Bushland Protection Systems
Specialising in
BUSHFIRE HAZARD
PLANNING & MITIGATION

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BUSHFIRE HAZARD ASSESSMENT AND MITIGATION PLAN

PROPOSED RESIDENTIAL DEVELOPMENT
IN
Precinct 4H ROL8
Yarrabilba

FOR

Stockland

DATED

17th July 2025

A Bushfire Mitigation Plan is designed to identify and minimise the potential bushfire risk to a given property and to help property owner/occupiers to minimise bushfire risk to themselves, their property and their neighbours, although it cannot completely eliminate that risk. Ultimately it is a community responsibility to protect the environmental values, life and property in their area.

Bushland Protection Systems
Document Control:

Version	Date	Details	Prepared	Checked
1	27/06/25	Draft BMP	Brett Bain	
2	17/07/25	Finalised BMP	Brett Bain	

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1. Background

This plan is for the proposed residential development in Precinct 4 ROL 8 of Yarrabilba, as shown in Appendix 1 of this report.

This plan is based on the following material supplied by Stockland.

1.1. Precinct 04 – Application 8, Plan of Subdivision, drawn by RPS, Plan Ref: 150827-36, Dated 17/7/25, is attached as Appendix 1.

1.2. Precinct 04 – Application 8, Bushfire Hazard Assessment and Management Plan, drawn by RPS, Plan Ref: 150827-45, Dated 15/7/25, is attached as Appendix 2.

This plan is produced in accordance with:

- Bushfire hazard assessment in accordance with the Logan Planning Scheme 2015, Section 8.2.3 – Bushfire Hazard Overlay Code and Sc6.2.6 – Planning Scheme Policy 6, based on State Planning Policy 7/17, support document – Bushfire Resilient Communities 2019, under the Planning Act 2016.
- The Context Bushfire Hazard Assessment and Mitigation Plan for Precinct 4 of Yarrabilba produced by Bushland Protections Systems, dated 14/7/17.
- This report also takes into consideration the 'Pre-Development Bushfire Mitigation Concept' Plan prepared by Bushland Protection Systems, dated 30/1/12, and the approved 'Conceptual Bushfire Risk Assessment and Mitigation Plan' (BMP), produced by Bushland Protection Systems, dated 18/7/2012.

2. Site Description and Bushfire Hazard Assessment

Precinct 4 ROL 8 is located in the northwest of Precinct 4, and consists of residential allotments, which will be cleared for development. The proposed lots will be managed and be assigned a Vegetation Hazard Class (VHC) 42.6, resulting in a 'Not Bushfire Prone Area' hazard rating. To the east and south are other residential precincts, all of which will also provide a 'Not Bushfire Prone Area' hazard rating.

Lot 2002 Stormwater Quality Basin is to be a managed area as outlined in Section 5 of this report, to provide a 'Not Bushfire Prone Area' hazard rating. Lot 2000 Local Recreation Park and the open space pockets within the residential area are also to be maintained, providing a 'Not bushfire prone area' hazard rating.

To the west and north are areas of bushland which provides the bushland exposure for the precinct. Whilst the vegetation is a linear corridor the width and configuration are sufficient to warrant a bushfire hazard rating, as shown in Appendix 2. The bushland would be assigned a Vegetation Hazard Class (VHC) of 16.1 with associated fuel loads of up to 16t/Ha, over slopes of up to 3 degrees and a Forest Fire Danger Index (FFDI) of 54, providing for a potential fire line intensity of up to 9,093kW/m equating to a 'Medium' hazard rating.

Table 2.1: Potential Bushfire Hazard Rating

POTENTIAL HAZARD CLASS	POTENTIAL FIRELINE INTENSITY
Not Bushfire Prone Area (Low)	<4,000 kw/m
Medium	4,000 to 20,000 kw/m
High	20,000 to 40,000 kw/m
Very High	>40,000 kw/m

The Bushfire Hazard Mapping also incorporates a 100 metre Potential Impact Buffer meaning that any land within 100 metres of a Potential Bushfire Hazard is also assigned the same rating as that bushland and triggers the Bushfire Code if Medium, High or Very High. Whilst having the same distance for all three levels of hazard is not considered a fit for purpose application, it is unfortunately what is legislated at this current time. Therefore, the proposed allotments 4000-4021, 4067-4087, 4101-4124 & 4133-4146, , as shown in Appendix 2, would be assigned a 'Medium' hazard rating, while the remainder of the allotments in Precinct 4H ROL 8 would be assigned a Low/No hazard rating.

3. Roads, Driveways and Trails

3.1. Roads

The sub-precinct has substantial internal road network with access/egress connections in the northeast corner and southwest corner. Allotments have perimeter roadway or active parkland providing separation to the bushland corridors. It is considered unlikely that access/egress would be compromised by bushfire.

3.2. Driveways

Being residential allotments, the driveways would be short and direct.

3.3. Trails

No fire trails are proposed as part of this application.

4. Appropriate Building Location

The proposed residential allotments are located on relatively level ground to rolling hills, away from steep slopes and ridgelines, in an already disturbed area.

The future dwelling on proposed Lot 4113 & 4146 is to have a setback from the northwest side boundary to ensure a minimum 15 metre separation from the far side of the roadway.

The SPP7/17 bushfire support documents released December 2019, require separation distances between buildings and hazardous bushland that achieves a radiant heat flux rating of 29kW/m^2 or less when assessed in accordance with the methodology outlined in the Bushfire Resilient Communities Technical Reference Guide 10/19. This would require a minimum 15 metres of separation from the 'Medium' rated bushland areas, which has been provided through a combination of roadway, parkland and in-lot setbacks.

It is proposed that Lot 4000 will contain a childcare centre. A childcare centre is considered a vulnerable use and therefore has additional separation requirements. A separation distance that achieves a 10kW/m^2 radiant heat flux or less, when assessed in accordance with the methodology outlined in the Bushfire Resilient Communities Technical Reference Guide 10/19, which equates to a minimum distance of 36 metres in this location. With the Lot 2002 – Stormwater Quality Basin, to be a managed area as outlined in Section 5 of this report, the separation distance will be over 36 metres, thereby achieving a tolerable risk level.

5. Appropriate Clearing and Landscaping

The residential allotments, childcare centre, local recreation park, and open space pockets within the residential area, are to be maintained with low ground fuel levels at all times and may include domestic gardens, lawns with grass kept under 100mm in height and scattered trees with discontinuous canopy.

As a guide to landscaping and gardening in a bushfire prone area, the document 'Landscaping for Bushfire' produced by the CFA Victoria, is a useful guide on plant selection, garden design and ongoing maintenance. It can be found at https://www.cfa.vic.gov.au/plan-prepare/landscaping.

Non-endemic grass and weed growth is to be controlled in the 'Linear Open Space' (Lot 2003). All slash pine is to be removed.

Lot 2002 (Stormwater Quality Basin) must be managed so as not to result in an area of future bushfire hazard. This can be achieved by:

- Retention of mature tall canopy trees
- Selective retention of juvenile tall canopy tree species
- Removal of limbs less than 2 metres high on trees over 4 metre tall
- Removal of weed growth.
- Mowing/brush cutting of grass, keeping grass under 300mm high, but allowing for reed/rush type vegetation in the basin to allow for the function of the detention area.
- Minimise mid-storey vegetation (except the juvenile trees in dot point 2) to prevent ladder fuel structure.
- Occasional dis-continuous small clumps of evergreen ground covers would be permissible, such as Lomandra Hystrix, which should be trimmed back prior to the start of fire season (fire season generally starts in July/August).
- Removal of fallen timber.
- Restricting leaf litter build-up to 5t/Ha (approx. 10mm deep), allowing for a total of 8t/ha overall fuel load.
- All plantings should be 'fire wise' as outlined in the 'Landscaping for Bushfire' document referred to above.
- Steepness of batter slopes must allow for management (<1:4).

All previous or future cleared timber and foliage or accumulated rubbish should be removed from the site or mulched and not simply moved aside as this will result in a concentrated area of fuel loading which will increase the potential bushfire hazard from that direction.

Fibrous bark trees, such as melaleuca, swamp mahogany and stringy bark, have a tendency to increase ember attack during a bushfire, due to the fire running up the tree trunk and burning bark breaking off, creating large quantities of airborne burning embers. Ribbon bark tree species (trees that shed their bark in long strips) are also an issue, significantly increasing the potential for spot fires. For this reason, tree species with these bark types should not be used as revegetation/rehabilitation/regeneration plantings in urban interface areas. It is recommended that ground fuels be kept to a minimum around the base of existing trees of this type, to minimise the risk of bushfire running up the tree trunk.

In bushland areas, the areas around the fringes of the bushland and along fire trails have a tendency to have increased ground fuel loading, as a result of increased sunlight penetration producing better growing conditions for grass and weeds (known as 'Edge Effects'), which can have an adverse impact on the local ecosystem and safety issues for fire suppression personnel during unplanned fire events. These non-endemic grasses and weeds penetrate into the edges of the retained bushland, creating conditions for higher intensity fire which damages the edges of the bushland, opening up the canopy which then allows more sunlight in and promotes grass and weed intrusion further into the bushland. This cyclic process has the effect of decreasing the size of quality bushland and increasing grass and weed dominated areas. The most cost-effective way to control grass and weed growth is to create a good closed in canopy cover, which will shade out the undesirable species. The control of fuel loads along the edges by regular mowing, brush cutting or in some cases poisoning may be suitable. Areas with a build-up of volatile fuel levels along the open edges of bushland, where full sunlight is available, can be where the most damage is inflicted on the bushland during a bushfire.

For optimal bushfire safety and best practise, the allotments must be cleared during operational works and maintained by the developer with low ground fuel levels until sold. Once sold the purchaser must maintain the allotment at all times, before, during and after construction of the dwelling.

Where the development is to take place in stages, care should be exercised to ensure the developed stages are not threatened by bushfire from the undeveloped stages. When operational clearing approvals are applied for, the application needs to include cleared buffers of 100 metres into developable areas in adjoining stages and these areas must be managed until developed.

6. Building Construction

Any mains gas supply is to be installed in accordance with AS1596, the requirements of relevant authorities and metal piping is to be exclusively used above ground.

Electricity supplies within the property are to be protected and not vulnerable to falling trees or bushfire threatening the viability of transmission poles.

6.1. Residential Allotments

The bushfire provisions of the National Construction Code (NCC) are applied to Class 1, 2 & 3 buildings and associated Class 10a buildings, located in designated bushfire prone areas. "Designated bushfire prone area means land which has been designated under a power in legislation as being subject, or likely to be subject, to bushfires" *(NCC Schedule 3 Definitions)*.

The Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor's note, states "*Land identified in a bushfire hazard area on Bushfire hazard overlay map-OM-03.00 is a designated bushfire prone area for the Building Code of Australia and the Queensland Development Code.*" OM-03.00 only maps areas of Very High, High or Medium Potential Bushfire Hazard (PBH).

Under the Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor's note, a site with a low PBH rating does not require assessment under the National Construction Code in relation to bushfire or under the Australian Standard (AS3959) for *Construction of Buildings in Bushfire Prone Areas* and therefore no specific level of construction would be required in relation to bushfire for those dwellings.

As proposed Lots 4000-4021, 4067-4087, 4101-4124 & 4133-4146 have a 'Medium' hazard rating, the Logan Planning Scheme 2015, Table 5.7.1, requires the National Construction Code (NCC) and where relevant the Australian Standard for Construction of Buildings in Bushfire-Prone Areas (AS3959) to be addressed.

P2.7.5 of the NCC requires:- A Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the –

(a) Potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and
(b) Intensity of the bushfire attack on the building.

Section 3.10.5.0 (Qld variation) of the NCC is the deemed-to-satisfy provision and states:-

(a) Subject to (b), Performance Requirement P.2.7.5 is satisfied for—
(i) a Class 1 building; or
(ii) a Class 10a building or deck associated with a Class 1 building,
located in a designated bushfire prone area if it is constructed in accordance with—
(iii) AS 3959; or
(iv) NASH Standard – Steel Framed Construction in Bushfire Areas.
(b) The requirements of (a) do not apply when, in accordance with AS 3959, the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300 mm high.

Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with Sections A2.2(3) and A2.4(3) of the NCC as applicable. Section V2.7.2 of the NCC is a means to verify the appropriate risk of ignition from a bushfire in order to meet the requirement of P2.7.5. For further guidance refer to the Buildings in Bushfire Prone Area Verification Method Handbook available from the Australian Building Code Board.

For the most accurate assessment result, assessment Method 2 has been utilised in accordance with AS3959-2018. Input values include the slopes, fuel loads and distances outlined above. Method 2, determined the following:

- If the distance between the unmanaged bushland and the building is between 12.2 - 18 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-19.
- If the distance between the unmanaged bushland and the building is between 18 - 100 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5.

These levels of construction are reliant on the current fuel management practises continuing and the recommendations of this report being implemented and maintained.

6.1.1. Lots 4001-4021, 4067-4076, 4078-4087, 4101-4111, 4114-4124 & 4133-4145

Future dwellings on Lots 4001-4021, 4067-4076, 4078-4087, 4101-4111, 4114-4124 & 4133-4145 have over 18 metres of separation from the unmanaged bushland. Therefore, the dwellings are to be constructed to a BAL-12.5 Bushfire Attack Level, requiring Sections 3 & 5 of AS3959-2018 to be applied.

6.1.2. Lots 4077, 4112, 4113 & 4146

Future dwellings on Lots 4077, 4112, 4113 & 4146 will be within 15-18 metres from the unmanaged bushland.

Section 3.5 of AS3959-2018 states "*The construction requirements for the next lower BAL than that determined for the site may be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack*." Therefore, the southeast elevation of the proposed building can be constructed to BAL-12.5 Bushfire Attack Level, requiring Sections 3 and 5 of AS3959-2018 to be applied, while the remainder of the building must be constructed to a BAL-19, requiring Sections 3 and 6 of AS3959-2018 to be applied.

6.1.3. Remaining Residential Lots

The remaining residential lots in Precinct 4-ROL 8, not identified in Sections 6.1.1-6.1.2 above, are over 100 metres from the unmanaged bushland and therefore have a 'Low' hazard rating. Under the Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor's note, a site with a low PBH rating does not require assessment under the NCC or under the Australian Standard (AS3959) for *Construction of Buildings in Bushfire Prone Areas* and therefore no specific level of construction would be required in relation to bushfire.

6.2. Lot 4000 – Childcare Centre

Only the northern 5 metres of Lot 4000 is within 100 metres of hazardous bushland, therefore the remainder of the lot has a Low hazard rating. Providing the proposed building is more than 5 metres from the northern lot boundary and Lot 2002 is properly maintained in accordance with Section 5 of this report, the proposed Childcare building will have a Low hazard rating and will not be required to comply with Schedule 43 of the National Construction Code.

7. Provision of Adequate Water Supplies

The area of the proposed development is to be serviced by reticulated water supplies with the inclusion of fire hydrants for firefighting purposes. These services are to comply with the relevant standards as required by the local authorities, including a minimum pressure and flow of 10 litres a second at 200kPa or that which is able to be supplied by the local reticulated network.

Fire Hydrants are to be installed in accordance with the *Fire Hydrant and Vehicle Access Guidelines for residential, commercial and industrial lots*, Queensland Fire and Emergency Services, 2015, unless otherwise specified by the relevant water authority.

8. Provision of Fire Fighting Infrastructure

Dwellings are to have external taps and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil or be of metal above ground. Residents should maintain good access around their homes for fire suppression activities by fire services.

9. Local Fire Brigades

The subject property is in the urban Fire & Rescue district and they would be responded on a 000 emergency call, with back-up from Logan Village and Tamborine Rural Fire Brigades. If further back-up is required, additional units would be engaged by the Beaudesert/Logan Rural Fire Brigade Groups.

10. Improved Community Awareness

Managing ground fuel in small pockets of bushland at the interface between urban development and bushland (Izone) is the easiest way of reducing bushfire hazard, particularly the removal of non-endemic grass and weeds.

It is recommended that a copy of this report be placed on display at any sales office, and a copy of the report be given to the purchasers of lots to provide them with the necessary information required for the building application process.

A copy of this plan should be retained by residents to assist them in minimising the risk of bushfire damage. It is recommended that regular liaison with the local fire brigade takes place as a way of being informed of danger periods.

It is recommended that residents with a 'Medium' bushfire hazard rating prepare a 'Bushfire Survival Plan', a template for which is available from the Rural Fire Service Queensland website at www.qfes.qld.gov.au/bushfires. The 'Bushfire Survival Plan' document provides information on Bushfire Danger Ratings, Community Warning Information, how to prepare your property, what to do in the event of a bushfire and what to expect. The Bushfire Survival Plan should be updated annually. Further information is also available through the Prepare•Act•Survive brochure also available on the Rural Fire Service website. For further information contact your local Fire Brigade for assistance or phone 1300 369 003.

The Bushland open space is a very sensitive ecosystem and could be altered drastically if not cared for properly. Residents can assist in maintaining this fragile ecosystem by preventing unwanted fires from encroaching into the parkland, ensure that dumping of rubbish does not degrade the area and that exotic plant species do not invade the bushland. Hot fires on a regular basis will degrade the bushlands biodiversity.

11. Summary of Recommendations

- The future dwelling on proposed Lot 4113 & 4146 is to have a setback from the northwest side boundary to ensure a minimum 15 metre separation from the far side of the roadway.

- The residential allotments, childcare centre, local recreation park, and open space pockets within the residential area, are to be maintained with low ground fuel levels at all times and may include domestic gardens, lawns with grass kept under 100mm in height and scattered trees with discontinuous canopy.

- Non-endemic grass and weed growth is to be controlled in the 'Linear Park' (Lot 2003). All slash pine is to be removed.

- Lot 2002 (Stormwater Quality Basin) must be managed, as outlined in Section 5 of this report, so as not to result in an area of future bushfire hazard.

- All previous or future cleared timber and foliage or accumulated rubbish should be removed from the site or mulched and not simply moved aside as this will result in a concentrated area of fuel loading which will increase the potential bushfire hazard from that direction.

- Fibrous bark trees, such as melaleuca, swamp mahogany and stringy bark, have a tendency to increase ember attack during a bushfire, due to the fire running up the tree trunk and burning bark breaking off, creating large quantities of airborne burning embers. Ribbon bark tree species (trees that shed their bark in long strips) are also an issue, significantly increasing the potential for spot fires. For this reason, tree species with these bark types should not be used as revegetation/rehabilitation/regeneration plantings in urban interface areas.

- Edge effects are to be managed.

- For optimal bushfire safety and best practise, the allotments must be cleared during operational works and maintained by the developer with low ground fuel levels until sold. Once sold the purchaser must maintain the allotment at all times, before, during and after construction of the dwelling.

- Where the development is to take place in stages, care should be exercised to ensure the developed stages are not threatened by bushfire from the undeveloped stages. When operational clearing approvals are applied for, the application needs to include cleared buffers of 100 metres into developable areas in adjoining stages and these areas must be managed until developed.

- Any mains gas supply is to be installed in accordance with AS1596, the requirements of relevant authorities and metal piping is to be exclusively used above ground.

- Electricity supplies within the property are to be protected and not vulnerable to falling trees or bushfire threatening the viability of transmission poles.

- Dwellings are to be constructed in accordance with AS3959-2018 as outlined in Section 6 of this report.

- The area of the proposed development is to be serviced by reticulated water supplies with the inclusion of fire hydrants for firefighting purposes. These services are to comply with the relevant standards as required by the local authorities, including a minimum pressure and flow of 10 litres a second at 200kPa or that which is able to be supplied by the local reticulated network. Fire Hydrants are to be installed in accordance with the *Fire Hydrant*

and Vehicle Access Guidelines for residential, commercial and industrial lots, Queensland Fire and Emergency Services, 2015, unless otherwise specified by the relevant water authority.

- Dwellings are to have external taps and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil or be of metal above ground. Residents should maintain good access around their homes for fire suppression activities by fire services.

- It is recommended that a copy of this report be placed on display at any sales office, and a copy of the report be given to the purchasers of lots to provide them with the necessary information required for the building application process.

- A copy of this plan should be retained by residents to assist them in minimising the risk of bushfire damage. It is recommended that regular liaison with the local fire brigade takes place as a way of being informed of danger periods.

- It is recommended that residents with a 'Medium' bushfire hazard rating prepare a 'Bushfire Survival Plan', a template for which is available from the Rural Fire Service Queensland website at www.qfes.qld.gov.au/bushfires.

12. Conclusion

With the appropriate maintenance of fuel levels around the development, adequate water supply, good access provisions and minimising ground fuels, the risk of bushfire damage can be managed and improve the safety of residents and fire services in attending to a bushfire threat.

The proposed dwellings achieve a tolerable risk level in accordance with Bushfire Resilient Communities Technical Reference Guide 10/19.

This plan remains current for a period of 5 years, until 2030, at which time it should be subject to review to take account of changing land use and vegetation patterns. Any major bushfire event affecting the subject site should also trigger a review to determine effectiveness of protection measures and annual hazard reduction initiatives.

Ultimately, persons living in a bushfire prone area must take the precautions necessary to protect themselves, their families and their homes if Brigades are stretched and are unable to attend immediately.

If you require any further assistance, please do not hesitate to contact this office.

Brett Bain, MDIA, MRFAQ
Lead Bushfire Consultant.

13. Bibliography

Articles/Books/Reports/Guidelines/Standards

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Standards Australia, Barry Eadie Et al., 2009, HB330-2009, "Living in bushfire-prone areas – A guide to reducing the threat and impact of bushfire attack and an explanation of the basis of AS3959"

The State of Queensland (Queensland Reconstruction Authority), CSIRO, July 2020, Bushfire Resilient Building Guidance for Queensland Homes

Vic Department of Sustainability and Environment, July 2010, "Overall fuel hazard assessment guide", 4th Edition.

Legislation

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Building Act 1975 (Qld)
https://www.legislation.qld.gov.au/view/html/inforce/current/act-1975-011

Building Regulation 2006 (Qld)
https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2006-0227

Planning Act 2016 (Qld)
https://www.legislation.qld.gov.au/view/html/inforce/current/act-2016-025

Vegetation Management Act 1999 (Qld)
https://www.legislation.qld.gov.au/view/html/inforce/current/act-1999-090

Work Health and Safety Regulation 2011 (Qld)
https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2011-0240

Other Legislative Materials

Australian Building Codes Board, National Construction Code (NCC) Volumes 1 & 2

Department of Local Government and Planning, Department of Emergency Services, June 2003, State Planning Policy Guideline, "Mitigating the Adverse Impacts of Flood, Bushfire and Landslide" (SPP1/03)

Department of Infrastructure, Local Government and Planning, April 2016, State Planning Policy – State interest guideline "Natural hazards, risk and resilience" (SPP 7/17)

Council Planning Scheme

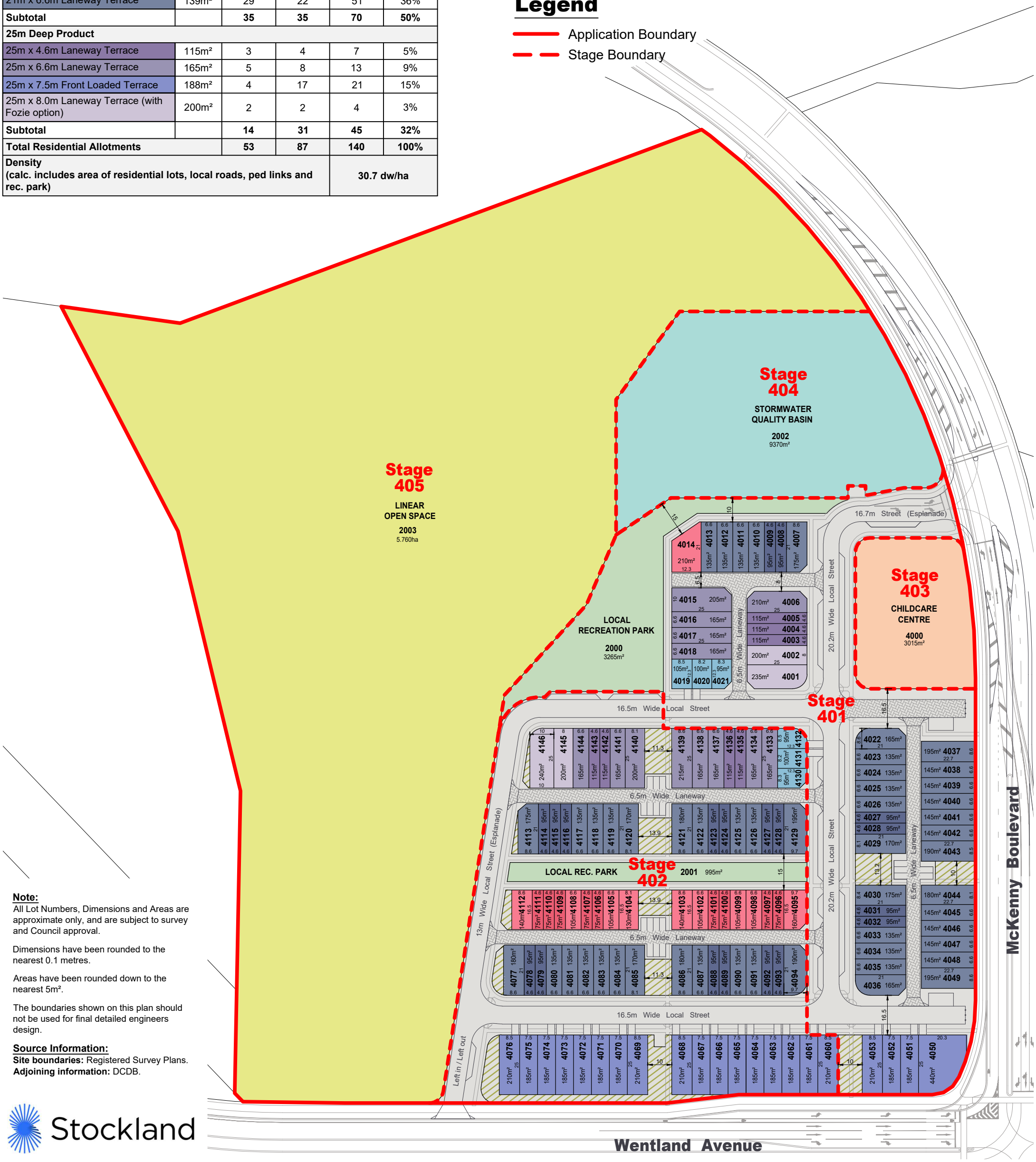
Appendix 1

Yield Breakdown

Allotment Typology	Typical Area	Stage 401	Stage 402	Overall	
12m Deep Product					
12m x 8.2m Front Loaded Urban Loft	98m²	3	3	6	4%
Subtotal		**3**	**3**	**6**	**4%**
16.5m Deep Product					
16.5m x 4.6m Laneway Terrace	76m²	—	9	9	6%
16.5m x 6.6m Laneway Terrace	109m²	1	9	10	7%
Subtotal		**1**	**18**	**19**	**14%**
21m Deep Product					
21m x 4.6m Laneway Terrace	97m²	6	13	19	14%
21m x 6.6m Laneway Terrace	139m²	29	22	51	36%
Subtotal		**35**	**35**	**70**	**50%**
25m Deep Product					
25m x 4.6m Laneway Terrace	115m²	3	4	7	5%
25m x 6.6m Laneway Terrace	165m²	5	8	13	9%
25m x 7.5m Front Loaded Terrace	188m²	4	17	21	15%
25m x 8.0m Laneway Terrace (with Fozie option)	200m²	2	2	4	3%
Subtotal		**14**	**31**	**45**	**32%**
Total Residential Allotments		**53**	**87**	**140**	**100%**
Density (calc. includes area of residential lots, local roads, ped links and rec. park)				**30.7 dw/ha**	

Land Budget

Land Use	Stage 401	Stage 402	Stage 403	Stage 404	Stage 405	Overall	
Childcare Centre	—	—	0.302 ha	—	—	0.302 ha	2.6%
Residential Allotments	0.836 ha	1.232 ha	—	—	—	2.068 ha	17.9%
Local Roads	1.023 ha	0.817 ha	—	—	—	1.840 ha	15.9%
Pedestrian Links / Widened Road Reserve for Planting	0.061 ha	0.162 ha	—	—	—	0.223 ha	1.9%
Local Recreation Park	0.327 ha	0.099 ha	—	—	—	0.426 ha	3.7%
Drainage Open Space	—	—	—	0.927 ha	—	0.927 ha	8.0%
Linear Open Space	—	—	—	—	5.764 ha	5.764 ha	49.9%
Total	**2.247 ha**	**2.310 ha**	**0.302 ha**	**0.927 ha**	**5.764 ha**	**11.550 ha**	**100.0%**



Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Registered Survey Plans.
Adjoining information: DCDB.

Stockland

PLAN REF: 150827 – 36
Rev No: –
DATE: 17 July 2025
CLIENT: Stockland
DRAWN BY: BM / MM
CHECKED BY: BM / PE

0 20 40 60 80 100 1 : 1,500 @ A3

YARRABILBA
PRECINCT 4 - APPLICATION 8
PLAN OF SUBDIVISION

URBAN DESIGN
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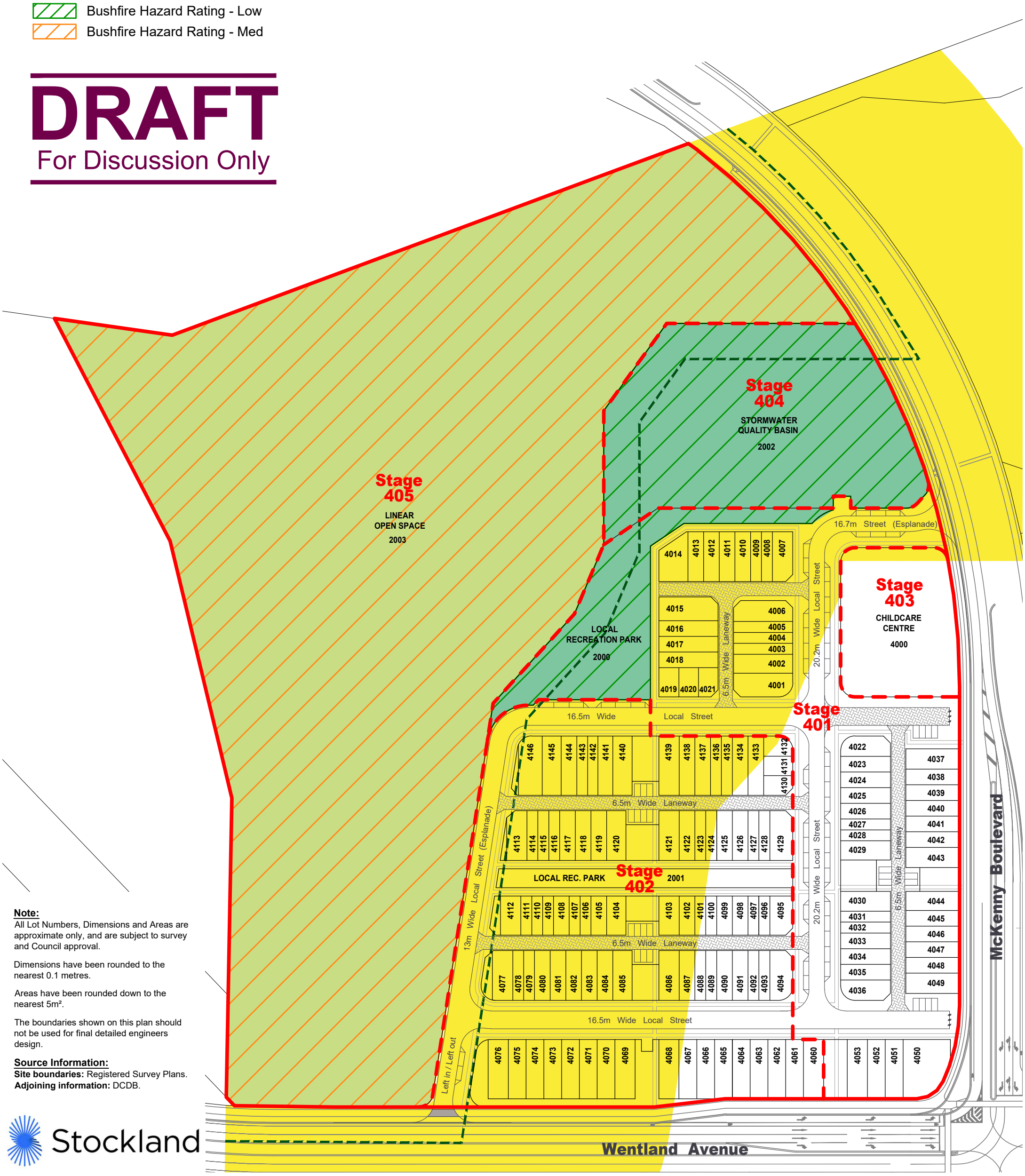
A TETRA TECH COMPANY

Appendix 2

Legend

- Precinct Boundary
- Stage Boundary
- Constraints Limit (15m)
- Potential Bushfire Impact Zone (100m)
- Linear Park Managed
- Linear Park Unmanaged
- Bushfire Hazard Rating - Low
- Bushfire Hazard Rating - Med

DRAFT
For Discussion Only



Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Registered Survey Plans.
Adjoining information: DCDB.

Stockland

PLAN REF:	150827 – 45
Rev No:	–
DATE:	15 July 2025
CLIENT:	Stockland
DRAWN BY:	BM / MM
CHECKED BY:	BM

0 20 40 60 80 100 1 : 1,500 @ A3

YARRABILBA
PRECINCT 4 - APPLICATION 8
BUSHFIRE HAZARD AND MANAGEMENT PLAN

URBAN DESIGN
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A TETRA TECH COMPANY

Appendix 3: Being Prepared

Knowing how to prepare your property for bush fire, both pre-fire and during a fire, can assist in protecting people and property. It can also alleviate a lot of the stress and panic and the feeling of helplessness that is commonly felt by the inexperienced and by the ill-prepared.

It is generally accepted that South East Queensland does not experience the same degree of extreme fire conditions as the southern states of New South Wales, Victoria and South Australia. Having said this it is also accepted that this State's bushland experiences a relatively regular fire regime. From time to time conditions may occur that will institute a serious and potentially destructive fire. These conditions can be recognised and precautions taken. It must be remembered that during extreme fire conditions the fire services may be stretched to the limit and may not be able to respond immediately to your particular emergency. Fire trucks and fire fighters are a limited resource, so it is important that they are deployed in an appropriate manner to best manage the fire. The Queensland Fire and Rescue Service do not guarantee a fire truck will be available to defend every structure during a large bushfire. So, it would be desirable to be as prepared and self-reliant as possible to protect yourself, your family and your assets. It is not difficult if appropriate preparation is undertaken, and the following information is provided to be of some assistance.

1. Conditions that may lead to a Serious Fire:

1.1. Higher than average air temperatures for prolonged periods.

1.2. Large and very dry fuel loads.

1.3. Prolonged dry spell with little or no rain resulting in low soil moisture content.

1.4. Very low relative humidity, ie. there is very little moisture in the air.

1.5. Strong and gusty winds, usually from the north through to the west contribute to increased fire hazard. The longer these winds continue the drier the conditions become, and the higher the risk of serious fire.

Observation of local weather conditions past and present will give the best indication of the potential intensity of a fire at any given time or place.

Notification of potential bushfire conditions are available from the Queensland Rural Fire Service and Local Brigades, in the form of Fire Danger Ratings often seen on roadside signs, Advice Messages, Watch and Act Messages and Emergency Warnings. More information on these information sources, where to find them and what they mean, is available on the Rural Fire Service Website www.qfes.qld.gov.au/bushfires or through the local Fire Brigade.

2. Basic Fire Behaviour.

Having some idea of what a fire is likely to do in your local area, will help you make the right decisions and give you the confidence to deal with an approaching fire if necessary. Following are some basic fire behaviours.

2.1. Fire will travel faster and hotter uphill. The steeper the slope the faster the rate of spread, in some cases allowing little time to react. The speed of a fire will double for every 10 degrees of upslope.

2.2. Fire will usually travel relatively slower down hill even with reasonably high fuel loads, which will give more time to prepare. The speed of a fire will halve for every 10 degrees of down slope.

2.3. A fire will generally travel faster and at higher intensities with a wind behind it. The stronger the wind, the faster the rate of spread. Likewise, a fire will slow considerably when burning against the wind in some cases it may even go out.

2.4. The fire will usually burn at a higher intensity and spread faster during the hottest times of the day and tend to slow down considerably as the evening approaches and air temperatures drop.

2.5. The greater the supply of dry ground fuel available to the fire, ie. grass, dry leaf litter, hanging bark and twigs, the greater the intensity of the fire. If the ground fuel is minimised the intensity of the fire reduces considerably and so does the personal risk and the potential for damage.

2.6. If ground fuels are kept relatively low the chances of a fire progressing into the treetops (crown fire) would be considerably reduced within the Queensland coastal bushlands. For a fire to progress into the treetops ground fuels and elevated fuels must be present providing a 'ladder' of fuels from ground level to treetop. Control of these fuels is the best way of minimising fire intensity and therefore limiting the destructiveness of a bushfire.

Talk to neighbours that have been present during previous bushfires or consult the local Fire Brigade to develop an understanding of usual fire behaviour for your specific location.

3. Preparing for the bushfire season.

Most cases of damage to property are caused by radiated heat, direct flame contact or most commonly by burning debris or sparks landing in, on, or around buildings and starting small spot fires which if not attended to may destroy the property long after a fire front has passed. There are many steps that should be taken prior to the onset of a fire season to help protect your property.

3.1. Keep ground fuel cleared from around buildings such as long dry grass, branches, dead leaves, bark and thick undergrowth.

3.2. Remove elevated fuels, such as hanging bark and fallen debris hung up on lower branches.

3.3. Ensure fire breaks/trails/buffers are checked and maintained, even a well-watered lawn can be an effective firebreak.

3.4. Flammable material around buildings should be kept well clear, such as firewood piles, rubbish, fuels, hazardous materials, plant pots, boxes, paper, patio and garden furniture.

3.5. Ensure flammable materials are not stored in open areas under the building.

3.6. Make sure that rainwater gutters are kept clear of leaf litter build-up. Consider a method of blocking off down pipes so gutters can be filled with water during a fire to extinguish sparks landing in gutters. There are commercially made products available or you can create your own.

3.7. Make sure that the roofing is well secured, as winds created during a fire may lift roofing and allow the entry of burning-embers into the roof space. Also clear any leaf litter or debris build-up from roof areas.

3.8. All windows and vents should be screened with fine wire mesh and all roof areas closed in to prevent entry by sparks.

3.9. Ensure gas tanks have their emergency relief valves facing away from the building (this includes barbeque bottles).

3.10. Make sure of reserve water supplies. Power frequently fails during a fire. If petrol or diesel pumps are available, make sure they and associated hoses and fittings are in good working order.

3.11. Ensure your bushfire survival kit is up to date and complete.

The Queensland Fire and Rescue Service provide detailed lists for preparation prior to fire season and what to do during a bushfire event. This information can be found at www.qfes.qld.gov.au/bushfires or obtained from your local fire brigade.

4. Green Fire Breaks

Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of tropical rainforest species. Excess rainwater or tertiary treated waste water could be stored and used for this purpose during dry periods to maintain the green fire breaks. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore, by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced, and the risk of spot fires minimised.

5. Personal Protection

5.1. If you plan to evacuate, make sure you do so early, long before the fire front arrives. Evacuating at the very last moment results in the majority of deaths at bushfires. People remaining to fight the fire need to be physically and mentally fit to do so.

5.2. Those staying to protect the property should make sure they protect themselves from radiant heat, flying embers, smoke and most importantly heat stress. Protection measures should include the following:

- Long trousers and long sleeve shirt made of wool, denim or cotton (no synthetics)
- Woollen socks and sturdy work boots for foot protection
- Goggles for eye protection
- A good pair of work gloves to protect hands from burns
- A smoke mask or a damp cloth (non-synthetic), to cover your nose and mouth to protect you from inhaling smoke and embers.

- Have plenty of drinking water available to protect against dehydration (not refrigerated as this can cause cramping).

5.3. During the fire

When a fire is approaching and given that you have already carried out your pre-fire precautions, established adequate buffers, implemented mitigation measures and established the degree of risk to your property, protection from the actual fire should be relatively straight forward.

5.3.1. Dress in the appropriate clothing and be sure to drink water regularly.

5.3.2. Fill up bathtubs, sinks, buckets, laundry tubs etc. in case of blackouts.

5.3.3. Close doors and windows.

5.3.4. Close gaps under doors and windows with wet towels.

5.3.5. Block up down pipes, wet down roof, walls and gardens, paying particular attention to the side the fire is approaching from.

5.3.6. Have a battery-powered radio on hand to listen for information about the fire's progress from local radio stations.

5.3.7. Patrol your property while the fire is approaching and take shelter inside as the fire front passes. Then continue patrolling the property for many hours after it has passed, to ensure that any spot fires or smouldering debris do not get a chance to develop into a major fire, paying particular attention to the roof cavity of your buildings. Smouldering embers have been known to start fires hours or even days after the initial passing of the bushfire front.

The Queensland Fire and Rescue Service provide detailed lists for preparation prior to the arrival of a bushfire and what to do during a bushfire event. This information can be found at www.qfes.qld.gov.au/bushfires or obtained from your local fire brigade.

6. Further Information?

The local fire brigade is a good source of local district knowledge, they also have pamphlets and literature produced by the Queensland Fire and Rescue Service available. Most brigades will also be happy to advise local residents.

The information provided above is only a basic guide. Further and more details information is available from the Queensland Fire and Rescue Service. It would be recommended that residents in bushfire prone areas prepare a 'Bushfire Survival Plan', which is available from the Queensland Rural Fire Service website at www.qfes.qld.gov.au/bushfires. The 'Bushfire Survival Plan' document provides information on Bushfire Danger Ratings, Community Warning Information, how to prepare your property, what to do in the event of a bushfire and what to expect. The Bushfire Survival Plan should be updated annually. Further information is also available through the Prepare•Act•Survive brochure also available on the Rural Fire Service website. For further information contact your local Fire Brigade for assistance or phone 1300 369 003.

Bushland Protection Systems
Specialising in
BUSHFIRE HAZARD PLANNING & MITIGATION

ABN 97 782 336 595 | Phone: 07 5546 7933 | PO Box 40, Ormeau, Qld, 4208 | E-mail: admin@bpsfire.com.au

Fire is a part of nature. Its effects can be catastrophic and fire can never be totally eliminated, however there are steps that can be taken to reduce the chances of uncontrolled fires occurring and the risk to life, property and the environment, in the event of uncontrolled fires. This is what we concentrate on, how the threats from bushfire can be minimised. There are many methods to do so, however deciding which method/s is best to use can be a complex decision to make. There are so many factors to consider such as ecological values, biodiversity, fire history, availability of resources, cost effectiveness and public awareness just to name a few. No guarantees can ever be given when dealing with Mother Nature, with ever increasing complexities it has now become a specialist field to be able to create plans to try and minimise the risk from bushfire. Ultimately it is a community responsibility to protect the environmental values, life and property in their area

COMPANY PROFILE

Bushland Protection Systems Pty Ltd (BPS) is a leading Bushfire Management Consultancy firm in Queensland, with many clients, ranging from private landowners to multi-national companies and Government bodies.

BPS consultants began operating as Bushfire Management Consultants with the introduction of the Gold Coast Bushfire Management Strategy in 1998 and spread their operations across the state with the implementation in 2003 of the State Planning Policy for mitigating the adverse impacts of flood, bushfire and landslide.

During that time over 3500 projects have been successfully completed, including large residential estates such as Coomera Waters, Spring Mountain, Pacific Pines, Coomera Springs, Observatory, Highland Reserve, Delfin Woodlands & Yarrabilba as well as commercial or Government project sites such as Paradise Country, Wacol Police Academy, Numinbah Correctional Facility, Silkwood Steiner School, Canon Hill Community Links Project & Griffith University.

With a strong background in bush fire fighting and involvement with numerous industry bodies, Bushland Protection Systems continues to deliver realistic and cost effective advice and solutions to provide higher levels of safety for the community, improve wildfire suppression and mitigation options for emergency services and land managers, while maintaining and improving environmental values for the future.

Our Consultants are registered with the Rural Fire Association of Queensland (RFAQ) as Level 2 Accredited Bushfire Practitioners.