*Reference number 4147*

**Member of the Fire Protection Association of Australia**

# *Lot 2, DP 23008, 46 Narrabeen Park Parade, Warriewood, NSW 2102.*

*Tuesday, 18 October 2022*

| | | | |
|---|---|---|---|
| Prepared and certified by: | Matthew Willis<br>*BPAD – Level 3 Certified Practitioner*<br>Certification No:<br>BPD-PA 09337 | | 18/10/2022 |
| Can this proposal comply with AS3959-2018 (inc section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019)? | | Yes | |
| What is the recommended AS 3959-2018 level of compliance? | | BAL-19 and BAL-12.5 | |
| Is referral to the RFS required? | | At the discretion of Council | |
| Can this development comply with the requirements of PBP? | | Yes | |
| Plans by "Gartner Trovato Architects" (Appendix 1) dated. | | 7/10/22 | |

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**Bushfire Planning Services**

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# Bushfire Risk Assessment

***Tuesday, 18 October 2022***

***Contact***

*Luke Trovato*
*Gartner Trovato Architects*
*PO Box 1122*
*Mona Vale NSW 2103*
*9979 4111*

***Subject Property***

*Lot 2, DP 23008*
*46 Narrabeen Park Parade*
*Warriewood NSW 2102*

## *BUSHFIRE RISK ASSESSMENT CERTIFICATE*

***THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT.***

| | |
|---|---|
| Property Address | Lot 2, DP 23008, number 46 Narrabeen Park Parade Warriewood |
| Description of the Proposal | Alterations and additions to an existing dwelling |
| Plan Reference | 7/10/22 |
| BAL Rating | BAL-19 and BAL-12.5 |
| Does the Proposal Rely on Alternate Solutions? | Subjective opinion used in the vegetation analysis |

**I, Matthew Willis of Bushfire Planning Services Pty Ltd** have carried out a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Planning for Bushfire Protection 2019 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby advise, in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203:

1. That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and

2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements*

*The relevant specifications and requirements being specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire Assessment Report, prepared for the above-mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection 2019.

| | |
|---|---|
| **REPORT REFERENCE** | *Tuesday, 18 October 2022* |
| **REPORT DATE** | *Tuesday, 18 October 2022* |
| **CERTIFICATION NO/ACCREDITED SCHEME** | *FPAA BPAD A BPD-PA 09337* |

*Attachments:*

- Bushfire Risk Assessment Report
- Recommendations

***SIGNATURE:*** --- ------ ***DATE:*** *-----Tuesday, 18 October 2022*

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# 1 Executive Summary.

Bushfire Planning Services has been requested by Mr Luke Trovato from Gartner Trovato Architects to supply a bushfire compliance report on lot 2, DP 23008, 46 Narrabeen Park Parade, Warriewood.

The works proposed for the subject lot are for the alterations and additions to an existing dwelling, see attached plans for details.

The subject lot is on the western side of Narrabeen Park Parade and at its closest point to the hazard the proposed new work has a separation distance to the east of approximately 42.6m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes down slope away from the property at an angle of approximately 18.69°.

For the purposes of this assessment this vegetation is considered to be remnant (rainforest equivelant).

The remaining vegetation within the study area is contained within the boundaries of established allotments and is managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development will be required to comply with the construction requirements of AS 3959-2018 BAL-19 on its exposed northern and eastern aspects, and BAL-12.5 on the southern and western aspects and any additional construction requirements contained within section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

The following table is a summary of the pertinent findings of this assessment.

| Aspect | North | East | South | West |
|---|---|---|---|---|
| **Vegetation type** | Managed land | Managed land/rainforest | Managed land | Managed land |
| **Slope** | N/A | 15-20 degrees downslope | N/A | N/A |
| **Setback within lot 2** | N/A | 4.8m | N/A | N/A |
| **Setback outside lot 2** | N/A | 37.8m | N/A | N/A |
| **Total setback** | N/A | 42.6m | N/A | N/A |
| **Bal level** | N/A | BAL-19 | N/A | N/A |

*Note: The above table is a summary of the significant variables used to determine the highest BAL for this proposal. THIS TABLE IS NOT INTENDED FOR CONSTRUCTION! Only the highest BAL level is shown, aspects marked as N/A will still have a BAL. Refer to section 11 for construction requirements for these other aspects.*

## 2 General.

This proposal relates to the alterations and additions to an existing dwelling on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2019 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2019. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

Analysis of this proposal using the “normal” methodologies for Bushfire attack results in what is considered to be an overestimation of the hazard’s potential as a bushfire source and would impose unnecessary cost and design impost on the proposal.

The mapped hazard is to the east and is separated from the subject lot by a road reserve and an area of managed parkland. The vegetation then begins as an area of Heath, an area of Coastal Sand Littoral Scrub/Forest and then either more Heath or water dependent on the direction taken.

By far the predominant bushfire hazard within the general area is Coastal Head Land Clay Heath and it could be reasonably argued that this is the predominant hazard, however, the area mapped as Coastal Sands Littoral Scrub/Forest needs consideration. In this instance the area of forest that is mapped as the hazard is less than 1 ha and as such the low threat vegetation clause of Planning for Bushfire Protection can arguably be applied and the vegetation downgraded to be equivalent to rainforest in its potential as a bushfire fuel.

It is acknowledged that this is a “out of the ordinary” approach to the vegetation analysis and as such, and to err on the side of caution, the vegetation for the entire area has been considered as remnant which is a greater hazard than Heath. The use of this methodology for the vegetation assessment results in a more practical, common sense outcome for this proposal.

## 3 Block Description.

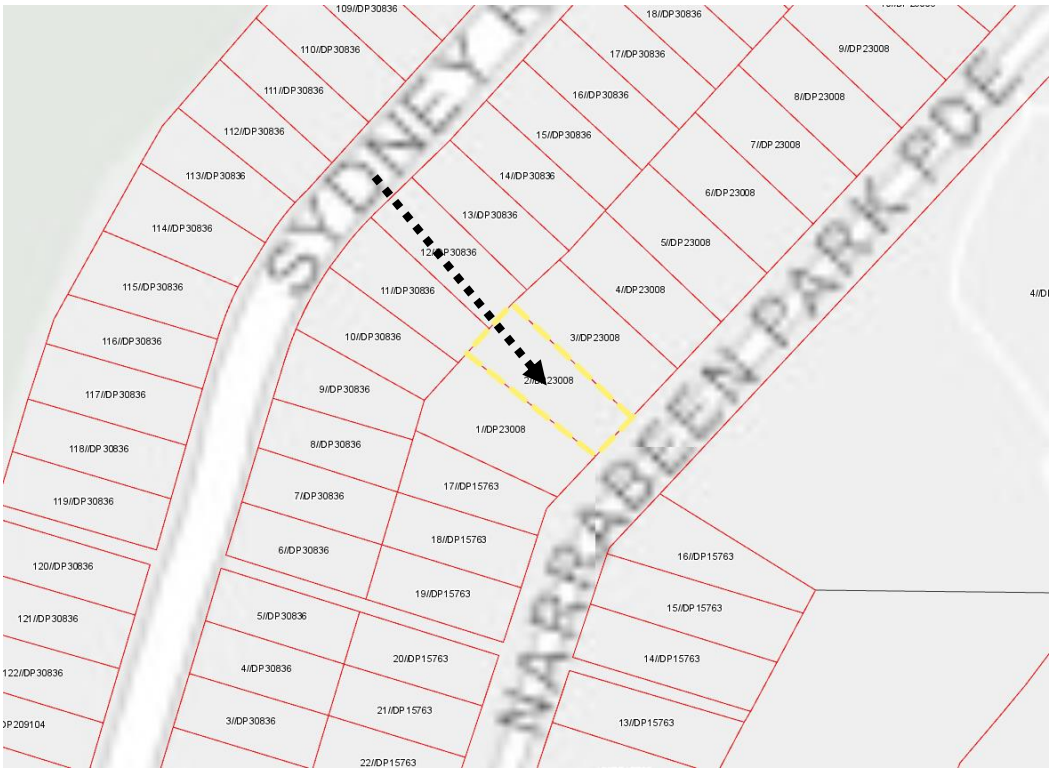
The subject block is situated on the western side of Narrabeen Park Parade in an established area of Warriewood.

The lot currently contains a multi-level class 1 dwelling.

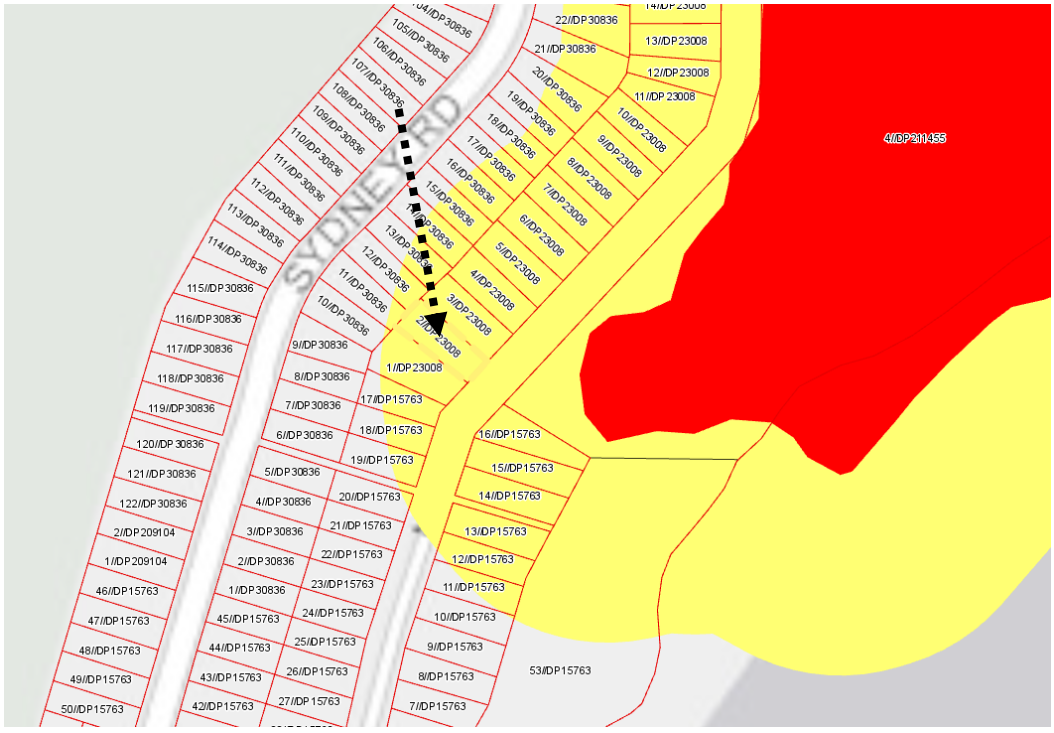
The lands surrounding the proposed site on the subject lot to a distance of at least 42.6m contain existing development or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 2
- DP; 23008.

- LGA; Northern Beaches.
- Area; 770.1m2.
- Address; 46 Narrabeen Park Parade, Warriewood.




*Map 1 shows the cadastral layout around the subject lot.*




*Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 2 to be within the buffer zone of category 1 bushfire vegetation.*

# 4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be largely managed land.

The major potential hazard to this development is the vegetation within an area of undeveloped land to the east.

The hazard to this proposal consists of 2 vegetation structures with the predominate hazard in the area identified as Coastal Headland Clay Heath. The hazard make up is; nearest to the property is a small area of Heath then an area of Coastal Sands Littoral Scrub-forest and then, the majority of the hazard, more heath or ocean dependant on where the run is taken.

The area of Coastal Sands Littoral Scrub-forest has a total area of mapped hazard of less than 1ha and arguably fits the criteria for downgrading to “remnant” status under Planning for Bushfire Protection.

Given “Remnant’ and Heath as the vegetation formations Remnant has been chosen to err on the side of caution as Remnant is a larger hazard than Heath.

For the purpose of this assessment and compliance with Planning for Bushfire Protection this area of undeveloped land is considered to be remnant (rainforest equivelant) and is the hazard to this proposal.

*Photo 1 - An overview of the vegetation within the general area.*

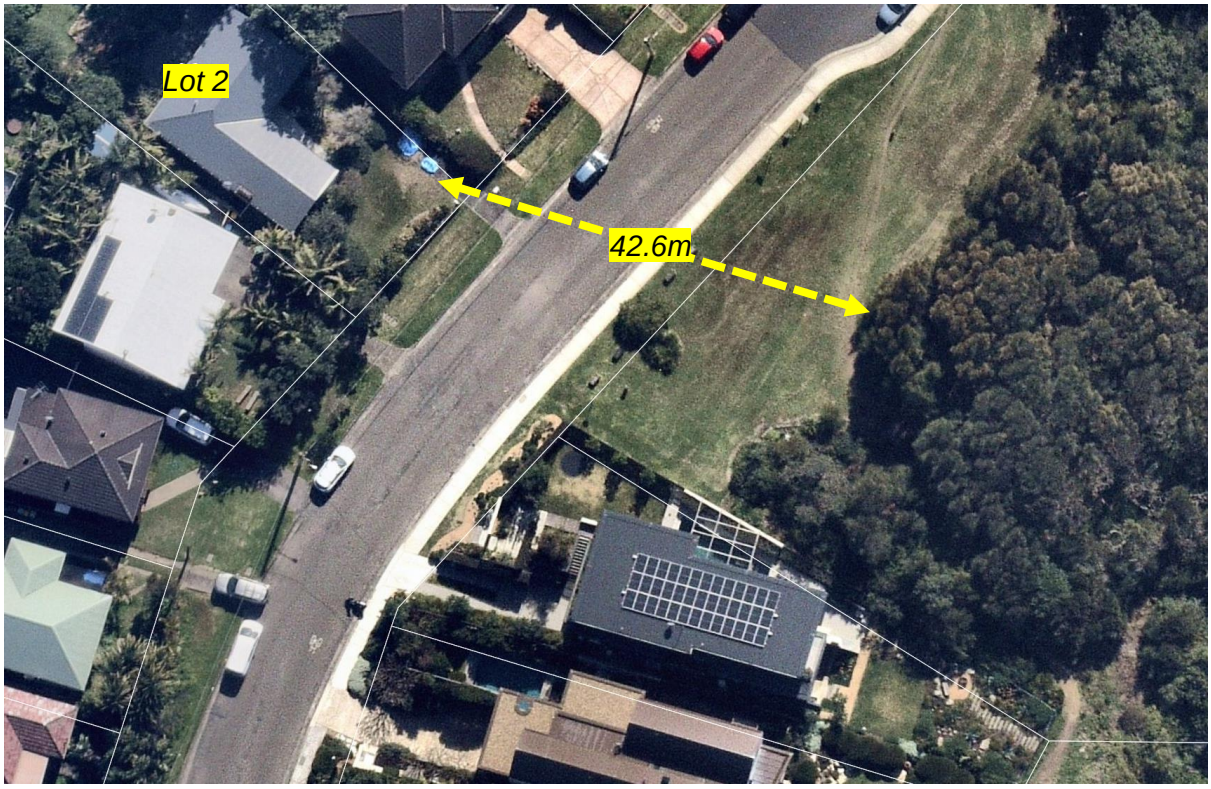



*Photo 2 is a closer view of the vegetation in the area.*

Table 1 outlines the vegetation orientation and distance from the development area.

| Aspect | North | East | South | West |
|---|---|---|---|---|
| **Vegetation type** | Managed land | Managed land/rainforest | Managed land | Managed land |
| **Setback within lot 2** | N/A | 4.8m | N/A | N/A |
| **Off-site setback** | N/A | 37.8m | N/A | N/A |
| **Total setback** | N/A | 42.6m | N/A | N/A |

*Table 1 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.*

## 5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block.

Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

# 6 Slope.

The slope of the land beneath the hazard that is most likely to influence bushfire behaviour has been calculated by topographical map analysis to a distance of 100m from the subject lot.

An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 2.

Table 2 shows the slope beneath the hazard.

| Aspect | North | East | South | West |
|---|---|---|---|---|
| **Slope** | N/A | 15-20 degrees downslope | N/A | N/A |

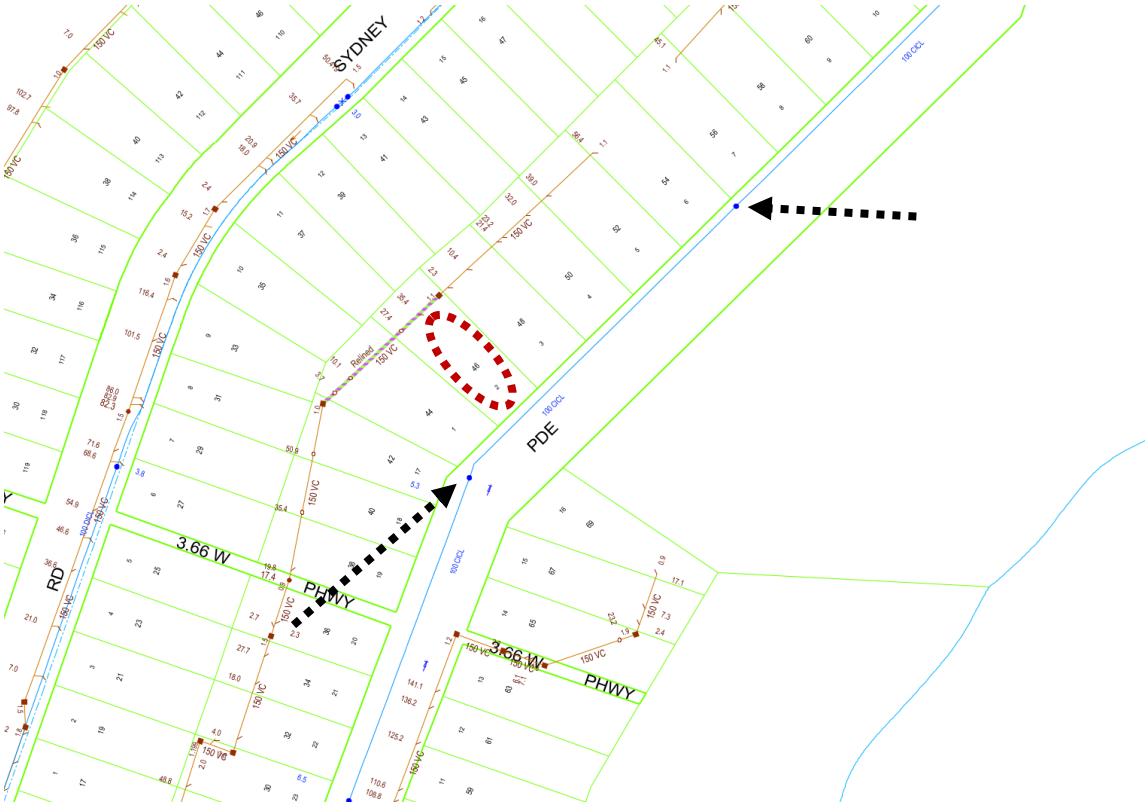
*Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.*

# 7 Utilities.

## 7.1 Water.

The subject block will be serviced by a reticulated water supply.

The following map is an extract from Sydney waters hydrant map. Hydrants are indicated by a blue dot on a blue line. As can be seen there is at least one hydrant point indicated within close proximity of the property.




## 7.2 Electricity

Main's electricity is available to the block.

## 7.3 Gas

It is unknown if either bottled or mains gas is to be altered or installed in this proposal.

# 8 Access/Egress.

Access to the development site will be via a short private driveway from Narrabeen Park Parade.

All roads in the vicinity are considered to be capable of carrying emergency services vehicles and pedestrian access onto the lot is also considered to be adequate.

# *Analysis of development and recommendation.*

## 9 Compliance with Planning for Bushfire Protection setbacks.

Based on the development design, vegetation classification, effective slope estimates and setback distance already outlined in this report the subject development will be required to comply with the deemed to satisfy construction requirements of AS 3959-2018 BAL-19 and the RFS requirements on all fire prone aspects.

The following table is an extract from table A1.12.5 of Planning for Bushfire Protection 2019. This table is used to calculate the BAL for a proposal in an area with an FDI of 100.

The variables that have already been outlined in this assessment are highlighted in red with the highest BAL highlighted in yellow.

| | Keith Vegetation Formation | BUSHFIRE ATACK LEVEL (BAL) | | | | |
|---|---|---|---|---|---|---|
| | | BAL-FZ | BAL-40 | BAL-29 | BAL-19 | BAL-12.5 |
| 15-20 DEGREES DOWNSLOPE | Arid-Shrublands (acacia and chenopod) | < 7 | 7 -< 10 | 10 -< 16 | 16 -< 23 | 23 -< 100 |
| | Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland | < 46 | 46 -< 56 | 56 -< 73 | 73 -< 92 | 92 -< 100 |
| | Forested Wetland (excluding Coastal Swamp Forest) | < 19 | 19 -< 26 | 26 -< 37 | 37 -< 50 | 50 -< 100 |
| | Freshwater Wetlands | < 6 | 6 -< 8 | 8 -< 13 | 13 -< 18 | 18 -< 100 |
| | Grassland | < 13 | 13 -< 17 | 17 -< 26 | 26 -< 36 | 36 -< 50 |
| | Grassy and Semi-Arid Woodland (including Mallee) | < 24 | 24 -< 32 | 32 -< 44 | 44 -< 59 | 59 -< 100 |
| | Rainforest | < 23 | 23 -< 30 | 30 -< 42 | 42 -< 56 | 56 -< 100 |
| | Short Heath | < 11 | 11 -< 15 | 15 -< 23 | 23 -< 32 | 32 -< 100 |
| | Tall Heath | < 19 | 19 -< 25 | 25 -< 36 | 36 -< 49 | 49 -< 100 |

For the purpose of this assessment the eastern aspect has been chosen as the most potentially hazardous aspect due to the effective slope, potential run of fire and the prevailing fire weather of the area.

## 10 Siting.

The current site provides adequate separation between the proposed building and surrounding vegetation for a compliant structure to be built.

Recommendation;

Nil.

# 11 Construction and design.

All new work is to be undertaken in accordance with the relevant requirements of the NCC and AS3959 2018. The following recommendations are a minimum level of construction. Constructing the proposal to a higher level than that recommended is allowable under AS3959.

Recommendation; all new work to the northern and eastern aspects.

1. New construction on the northern and eastern aspects shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
2. New construction on the northern and eastern aspects shall also comply with the requirements of BAL-19 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard “National Standard Steel Framed Construction in Bushfire Areas” and any additional construction requirements contained within section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

Recommendation; all new work to the southern and western aspect.

3. New construction on the southern and western aspects shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
4. New construction on the southern and western aspects shall also comply with the requirements of and BAL-12.5 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard “National Standard Steel Framed Construction in Bushfire Areas” and any additional construction requirements contained within section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.
5. New roofing valleys and guttering should be fitted with a non-combustible leaf protection to stop the accumulation of debris.

*AS-3959 2018 is available as PDF from;*

https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

# 12 Utilities.

## 12.1 Water.

The proposed development will have access to a reticulated water supply. There is at least one hydrant indicated within the required distance from the dwelling.

Recommendation;

Nil.

## 12.2 Electricity and Gas.

Recommendation;

6. Any new electricity or gas connections are to comply with the requirements of table 7.4a of Planning for Bushfire Protection.

# 13 Asset Protection Zone (APZ).

The Asset Protection Zone is *"An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level".*

Recommendation;

7. At the commencement of building works and in perpetuity the entire property shall be managed as an Asset Protection Zone in accordance with the requirements of Planning for Bushfire Protection, the RFS document Standards for Asset Protection Zones and in a manner that does not create a bushfire hazard to the property.

# 14 Landscaping.

Recommendation;

8. Any new fencing is to be constructed in accordance with section 7.6 of Planning for Bushfire Protection 2019.
9. Any new landscaping to the site is to comply with the principles of Appendix 4 and section 3.7 of Planning for Bush Fire Protection 2019. In this regard the following landscaping principles are, where applicable, to be incorporated into the development[1]:
    - Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths and driveways;
    - Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;
    - Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
    - Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
    - Planting should not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters);
    - When considering landscape species consideration needs to be given to estimated size of the plant at maturity;

[1] *Refer to referenced documents for a complete description.*

- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such timber garden furniture way from the building; and
- Use of low flammability vegetation species.

## 15 Constraints on the subject block.

None known.

Recommendation;

Nil

## 16 Access/Egress.

All roads in the area are considered to be capable of handling emergency service vehicles. Access from the roadway onto the property is also considered to be adequate for firefighting purposes.

Recommendation

Nil

## 17 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

| | |
|---|---|
| APZ<br>A defendable space is provided onsite.<br>An APZ is provided and maintained for the life of the development. | Achievable with the implementation of the recommendations in section 13 |
| SITING AND DESIGN:<br>Buildings are sited and designed to minimise the risk of bush fire attack. | Achievable with the implementation of the recommendations in section 10 |

| | |
|---|---|
| CONSTRUCTION STANDARDS:<br>It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact. | Achievable with the implementation of the recommendations in section 11 |
| ACCESS<br>Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7). | Achievable with the implementation of the recommendations in section 16 |
| WATER AND UTILITY SERVICES:<br>• adequate water and electricity services are provided for firefighting operations<br>• Gas and electricity services are located so as not to contribute to the risk of fire to a building. | Achievable with the implementation of the recommendations in section 12 |
| LANDSCAPING:<br>• it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions. | Achievable with the implementation of the recommendations in section 14 |

# 18 Conclusions.

Based on the above report and with the implementation of the recommendation contained within this report the consent authority should determine that this development can comply with the requirements of AS 3959-2018 and 'Planning for Bushfire Protection' guidelines.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers' experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and

standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

If any further clarification is required for this report, please do not hesitate to contact me using the details above.

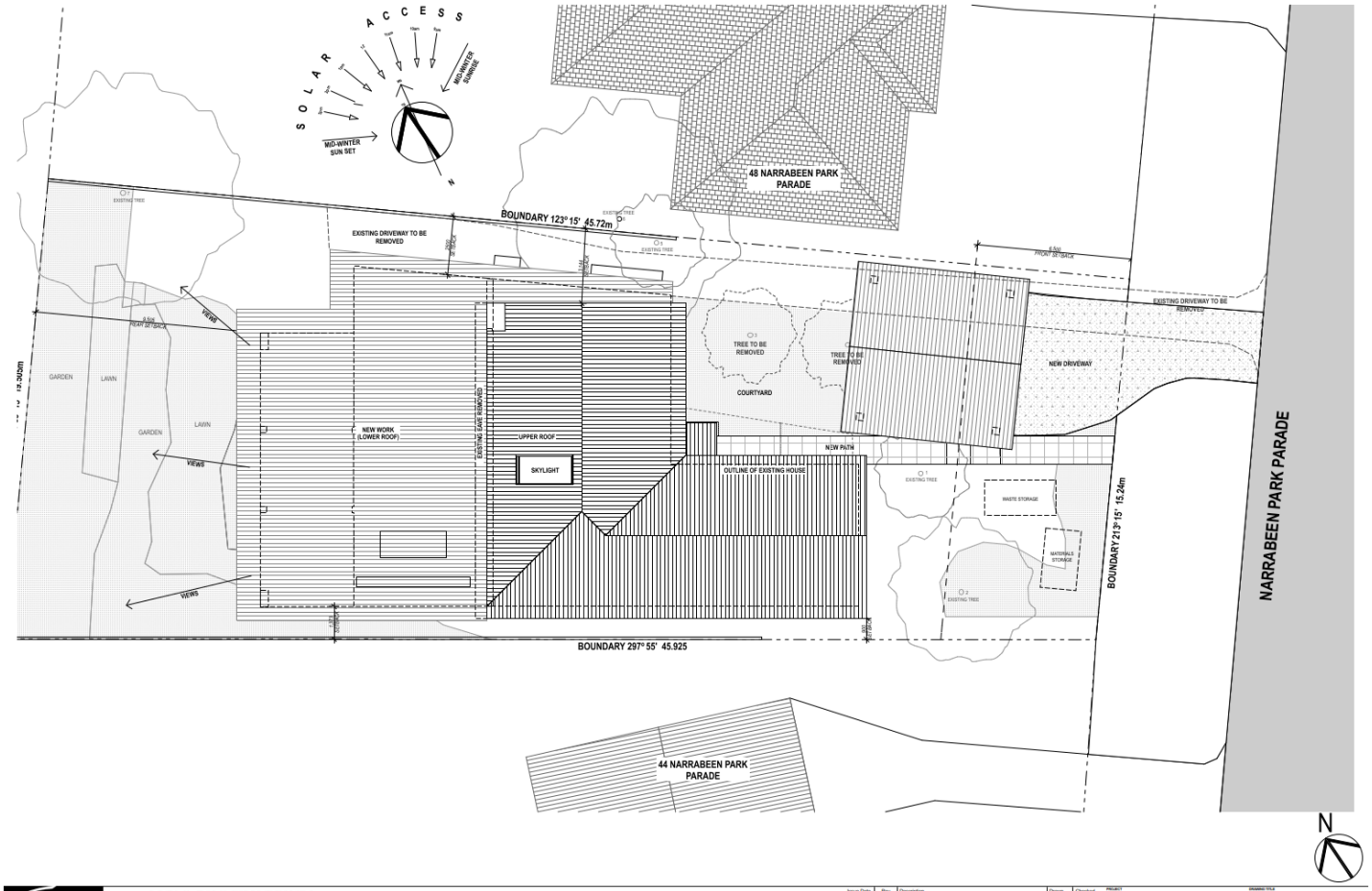
Yours Sincerely

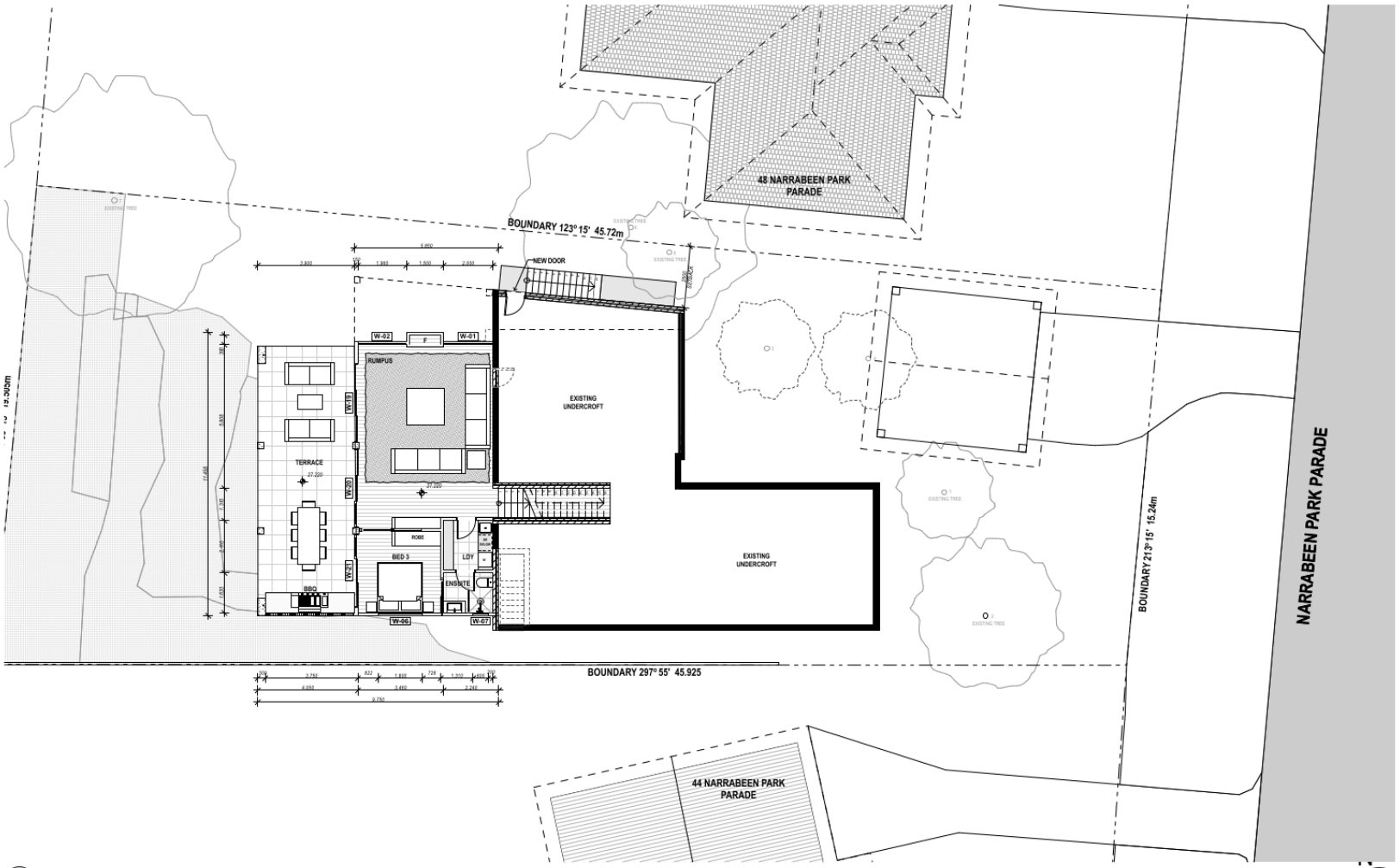
***Matthew Willis***
*Grad Dip Planning for Bushfire Prone Areas*
*Bushfire Planning Services Pty Limited*

# 19 References.


- *Australian Building Codes Board (2019). National Construction Code Volume One - Building Code of Australia. ABCB*
- *Australian Building Codes Board (2019). National Construction Code Volume two - Building Code of Australia. ABCB.*
- *Keith, D.A. (2004). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation.*
- *National Association of Steel Framed Housing (2014). "Steel Framed Construction in Bush Fire Areas. NASH*
- *Ramsay, C and Rudolph, L (2003) "Landscape and Building Design for Bush fire Areas". CSIRO Publishing, Collingwood.*
- *Resources and Energy NSW (2016). ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets. NSW Government*
- *Rural Fire Service NSW (2005) "Standards for Asset Protection Zones"*
- *Standards Australia (2018). "AS 3959, Construction of buildings in bush fire prone areas".*
- *Standards Australia (2018). "AS/NZS 1530.8.1 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Radiant heat and small flaming sources".*
- *Standards Australia (2018). "AS/NZS 1530.8.2 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Large flaming sources".*
- *Standards Australia (2014). "AS/NZS 1596 The storage and handling of LP Gas".*

# 20 Appendix 1 - Plans .






1 LOWER GROUND
Scale 1:100

GARTNERTROVATO ARCHITECTS

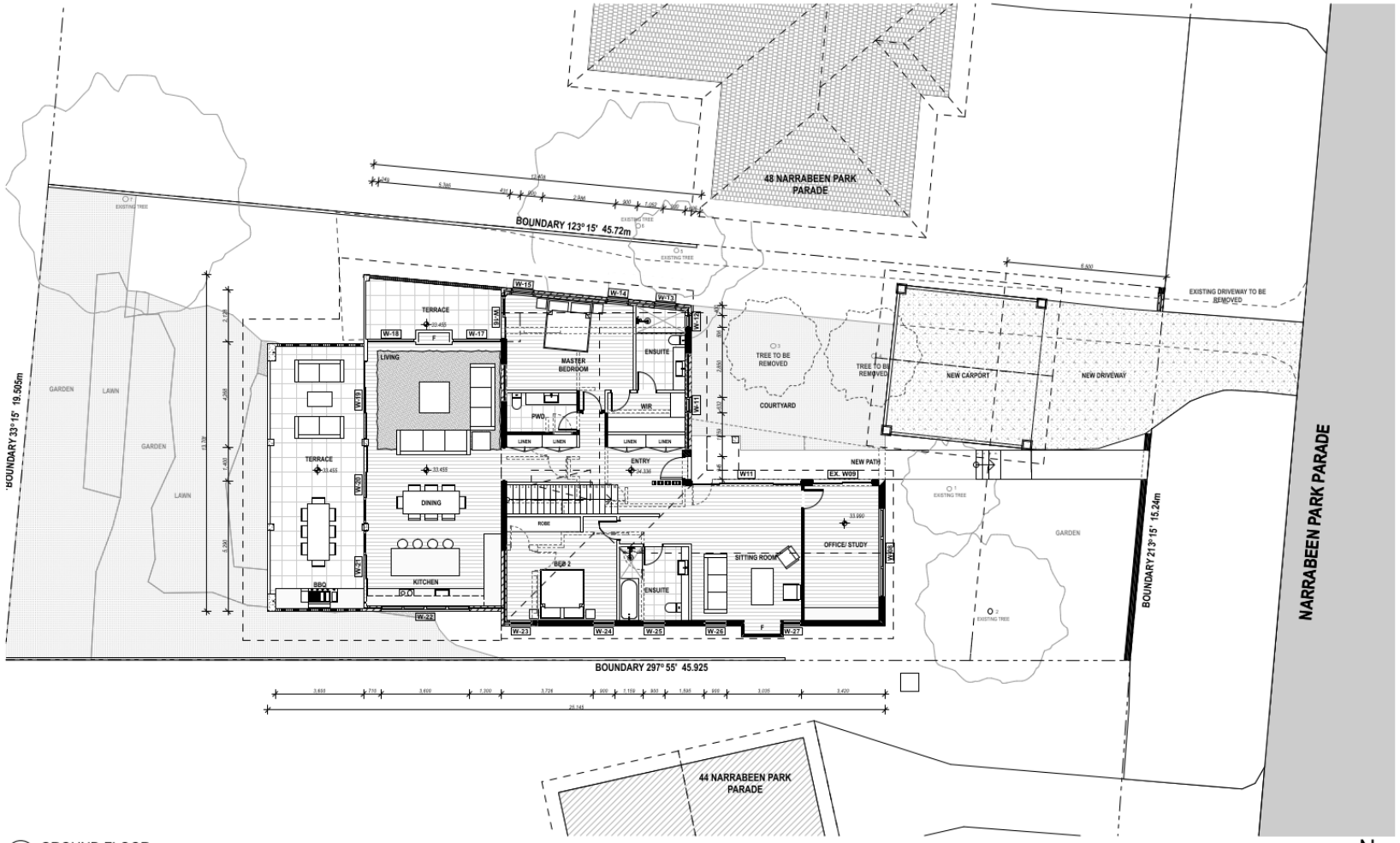
LOWER GROUND FLOOR PLAN

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

PROJECT
STEELE
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

DRAWING TITLE
LOWER GROUND FLOOR

| SCALE | DRAWN BY | PLOT DATE |
|---|---|---|
| 1:100 @ A2 | IA/ LT | 7/10/22 |
| PROJECT NO. | DRAWING NO. | REVISION |
| 2229 | DA-02 | A |




1 GROUND FLOOR
Scale 1:100

GARTNERTROVATO ARCHITECTS

GROUND FLOOR PLAN

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

PROJECT: STEELE
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

DRAWING TITLE: GROUND FLOOR

| SCALE | DRAWN BY | PLOT DATE |
|---|---|---|
| 1:100 @ A2 | IA/ LT | 7/10/22 |
| PROJECT NO. | DRAWING NO. | REVISION |
| 2229 | DA-03 | A |

N

GARTNERTROVATO ARCHITECTS

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E sta@gt-t.com.au

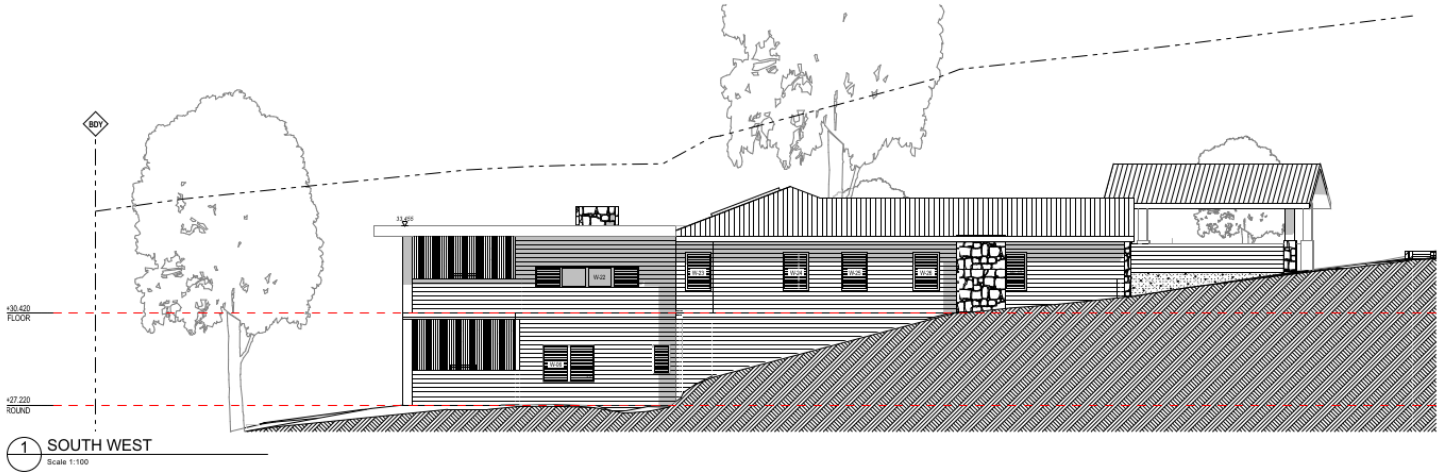
**ELEVATION 01**

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

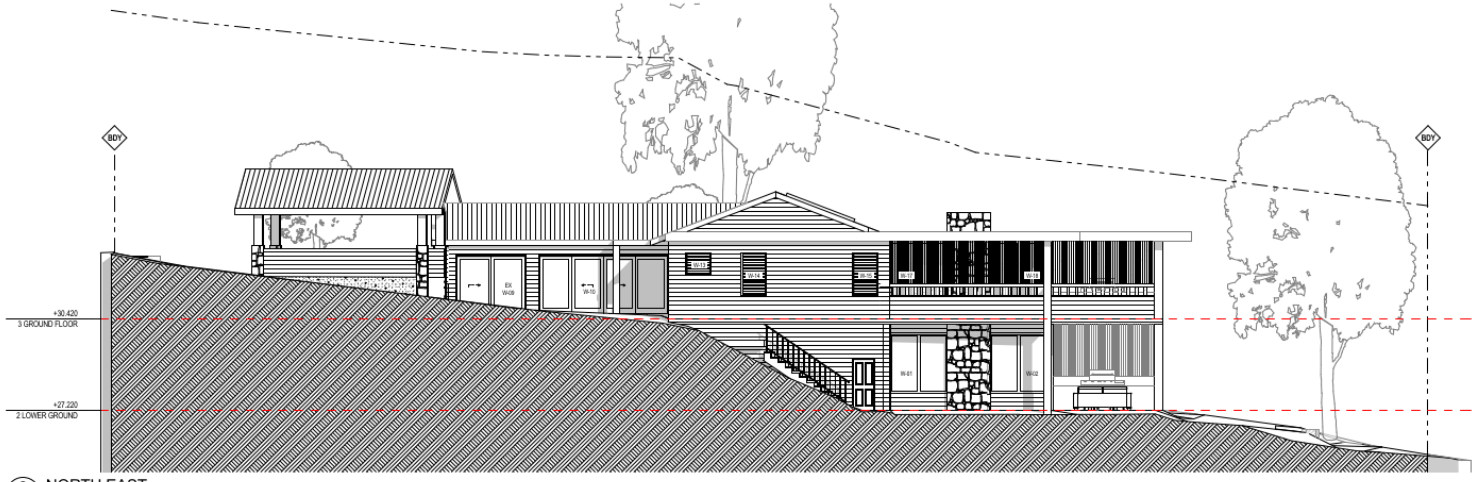
PROJECT
**STEELE**
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

DRAWING TITLE
ELEVATION SHEET 01

| SCALE | DRAWN BY | PLOT DATE |
|---|---|---|
| 1:100 @ A2 | IA/ LT | 7/10/22 |
| PROJECT NO. | DRAWING NO. | REVISION |
| 2229 | DA-04 | A |




1 SOUTH WEST
Scale 1:100




2 NORTH EAST
Scale 1:100

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ELEVATION 02

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

PROJECT
STEELE
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

DRAWING TITLE
ELEVATION SHEET 02

| SCALE | DRAWN BY | PLOT DATE |
|---|---|---|
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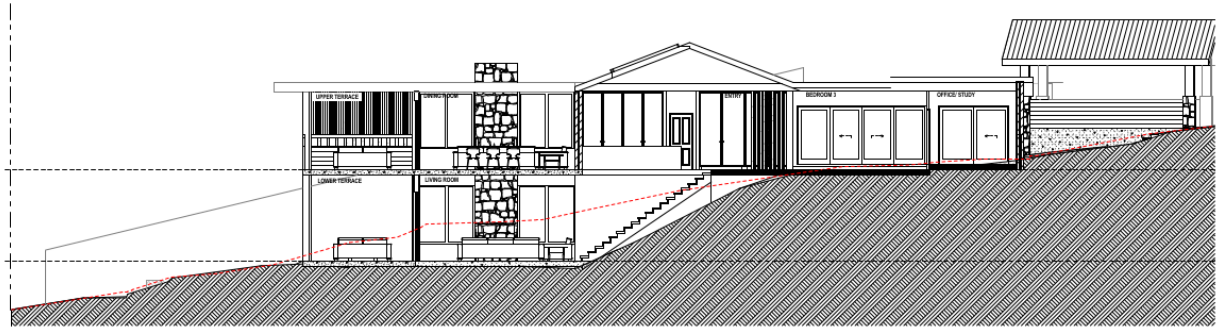
| PROJECT NO. | DRAWING NO. | REVISION |
| 2229 | DA-05 | A |

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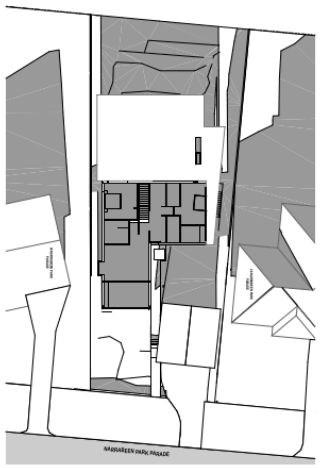
**SECTION**

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

PROJECT
**STEELE**
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

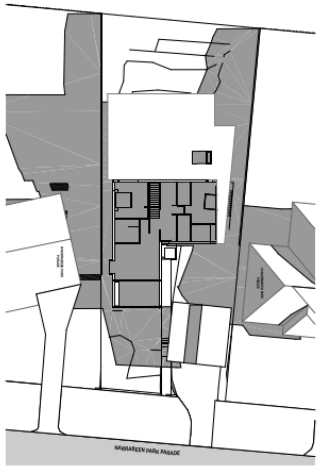
DRAWING TITLE
SECTION

| SCALE | DRAWN BY | PLOT DATE |
|---|---|---|
| 1:100 @ A2 | IA/ LT | 7/10/22 |
| PROJECT NO. | DRAWING NO. | REVISION |
| 2229 | DA-06 | A |

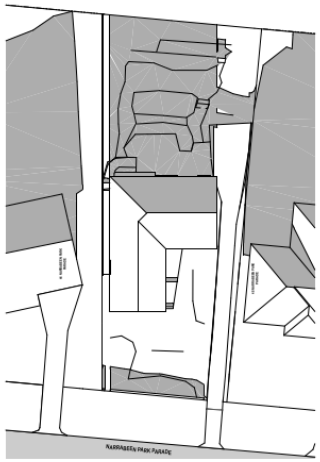


NEW HOUSE - 9am

NEW HOUSE - 12pm

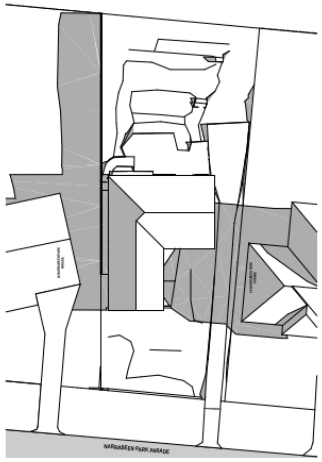


NEW HOUSE - 3pm



EXISTING - 9am

EXISTING - 12pm



EXISTING - 3pm

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GARTNERTROVATO ARCHITECTS

SHADOW DIAGRAMS

| Issue Date | Rev | Description | Drawn | Checked |
|---|---|---|---|---|
| 20/09/22 | A | ISSUE FOR DA | | |

PROJECT: STEELE
ALTERATIONS AND ADDITIONS
No. 46 NARRABEEN PARADE WARRIWOOD
SITE LOT No 46. D.P. 23008

DRAWING TITLE: SHADOW DIAGRAMS
SCALE: 1:200 @ A2
DRAWN BY: IA/ LT
PLOT DATE: 7/10/22
PROJECT NO.: 2229
DRAWING NO.: DA-07
REVISION: A