

APPENDIX H

Bushfire Hazard Assessment



BUSHFIRE PROTECTION ASSESSMENT

FOR THE

**KEMPSEY DISTRICT HOSPITAL
STAGE 1
REDEVELOPMENT**



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STAGE 1

REDEVELOPMENT

Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B121887 - 2	Final	13.2.2013	20.4.2013	<i>G.L.Swain</i>

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited, at the request of *NSW Health Infrastructure*, has undertaken the bushfire consultancy to inform the planning for the Stage1 redevelopment of the Kempsey District Hospital of those matters which are necessary to address the bushfire risk to the facility.

The proposed redevelopment has been determined to be a State Significant Development [SSD] under Schedule 1 of *State Environmental Planning Policy [State and Regional Development] 2011* with the proposed development being described as construction of a new hospital building, refurbishment of vacated and existing under-utilised spaces within existing buildings, connections between new and existing hospital buildings, car parking and landscaping works.

The Master Plan prepared by BVN Donovan Hill, Architects, provides for the upgrade and extensions to the Hospital to be undertaken over three phases.

Phase 1A development consists of the following works which is being implemented under a Review of Environmental Factors [REF]:

- Selected building demolitions [Building 7 – Waste Management Building; Building 8 – Waste Management Building and partial demolition of Building 9A – Engineering & Maintenance]; and
- The construction of the western carpark.

Phase 1B development consists of the following works which is being implemented under a Review of Environmental Factors [REF]:

- Building Relocations – Building 13B – TACS; Building 13C – Dental Clinic & Associated Meeting Rooms; Building 13D – Drug & Alcohol and Building 14 – Aboriginal Health.

Phase 2 development consists of the following works which is being implemented under a Review of Environmental Factors [REF]:

- New service access road, Engineering Services, Building Demolition & Associated Works – Building 11A, 11B, 11C – Miscellaneous Structures demolished; Building 13C – Oral Health demolished; Building 15A, 15B & 15C - Sheds demolished.

Phase 3 development consists of the following works:

- Demolition & Site Preparation – Building 12 – Blood Bank & Dosing Clinic demolished; bulk excavation.

The Phase 3 works prepares the site for the construction of the new, five level building. The Lower Ground Floor level contains Medical Records, Pharmacy/Pathology, Engineering and Maintenance and Plant.

Level 00 contains the Main Lobby; Admissions; the Emergency Department, with Ambulance entry off Polwood Street; Medical Imaging Department, HDU/CCU facilities. Level 1 contains Medical Wards and Level 2 contains Operating Theatres, Recovery and Day Surgery Units. Level 3 contains Plant.

The areas of the existing Hospital facility vacated by the relocation of these departments into the new building will be refurbished, internally, with the departments located in temporary accommodation occupying these areas.

Externally, the main entry to the Hospital is to be relocated off Polwood Street, including modifications to the carpark and the Phase 1A Carpark will be constructed on cleared land to the southwest of River Street.

Building 13C will be temporarily relocated as part of Phase 1B to the corner of River Street and Polwood Street, in front of the existing Maternity building.

The vegetation within the Hospital Precinct, northeast of River Road, consists of managed landscaped gardens/open mown lawns adjoining the existing facilities with a pocket of pine trees with a mown understorey located in the south-eastern corner of the Hospital site.

This vegetation is not bushfire prone, nor is the vegetation within the Cemetery located to the southeast of the Hospital site.

That part of the Hospital Precinct which is located to the southwest of River Street contains an existing brick and tile dwelling which is proposed to be retained. To the southeast of the dwelling is an open area of retained trees with a managed [slashed] understorey.

To the northwest of the dwelling is an area that extends to the north-western boundary of the Hospital site which is also managed.

The land to the southeast of the dwelling and managed land forms the corridor along the bank to the Macleay River. This corridor contains unmanaged remnant forest vegetation which has a dense understorey of invasive weed species [Lantana & Blackberry].

This vegetation and the tree canopy within the managed area of the site are shown to be Category 1 Bushfire Prone Vegetation on the Kempsey Bushfire Prone Land Map.

The landuse to the northwest of the Hospital site consists of vacant land used for equine grazing – this land is not bushfire prone.

The land to the northwest of the south-western portion of the Hospital site [southwest of River Street] is a closed road and then vacant Council land which forms the narrow corridor between River Street and the Macleay River.

This corridor contains forest vegetation which is recorded in the Kempsey Bushfire Prone Land Map as Category 1 Bushfire Prone Vegetation.

The buffer zone to the bushfire prone vegetation impacts upon the main Hospital precinct.

The NSW Department of Planning [DoP] issued the Director General's Requirements [DGRs] for the preparation of the Environmental Assessment for the project [SSD – 5363 – 2012] on the 8.12.2012.

The Director-General's requirements for the Environmental Assessment contain, under Item 8 of the Key Issues the following requirements:

- A bushfire hazard assessment and report that addresses the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirement for Special Fire Protection Purpose Development as detailed in *Planning for Bushfire Protection 2006* guidelines; and
- The assessment and report shall also address the existing hospital development's compliance with the requirements of *Planning for Bushfire Protection 2006* guidelines and recommend any improvements to achieve a better bushfire [protection] outcome for the existing facility.

Clause 44 of the Rural Fires Regulation 2008 requires that, for the issue of a Bushfire Safety Authority pursuant to Section 100B of the *Rural Fires Act 1997*, the following matters be addressed:

- (a) a description (including the address) of the property on which the development the subject of the application is proposed to be carried out;
- (b) a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in *Planning for Bush Fire Protection*;
- (c) an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property);
- (d) identification of any significant environmental features on the property;
- (e) the details of any threatened species, population or ecological community identified under the *Threatened Species Conservation Act 1995* that is known to the applicant to exist on the property;

- (f) the details and location of any Aboriginal object (within the meaning of the *National Parks and Wildlife Act 1974*) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property;
- (g) a bush fire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters:
 - (i) the extent to which the development is to provide for setbacks, including asset protection zones;
 - (ii) the siting and adequacy of water supplies for fire fighting;
 - (iii) the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency;
 - (iv) whether or not public roads in the vicinity that link with the fire trail network have two-way access;
 - (v) the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response;
 - (vi) the adequacy of bush fire maintenance plans and fire emergency procedures for the development site;
 - (vii) the construction standards to be used for building elements in the development;
 - (viii) the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development.
- (h) an assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Chapter 4 (Performance Based Controls) of *Planning for Bush Fire Protection*.

This report undertakes an assessment to review compliance with those matters identified by Clause 44 of the *Rural Fires Regulation 2008*, pursuant to the Director General's Requirements [DGRs] and determines the deemed-to-satisfy bushfire protection requirements for the redevelopment of the Hospital Precinct, in accordance with the provisions of *Planning for Bushfire Protection 2006*, and examines the adequacy of the Asset Protection Zones to the new building; emergency access/egress; fire-fighting access and water supplies; construction standards of the buildings [including the existing buildings], the management of the Asset Protection Zones/residual vegetation and evacuation protocols necessary to address the bushfire risk to the Hospital and to address the aim and objectives of *Planning for Bushfire Protection 2006*.

The report also examines the existing hospital development's compliance with the requirements of *Planning for Bushfire Protection 2006* guidelines and recommends any improvements to achieve a better bushfire [protection] outcome for the existing facility.



Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

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SECTION 1

INTRODUCTION

1.1 Development Proposal.

The proposed redevelopment of the Kempsey District Hospital is described as construction of a new hospital building, refurbishment of vacated and existing under-utilised spaces within existing buildings, connections between new and existing hospital buildings, car parking and landscaping works.

The Master Plan prepared by BVN Donovan Hill, Architects, provides for the upgrade and extensions to the Hospital to be undertaken over three phases.

Phase 1A development consists of the following works which is being undertaken a Review of Environmental Factors [REF]:

- Selected building demolitions [Building 7 – Waste Management Building; Building 8 – Waste Management Building and partial demolition of Building 9A – Engineering & Maintenance]; and
- The construction of the western carpark.

Phase 1B development consists of the following works which is being undertaken a Review of Environmental Factors [REF]:

- Building Relocations – Building 13B – TACS; Building 13C – Dental Clinic & Associated Meeting Rooms; Building 13D – Drug & Alcohol and Building 14 – Aboriginal Health.

Phase 2 development consists of the following works which is being undertaken a Review of Environmental Factors [REF]:

- New service access road, Engineering Services, Building Demolition & Associated Works – Building 11A, 11B, 11C – Miscellaneous Structures demolished; Building 13C – Oral Health demolished; Building 15A, 15B & 15C - Sheds demolished.

Phase 3 development consists of the following works:

- Demolition & Site Preparation – Building 12 – Blood Bank & Dosing Clinic demolished; bulk excavation.

The Phase 3 works prepares the site for the construction of the new, five level building. The Lower Ground Floor level contains Medical Records, Pharmacy / Pathology, Engineering and Maintenance and Plant.

Level 00 contains the Main Lobby; Admissions; the Emergency Department, with Ambulance entry off Polwood Street; Medical Imaging Department, HDU/CCU facilities. Level 1 contains Medical Wards and Level 2 contains Operating Theatres, Recovery and Day Surgery Units. Level 3 contains Plant.

The areas of the existing Hospital facility vacated by the relocation of these departments into the new building will be refurbished, internally, with the departments located in temporary accommodation occupying these areas.

Externally, the main entry to the Hospital is to be relocated off Polwood Street, including modifications to the carpark and the Phase 1A Carpark will be constructed on cleared land to the southwest of River Street.

Building 13C will be temporarily relocated as part of Phase 1B to the corner of River Street and Polwood Street, in front of the existing Maternity building.

Figure 1 – Kempsey Hospital – Existing Site Plan. Source – BVN Donovan Hill – Architects

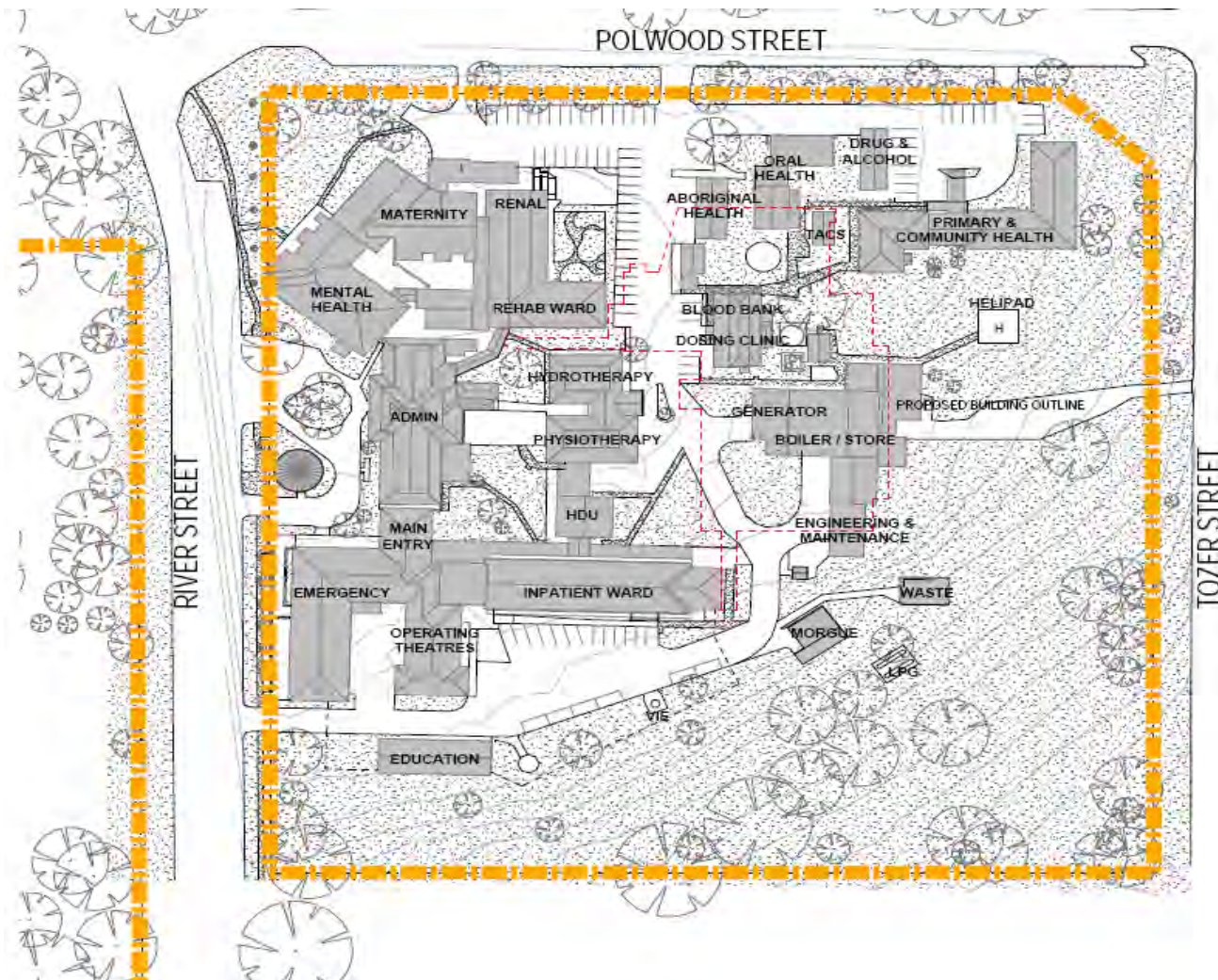


Figure 2 – Kempsey Hospital – Proposed Site Plan - Source – BVN Donovan Hill – Architects

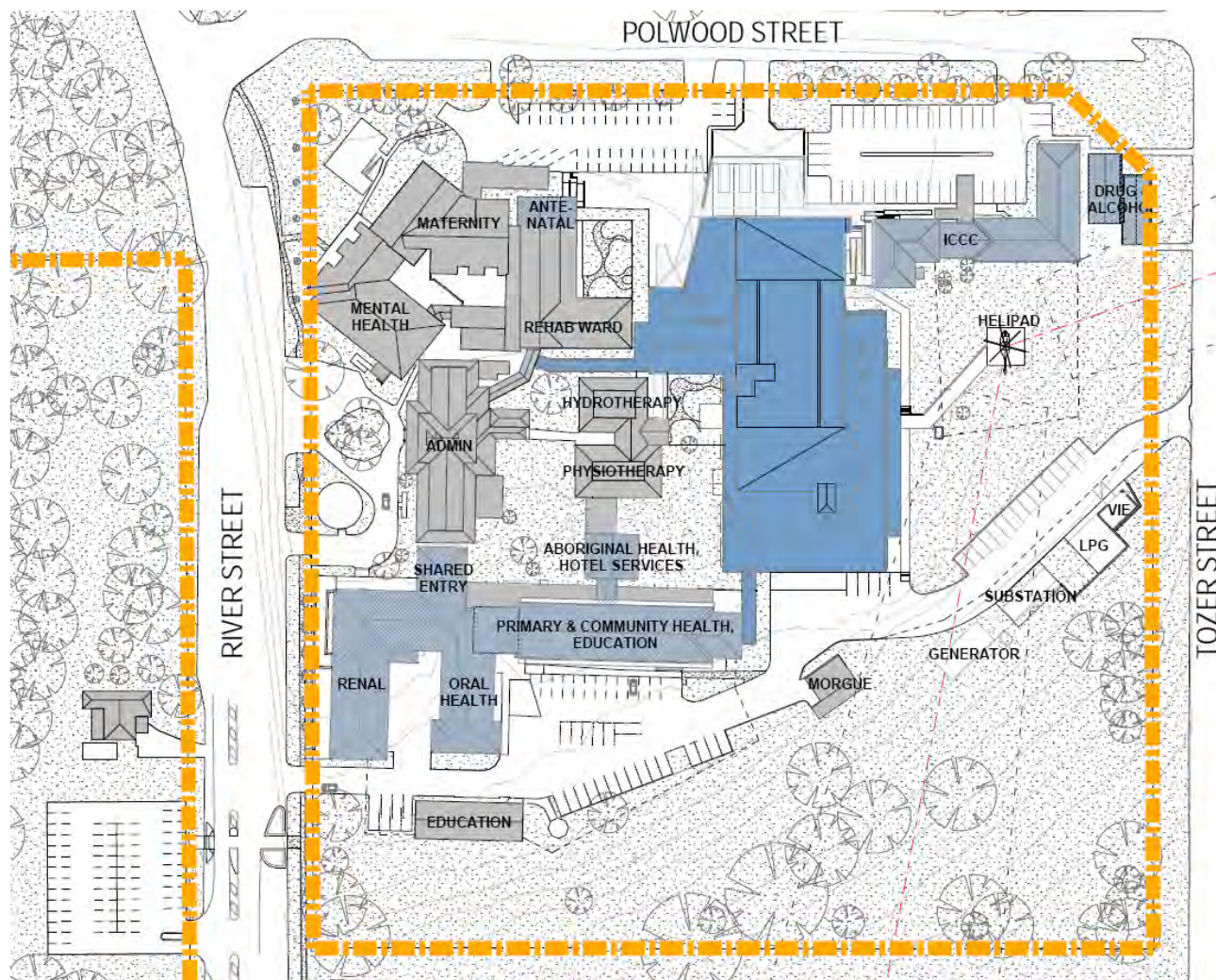
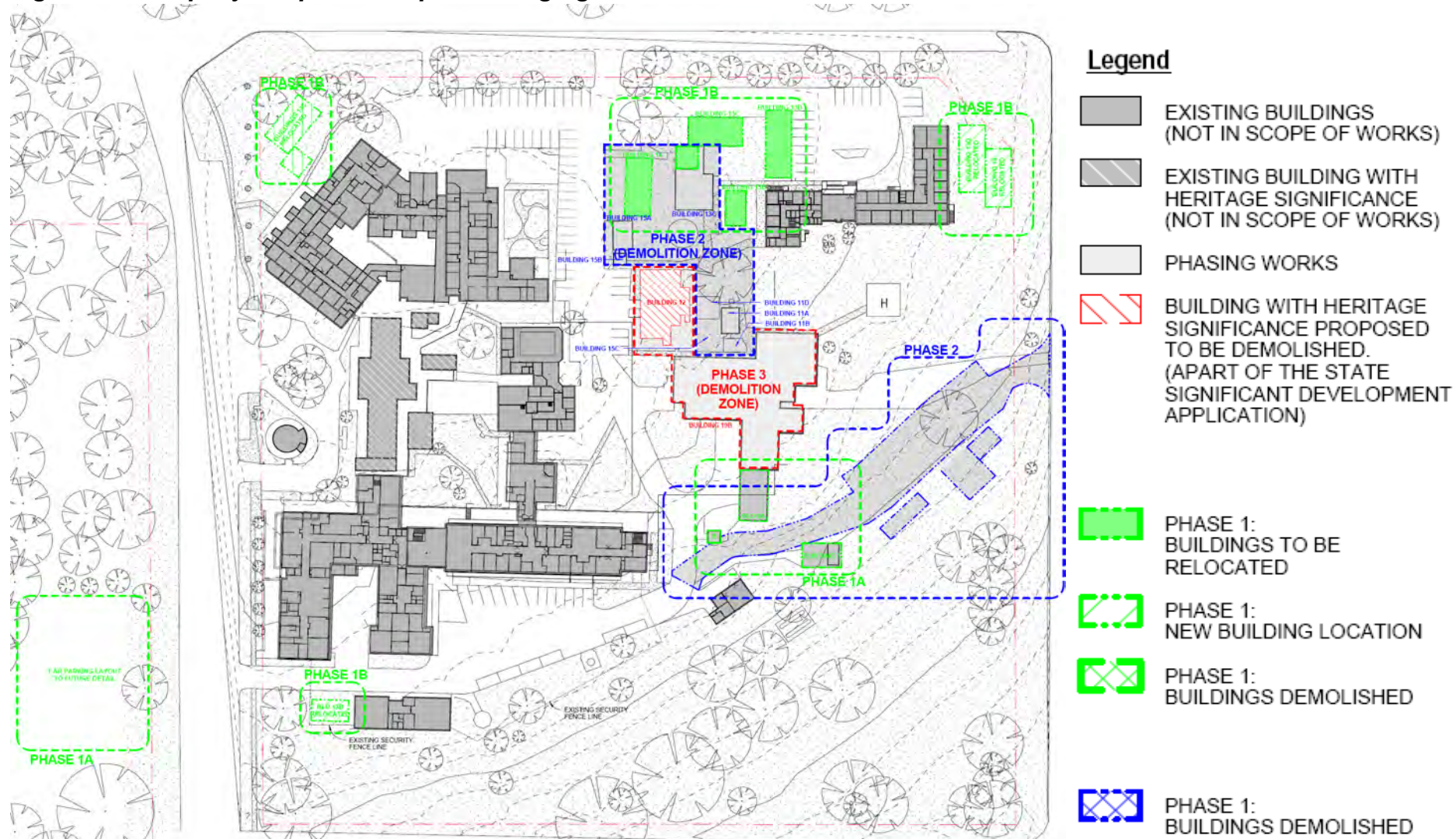


Figure 3 – Kempsey Hospital – Proposed Staging Plan - Source – BVN Donovan Hill – Architects



1.2 Aim of this Report.

The aim of this report is to address the Director-General's requirements for the Environmental Assessment. These are:

- A bushfire hazard assessment and report that addresses the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirement for Special Fire Protection Purpose Development as detailed in *Planning for Bushfire Protection 2006* guidelines; and
- The assessment and report shall also address the existing hospital development's compliance with the requirements of *Planning for Bushfire Protection 2006* guidelines and recommend any improvements to achieve a better bushfire [protection] outcome for the existing facility.

1.3 Statutory Requirements.

This report has been prepared having regard to the following legislative and planning requirements:

1.3.1 Legislation.

Environmental Planning and Assessment Act - 1979 (EPA Act)

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1979* (EPA Act). The *Environmental Planning and Assessment Amendment [Part 3A Repeal] Act 2011* commenced on the 1st October 2011 and amends the *Environmental Planning & Assessment Act 1979*.

These amendments include the repeal of Part 3A 'major projects' and introduces a new assessment pathway for under Part 4 of the Act for State Significant Development [SSD].

State Environmental Planning Policy [State and Regional Development] 2011 [SRD SEPP] was introduced on the 1st October 2011 and declares certain development to be SSD. The Minister for Planning and Infrastructure may also declare development to be SSD by an order.

SSD requires lodgement of a development application, including submission of an environmental impact statement which addresses the Director Generals Requirements [DGRs].

1.3.2 Planning Policies.

Planning for Bushfire Protection – 2006. [Rural Fire Service]

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for rural residential and residential subdivision, "*Special Fire Protection Purpose Developments*" and Class 5 – 8 and 10 buildings in bushfire prone areas.

The document provides deemed-to-satisfy specifications on the provision of Asset Protection Zones to residential and “*Special Fire Protection Purpose Developments*” – including Hospitals; defensible space requirements to other developments and access/water supply provisions for developments in bushfire prone areas.

Provision for the assessment of construction standards to buildings and management / maintenance of the Asset Protection Zones/defensible space to buildings is also provided.

1.4 Documentation reviewed in this Assessment.

To achieve the aim of this report, a review of information relevant to the property was undertaken. Information sources reviewed included the following documents:

- Stage 1 Phasing Strategy – Master Plan prepared by BVN Donovan Hill, Architects;
- Floor Plans of the new building prepared by BVN Donovan Hill, Architects;
- Cadastre Plan provided by NSW Health;
- Director General’s Requirements - SSD 5363 issued on the 5th December 2012;
- Kempsey Council Bushfire Prone Land Map;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 - 2009 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2008*.

1.5 Site Inspection.

Graham Swain of *Australian Bushfire Protection Planners Pty Limited* inspected the site and surrounding areas on the 15th January 2013.

Field assessment was undertaken to determine the landform, slopes, aspect, drainage, vegetation types and adjoining landuse. The identification of existing bushfire protection measures and visual appraisal of bushfire hazard and potential fire paths were also undertaken.

SECTION 2

HOSPITAL PRECINCT DESCRIPTION

2.1 Location and Adjoining Landuse.

The main Hospital Precinct occupies land within Lots 1 - 8, Section 20A in DP 759080; Lot 14 Section 23A in DP 759080 and Lot 1 Section 23A in DP 759080 and is bound by River Street to the southwest, Polwood Street to the northwest, Tozer Street to the northeast and the South Kempsey Cemetery to the southeast.

Lot 1 in DP 115920 contains 2.033ha of land located to the southwest of River Street, extending southwest to the Macleay River and contains an existing brick and tile dwelling. It should be noted that whilst Lot 1 in DP115920 forms part of the Hospital precinct, it does not form part of the land for which approval is sought under the State and Regional Development SEPP (SRD SEPP).

The land to the northwest of Polwood Street is vacant and is used for equine grazing. The land to the northeast, beyond Tozer Street, contains residential development.

The land to the immediate northwest of Lot 1 in DP 115920 consists of vacant land within a closed road. The land to the northwest of the closed road is vacant Council managed land that forms the riparian corridor along the north-eastern bank of the Macleay River.

The land to the southeast of Lot 1 in DP 115920 the Youth Access Centre building with residential development extending further to the southeast.

Refer to Figure 4 & 5 – Cadastre Plan and Aerial Photograph of Hospital site below.

Figure 4 – Cadastre Plan of the Hospital Precinct.



Figure 5 – Aerial Photograph of the Hospital Precinct.



2.2 Precinct Description.

The main Hospital Precinct is located to the northeast of River Street and is rectangular in shape with a splay to the north-eastern corner and contains the existing Hospital buildings and associated facilities.

Lot 1 in DP 115920 forms the western portion of the Hospital Precinct and is located to the southwest of River Street and contains a single storey brick & tile dwelling. This lot has a frontage of 225.23 metres to River Street and a depth to the Macleay River of 80.46 metres along the north-western boundary and 94.55 metres along the south-eastern boundary.

2.2.1 Topography:

The main Hospital Precinct occupies the south-eastern slope of a ridgeline which has its apex extending along Polwood Street. The land within the Hospital site falls to the southeast and east at less than 5 degrees.

The land within Lot 1 in DP 115920 rises from the south-eastern boundary towards the northwest, levelling out within the north-western portion of the lot.

The south-western portion of the lot contains a vertical cliff line that runs parallel to the river bank with the land below the cliff falling gently to the river edge. The cliff line gives way to a steep slope to the northwest of the dwelling with the land falling to the river edge at 10 degrees.

The land to the northwest of Lot 1 in DP 115920, forming the riparian corridor along the north-eastern bank to the Macleay River, falls from the River Street corridor at 10 degrees to the edge of the river.

Refer to Figure 6 showing location of the cliff line on Lot 1 in DP 115920 and the gradient of the land within the riparian corridor to the Macleay River.

Figure 6 – Slope Analysis



2.2.2 Vegetation Communities:

The vegetation within the main Hospital Precinct consists of managed landscaped gardens with a pocket of pine trees located along the south-eastern boundary. This pocket has a managed grass understorey – refer to Site Photographs.

Lot 1 in DP 115920 contains a strip of managed vegetation located between the road frontage and the cliff line – refer to Figure 5 above. This vegetation consists of a remnant tree canopy with a slashed understorey – refer to Site Photographs.

The vegetation on the land between the bottom of the cliff and the edge of the river comprises remnant Dry Sclerophyll Open Forest with a dense weed understorey. The width of this vegetation is less than 50 metres.

The riparian corridor along the north-eastern side of the Macleay River contains Dry Sclerophyll Open Forest extending to a width of approximately 63 metres, from the road corridor to the edge of the river. The land to the west and southwest of the Macleay River is farming land that contains grassland vegetation.

2.3 Site Photographs.



Photograph No. 1 – Taken showing managed vegetation adjacent to the south-eastern boundary of the Hospital site.



Photograph No. 2 – Taken looking to the northwest across the south-eastern portion of Lot 1 in DP 115920 showing managed land with the existing dwelling in the background. This is the location of the proposed Carpark.



Photograph No. 3 – Taken looking to the northwest across the north-western portion of Lot 1 in DP 115920 showing managed land above the cliff line which is defined by the line of unmanaged vegetation on the right.



Photograph No. 4 – Taken looking to the south across the north-western portion of Lot 1 in DP 115920 showing managed land above the cliff line which is defined by the line of unmanaged vegetation. The Macleay River is on the right, through the trees.



Photograph No. 5 – Taken looking to the northwest from the Maternity Building, across River Street showing unmanaged vegetation in the riparian corridor to the Macleay River.



Photograph No. 6 – Taken looking to the southwest from River Street showing the managed farmland to the west of the Macleay River.



Photograph No. 7 – Taken looking to the east from Harold Coutman Street showing the vacant grazing paddock to the northwest of Polwood Street.

2.4 Significant Environmental Features within the Hospital Precinct.

The main Hospital Precinct does not contain areas of SEPP 14 Wetland; SEPP 44 Koala Habitat; land of geological interest; land slip areas, or National Parks Estate.

Lot 1 in DP 115920 contains steep land in the form of the cliff line and the riparian corridor to the Macleay River.

2.5 Known Threatened Species, Population or Ecological Community within the Estate.

The main Hospital Precinct does not contain threatened species, population or ecological community as the land is cleared and managed.

There are no known threatened species, population or ecological communities within Lot 1 in DP 115920 and the proposed works within this lot is not likely to impact on any species, if present, as the works are to occur within the area of the site that is already managed [slashed].

2.6 Details and location of Aboriginal relics or Aboriginal place.

There are no known Aboriginal relics and heritage within the Hospital site.

SECTION 3

BUSHFIRE MANAGEMENT RESPONSIBILITIES

Bushfire management within the Hospital is the responsibility of:

3.1 Kempsey Council.

Kempsey Council has responsibility, under Section 66 of the *Rural Fires Act*, to issue a notice in writing requiring an owner / occupier of any land within their LGA to carry out bushfire hazard reduction works on that land. Section 100E of the *Rural Fires Act* requires Councils to issue bushfire hazard reduction certificates for hazard reduction to be undertaken on private lands.

3.2 New Southeast Wales Rural Fire Service.

The NSW Rural Fire Service (RFS) has the responsibility for undertaking fire suppression activities, hazard management activities and other functions relative to emergency management, within its areas of operation. *Section 73* of the *Rural Fires Act (1997)* enables the Commissioner to carry out bush fire hazard reduction works on any land as required by a bush fire risk management plan if the work has not been carried out satisfactorily. Incurred costs can be recovered as a debt owed to the Crown. *[Note: The Estate is not located within a NSW Rural Fire Service Fire District].*

3.3 Fire & Rescue New South Wales.

The Fire & Rescue NSW has the responsibility for undertaking fire suppression activities, and other functions relative to emergency management, within the Estate and through Mutual Aid Agreements, receive assistance from the NSW Rural Fire Service, particularly for hazard reduction operations within the site. Hazmat management within New Southeast Wales is the responsibility of the Fire & Rescue NSW.

3.4 Kempsey Bush Fire Management Committee.

The Kempsey Bushfire Management Committee has the responsibility for planning for co-ordinated bushfire fighting activities / hazard management activities on a local government level. It is not an operational organization, a fire fighting organization or a funding source for fire management activities.

The Bush Fire Management Committee is supported by the following provisions of the Rural Fires Act 1997:

- **Section 52** requires each Bush Fire Management Committee to prepare a draft bush fire management plan for their local areas which includes a plan of operations and a bush fire risk management plan.
- **Section 54** of the Act specifies that a draft bush fire risk management plan is to 'set out schemes for the reduction of bush fire hazards in the rural fire district or other part of the State'.

A draft bush fire risk management plan may also restrict or prohibit the use of fire or other fire hazard reduction activities in all or specified circumstances or places to which the plan applies.

3.5 Public Authorities & owners/occupiers of land.

The Rural Fires Act, 1997 provides several legislative opportunities to require Public Authorities, land owners and occupiers to manage hazardous fuels. These are listed below:

- **Section 63(1)** states that it is the duty of a public authority to take any practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of a bushfire on or from:
 - (a) any land vested in or under its control or management, or*
 - (b) any highway, road, street, land or thoroughfare, the maintenance of which is charged on the authority.*
- **Section 63(2)** states that *'it is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of fires on, and to minimise the danger of the spread of fires on or from that land'.*
- **Section 65A** states that the *'Commissioner may nominate a member of the Service as a hazard management officer'.*
- **Section 65(2)** states that *'an authorised person may, with the permission of the fire fighting authority or other authority responsible for unoccupied Crown land or managed land or a person nominated by the authority to give such permission, enter the land and carry out bushfire hazard reduction work with the assistance of such other persons as the authorised person considers to be necessary for the purpose'.*
- **Section 65(3)** states that *'the authority responsible for unoccupied Crown land or managed land is to be taken to have given the permission under this section to the extent necessary to give effect to a bushfire risk management plan'.*
- **Section 65(4)** states that *'if permission under this section is given subject to conditions, the conditions must be complied with'.*
- **Section 66(1)** states that *'a hazard management officer may, by notice in writing, require the owner or occupier [not being a public authority] of any land to carry out bushfire hazard reduction work specified in the notice on the land'.*

- **Section 66(2)** states that *‘a hazard management officer must serve a notice under this section if required to do so by a bushfire risk management plan applicable to the land that is in force’.*
- **Section 66(3)** states that *‘a hazard management officer must issue a bushfire hazard reduction certificate in respect of any bushfire hazard reduction work required by a notice issued in accordance within section (2)’.*
- **Section 66(6)** states that *‘the requirements and conditions so specified must include any requirements in a bushfire risk management plan that is applicable to the land and is in force and may include a requirement or condition that the burning of fire breaks or of combustible material;*

(a) must in fire district constituted under the Fire Brigades Act 1989 be carried out by or under the supervision of the fire brigade or an officer in charge of the fire brigade;

(b) must outside a fire district, be carried out by or under the supervision of the rural fire brigade specified in the notice or an appropriate officer of the rural fire brigade or any hazard management officer.
- **Section 66(7)** states that *‘a notice requiring the establishment of a firebreak cannot require an occupier or owner to kill or remove any trees that are reasonably necessary for shade, shelter, windbreak or fodder purposes or the protection of threatened species, populations, ecological communities or critical habitats within the meaning of the ‘Threatened Species Conservation Act 1995’.*
- **Section 66(8)** states that *‘an occupier or owner to whom a bushfire hazard reduction notice is given must, despite the fact that a fire permit has not been granted under Division 5, comply with the requirements specified in the notice’.*
- **Section 70(2)** states that *‘if within the time specified in the relevant notice the owner or occupier to whom it is given fails to comply with any requirement of the notice, the Commissioner may, without prejudice to liability of the owner or occupier, enter on the land and carry out the bushfire hazard reduction work the owner or occupier was required to do under the notice’.*
- **Section 70(3)** states that *‘any costs incurred by the Commissioner in carrying out such work may be recovered from the owner or occupier of the land as a debt due to the Crown in a court of competent jurisdiction’.*

- **Section 87** allows the removal of hazards in the bush fire danger period by the provision of a permit system. The permits are valid for 21 days, excluding TOBAN days.

Section 10 permits are not required to adhere to *Part V* provisions of the EPA Act 1979 in the assessment of impact, except for public authorities. An owner/occupier of private land must obtain from the NSW Rural Fire Service, a bushfire hazard reduction certificate before undertaking hazard reduction works on that land (Section 100E of the *Rural Fires Act 1997*).

3.6 Fuel Management within the Hospital Precinct.

The main Hospital Precinct and part of Lot 1 in DP 115920 contain well maintained landscaped gardens and managed vegetation. This management will continue.

The retained vegetation within the riparian corridor to the Macleay River is currently not managed, and due to the requirements of the Water Management Act 2002, cannot be managed to the extent required to reduce the bushfire fuels and will therefore remain a low level of hazard due to the narrow width of the corridor.

SECTION 4

BUSHFIRE RISK

4.1 Introduction.

Risk has two elements: Likelihood, which is the chance of a bushfire occurring and consequence, the impact of a bushfire when it occurs. Risk reduction can be achieved by reducing the likelihood of a bushfire, the opportunity for a bushfire to spread or the consequence of a bushfire (on natural and built assets). Bushfires will always occur within unmanaged Australian native bushland. Bushfire management should have a clear objective to reduce both the likelihood of bushfires and reduce the negative impacts of bushfires. It should also consider the costs, inconvenience and dangers of measures taken to reduce the risk of bushfires.

Many options are available to reduce the risk of bushfires starting, spreading and causing damage; reducing the unintended negative consequences of options taken to control risk; and the failure to achieve bushfire management programs.

The Australian Standard AS/NZS 4360:2004, and the Emergency Management Australia (EMA) emergency risk management process provide the framework for establishing the context, analysis, evaluation, treatment, monitoring and communication of risk.

Bushfire risk is defined as the chance of a bushfire occurring that will have harmful consequences to human communities and the environment. Bushfire risk is usually assessed through consideration of the likelihood of ignition and consequences of a bushfire occurring.

A range of factors influence bushfire risk – these include:

- The likelihood of human and natural fire ignitions, as influenced by time, space and demographics;
- The potential spread and severity of a bushfire, as determined by fuel, topography and weather conditions;
- The proximity of assets vulnerable to bushfire fuels, and likely bushfire paths; and,
- The vulnerability of assets including natural assets, or their capacity to cope with, and recover from bushfire.

For the purpose of analysing fire risk, a dangerous and damaging fire has the potential to occur when the following conditions prevail:

- Continuous available fuel – fuel at moisture content sufficiently low to enable rapid combustion, arising from drought effects or the maturing and drying, of combustible fuels;
- Exposure of vulnerable assets;
- A combination of weather conditions that generate a forest danger index of Very High or greater. Typically, within the bushfire prone vegetation along the Macleay River, prevailing adverse fire weather will have a strong northwest wind influence, spreading fire towards the western corner of the Hospital Precinct.

4.2 Bushfire Risk to the development within the Hospital Precinct.

The level of Bushfire Risk on a development is determined by undertaking an assessment of Fire History, Ignition/Fire Sources, Weather and the availability of Bushfire Fuels.

4.2.1 Fire History.

The inspection of the vegetation in the Macleay River riparian zone revealed no indication that recent fires have occurred in the vegetation and it is therefore likely that the wildfire interval exceeds thirty [30] years.

4.2.2 Ignition / Fire Sources.

Causes of bushfire ignition are either natural or by human activity. Human activity can be categorised as:

- Malicious – including arson;
- Careless – such as escaped campfires, children and burning off without a permit; and
- Accidental – uncommon, but includes motor vehicle accidents/ignition by farm machinery/work operations [welding etc.].

The only natural cause of bushfire ignition is lightning.

The ignition source within the river corridor is likely to be malicious [arson] or accidental – i.e. sparks from machinery such as slashers used to mow the road verges.

4.2.3 Climate.

- ***Temperatures & Humidity.***

The fire season in the Mid-North Coast corresponds with the onset of the early spring winds from the west and the summer months' high temperatures and low rainfall, and can occur from September to April with a proclaimed bushfire danger period from October to March. There is significant variability in temperature and rainfall from year to year. Fire seasons may be serious in three out of every 15 years, but this can also vary considerably.

Bushfire risk management, planning and operations must take into account the likelihood of severe fire weather and the challenges it presents. Extreme and uncontrollable bushfires typically occur when the fire danger rating is over 50, a rating of Extreme.

- ***Wind.***

Wind is also an important factor in bushfire behaviour as it influences the rate of spread of the fire front and spreads burning embers / sparks, providing ignition sources for spot fires ahead of the main fire front.

The orientation of the Macleay River corridor results in the possibility of a fire burning through the vegetation within the riparian corridor under hot, strong north-easterly winds with a resultant impact on the north-western boundary of Lot 1 in DP 115920 and spreading laterally across River Street towards the existing building within the main Hospital Precinct.

A secondary fire path is available from the west, upslope from the Macleay River towards River Street however this fire path has limited potential to impact on the existing buildings due to the short [< 65] fire path.

4.2.4 Slope.

Slope is a critically important factor when assessing fire risk and likely fire behaviour. The rate of fire propagation doubles up a slope of 10 degrees (18%) and increases almost fourfold up a slope of 20 degrees (40%).

The rate of progress downslope tends to slow at a corresponding rate however wind direction in the lee of the hills/ridgelines tends to be unpredictable and can cause fires to change direction unpredictably.

The average slope of the land within the Macleay River riparian corridor is nominally 10 degrees, from the River Street level to the river bank. The slope of the land in a north-westerly direction – that is along the river corridor follows the contours of the land whilst falling to the river with a cross fall of 10 degrees.

The effective slope for predicting fire behaviour in this circumstance is level to 5 degrees downslope.

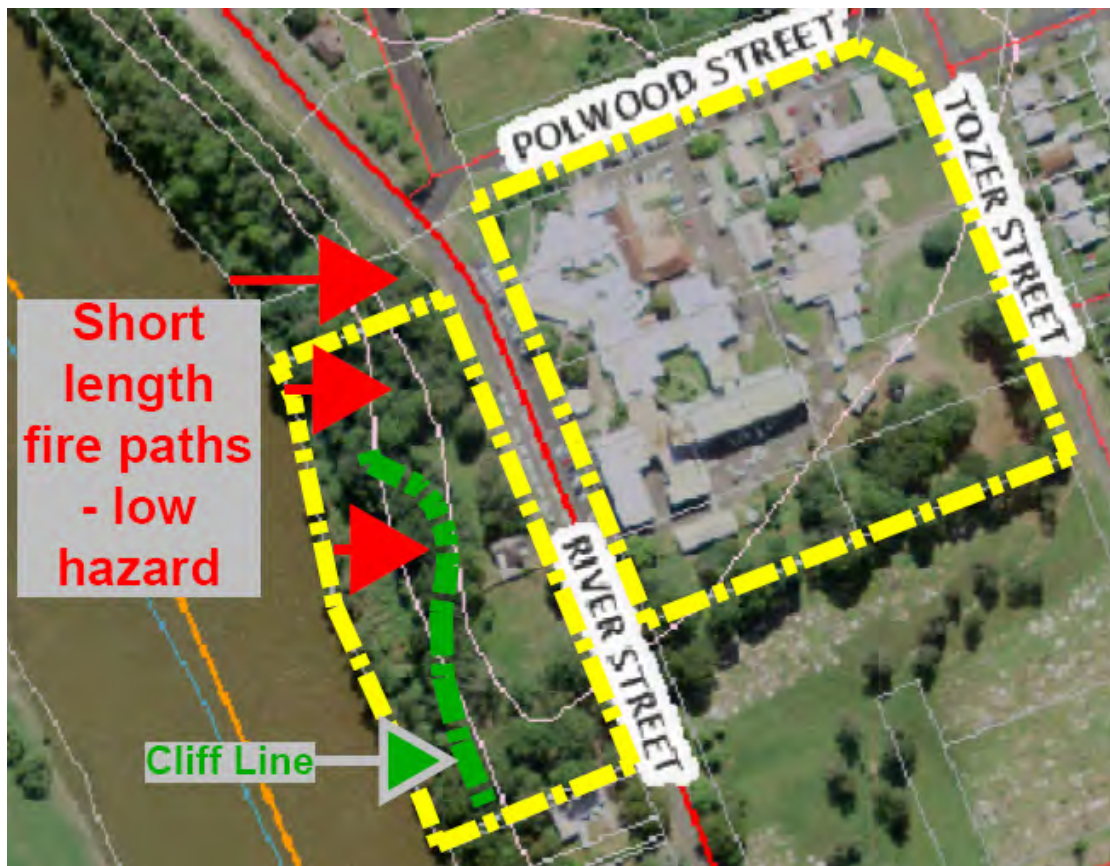
4.2.5 Potential Fire Paths.

The following figures provide an indication of the potential direction of fire which may occur within the Macleay River corridor.

Figure 7 – Potential fire path from the northwest.



Figure 8 – Potential fire path from the west.



4.2.6 Bushfire Fuels.

Combustible fuel is a critical element in bushfire risk management, as it is the one factor relating to fire behaviour that can be managed.

In an unmanaged landscape there are three 'types' of fuel that contribute to bushfire hazard. They relate to the distribution and nature of combustible material within a vegetated environment and are defined by the Overall Fuel Hazard Guide – Third Edition (DSE July 2010), as:

- Elevated fuel load
- Surface fine fuels; and
- Bark.

Elevated material is defined as shrubs, heath and suspended material greater than 0.5 metres above ground. The level of bushfire hazard depends on fuel continuity, height, amount of dead material, foliage thickness and flammability of live foliage. Flammability of vegetation is at the highest when composition is fine, it contains a lot of dead material, is dense vertically and horizontally and has low moisture content.

Surface fine fuels are defined as the litter bed and vegetation up to 0.5 metres above the ground. Grasses add to the surface fine fuels and therefore need to be taken into account when assessing the hazard. The risk is higher where greater depth and volume of litter and surface material are present – where there is no active fuel management program in place to reduce the availability of dry, combustible fuels within the landscape.

Bark has the potential to travel significant distances in a fire situation (spotting) and act as a ladder between surface fuels and the forest crown. Bark contributes to fire hazard when it is loose and fibrous, present in large quantities and in long loose ribbon forms.

An overall Fuel Hazard for vegetation within the Macleay River corridor can be determined, based on the combination of these three contributing fuel hazards. However, the level of hazard will vary significantly over time and will depend on the cycle of fuel management and or wildfire intervals.

The fire history is unknown however the inspection of the vegetation revealed that fire has not occurred in the vegetation for more than 30 years. Therefore, where the vegetation is fully structured it is likely that the overall fuel hazard is high, with a high percentage of combustible ground and mid-storey fuels.

Where a high parentage of weed infestation occurs e.g. within the river corridor on Lot 1 in DP 115920, the overall fuel hazard is likely to be less, in the moderate to high range.

4.3 Assessment of Bushfire Risk to the Hospital Precinct.

A small localised fire may occur in the vegetation in the riparian corridor to the Macleay River with the most significant risk posed by a fire which spreads under north-westerly winds along the corridor towards the western corner of the main Hospital Precinct – i.e. on the corner occupied by the Maternity facility.

Should such an event occur the risk to the Hospital will be high for a short period of time during which the closest building may come under high levels of radiant heat and ember attack.

The provision of fire protection measures such as protection against ember entry into the building/s external fabric will reduce this impact and therefore the level of risk.

The proposed new building is located further to the northeast and will therefore not be affected by radiant heat but may remain susceptible to ember attack. The protection of the building by the application of construction standards will mitigate this potential threat.

SECTION 5

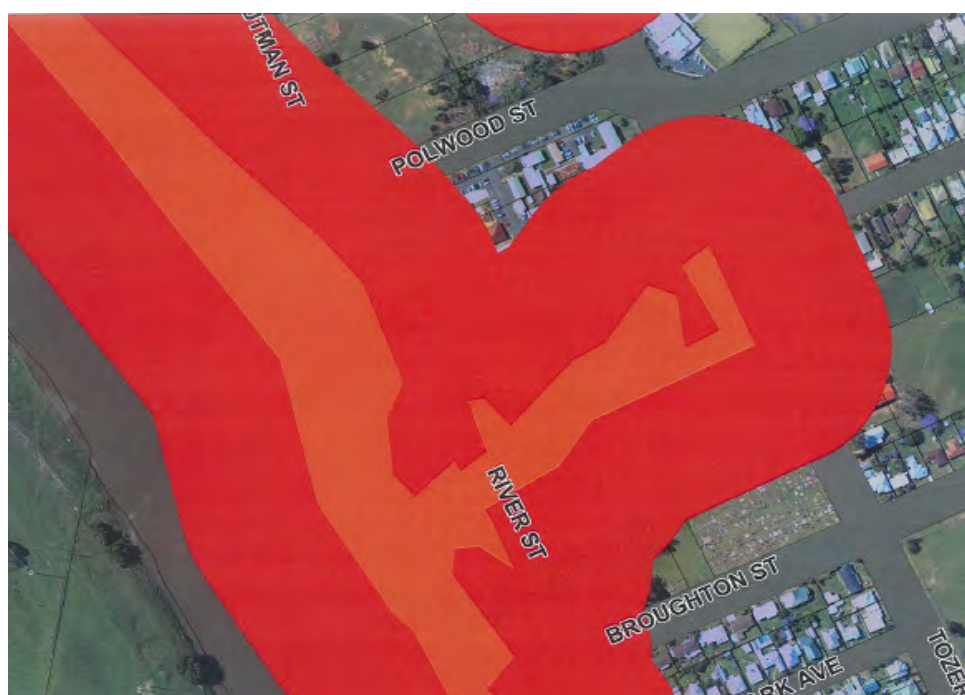
BUSHFIRE PRONE LAND MAP

5.1 Introduction.

The Commissioner of the NSW Rural Fires Service certified, in accordance with Section 146 of the *Environmental Planning & Assessment Act 1979*, the Kempsey Bushfire Prone Land Map on the 17th October 2011.

This map identifies the areas which have been determined by Kempsey Council to contain Bushfire Prone Vegetation. An extract of the Kempsey BFPLM showing the Hospital Precinct is shown as Figure 9 below.

Figure 9 – Extract of the Kempsey Bushfire Prone Land Map.



Legend: Orange – Category 1 Vegetation; Red – 100m Buffer Zone

The map identifies an area of Category 1 Bushfire Prone Vegetation within the south-eastern portion of the Hospital site. The map is clearly incorrect as this vegetation consists of a pocket of pine trees which have a managed lawn as an understorey – refer to Photograph No. 1. The map also extends Category 1 vegetation across the south-eastern portion of Lot 1 in DP 115920 which is also managed and therefore not bushfire prone – refer to Photograph No. 2.

For the purpose of determining bushfire protection measures to the Hospital site this report acknowledges bushfire prone vegetation to exist in the narrow corridor along the Macleay River, within Lot 1 in DP 115920 and the wider corridor along the river, to the northwest of the Hospital site.

SECTION 6

ASSESSMENT OF FIRE PROTECTION MEASURES TO THE STAGE 1 KEMPSEY HOSPITAL REDEVELOPMENT

6.1 Introduction.

Clause 44(h) of the *Rural Fires Regulation 2008* requires that for the purposes of Section 100B of the *Rural Fires Act 1997* a bushfire assessment is to be prepared for the proposed development that addresses the following matters:

- i. the extent to which the development is to provide for setbacks, including asset protection zones;
- ii. the siting and adequacy of water supplies for fire fighting;
- iii. the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency;
- iv. whether or not public roads in the vicinity that link with the fire trail network have two-way access;
- v. the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response;
- vi. the adequacy of bush fire maintenance plans and fire emergency procedures for the development site;
- vii. the construction standards to be used for building elements in the development;
- viii. the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development.

The following sections of this report examine these matters.

6.2 Asset Protection Zones.

Appendix 2 of *Planning for Bushfire Protection 2006* provides a methodology to determine the Asset Protection Zones for development located within, or within 100 metres of bushfire prone vegetation. This methodology includes the following matters to be assessed:

- (a) *Determine vegetation formations as follows:*
 - Identify all vegetation in all directions from the development for a distance of 140 metres;
 - Consult Table A2.1 to determine the predominant vegetation type; and
 - Select the predominant vegetation formation as described in Table A2.1.
- (b) *Determine the effective slope of the land under the predominant vegetation Class.*
- (c) *Determine the appropriate fire [weather] area in Table A2.2.*

- (d) Consult Table A2.6 for Special Fire Protection Purpose developments and determine the appropriate setback [Asset Protection Zone / Defendable Space] for the assessed land use, vegetation formation and slope range.

6.2.1 Provision of Asset Protection Zones / Defendable Spaces – New Building:

The bushfire prone vegetation which provides the hazard to the Hospital site is the narrow band of remnant forest vegetation, containing a weedy understorey, located between the cliff line and the bank of the Macleay River, within Lot 1 in DP 115920 and also the slightly wider corridor of forest vegetation in the riparian corridor to the river, northwest of the Hospital site.

The vegetation in the corridor on Lot 1 in DP 115920 is less than 50 metres wide and therefore classified as low hazard. For the purpose of examining the Asset Protection Zone requirements this vegetation is classified as 'rainforest'.

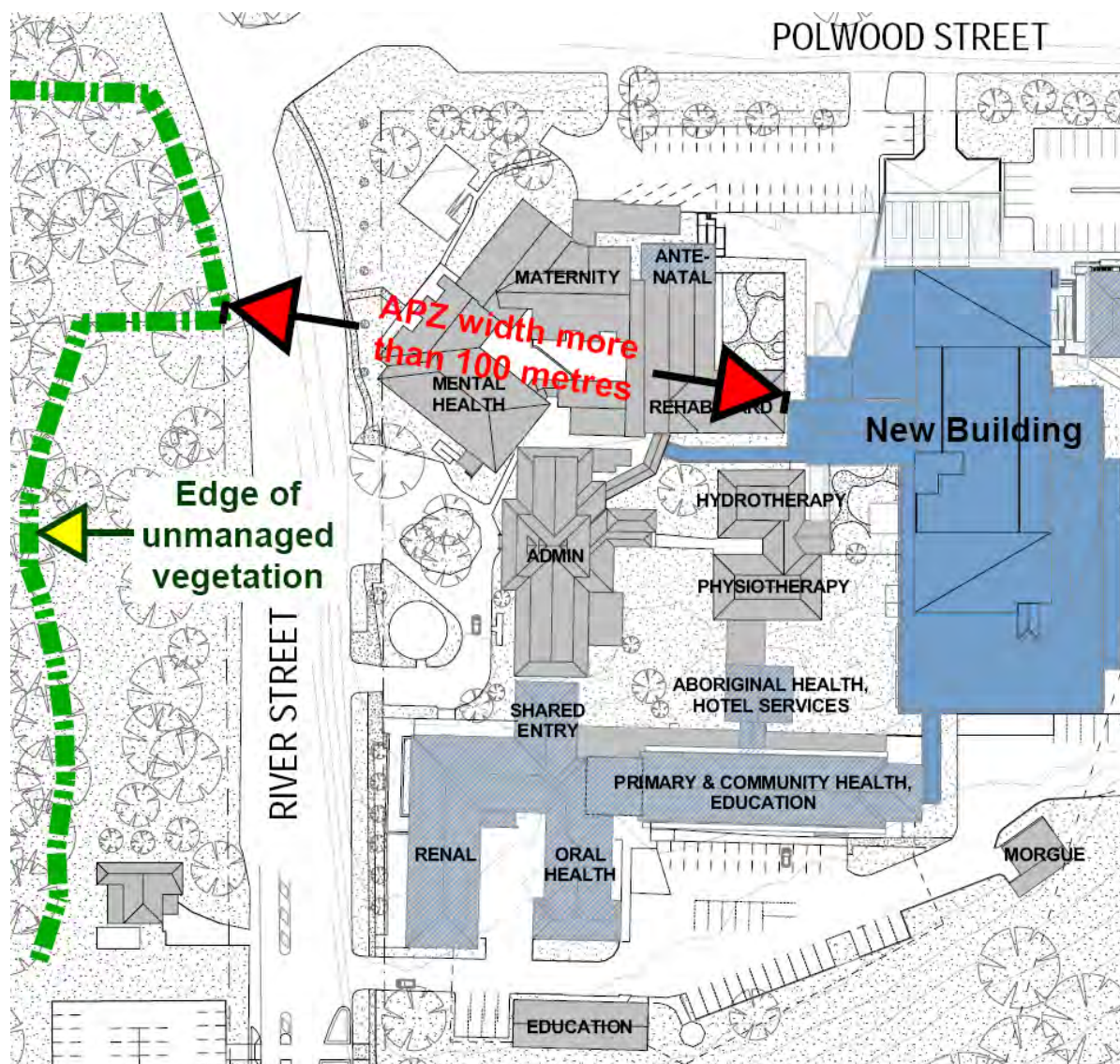
The wider corridor of vegetation to the northwest of the Hospital site is 63 metres wide with the potential for a fire to spread along the corridor – i.e. towards the north-western corner of the Hospital site – refer to Figure 7.

The location of the new building provides a separation width of more than 100 metres to both the 'rainforest' vegetation within Lot 1 in DP 115920 and the forest vegetation in the riparian corridor to the northwest of the Hospital site.

This separation exceeds to maximum width required to meet the deemed-to-satisfy requirements of *Planning for Bushfire Protection 2006*.

Refer to Figure 10 – below:

Figure 10 – Plan showing the Asset Protection Zone widths to the new Building.

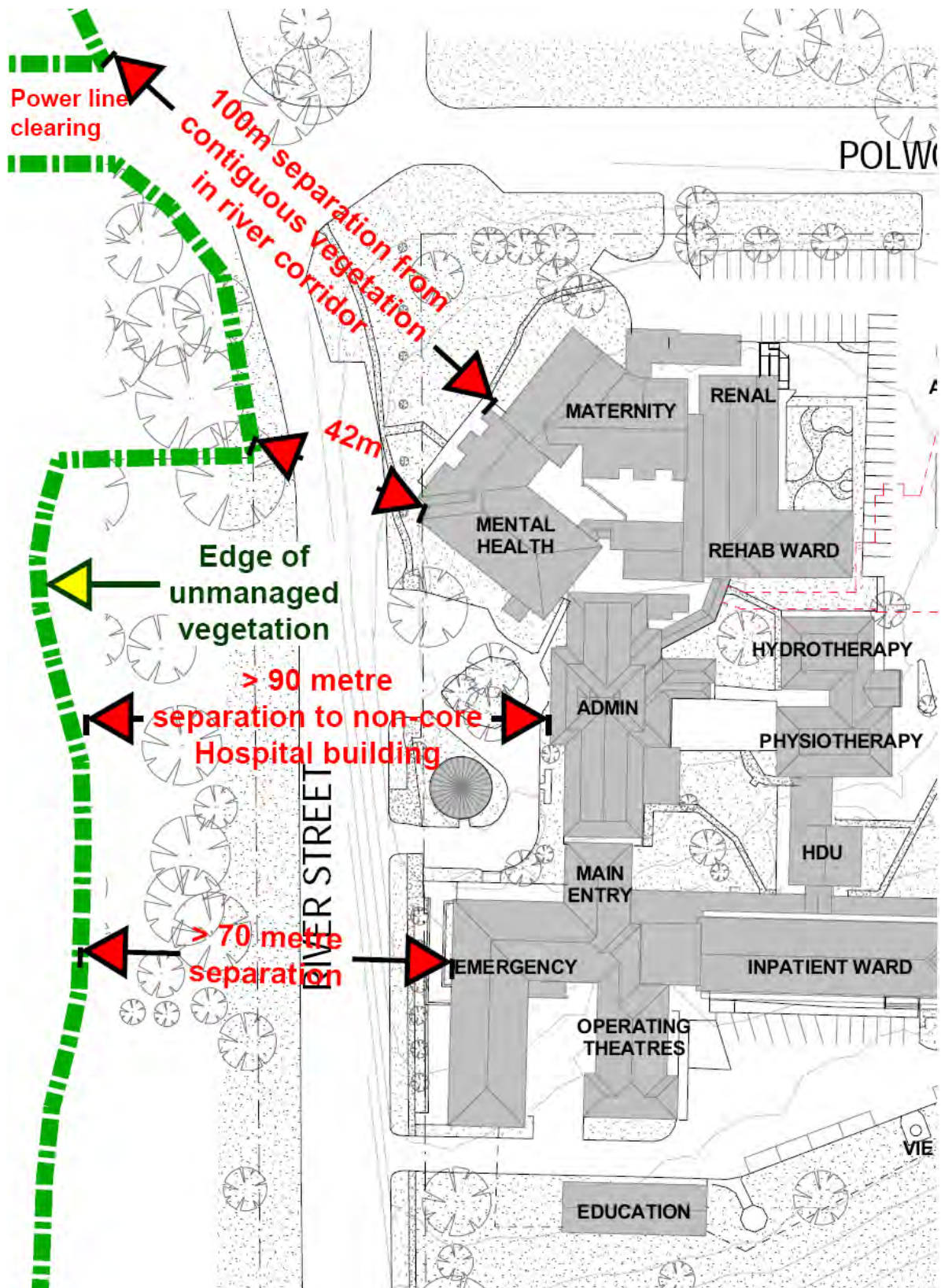


6.2.2 Provision of Asset Protection Zones / Defendable Spaces – Existing Buildings:

The separation distances between the unmanaged vegetation and the existing buildings were examined and measured during the site inspection – refer to Figure 11 below.

The building containing the existing Emergency Department is located more than 70 metres from the narrow corridor of 'rainforest vegetation within Lot 1 in DP 115920. This separation exceeds that required by Table A2.6 of *Planning for Bushfire Protection 2006*. This building is located more than 90 metres from the forest vegetation in the riparian corridor to the northwest of Lot 1 in DP 115920, therefore satisfying the requirements of Table A2.6 of *Planning for Bushfire Protection 2006*.

Figure 11 – Plan showing the Defendable Space widths to the existing Buildings.



The existing Administration Building is not deemed to be a core hospital use, as defined by the NSW Rural Fire Service and being located more than 65 metres from the closest unmanaged vegetation is deemed to address the setback requirements for non-core hospital uses – i.e. not a Class 9 buildings but a Class 6 building, pursuant to the Building Code of Australia.

The existing Mental Health and Maternity building is located in the western corner of the Hospital site and exposed to the bushfire hazard in the riparian corridor to the Macleay River.

This building has a separation of 42 metres to the closest unmanaged vegetation and 100 metres from the contiguous vegetation which extends in a north-westerly direction along the river corridor, north from the power line clearing.

The 42 metre width is opposite an upslope fire path having a maximum length of 63 metres, from the edge of the river. This separation width does not satisfy the requirements of Table A2.6 of *Planning for Bushfire Protection 2006*.

Section 6.6 of this report examines measures which are recommended to provide a better bushfire protection outcome to this building.

6.3 Water Supplies for Fire-Fighting Operations:

The existing facilities within the Hospital Precinct are serviced from the water mains located in River Street and Polwood Street.

The proposed redevelopment of the Hospital Precinct will also include the upgrade of the existing potable water supply and fire-fighting water supply to the new building.

6.4 Access for Fire-Fighting Operations.

The existing Public Road access to the Hospital Precinct is River Street, Polwood Street and Tozer Street.

River Street is a two-way arterial road whilst Polwood Street and Tozer Street are local roads. All three roads provide access for heavy rigid and articulated vehicles and are constructed to the deemed-to-satisfy public road specifications as defined by Section 4.1.3(1) of *Planning for Bushfire Protection 2006*.

The existing public road network provides for an alternate means of access to and egress from the Hospital precinct, including for increased traffic during emergencies.

The redevelopment of the Hospital modifies and improves access to the proposed Emergency Department for Ambulances and other emergency vehicles with access from Polwood Street.

Improved access is also provided for emergency service vehicles with the construction of the access link from River Street to Tozer Street, along the south-eastern side of the Hospital complex.

There is no requirement for the provision of a fire trail to the development as the precinct is serviced by existing public roads.

6.5 Adequacy of bush fire maintenance plans and fire emergency procedures for the development site:

The Kempsey Hospital is located in the urban area of West Kempsey, surrounded, except for vacant land within the riparian corridor to the Macleay River, by residential development.

The only bushfire hazard to the site is generated by the vegetation on the land within Lot 1 in DP 115920 which forms the south-western part of the Hospital precinct and the narrow corridor of vegetation in the riparian corridor that extends to the northwest of the western corner of the site, along the Macleay River.

Whilst this unmanaged vegetation presents a hazard to the existing hospital buildings, the hazard has been deemed to be low – moderate. Therefore there is no requirement to produce bushfire maintenance plans and fire emergency procedures for the development site.

There should however, be a plan of management prepared for the continued maintenance of the vegetation within Lot 1 in DP 115920. The Plan of Management shall identify the protocols, including the timing of the works, to maintain the existing clearing within this lot.

6.6 Bushfire Construction Standards to Buildings:

Part 2.3.4 of the Building Code of Australia [BCA] states that Class 1 buildings that are constructed in a *designated bushfire prone area* must be designed and constructed to reduce the risk of ignition from a bushfire while the fire front passes. Part GF5.1 of the BCA states that a Class 2 or 3 building constructed in a *designated bushfire prone area* is to provide a resistance to bushfires in order to reduce the danger to life and minimize the risk of the loss of the building.

Australian Standard A.S. 3959 - 2009 is the enabling standard that addresses the performance requirements of both Parts 2.3.4 and Part GF5.1 of the Building Code of Australia.

The Building Code of Australia does not reference construction standards for Class 5 – 8 and Class 10 buildings located in bushfire prone areas.

6.6.1 Bushfire Construction Standards to the new Building:

Whilst the BCA does not reference construction standards for Class 5 – 8 and Class 10 buildings located in bushfire prone areas, the NSW Rural Fire Service requires that a '*Special Fire Protection Purpose*' [Hospital] building must not be exposed to a radiant heat level of more than 10kW/m² on the exterior of the building.

Furthermore, the Rural Fire Service require the minimum construction standard to any building located within 100 metres of bushfire prone vegetation shall be constructed to a minimum Bushfire Attack Level [BAL] of 12.5.

Figure 10 identifies that the proposed new building is located more than 100 metres from the bushfire hazard and therefore beyond the requirement for construction standards to apply.

6.6.2 Bushfire Construction Standards to the existing Buildings:

The Director Generals Requirements [DGRs] state that this report shall also address the existing hospital development's compliance with the requirements of *Planning for Bushfire Protection 2006* guidelines and recommend any improvements to achieve a better bushfire [protection] outcome for the existing facility.

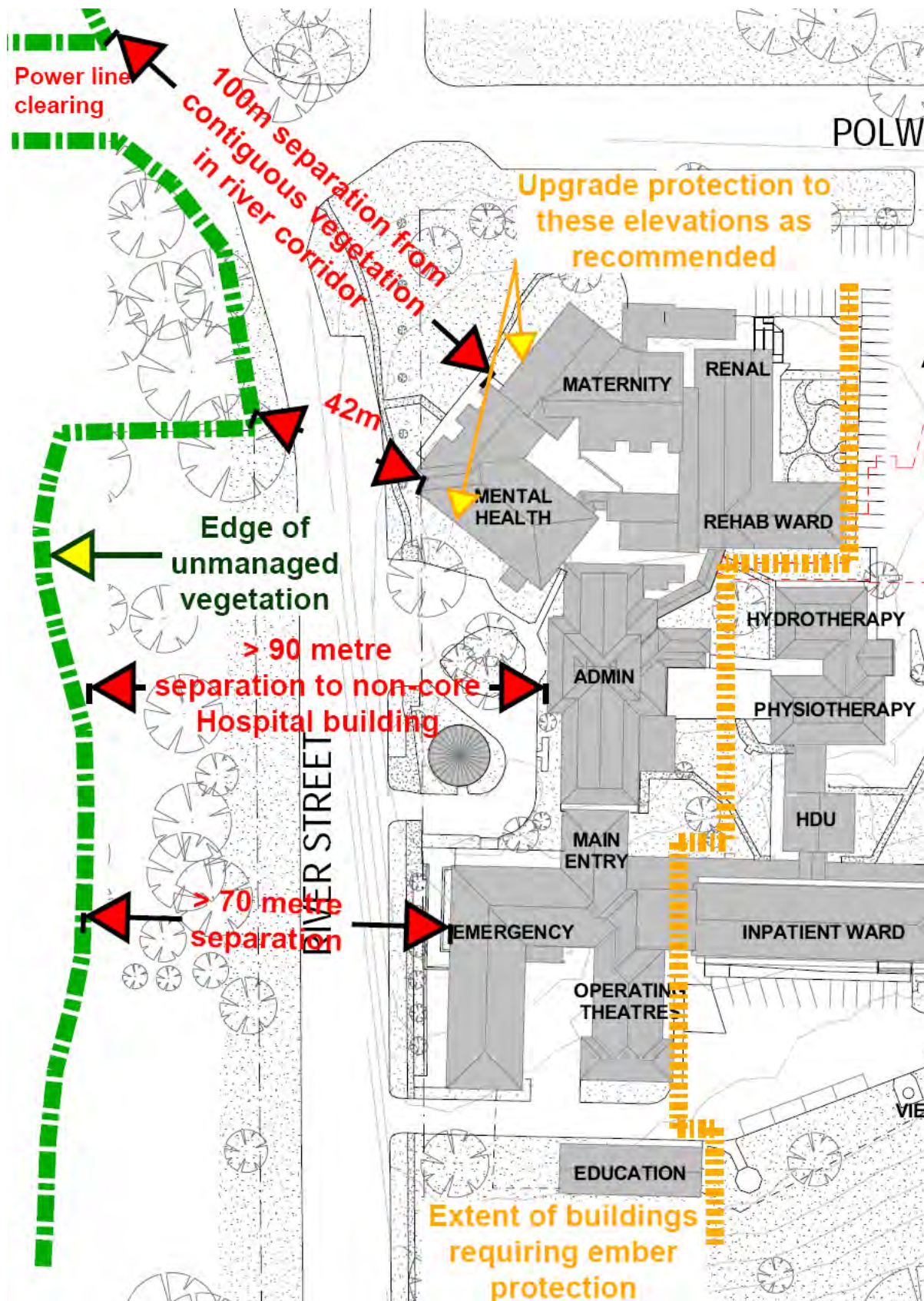
Section 6.2.2 examines the matter of the adequacy of the Asset Protection Zones/'Defendable Spaces' to the existing buildings within the Hospital complex and found that with the exception of the Mental Health/Maternity Building the existing buildings are setback from the hazard sufficient to comply with the requirements of *Planning for Bushfire Protection 2006*.

A review of the construction standards to the existing buildings was undertaken as part of the site inspection and it recommended that all buildings located within 100 metres of the bushfire hazard, to the extent as shown on Figure 12, below, shall be upgraded to provide ember protection to the buildings.

This will involve ensuring that windows and doors are tight fitting, shall have weather seals fitted to the bottoms of external doors and that all operable windows shall be fitted with a corrosion resistant steel or bronze flymesh having a maximum aperture of 2mm.

All vents, louvres and weeps holes shall also be fitted with a corrosion resistant steel or bronze flymesh having a maximum aperture of 2mm.

Figure 12 – Plan of Buildings that require examination in respect to additional fire protection measures.



The Mental Health/Maternity building shall be inspected to ensure that ember protection is compliant with the above recommendations and the glazing inspected to the windows/glazed external doors in the west and southwest elevations to identify whether the existing glazing is toughened glass.

If the existing glass is not toughened, the following alternatives are available in order to provide a better bushfire protection outcome to the building:

1. Remove the existing glass and replace with 6mm toughened glass; or
2. Fit 'Crimsafe', or similar heavy duty mesh to both the fixed and opening sashes of the windows and fit Crimsafe to the exterior of the glazing within the external doors – this can be fitted to the door frame rather than a separate hinged door.

The roof gutters to this building shall be fitted with a corrosion resistant steel or bronze mesh to prevent the accumulation of combustible material.

6.7 The adequacy of sprinkler systems and other fire protection measures to be incorporated into the development:

The bushfire protection to the existing buildings and proposed new building does not rely on the provision of external sprinkler systems and other fire protection systems, except for those identified in Section 6.6 above.

6.8 Emergency Planning.

One of the specific objectives identified by *Planning for Bushfire Protection* 2006 for 'Special Fire Protection Purpose Developments' [e.g. Hospitals], is the provision of safe emergency evacuation procedures.

The bushfire risk assessment in Section 4 of this report identifies the potential level of risk from a bushfire event to development within the Hospital Precinct.

The existing Evacuation Policy for the Hospital shall be updated to include protocols to address the potential for the western corner of the site to be impacted by radiant heat, smoke and possible ember attack.

6.7 Landscape Management - in particular the management of the Asset Protection Zones / Defendable Spaces.

The existing maintenance protocols for the gardens, open lawn areas and maintained land within the Hospital Precinct provides managed areas which comply with the prescriptions of an Inner Asset Protection Zone as defined by Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's 'Standards for Asset Protection Zones'.

This maintenance shall continue.

SECTION 7

CONCLUSION

Approval is being sought, under State Significant Development provisions of the Environmental Planning & Assessment Act 1979 for the redevelopment of the Kempsey District Hospital.

The Director General issued on the 5.12.2012, under SSD No. 5363, the requirements for the preparation of the Environmental Assessment for the application.

Under 'Key Assessment Requirements' – Item 8 requires that:

- A bushfire hazard assessment and report that addresses the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirement for Special Fire Protection Purpose Development as detailed in *Planning for Bushfire Protection 2006* guidelines; and
- The assessment and report shall also address the existing hospital development's compliance with the requirements of *Planning for Bushfire Protection 2006* guidelines and recommend any improvements to achieve a better bushfire [protection] outcome for the existing facility.

This report has therefore reviewed the proposed redevelopment of the Kempsey Hospital against the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirement for Special Fire Protection Purpose Development as detailed in *Planning for Bushfire Protection 2006* guidelines. The review has also included examination of the adequacy of the bushfire protection to the existing buildings on the site.

The report examines the requirements for the provision of setbacks to the existing buildings and the proposed new building; access and water supplies for fire-fighting operations and construction standards to all buildings within the site and provides recommendations on the provision of measures which provide a better bushfire protection outcome to the existing buildings.

Table 1 summarises the extent to which the proposed development conforms to the deemed-to-satisfy specifications of *Planning for Bushfire Protection 2006*.

Table 1. Compliance with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006*.

Bushfire Protection Measure	Compliance with deemed-to-satisfy provisions of <i>Planning for Bushfire Protection 2006</i>.
Asset Protection Zone & defendable space setbacks	YES – The widths of Asset Protection Zones to the proposed new building and the existing buildings, except for the Mental Health/Maternity building, comply with Table A2.6 [Special Fire Protection Purpose Development] and Section 4.3.6(f) of <i>Planning for Bushfire Protection 2006</i> .
The siting and adequacy of water supplies for fire fighting	YES – Existing street mains provide adequate fire-fighting water supplied to the Hospital complex. The new building shall include Hydrants/hose reels in accordance with the Building Code of Australia and AS 2419.1 - 2005.
Design of Public Roads	YES – The existing Public Roads comply with the specifications of Section 4.1.3(1) and Section 4.2.7 of <i>Planning for Bushfire Protection 2006</i> and address the requirements for increased traffic during emergencies.
Design of Fire Trail network	No fire trail network required.
Adequacy of emergency response access and egress	YES – Existing Public Road network provides for access to the Hospital precinct from River Street, Polwood Street and Tozer Street. The upgrade of the internal road network provides for improved internal access to the Hospital buildings.
Adequacy of bushfire maintenance plans and fire emergency procedures	YES – No requirement for the preparation of a specific bushfire maintenance plan or fire emergency procedures. There should however be prepared a management plan for the maintenance of the vegetation within Lot 1 in DP 115920 and the preparation of an updated Evacuation Plan which addresses the protocols for an fire event that impacts on the Mental Health/Maternity Building.
Building construction standards	YES – The new building is located more than 100 metres from the bushfire prone vegetation within the Macleay River corridor and therefore does not require bushfire construction standards to be applied. Report provides recommendations on additional protection to be provided to the existing buildings located within 100m of the bushfire prone vegetation.
Adequacy of sprinkler systems and other fire protection measures to be incorporated into the development	Not applicable



Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2008*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2006*;
- *Bushfire Environmental Assessment Code 2006*;
- Building Code of Australia;
- Australian Standard A.S 3959-2009 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Kempsey Bushfire Prone Land Map*.