

***CORNER OF BROOKS POINT ROAD & APPIN ROAD, APPIN***  
**PROPOSED REZONING & FUTURE SUBDIVISION**  
LOTS 1, 3, 4 & 5 OF DP249446 & LOTS 1 & 2 OF DP584515

# **UPDATED EMERGENCY EVACUATION ASSESSMENT**

AUGUST 2023

***HEMANOTE CONSULTANTS PTY LTD***  
***TRAFFIC ENGINEERING & DESIGN CONSULTANTS***  
***PO BOX 743, MOOREBANK NSW 1875***  
***CONTACT: 0414 251 845***  
***EMAIL: [projects@hemanote.com.au](mailto:projects@hemanote.com.au)***

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SUBDIVISION  
DATE: 15 AUGUST 2023**

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Document Management. Emergency Evacuation Assessment – Cnr Brooks Point Rd & Appin Rd, Appin

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# Table of Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>2</b>
<b>2</b>	<b>EXISTING SITE DESCRIPTION.....</b>	<b>3</b>
<b>3</b>	<b>EXISTING TRAFFIC CONDITIONS .....</b>	<b>5</b>
3.1	Road Network and Classification .....	5
3.2	Road Description and Traffic Control .....	5
<b>4</b>	<b>DEVELOPMENT PROPOSAL OVERVIEW .....</b>	<b>8</b>
<b>5</b>	<b>ASSESSMENT SCENARIO, ASSUMPTIONS &amp; METHODOLOGY .....</b>	<b>12</b>
<b>6</b>	<b>ASSESSMENT FINDINGS &amp; CONCLUSION.....</b>	<b>16</b>

## **1 INTRODUCTION**

This report has been prepared by Hemanote Consultants to assess the traffic impacts in the event of an emergency evacuation for the proposed rezoning of the existing lots located at the Corner of Brooks Point Road and Appin Road, Appin, from RU2 Rural Landscape to R2 Low-Density Residential and C2 Environmental Conservation Zone, under the Wollondilly Local Environmental Plan 2011.

The subject lots are legally known as Lots 1, 3, 4 and 5 of DP249446, and Lots 1 and 2 of DP584515 and are proposed to be rezoned based on their proximity to the Greater Macarthur Growth Area, as well as to the adjacent site to the north of the subject site, which is currently under assessment by Wollondilly Shire Council as part of a proposed subdivision (DA/2021/144/1).

This report is to be read in conjunction with the proposed rezoning plans prepared by Beveridge Williams, the Strategic Bush Fire Study prepared by Building Code & Bushfire Hazard Solutions, the Flood Assessment report prepared by Beveridge Williams, the Traffic Impact Assessment prepared by Hemanote Consultants and submitted to Wollondilly Shire Council as part of the planning proposal.

## 2 EXISTING SITE DESCRIPTION

### ➤ *Site Location*

The subject sites are located on the northern side of Brooks Point Road at properties No. 10, 14 and 20 (legally known as Lots 1, 3, 4 and 5 of DP249446, and Lots 1 and 2 of DP584515), at its corner with Appin Road, within the suburb of Appin. The sites are currently zoned RU2 – Rural Landscape pursuant to Wollondilly Local Environment Plan 2011. Refer to Figure 1 for a site locality map.

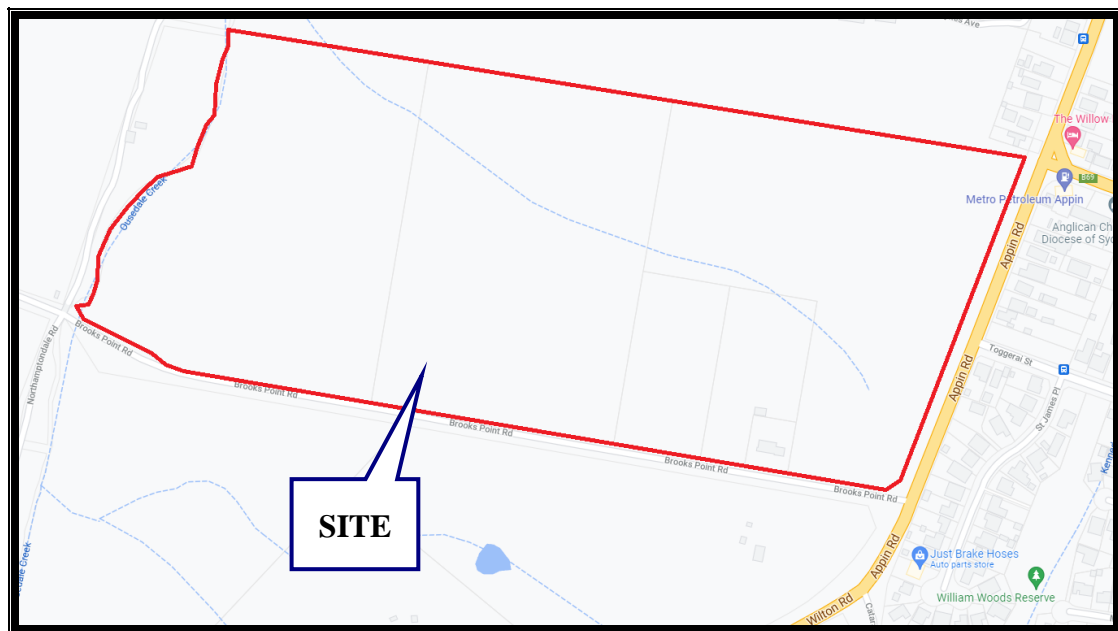


Figure 1: Site Locality Map

➤ **Existing Site & Surrounding Land Use**

The subject lots have a total area of approximately 39 hectares and currently consist of vacant land and an existing dwelling. They are located in a mainly residential area, including residential dwellings as well as vacant lands and some nearby retail and commercial sites. The site is located approximately 14.4 kilometres from Douglas Park Railway Station.



Figure 2: Aerial map – Subject sites and surrounding roads

### 3 EXISTING TRAFFIC CONDITIONS

#### 3.1 Road Network and Classification

Brooks Point Road is a local road that generally runs in an east to west direction, between its cul-de-sac end to the west and Appin Road (both state and regional road) to the east. It intersects with Northamptondale Road (local road) near the subject lots.

#### 3.2 Road Description and Traffic Control

Brooks Point Road has a two-way undivided carriageway, with a width between the edges of the bitumen of approximately 6 metres. This carriageway generally provides one travel lane per direction. At present, parking is not permitted on either side of Brooks Point Road. The legal speed limit on Brooks Point Road is signposted at 80km/h in the vicinity of the subject site.

Brooks Point Road intersects with Appin Road near the subject site and is controlled by T-priority, given to traffic travelling along Appin Road.



Photo 1: Brooks Point Road at the subject sites – facing east





Photo 2: Brooks Point Road at the subject sites – facing west

The existing traffic flows on Brooks Point Road are typical for a local road in a mainly residential area, where traffic is free-flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

Appin Road has a two-way undivided carriageway, with a width between the edges of the bitumen of approximately 11 metres. This carriageway generally provides one travel lane per direction, plus a kerbside parking lane on the eastern side of Appin Road and a shoulder lane on the western side. At present, parking is only permitted on the east side of Appin Road. The legal speed limit on Appin Road is signposted at 50km/h in the vicinity of the subject site.





Photo 3: Appin Road at the subject sites – facing north



Photo 4: Appin Road at the subject sites – facing south

The existing traffic flows on Appin Road are typical for a regional and state road in a mainly residential area, where traffic is free-flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

## **4 DEVELOPMENT PROPOSAL OVERVIEW**

The Greater Macarthur Growth Area 2040 Plan, indicate the Greater Macarthur Structure layout for the area, including its boundaries, road layout, road network and road hierarchy. The subject lots are included in the Greater Macarthur Growth Area Plan and are identified as Urban Capable Land.

The proposed rezoning of the subject site is also based on its proximity to the adjacent site to the north of the subject site, which is currently under assessment by the Wollondilly Shire Council as part of a proposed subdivision (DA/2021/144/1).

The proposal includes the following:

- An amendment to the Wollondilly Local Environmental Plan 2011, by rezoning the subject existing RU2 Rural Landscape zoned lots (Lots 1, 3, 4 and 5 of DP249446, and Lots 1 and 2 of DP584515.) into part R2 Low-Density Residential and C2 Environmental Conservation Zone.
- The existing residential dwelling located towards the south-eastern end of the subject site will be retained.
- The proposed rezoning will result in the possible future subdivision of an estimated 199 lots (including the existing dwelling lot), which will include the following:
  - 198 lots zoned R2 Low-Density Residential.
  - 1 Residue lot containing the existing house.
  - 2 rural landscape residue lots, including a local park.
- The provision of local internal roads within the future subdivision, connecting to Brooks Point Road, Appin Road and the proposed extension of Church Street to the west of Appin Road, which has been adopted from the Development Application currently under assessment by Wollondilly Shire Council for the adjacent site to the north of the subject site, which includes the proposed extension of Church Street (DA/2021/144/1). The proposed extension of Church Street would be used to service both the subject site and the adjacent site.

Refer to Figures 3 and 4 on the following page for the proposed zoning plan, the lot size comparison plan, and the possible lot and road layout for rezoning purposes.



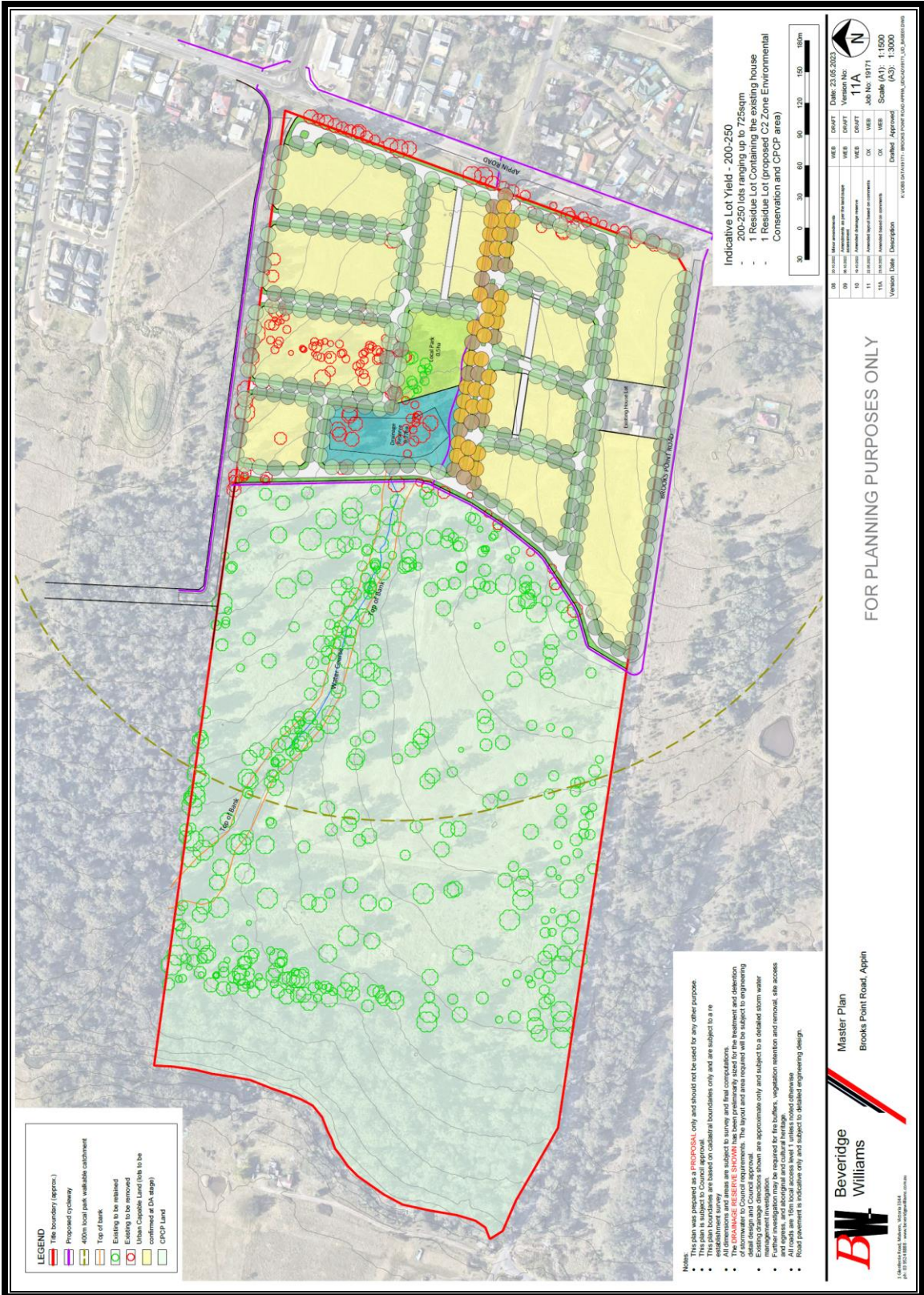


Figure 3: Proposed Zoning Plan for the subject lots (prepared by Beveridge Williams)



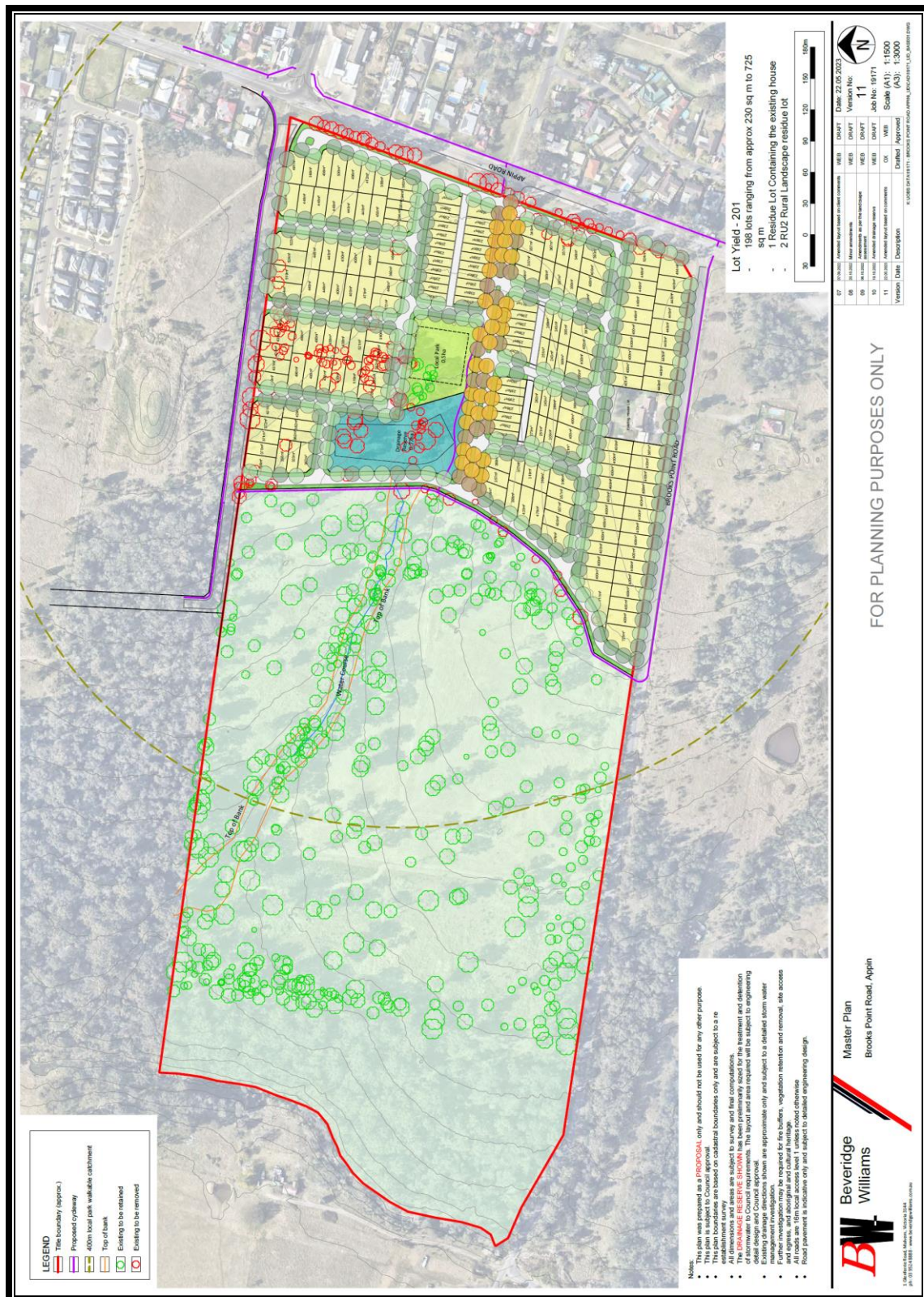


Figure 4: Proposed Master Plan & Lot Size Comparison (prepared by Beveridge Williams)

The proposed rezoning and future subdivision of the subject site will include three (3) main existing or newly constructed egress points connecting to Appin Road, as shown in Figure 5 below:

- Proposed Church Street western extension
- Proposed new major collector road
- Brooks Point Road

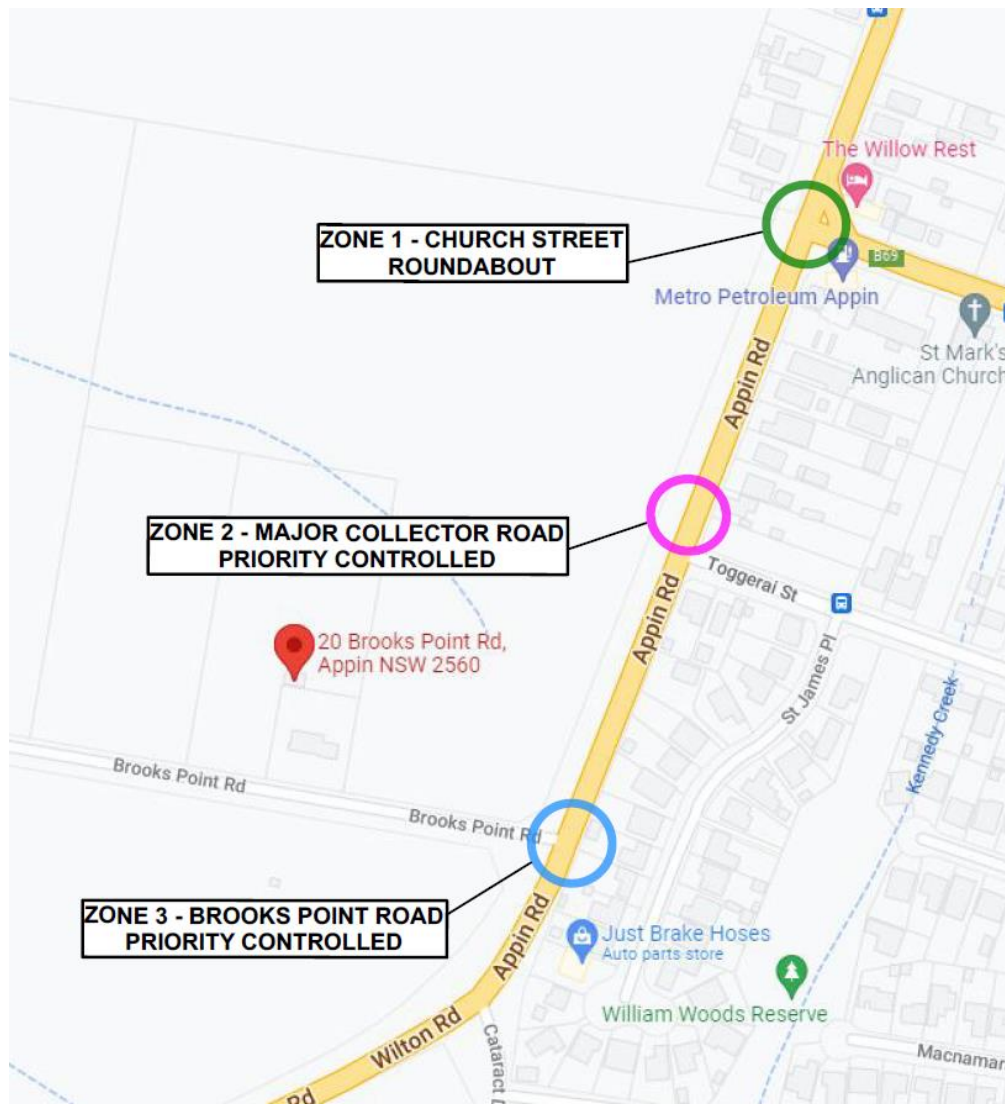


Figure 5: Main Egress Points to Appin Road

## **5 ASSESSMENT SCENARIO, ASSUMPTIONS & METHODOLOGY**

The following assumptions have been adopted in estimating the expected traffic generation of the subject site under an emergency evacuation scenario, as a result of a general broadcast evacuation order. The existing adjacent residential properties have been taken into account and included in the estimate:

- No households have left the area prior to the evacuation order being given, and residents are all at home. In reality, there would be dwellings that are unoccupied at any given time due to various reasons, such as residents who are away, or residents who have chosen to leave the area early based on prior advice and warnings.
- Three in four households will only evacuate in one car, with one in four households evacuating in two cars, which will generate a total of 1.25 vehicle trips per household.
- All traffic generation is outbound only, assuming that residents would not be allowed back into the area.
- All traffic evacuating the area will be departing via Appin Road, travelling north towards the township of Rosemeadow and Campbelltown. While travel is also available in a south-eastern direction via Bulli Appin Road and a south-western direction via Wilton Road, should a bushfire requires a mass evacuation of the area, it is likely the threat would be originating from the south and east of Appin, due to the increased exposure to bushland. Therefore, the safest travel route and evacuation point would be to the north. This single travel route along Appin Road represents a worst-case scenario, where all vehicles will be travelling in the same direction.
- The proposed residential lots will be immune to flooding, as it remains considerably above the Probable Maximum Flood (PMF) level in the main creek, as highlighted in the Flood Assessment report by Beveridge Williams.



- In the event of a bushfire, the proposed subdivision master plan, combined with the bushfire protection measures outlined in the Strategic Bush Fire Study prepared by Building Code & Bushfire Hazard Solutions, will ensure that no areas are difficult to evacuate.
- Appin Road will remain open during an evacuation. However, the three main egress points onto Appin Road will be managed by the police.
- Intersection delays at the three main egress points have been considered only, taking into account that internal intersection delays would be minor.
- Residents would depart from dwellings at different time intervals, which would be distributed across the 60 minutes from the time of the evacuation order.
- The maximum travel distance to the evacuation point has been considered. The selected cordon point will be Appin Park, which is located approximately 450 metres north of the subject site.
- There is only one traffic lane along all evacuation routes, with the maximum speed limit being 50km/h along all three main egress points and Appin Road in the vicinity of the subject site.
- The effect of smoke on traffic movements has not been considered in this assessment. Should smoke levels impact the safety of the evacuation, further measures would be implemented, such as temporary traffic management or an escort vehicle to manage traffic movements along Appin Road.

The existing and proposed residential lots have been divided into three (3) different zones in order to determine the expected vehicle movements and residential traffic generated at each of the main egress points to Appin Road. They have been identified as Zone 1, 2 and 3, as shown in Figure 5.



Table 1 below shows the total expected vehicle movements and the traffic distribution at each egress point during an emergency evacuation. Refer to Figure 6 on the following page, which shows the three different zones, the associated lots, and the paths of the maximum travel distances.

<b>Egress Point</b>	<b>Max. Travel Distance to Evacuation Destination</b>	<b>New Lots</b>	<b>Existing Lots</b>	<b>Total Lots</b>	<b>Total Vehicles</b>
Zone 1 – Church Street (roundabout)	430 meters	60	89	149	187
Zone 2 – Proposed Major Collector Road (priority)	360 meters	93	0	93	117
Zone 3 – Brooks Point Road (priority)	655 meters	46	25	71	89
<b>Total</b>		<b>199</b>	<b>114</b>	<b>313</b>	<b>393</b>

Table 1: Traffic Distribution at Egress Points

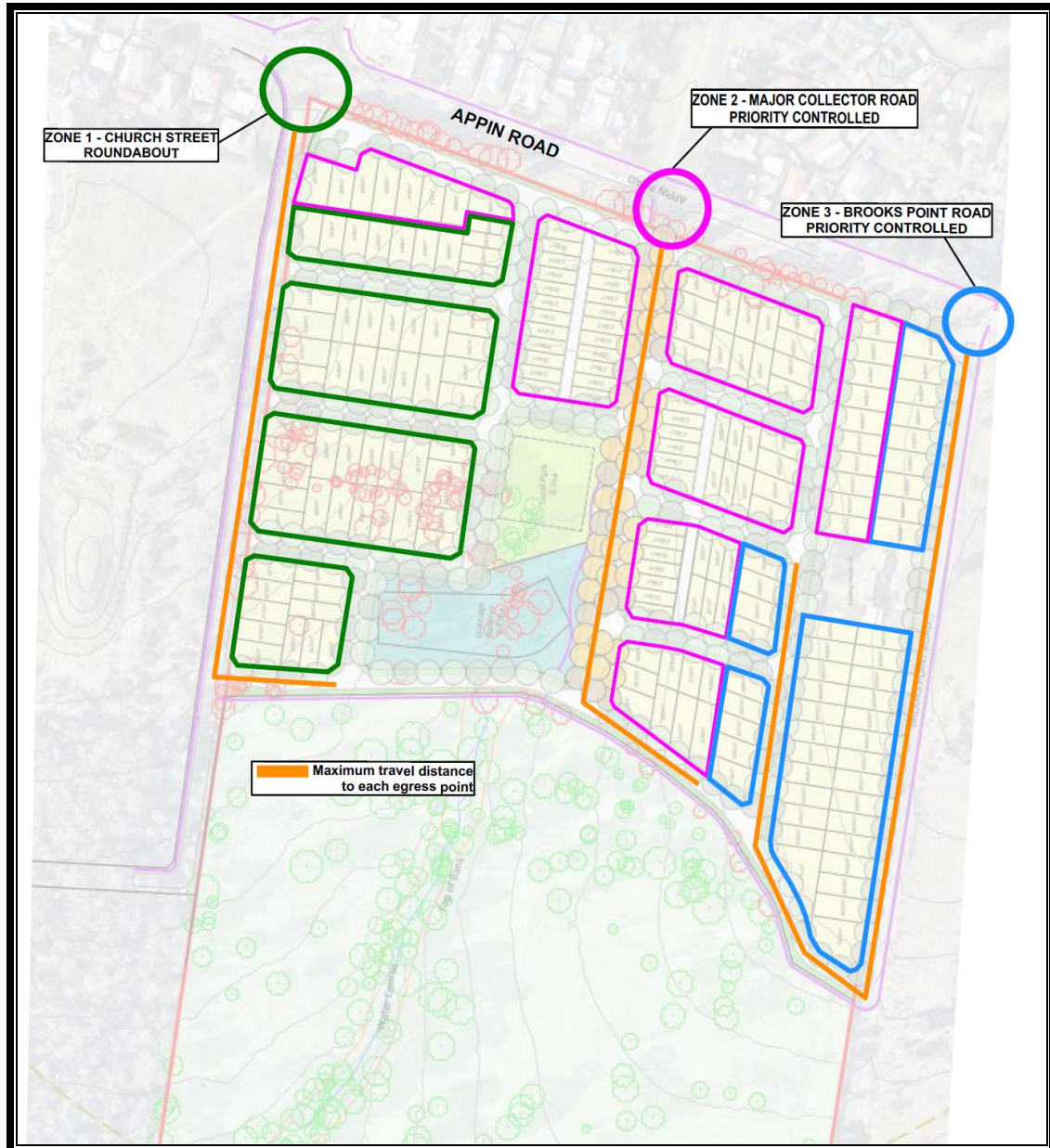


Figure 6: Distributed Lots to Main Egress Points Accessing Appin Road & Maximum Travel Distances

## **6 ASSESSMENT FINDINGS & CONCLUSION**

Based on the above assumptions and methodology adopted for a mass emergency evacuation of the subject area, the following has been found:

- It is estimated that all households would be evacuated in 90 minutes, considering the travel distance to the cordon point (450 metres north of the subject site), the potential delay at the main egress points to Appin Road and the surrounding properties in the area being evacuated.
- It is expected that the maximum time it would take individual residents to reach the cordon point during the peak evacuation period is within 15-20 minutes from the time that they depart their household. This takes into account minimal emergency management. However, this time can be reduced under police/emergency personnel management, to balance the traffic flow across all emergency egress points on Appin Road.
- It is expected that 90 per cent of all households would be evacuated and have reached the cordon point within the first hour from the time of the evacuation order.
- It is expected that the remaining 10 per cent of all households would be evacuated and have reached the cordon point within 90 minutes from the time of the evacuation order.

It can be concluded from the Emergency Evacuation Assessment that, based on the available travel paths, distances, number of egress points and travel times calculated, it is expected that an acceptable overall evacuation time can be achieved for the proposed rezoning and future subdivision.

It should also be noted that the Local Emergency Management Committee will be consulted further after DA consent and prior to the commencement of the land subdivision to set out the role of the emergency services during mass evacuation and identify the measures required to address both traffic delays and potential smoke issues.