



BUSHFIRE CONSULTING

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Wilton Growth Area

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EXECUTIVE SUMMARY

The Wilton Growth Area is proposed to provide for a community of around 15,000 new homes over the next 20 to 30 years. The community will be established around a new major town centre with open space, schools, employment areas and a range of retail and commercial uses.

The purpose of this work was to evaluate the Wilton Growth Area and determine if, based on bushfire risk, development can proceed through the normal assessment processes in any precincts/areas prior to the broader Evacuation and Access Study.

In order to assess and evaluate each of the Wilton Growth Area precincts a process including Expert Judgement was used. A number of workshops and discussions were held, and a panel of experts drew on and applied the previous bushfire studies by EcoLogical Australia and expert opinions of NSW RFS, DPIE and Blackash using a 'Delphi Technique' type approach.

Based on the evaluation of the Wilton Growth Area, lower risk areas have been identified across all or part of each of the seven precincts in which development can proceed prior to the broader Evacuation and Access Study.

Any existing or future applications within the identified early development areas can therefore proceed subject to compliance with the Chapters 5-8 of *Planning for Bush Fire Protection 2019*.

1. Introduction

Wilton will become a focal point in the Western Parkland City. *Wilton 2040 – a Plan for the Wilton Growth Area* (DPIE) (Wilton 2040) confirms and supports the strategic planning undertaken for the growth area since 2011 and as such, this is a NSW Government endorsed growth area. This plan provides a high-level framework for the Wilton Growth Area.

The Wilton Growth Area is proposed to provide for a community of around 15,000 new homes over the next 20 to 30 years. The community will be established around a new major town centre with open space, schools, employment areas and a range of retail and commercial uses.

1.1. Background

A strategic bushfire assessment for the Wilton Growth Area was completed in 2018 (Eco Logical Australia (ELA) 2018). This assessment responded to the requests of the NSW Rural Fire Service (NSW RFS). It identified (amongst other matters) that emergency evacuation from bushfire, had not been well demonstrated.

In response to the above findings, ELA prepared a subsequent Bushfire Risk Study (2020). This study was intended to inform subsequent bushfire evacuation traffic modelling for the Wilton Growth Area.

Blackash has been recently engaged by DPIE to assist the NSW RFS with the review and assessment of the strategic bushfire issues associated with the Wilton Growth Area. This process has been established as a joint collaboration between the NSW RFS, DPIE PDPS and DPIE PDU with Blackash providing expert advice and stakeholder engagement. There are a number of planning proposals and development applications which have been lodged for land within the Wilton Growth Area. Given the previously identified need for an Evacuation and Access Study across the Wilton Growth Area, the NSW RFS considered that it wasn't in a position to assess or progress any applications lodged for the area.

As part of the review and assessment of the strategic bushfire issues, Blackash has worked with the NSW RFS to develop the scope for the Evacuation and Access Study. In doing so, it was identified that there may be parts of the Wilton Growth Area, which due to their lower bushfire risk, can be developed prior to the Evacuation and Access Study.

The work by Blackash also included a peer review of the *Bush Fire Risk Study* (EcoLogical Australia, 2020) and *Strategic Bushfire Assessment* (EcoLogical Australia, 2018). Based on the peer review it was identified that, consistent with their findings, an Evacuation Study is required. Based on this early work by Ecological Australia, and through discussions with the NSW RFS and DPIE, the Evacuation Study was seen as the only outstanding issue strategic bushfire issue to be addressed for the Wilton Growth Area.

1.2. The Site

The Wilton Growth Area is located at the intersection of Picton Road and the Hume Motorway, at the southern end of the Cumberland Plain. The Wilton Growth Area is within the Wollondilly Shire Local Government Area and is located between Douglas Park to the north and Pheasants Nest to the south.

1.3. Bush Fire Prone Land

The Wilton Growth Area contains large areas of bushfire prone land on the Wollondilly Bush Fire Prone Land Map. The majority of the bushfire prone land in the area will coincide with environmental conservation areas identified under the draft Cumberland Plain Conservation Plan.

Bush fire prone land maps provide a trigger for the development assessment provisions and consideration of sites that are bushfire prone. Bush Fire prone land (BFPL) is land that has been identified by council, which can support a bushfire or is subject to bushfire attack. Bush fire prone land maps are prepared by local council and certified by the Commissioner of the RFS.

The Wollondilly Bush Fire Prone Land Map forms an important contextual piece and was used to inform the analysis of the Wilton Growth Area.

2. Purpose

The purpose of this work is to evaluate the Wilton Growth Area and determine if, based on bushfire risk, development can proceed through the normal assessment processes in any precincts/areas prior to the broader Evacuation and Access Study.

3. Approach

An analysis of the Wilton Growth Area was undertaken to identify areas of lower risk that can potentially proceed without the need for a broader Evacuation and Access Study. The analysis involved discussions and workshops with the NSW RFS and considered the following:

- the previous risk assessment work by EcoLogical Australia. *The work undertaken by Ecological Australia is considered to address the Bush Fire Strategic Study requirements of PBP 2019;*
- each precinct/area within the Wilton Growth Area in terms of:
 - is the area of relative lower bushfire risk?
 - is the future planning likely to be enabling, not prohibiting for adjoining areas?
 - are any 'temporary' access solutions required?
 - are there any evacuation dependencies between lower risk areas that can be developed in the short term and future developments in higher risk areas?

- is the current road network considered sufficient to cope with the approximate numbers of residents who may wish to relocate in the event of a bush fire?

3.1. Methodology

Given the various bushfire studies already completed for the Wilton Growth Area, the following were used as the primary basis for the analysis:

- *Bush Fire Risk Study* (EcoLogical Australia, 2020); and
- *Strategic Bushfire Assessment* (EcoLogical Australia, 2018).

In order to assess and evaluate each of the Wilton Growth Area precincts a process involving a panel of experts was used. A 'Delphi Technique' type approach was undertaken across a number of workshops and discussions included a range of stakeholders from NSW RFS, DPIE and Blackash. This occurred over a 3-week period across May and June 2021.

The panel of experts used to assess and evaluate the precincts was established from a range of units within the NSW RFS, DPIE and also Blackash to ensure an appropriate cross-section of expertise. Based on the composition, the panel of experts had a comprehensive range of expertise in:

- bushfire assessments
- bushfire protection
- fire engineering
- bushfire land-use planning policy
- strategic land-use planning
- bush fire evacuation variables and issues
- bushfire risk management
- bush fire behaviour
- brigade operations

The process used for establishing the Early Development Areas followed a number of key steps as follows:

1. Establish 'Panel of Experts'
 - A panel of experts from primarily across NSW RFS and DPIE was identified (as above) with appropriate specialised education, knowledge, skills, experience or training; and
 - The panel was established from a range of units within the NSW RFS, DPIE and also Blackash to ensure an appropriate cross-section of expertise.
2. Review bushfire hazard characteristics
 - The Panel of experts reviewed the bushfire hazard characteristics of the areas in the Wilton Growth Area. This included an analysis of the following:
 - Bushfire Prone Land Map;
 - Aerial Photography;

- Site Inspection;
- Bushfire History; and
- Previous bushfire risk studies.

3. Identify the relevant variables and parameters expected to influence bush fire risk

- In order to determine what can be considered for early development without further a broader Evacuation and Access Study, the Panel of experts identified what variables and parameters are considered to influence bushfire risk in the Wilton Growth Area; and
- An analysis of each precinct was undertaken by the Panel of experts against the variables to determine what areas can be considered for early development without further study.

4. Establish any conditions and/or other requirements

- As part of the analysis the panel of experts considered whether any conditions / requirements were required in order to ensure the appropriateness of the assumptions for the above work;
- Discussions were held with Wollondilly Shire Council regarding the Natural and Manmade Hazard Study and its relevance to the Wilton Growth Area work; and
- A review of the criteria used for the Natural and Manmade Hazard Study was undertaken to determine how it analysed and determined bush fire for the Wilton Growth Area.

5. Draft report

- Review of the process and work was undertaken by Blackash to confirm concurrence; and
- A draft report was prepared articulating the work undertaken.

6. Review of draft report

- The draft report was reviewed by the Panel of experts.

7. Final report

- Feedback received on the draft provided further validation and was used to revise the draft report; and
- Final report documenting the approach and the above process completed.

4. Findings

The analysis undertaken by the Panel of experts involved a range of considerations relevant to bushfire risk. The bushfire prone land map and aerial imagery was used as a mechanism to identify bushfire hazards and provide context and scale.

Through the process, the panel of experts determined, for each precinct in the Wilton Growth Area, whether it was considered:

1. a lower bushfire risk and therefore appropriate to proceed without further Evacuation Studies;
or
2. a higher risk and therefore subject to further Evacuation and Access Studies.

The primary focus of the analysis was to ensure evacuation from the identified early development areas is:

- a) independent of the other precincts (i.e. goes directly to the main thoroughfares); or
- b) appropriately designed and connected through the other precincts in terms of capacities and redundancies (prior to development).

4.1. Precinct Overview

As part of the study, the seven precincts have been considered within the Wilton Growth Area:

1. Bingara Gorge;
2. South East Wilton;
3. North Wilton;
4. Wilton Town Centre;
5. West Wilton;
6. Maldon; and
7. South Wilton

These seven precincts are at various stages of development and described below. Where land has not been rezoned for urban development, the Structure Plan in Wilton 2040 (see Figure 1) provides information on the high level land uses for these precincts.

Bingara Gorge

Bingara Gorge covers an area of 450 hectares which would allow approximately 1,165 dwellings and a population of 3,500 residents. A mixed-use area is also included which covers the Wilton Public School, a pre-school, medical centre, neighbourhood shops, restaurants and cafes. This precinct was rezoned for urban development under the Wollondilly LEP in 2008.

South East Wilton Precinct

South East Wilton covers a large area, of which 433 hectares is identified for land release. Full development of the precinct allows for up to 3,600 dwellings and a population of up to 9,600 residents. Land owned by Walker Corporation in the precinct was rezoned for urban development in 2018 and is currently being developed by Risland. The Stage 1 Development Application for 700 dwellings has been approved.

The balance of the South East Wilton land has not yet been rezoned but has been identified for longer term release, primarily for employment uses and environmental conservation areas. This balance area is now known as the South Wilton precinct.

North Wilton Precinct

Wilton North covers an area of 871 hectares which would allow approximately 5,600 dwellings and a population of up to 15,000 residents. The precinct was rezoned for urban development in 2018 and is currently being developed by Landcom.

Wilton Town Centre

The Wilton Town Centre is the central precinct within the Wilton Growth Area directly north of the Hume Highway and Picton Road junction. The Wilton Town Centre will deliver a major retail and commercial centre, approximately 1,600 dwellings (with a mix of housing types) and 7,000 jobs, a school, a major public open space including sports fields, protection of approximately 39 hectares of environmentally sensitive land and including provision for a central bus terminal.

Rezoning of the Wilton Town Centre precinct is in the final stages and is expected to be completed in August 2021.

West Wilton

West Wilton is southwest of Picton Road. It is comprised of smaller land holdings in fragmented ownership and in the longer term could provide around 2,150 dwellings.

Maldon

Rural service industries and general industry is already established in Maldon. This future employment precinct forms a natural extension of Maldon existing employment area. Maldon will provide important employment opportunities and services for the future population in the Wilton and Greater-Macarthur growth areas, with the potential to generate around 3,000 jobs.

South Wilton

Generally only the land in the central area of this precinct has any residential development potential, which could allow approximately 250 dwellings. This central area is also affected by conservation areas focussed on the riparian areas. Broadly, land in the west of the precinct (adjacent to the Hume Motorway and Picton Road) is to be used as employment land and land in the east will be protected for environmental conservation under the draft Cumberland Plain Conservation Plan (CPCP).

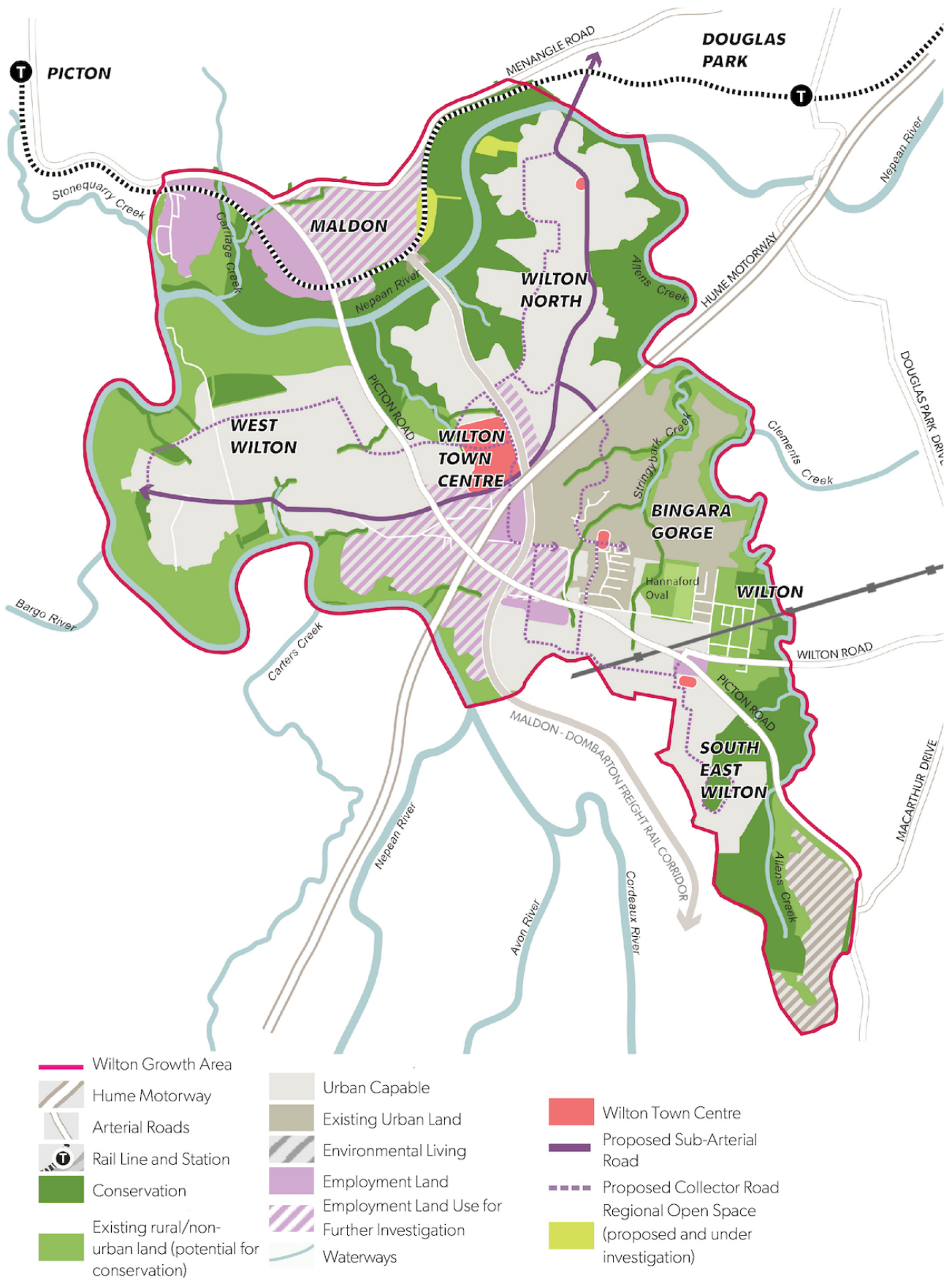


Figure 1: Wilton Growth Area – Structure Plan (from Wilton 2040).

4.2. Variables/Parameters

In order to determine what could be considered for early development prior to the broader Evacuation and Access Study, the panel of experts identified a range of variables and parameters considered to influence bushfire risk in the Wilton Growth Area. These variables were as follows:

- is the precinct of relative bushfire lower risk?
- is the future planning likely to be enabling, not prohibiting for adjoining areas?
- are any 'temporary' access solutions required?
- are there any evacuation dependencies between lower risk areas that can be developed in the short term and future developments in higher risk areas?
- is the current road network considered sufficient to cope with the approximate numbers of residents who may wish to relocate in the event of a bush fire?

An analysis of each precinct was undertaken by the panel of experts against the variables/parameters to determine what areas can be considered for early development without further study.

As part of the risk assessment process, *Table 10: Bushfire Risk Assessment - Wilton Growth Area Precincts* from within the Bush Fire Risk Study (ELA, 2020) was considered.

Table 1 (below) provides an overview of the findings of the analysis which was reviewed and confirmed by Blackash in accordance with the methodology above.

4.3. Conditions/Requirements

As part of the analysis the panel of experts considered whether any conditions or requirements were required in order to ensure the appropriateness of the assumptions that underpinned the above work. The following was identified:

- As the early development areas are considered lower bushfire risk, 'normal' evacuation and therefore access roadway design requirements are considered adequate. The identified lower bushfire risk areas were consistent with the bushfire risk assessment undertaken as part of the Bushfire Risk Study (ELA 2020);
- Early development areas must be designed and comply with *Planning for Bush Fire Protection 2019*;
- Staging across the Wilton Growth Area is designed to ensure that expansion/development occurs from the major access route (i.e. Picton Road) outwards; and
- Access networks within the early development areas must be 'enabling' by design, ensuring future development in the adjoining areas is not restricted.

Table 1: Findings of the analysis for each Wilton Growth Area precinct.

PRECINCT	RELATIVE BUSHFIRE RISK	ENABLING/ PROHIBITING	TEMPORARY ACCESS	EVACUATION DEPENDENCIES	COMMENTS	EARLY RELEASE
Bingara Gorge	Dissected by low-risk forested riparian corridors and adjoined by grassland to the northwest and southwest. Eastern portions of the precinct, south of Stringybark Creek considered higher risk.	Primarily existing development. Careful planning required to ensure the undeveloped eastern portions of the precinct are provided with enabling access.	None Required	The eastern portions of the precinct, south of Stringybark Creek is one way in/ one way out and could have potential pinch points.	The western and northern portions of the precinct are considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies Bingara Gorge is partly developed. The eastern portions of the precinct, south of Stringybark Creek is considered higher risk which should be subject to further Evacuation and Access Study.	Yes (part)
South East Wilton	Adjoined by higher risk forest vegetation on the western and southern boundaries. North-eastern portions near Picton Road considered lower risk.	North-eastern portions have good access to Picton Road. Careful planning is required to ensure the higher risk southwestern portions of the precinct are provided with enabling access through the north-eastern areas.	RMS has allowed a temporary "locked gate" access point to Picton Road as part of Stage 1 – this may not be required once the full local road network is built	Staging must ensure the southwestern portions of the precinct are developed last.	The northern portion of the (Stages 1-3) precinct is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies Southwestern portions of the precinct (Stages 4, 5 & 6) are considered higher risk which should be subject to further Evacuation and Access Study. See Figure 3	Yes (part)
North Wilton	Adjoined in the northern areas by higher risk forest vegetation associated with the Nepean River. Southern portions have limited exposure to significant bushfire hazard.	Southern portions have good access to the Wilton Town Centre Precinct. Careful planning is required to ensure the higher-risk northern portions of the precinct are provided with enabling access through the southern areas.	Temporary or "locked gate" access to the Hume Motorway may be required for the Stage 1 development	Staging must ensure the northern portions of the precinct are developed last and the southern portions are developed after the Wilton Town Centre.	The southern portion of the precinct (Stages 1-3 and 5-11) is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies Northern portions of the precinct (Stages 4 and 12-22) are considered higher risk and should be subject to further Evacuation and Access Study. See Figure 4	Yes (part)
Wilton Town Centre	Limited exposure to significant bushfire hazard.	The Wilton Town Centre precinct has direct access to Picton Road. Careful planning required to ensure the Wilton North precinct is provided with enabling access.	Temporary or "locked gate" access to Picton Road may be required for the Stage 1 development	None	The Wilton Town Centre precinct is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies.	Yes

West Wilton	Adjoined by higher risk forest vegetation associated with the Nepean River on the western and northern boundaries. Eastern portions near Picton Road considered lower risk.	Eastern portions have good access to Picton Road. Careful planning is required to ensure the higher-risk western portions of the precinct are provided with enabling access through the eastern areas.	None Required	Staging must ensure the western portions of the precinct are developed last.	The eastern portion of the precinct is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies The western portion of the precinct are considered higher risk and should be subject to further Evacuation and Access Study.	Yes (part)
Maldon	Existing industrial development is already established in Maldon. New development areas have limited exposure to significant bushfire hazard.	New development areas have direct access to Picton Road	None Required	None	The Maldon Precinct is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies.	Yes
South Wilton	Limited exposure to significant bushfire hazard and in many places adjoined by existing development.	New development areas have direct access to existing road networks and Picton Road.	None Required	None	The Wilton South Precinct is considered a lower-risk area and therefore appropriate to proceed without further Evacuation Studies.	Yes

NOTE: A detailed Bush Fire Strategic Study was undertaken as part of the 'Strategic Bushfire Assessment' (Ecological Australia 2018).

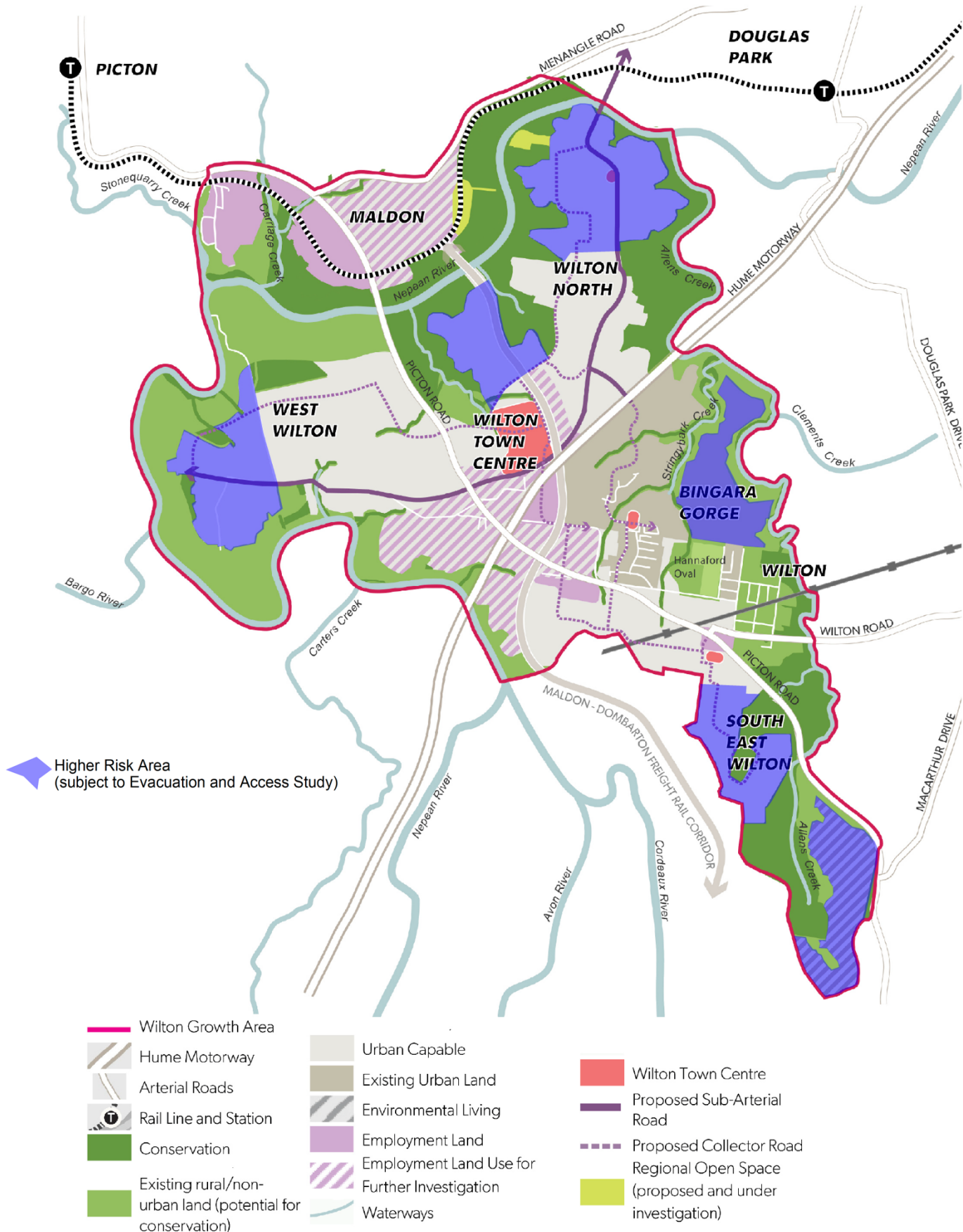


Figure 2: Identified higher bushfire risk areas subject to further Evacuation and Access Studies.

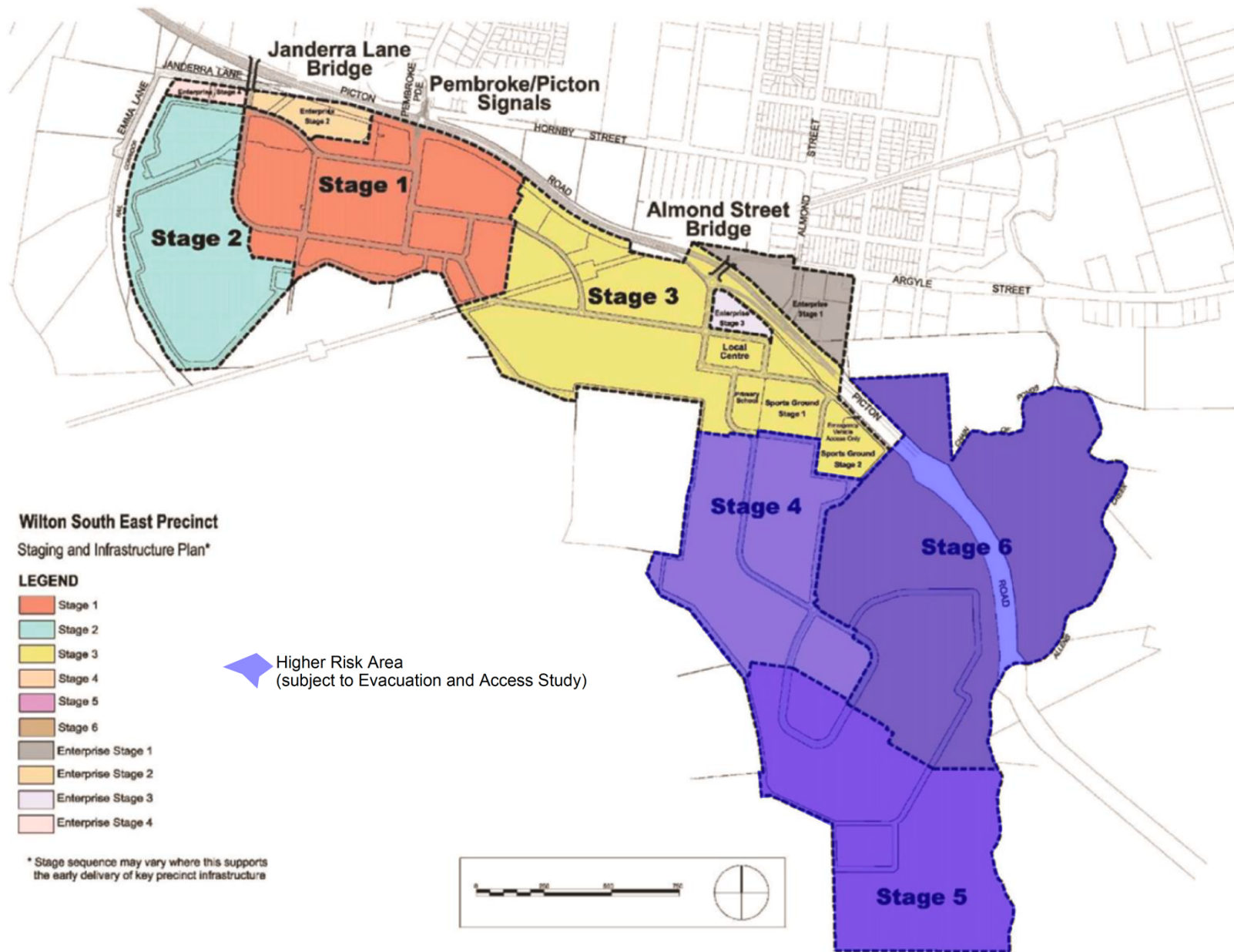


Figure 3: Identified higher bushfire risk areas within the Wilton South East Precinct.

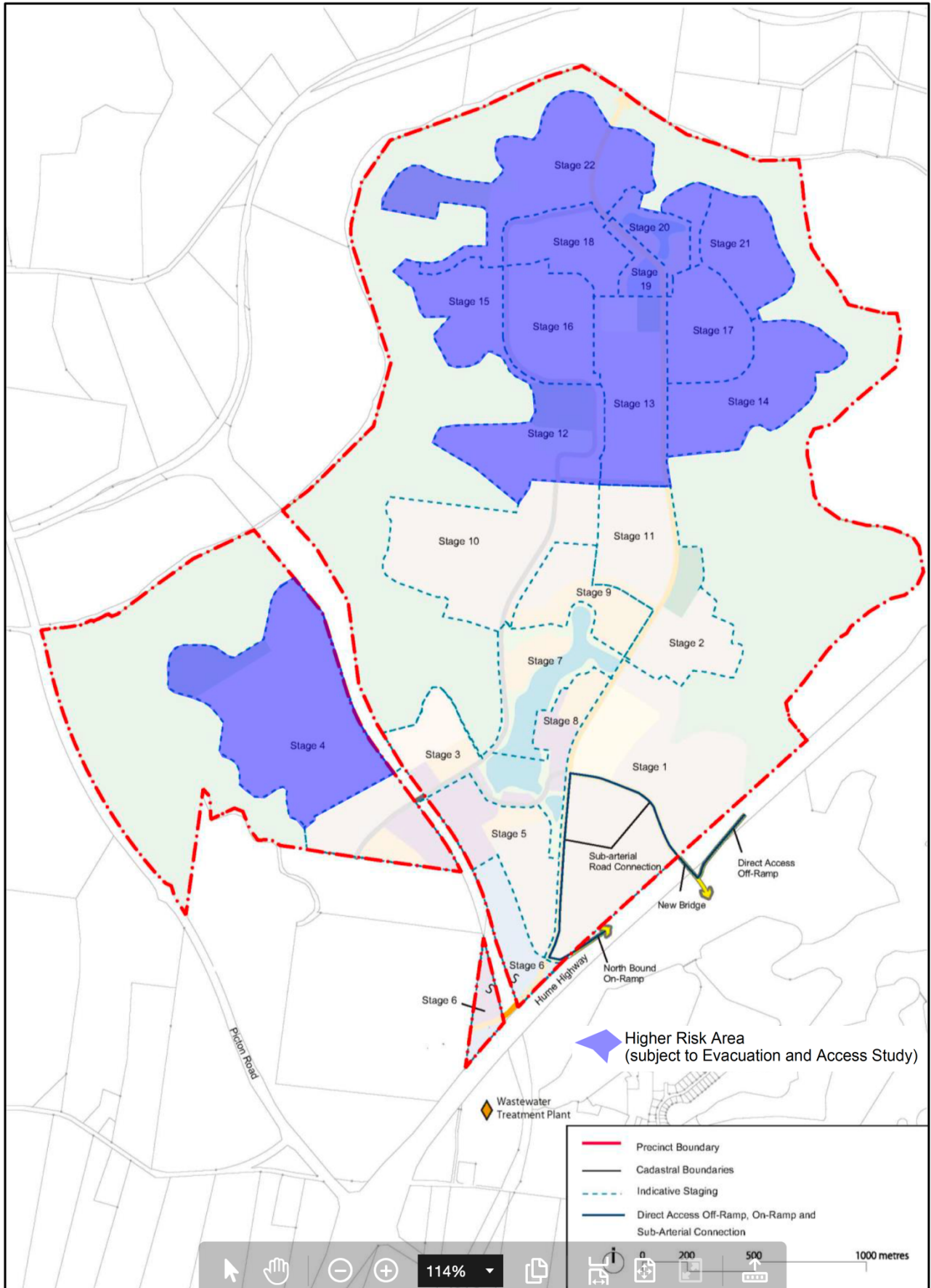


Figure 4: Identified higher bushfire risk areas within the Wilton North Precinct.

4.4. Natural and Manmade Hazard Study

Discussions were held with Wollondilly Shire Council regarding the Natural and Manmade Hazard Study which is currently being prepared and its relevance to the Wilton Growth Area work. Based on the discussions, it was identified that the Wilton Growth Area is identified as a high-risk area because it has been recognised for future urban development. The work being undertaken in this study provides a more granular assessment of risk in the Wilton Growth Area.

Wollondilly Council has advised that the exposure mapping undertaken was an all-hazards approach looking at current and future development risk (to 2040). The study adopted an index-based method (formula) of risk assessment. This creates an index of risk by aggregating the risk components, in this case Hazard, Exposure, and Vulnerability. The study used a common equation approach commonly used in physical and natural hazard risks, being: Risk = Hazard x Exposure x Vulnerability.

Based on the approach used in the Natural and Manmade Hazard Study, the risk rating is a very coarse, landscape-level approach which is complemented by the more detailed work undertaken as part of this Early Development Area analysis.

5. Recommendations

The following recommendations have been made based on the findings in relation to the early development areas. The recommendations assist in facilitating appropriate bushfire outcomes for the Wilton Growth Area:

1. In general, any Planning Proposals, Neighbourhood Plans or Development Applications can proceed in the areas not identified in Figures 2-4 as higher bushfire risk areas requiring a broader Evacuation and Access Study. If not identified in Figures 2-4, no further strategic studies are required, however all future development is still subject to design compliance with the relevant provisions (Chapters 5-8) of *Planning for Bush Fire Protection 2019*.
2. In particular:
 - The rezoning of, and subsequent development applications for, the Wilton Town Centre precinct can proceed subject to future design compliance with the relevant provisions (Chapters 5-8) of *Planning for Bush Fire Protection 2019*.
 - The North Wilton Neighbourhood Plan (No.1) and North Wilton Stage 1 Development Application and precinct super lot subdivision can proceed subject to future design compliance with the relevant provisions (Chapters 5-8) of *Planning for Bush Fire Protection 2019*.

6. Conclusion

Based on the evaluation of the Wilton Growth Area, a number of lower bushfire risk areas have been identified. Given the bushfire risk, development can proceed through the normal assessment processes in these lower bushfire risk areas prior to the broader Evacuation and Access Study.

Any existing or future applications within the identified early development areas can therefore proceed subject to compliance with *Planning for Bush Fire Protection 2019*.



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