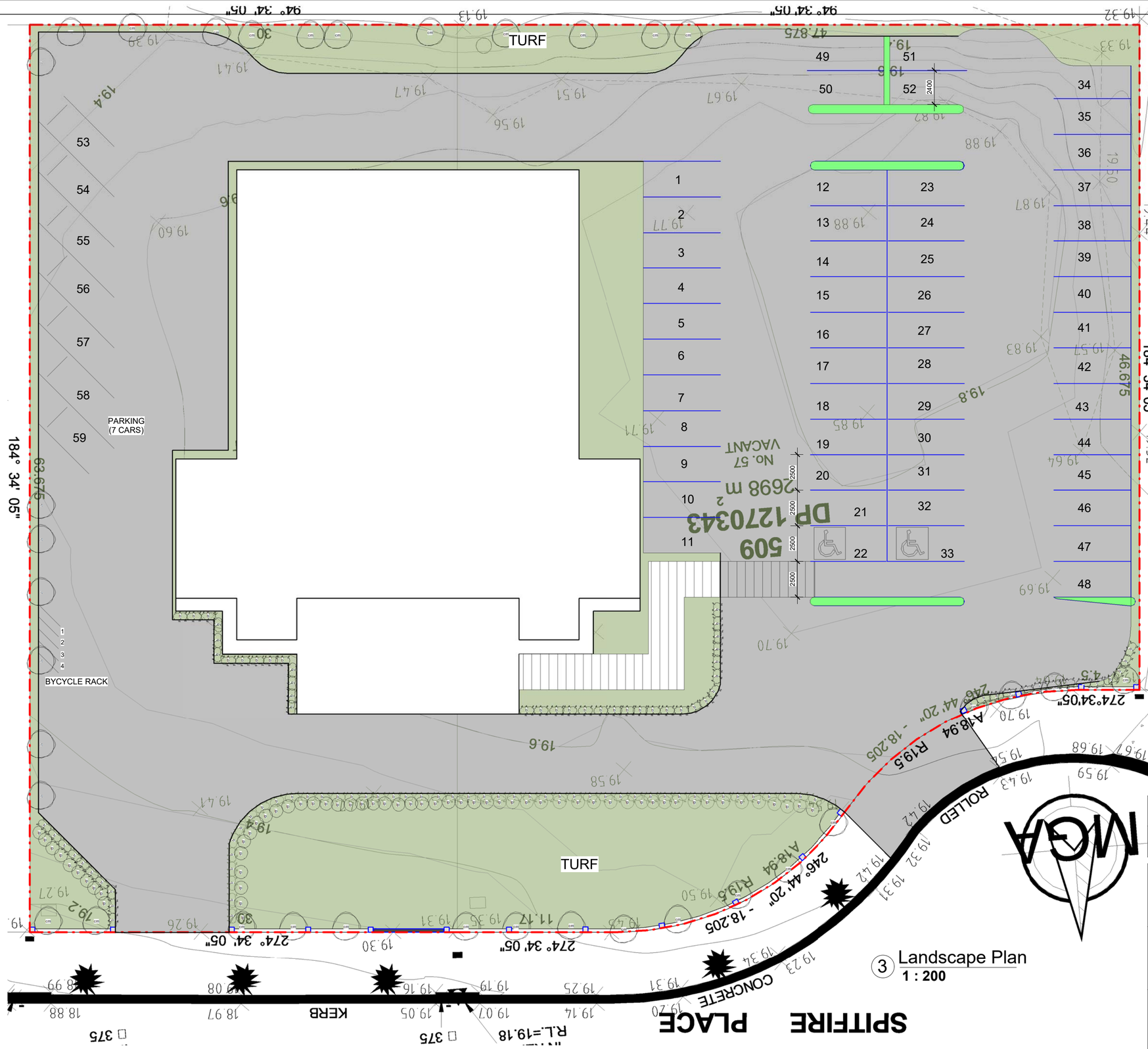


3 Landscape Plan
1 : 200

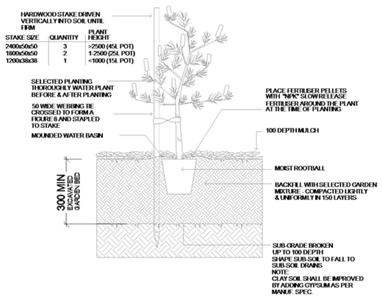
LAND SCAPE NOTES

TURF
EXCAVATE/ GRADE AREAS TO BE TURFED TO 120MM BELOW THE REQUIRED FINISHED LEVELS. DO NOT EXCAVATE WITH 1500MM OF ANY EXISTING TREE TO BE RETAINED. ENSURE THAT ALL OF THE SURFACE WATER RUNOFF IS TO BE DIRECTED TOWARDS THE INLET PITS, KERBS ETC. AD AWAY FROM BUILDINGS. ENSURE THAT NO POOLING OR PONDING WILL OCCUR. RIP SUBGRADE TO 150MM DEEP. INSTALL 100MM DEPTH OF IMPORTED TOPSOIL. JUST PRIOR TO SPREADING TURF, SPREAD 'SHIRLEYS NO. 17 LAWN FERTILISER' OVER THE TOPSOIL AT THE RECOMMENED RATE. LAY SIR WALTER BUFFALO TURF ROLLS CLOSELY BUTTED. FILL ANY SMALL GAPS WITH TOPSOIL. WATER THOROUGHLY.

STABILISED CRUSHED SANDSTONE
PATH TO BE CRUSHED SANDSTONE OVER WEEDMAT TO DEPTH OF 50MM. STABILSED WITH 5% CEMENT.

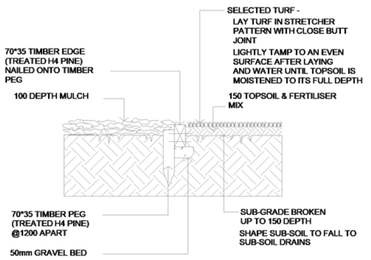
TIMBER EDGING
TREATED HARDWOOD EDGING. THE EDGES ARE TO BE LAID IN EVEN CURVES AND STRAIGHT LINES AS INDICATED ON THE PLAN. WHERE TIGHT CURVES ARE SHOWN SCORE TIMBER TO ACHIEVE MORE EVEN CURVES. THE TOP OF THE EDGE IS TO FINISH FLUSH WIH THE ADJACENT TURF AND MULCH LEVELS.

PLANTING AREAS
ENSURE THAT THE MASS PLANTING AREAS HAVE BEEN EXCAVATED TO 300MM BELOW FINISHED LEVELS. RIP TO A FURTHER DEPTH OF 150MM. SUPPLY AND INSTALL 300MM SOIL MIX IF REQUIRED OR IMPROVE EXISTING SOIL WITH COMPOST BLEND. SOIL MIX TO COMPRISE OF ONE PART APPROVED COMPOST TO THREE PARTS TOP SOIL. TOPSOIL SHALL BE EITHER IMPORTED TOPSOIL OR STOCKPILED SITE TOPSOIL (IF SUITABLE IE. NO CLAY). INSTALL 75MM OF SELECTED MULCH. MULCH TO BE ANL 'FOREST BLEND'.



2. TREE & SHRUB PLANTING IN GARDEN BED

NOTE :
DO NOT PLANT IN UNSUITABLE WEATHER CONDITIONS SUCH AS EXTREME HEAT, COLD, WIND OR RAIN
CLAY SOIL IS TO BE TREATED WITH CLAY BREAKER AND ORGANIC COMPOST



1. TURF & GARDEN EDGE DETAIL

NOTE :
ALIGNMENT OF BRICK EDGE SHALL BE EVEN & FREE FROM DIPS AND HUMPS.

Planting Schedule

CODE	BOTANICAL NAME	COMMON NAME	M.Ht	POT SIZE	QTY	IMAGE
Buxus - 1m	Buxus micropyllia japonica	Buxus	1m	300mm	106	
Crepe Myrtle - 4m	Lagerstroemia indica x fauriei 'Natchez'	Crepe Myrtle	4m	300mm	35	
Lilly Pily- 1.4m	Syzygium australe 'Select Form'	Lilly Pily	1.4m	200mm	59	

Grand total: 200

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LANDSCAPE PLAN

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DW.09

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APPENDIX B ASSET PROTECTION ZONES

APPENDIX 4

ASSET PROTECTION ZONE REQUIREMENTS

In combination with other BPMs, a bush fire hazard can be reduced by implementing simple steps to reduce vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

Careful attention should be paid to species selection, their location relative to their flammability, minimising continuity of vegetation (horizontally and vertically), and ongoing maintenance to remove flammable fuels (leaf litter, twigs and debris).

This Appendix sets the standards which need to be met within an APZ.

A4.1 Asset Protection Zones

An APZ is a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bush fire hazard.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at the NSW RFS Website www.rfs.nsw.gov.au.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Bush fire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, either from the ground level or through the tree canopy.

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the building;
- damage to the building asset from intense radiant heat; and
- ember attack.

The methodology for calculating the required APZ distance is contained within Appendix 1. The width of the APZ required will depend upon the development type and bush fire threat. APZs for new development are set out within Chapters 5, 6 and 7 of this document.

In forest vegetation, the APZ can be made up of an Inner Protection Area (IPA) and an Outer Protection Area (OPA).

A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.

Figure A4.1

Typical Inner and Outer Protection Areas.