



DIAMOND GULLY STRUCTURE PLAN

2016



Beveridge Williams
development & environment consultants

prepared for



MOUNT ALEXANDER
SHIRE COUNCIL

The Diamond Gully Structure Plan was prepared for Mount Alexander Shire Council by Beveridge Williams Development & Environment Consultants.

The Structure Plan was adopted by Mount Alexander Shire Council on 27 April, 2010.

A revised version of the Structure Plan was subsequently adopted by Council on 19 December 2014. The revisions included the adoption of five Bushfire Design Principles proposed by Terramatrix (2014), and other changes to reflect the need for future subdivision and development to have regard to the nature of the surrounding vegetation and to accord with the applicable bushfire requirements.

The revised Structure Plan was exhibited by way of Amendment C56 to the Mount Alexander Planning Scheme.

Submissions made to the exhibition of Amendment C56 were considered by a Planning Panel appointed by the Minister for Planning pursuant to Section 25 of the Planning and Environment Act 1987.

The Panel's report to Council is dated 19 November 2015.

This 2016 version of the Structure Plan incorporates the changes recommended in the report of the Planning Panel, and was adopted by Mount Alexander Shire Council on 12 July 2016.

Copyright Notice

© Copyright – Beveridge Williams & Co P/L

Users of this document are reminded that it is subject to copyright. This document should not be reproduced, except in full and with the permission of Beveridge Williams & Co Pty Ltd

CONTENTS

1	INTRODUCTION	1
2	VISION FOR DIAMOND GULLY	2
3	THE STRUCTURE PLAN.....	3
4	ENVIRONMENTAL CONSTRAINTS.....	4
	4.1 TRUST FOR NATURE COVENANT AREA.....	4
	4.2 LUSHINGTON RESERVE.....	4
	4.3 FLORA AND FAUNA	4
	4.4 WATERCOURSES.....	4
5	LAND USE RISK AREAS.....	6
	5.1 EXISTING AND FORMER LANDFILLS.....	6
	5.2 BUSHFIRE MANAGEMENT RISK AREAS	6
	5.3 LAND CAPABILITY RISK AREAS.....	9
	5.4 EXISTING INDUSTRIAL LAND USES.....	9
6	ACCESS AND LINKAGES	10
	6.1 GATEWAYS AND ENTRIES	10
	6.2 INTERNAL ROADS.....	10
	6.3 PEDESTRIAN AND BICYCLE LINKAGES	11
	6.4 PUBLIC TRANSPORT	11
7	LAND USE AND DEVELOPMENT PRECINCTS.....	12
	7.1 RESIDENTIAL PRECINCTS	12
	7.1.1 NORTHERN RESIDENTIAL IN-FILL PRECINCT.....	12
	7.1.2 SOUTHERN RESIDENTIAL GREENFIELD AREA	12
	7.1.3 LOW DENSITY RESIDENTIAL AREAS.....	13
	7.2 LANGSLOW STREET INDUSTRIAL AREA.....	14
8	IMPLEMENTATION.....	15
9	REFERENCES	16

1 INTRODUCTION

The Diamond Gully Structure Plan covers 182ha of land on the south-western edge of Castlemaine. The area is generally bounded by the Pyrenees Highway to the north, Willy Milly Road to the west, Ranters Gully Road to the south and Martin Street / Sluicers Road/Diamond Gully Road to the east.

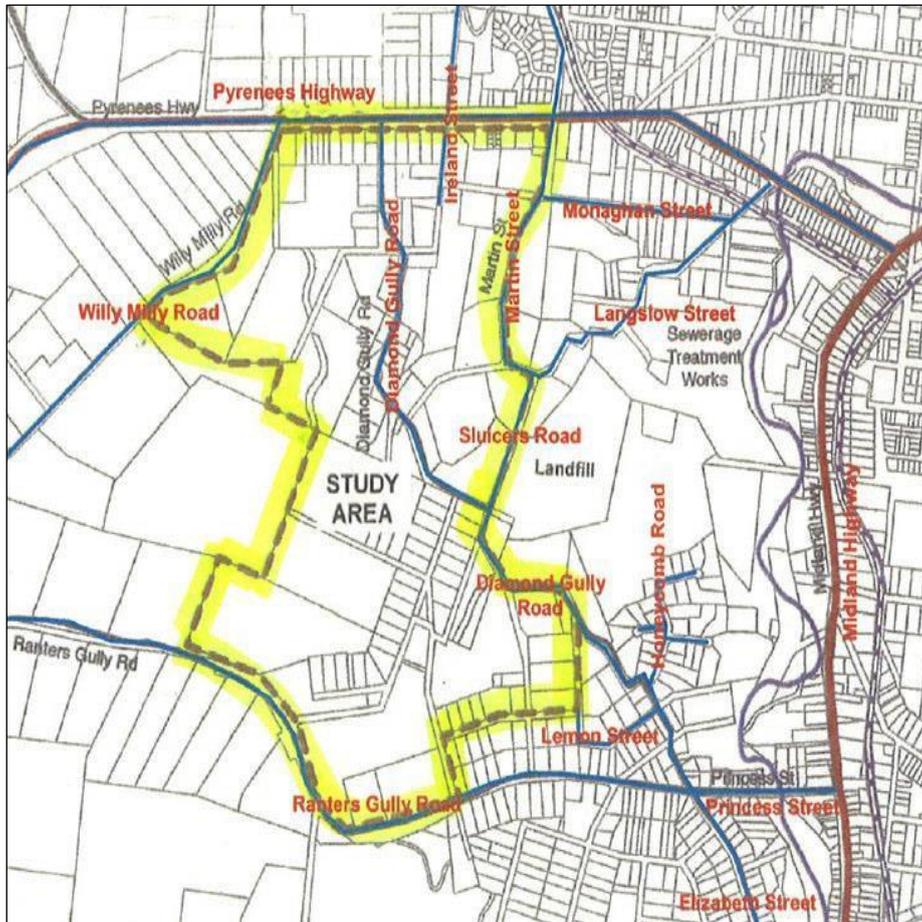


Figure 1: Diamond Gully Structure Plan Area

The Structure Plan is the culmination of an extensive body of background work (as set out in section 9 of this report) and a consultation process which involved Government agencies, other stakeholders and the wider community. The Structure Plan has also been extensively reviewed in light of the changes to bushfire provisions in the Mount Alexander Planning Scheme (Planning Scheme) since 2011, and as a result of changes recommended by a Planning Panel appointed to consider submissions received in response to the exhibition of an amendment (Amendment C56) to introduce the Structure Plan into the Planning Scheme.

2 VISION FOR DIAMOND GULLY

The preparation of the DGSP was guided by the following Vision which was formulated at the commencement of the project:

“Diamond Gully will be Castlemaine’s primary urban growth area located in a Box Ironbark forest setting and with convenient access to Castlemaine.

The unique environmental features of Diamond Gully will be protected and celebrated. The needs of the new residential community will also be accommodated. These needs include a variety of lot sizes and dwelling types - sited, designed and managed in an environmentally sensitive manner. A network of connectivity and linkages is provided internal to Diamond Gully as well as to Castlemaine and nearby Campbells Creek.

The final urban form of Diamond Gully will demonstrate high quality urban design and development that is informed by the context and environmental attributes of the area.

Implementation of this vision will be achieved through a partnership arrangement with Council, authorities/agencies, landowners and the community.

For these reasons Diamond Gully will be seen as a great place to live and where the town meets the bush.”

3 THE STRUCTURE PLAN

The Diamond Gully Structure Plan consists of this written document, and a plan. The plan is shown in **Figure 2**.

The Structure Plan shows the existing features and constraints which will influence future development at Diamond Gully, including:

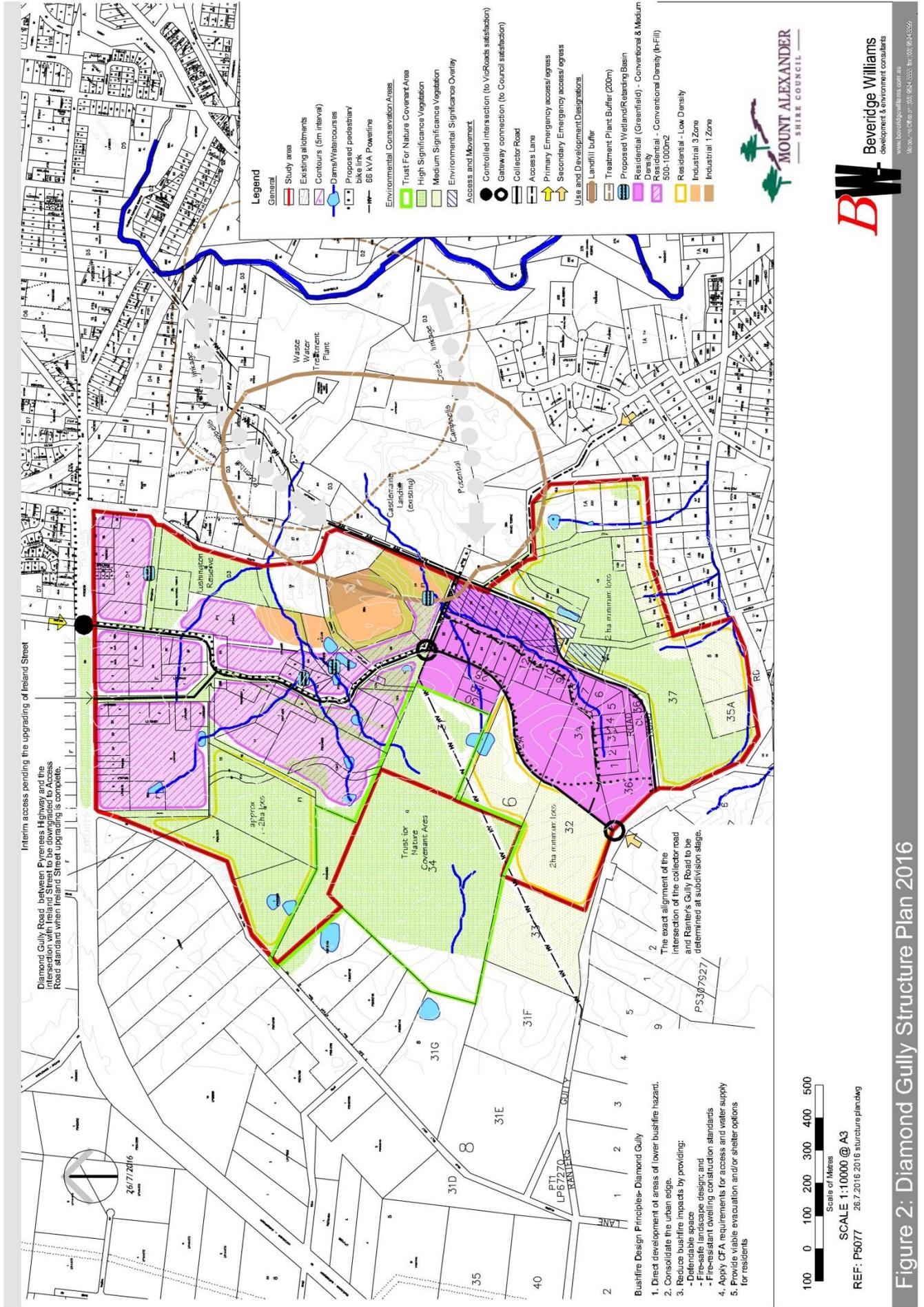
- Environmental constraints including:
 - Trust for Nature Covenant Area (outlined by dark green line)
 - High and Medium Significance Vegetation areas
 - Dams and watercourses
- The present Castlemaine Landfill and the former landfill cells.
- A 200 metre 'high risk' buffer around the Castlemaine Landfill as recommended in the 'Castlemaine Landfill Odour and Buffer Assessment', GHD, May 2016.
- The Castlemaine Treatment Plan and its 200 metre buffer.
- An area where a site specific environmental audit is required to assess whether the area is affected by the migration of landfill gas.

Having regard to these features and constraints, and also to the Vision, this Structure Plan identifies:

- Areas for residential development at a range of densities:
 - Conventional Density (In-fill) in the northern part of the Structure Plan area;
 - Conventional and Medium Density in the southern Structure Plan area; and
 - Low Density residential (2 Ha minimum) in the areas around the main core residential areas.
- An industrial precinct at Langslow Street.
- The main elements of the road system comprising a Collector Road 'spine' through the centre of the Structure Plan area, the primary access/egress points at the Pyrenees Highway and Ranters Gully Road, and a proposed perimeter road (access road standard) around the southern residential area which will provide the required level of emergency access and also act as a buffer from the vegetation areas.
- Pedestrian/bike pathways, with potential linkages to areas outside the Structure Plan area (Castlemaine and Campbells Creek).
- Public open space along drainage lines.
- The location of proposed Wetland/Retarding Basins

Five Bushfire Design Principles for Diamond Gully have also been identified, and are included on the plan.

Diamond Gully Structure Plan 2016



4 ENVIRONMENTAL CONSTRAINTS

A number of environmental constraints apply to the Structure Plan area.

4.1 Trust for Nature Covenant Area

A Trust for Nature Covenant applies to land at 69 Diamond Gully Road and is illustrated in the Structure Plan. This covenant applies specifically to the property and protects against further development on the land.

4.2 Lushington Reserve

Lushington Reserve is Crown Land, vested to Parks Victoria that is managed by the McKenzie's Hill Action and Landcare Group.

Representations have been made to extend this reserve in a southerly direction to include the former landfill cells/Council depot. Whilst the Structure Plan recognizes the merit in this, discussion and agreements with Council as the owner of the land will be required to facilitate this.

4.3 Flora and Fauna

Diamond Gully is Council's preferred residential urban development area, and the surrounding Box Ironbark forest is a key environmental feature of the area. The Ecological Assessment report and several of the other background reports which informed the preparation of the Structure Plan identified areas of high and medium significance vegetation, noting however that the Planning Panel which considered Amendment C56 recommended the vegetation comprised on land owned by Diamond Gully Estate Pty Ltd be downgraded from high to medium significance on the basis of expert evidence presented at the panel hearing. The Structure Plan, which has been revised to reflect the Planning Panel's recommendation, seeks to balance the need for future development with the protection of this significant vegetation.

Most of the significant vegetation areas (other than Lushington Reserve and the Trust for Nature land) are located to the west and south of the future residential areas identified on the Structure Plan. The Structure Plan allows for some rural living development in these areas, at densities which are set low in order to protect the vegetation. Subdivision in these areas will be subject to vegetation being protected and managed including through building envelopes and Section 173 Agreements.

The provision of a perimeter road separating the residential areas from the forest, combined with the density limitations and other control mechanisms to protect the significant vegetation, will ensure that the Box Ironbark forest setting will remain as a feature for Diamond Gully.

During the planning approval stages for future subdivision, consideration should be given by the Responsible Authority to the application of a Section 173 Agreement on any planning permit in relation to the keeping of domestic animals.

4.4 Watercourses

Diamond Gully is characterised by several ephemeral (i.e. seasonal) creeks and drainage lines. These form an important part of the natural environment and provide natural overland flow paths during periods of rainfall.

The main watercourses are depicted on the Structure Plan together with the location of existing dams that are generally fed by the watercourses.

Diamond Gully Structure Plan 2016

As a general requirement, catchment authorities would seek a 30 metre wide reserve between a watercourse and development. However some flexibility can be exercised with respect to this, noting that in some instances a 30 metre wide reserve may be excessive.

Following is a typical cross-section of a watercourse that demonstrates how development could integrate with the natural watercourse in this location.

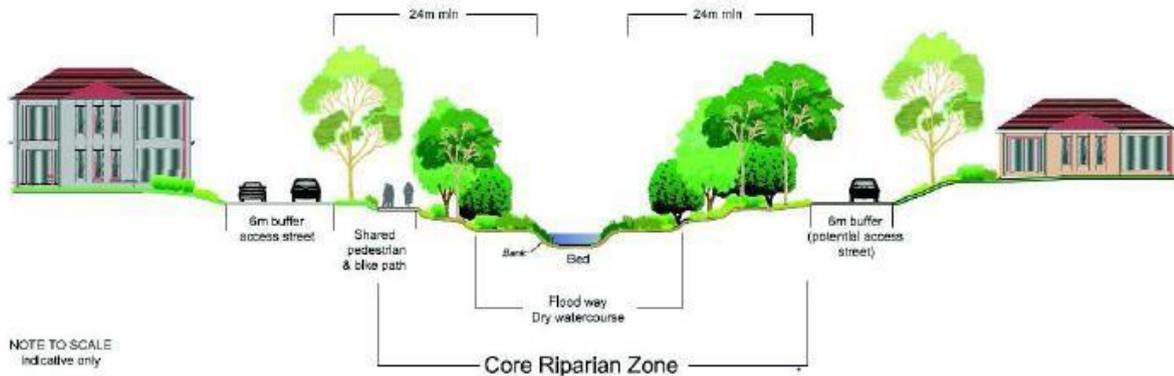


Figure 3: Typical Watercourse Cross section (Not to Scale)

Development near the watercourses will require detailed design to accommodate water sensitive urban design (WSUD) responses across the study area. The Structure Plan identifies locations for 'Proposed Wetland/Retarding Basin' that could be incorporated into these designs.

These WSUD responses could incorporate a combination of open channel, pipe, storages or seasonal wetland features depending on the context and ultimate development of the specific precinct. Typically consideration of this level of detailed design is undertaken at a planning permit stage for the subdivision of land.

In the southern part of the Structure Plan area, the main watercourse through this area is encouraged to be retained as a focal point for future residential development. The Structure Plan provides for roads and pedestrian/bicycle paths to follow alongside the alignment of this watercourse, and for medium density housing development to be focussed upon this feature.

5 LAND USE RISK AREAS

5.1 Existing and Former Landfills

The Structure Plan identifies the location of existing and former landfill sites within the Structure Plan area, and also identifies two constraints associated with the existing Castlemaine Landfill:

- The need to maintain a 200 metre buffer around the existing Castlemaine Landfill site to address any potential odour impacts from the landfill. The extent of this buffer has been recommended by the report 'Castlemaine Landfill and Odour Assessment', GHD, May 2016 which has been endorsed by the EPA.
- An area of land in the southern part of the Structure Plan area is identified as requiring a further site specific environmental audit pursuant to the requirements of Section 53V of the Environment Protection Act 1970 to assess the potential for this area to be affected by the migration of landfill gas. This further assessment needs to be undertaken prior to the commencement of development in this area in accordance with the requirements of an Environmental Significance Overlay over the land concerned.

5.2 Bushfire Management Risk Areas

Diamond Gully has the potential to be impacted by bushfire given the history of large fires in the surrounding landscape, and having regard to its interface with forested land.

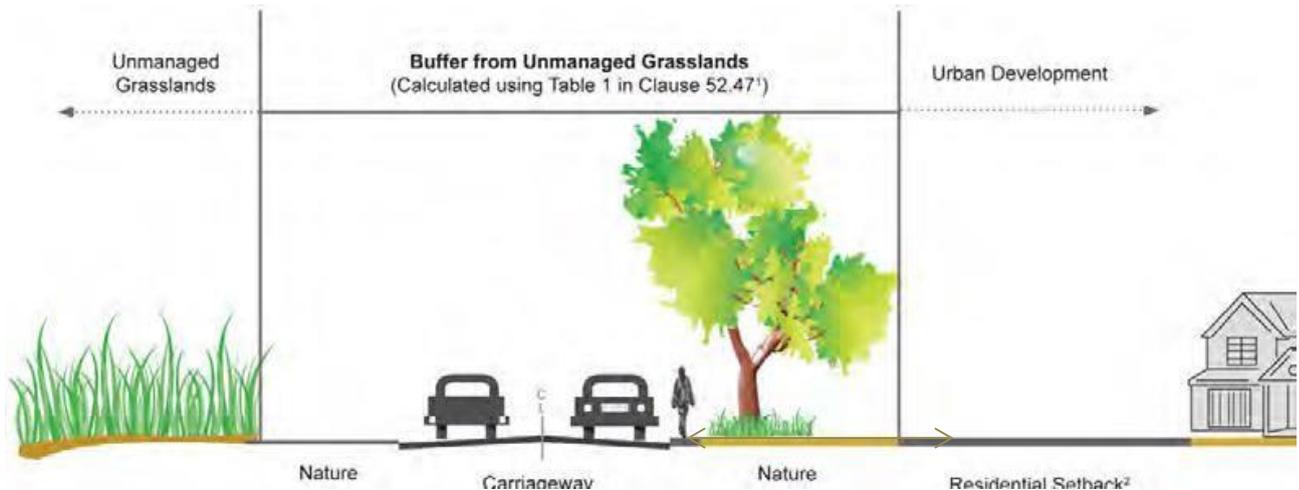
The Landscape Bushfire Risk at Diamond Gully has been assessed in a study by Terramatrix Pty Ltd, bushfire consultants. Based on its analysis of the landscape, Terramatrix concluded that, whilst there is a bushfire risk associated with the areas proposed for development, the credible bushfire scenarios are within the parameters of the Bushfire Management Overlay (BMO) which applies to this area (representative of CFA Landscape Scenario A in which the standard planning and building controls should be appropriate).

Terramatrix was also commissioned by Council to prepare bushfire design principles which would guide development in the Structure Plan area. Five development principles have been included in the Structure Plan. The principles are as follows:

1. **Direct development to areas of lower bushfire hazard** – existing flat areas, cleared of woodland vegetation and the provision of setbacks as prescribed by Clause 52.47 and construction to appropriate Bushfire Attack Level (BAL) under Australian Standard AS3959-2009.
2. **Consolidate the urban edge to limit bushfire spread into the residential area** – create a 'sharp' interface between the fire risk hazard and the residential areas (perimeter road, avoid vegetated corridors into/through residential areas and locate building envelopes on rural living lots in proximity to the road).



3. **Reduce the impact of bushfire on the existing residential area and new subdivisions** – provision for defensible space as a shared/contiguous buffer area between dwellings/allotments and the surrounding woodland, on-going management of the defensible space, detailed descriptions of any reserve or public open space created including a Fire Management Plan (bushland reserve that constitutes classified vegetation under the BMO), landscaping utilising ‘low threat vegetation following CFA guidelines and avoiding offset proposals that increase the hazard to existing or proposed development. New development must be setback from woodland and unmanaged grassland where the minimum requirement is the defensible space distance (inner/outer zones) required for BAL-19 construction.



(Illustration of Defensible Space Setback, based on Advisory Note 65, DTPLI, 2014)

4. **Facilitate effective fire suppression** – provision of road linkages to major roads and between subdivisions with roads and driveway construction to comply with CFA requirements. A reticulated water supply must be provided to CFA satisfaction together with a static water supply (each dwelling, dedicated for firefighting purposes).
5. **Provide viable evacuation and/or shelter-in-place options** – road network must be designed to facilitate and cope with relocation of the majority of the population to Castlemaine; multiple egress routes are required (north, south and east). Favourable consideration will be given to the provision of a Neighbourhood Safer Place opportunity within a development proposal.

The conclusion from the Terramatrix report (2014) is that the development envisaged within the Diamond Gully area as articulated in the Structure Plan can be undertaken in compliance with the BMO.

The Structure Plan recognises the need for future subdivision and development to have regard to the nature of surrounding vegetation and incorporate setbacks as prescribed by Clause 52.47 of the Mount Alexander Planning Scheme and construction of dwellings to an appropriate Bushfire Attack Level (BAL) under Australian Standard AS3959-2009.

5.3 Land Capability Risk Areas

The land capability assessment identified areas of Severe, High and Medium Risk. It is noted that the land capability risk areas strongly correlate with the High and Medium Significant Vegetation Areas and identified areas where further consideration should be given to construction techniques and on-site sewer disposal.

5.4 Existing Industrial Land Uses

The land to the north-east of the Structure Plan area is zoned and used for a variety of industrial uses.

These include the Coliban Water Wastewater Treatment Plant which is classified in the Mount Alexander Planning Scheme as 'treatment of aqueous waste' under Clause 52.10 Uses with Adverse Amenity Potential. This clause triggers the need to consider a threshold distance of 200m from a sensitive land use (including land in a Residential 1 Zone, a hospital or an education centre). The areas identified for residential development in the Structure Plan fall outside of this buffer.

6 ACCESS AND LINKAGES

6.1 Gateways and Entries

The **Pyrenees Highway** is the principal vehicle access between Diamond Gully and Castlemaine.

Direct vehicle access from the Pyrenees Highway is not supported by VicRoads, with access to new development to be provided via service roads or existing internal roads within the Structure Plan area.

The Structure Plan envisages a controlled intersection (signalized/roundabout) at the intersection of Ireland Street and the Pyrenees Highway, and the upgrade of Ireland Street. This will facilitate improved access to the south (Diamond Gully) and other areas under development to the north of the Pyrenees Highway. The controlled intersection would be designed to the satisfaction of VicRoads.

Ranters Gully Road is a local road that follows the southern boundary of the Structure Plan area. The proposed collector road serving the residential areas within the Structure Plan area would logically join with Ranters Gully Road around the mid-point of the Structure Plan boundary. The opportunity exists for Council to facilitate a gateway design in this location.

The **southern extension of Diamond Gully Road** provides connectivity between the Structure Plan area and Campbell's Creek to the south. This road currently has a very low level of traffic and this is expected to continue. However the road should be upgraded to a minimum road width of 5.5m (Access Lane) so it can provide an additional emergency access/egress to the Structure Plan area.

6.2 Internal Roads

The Structure Plan provides for a main collector road through the Structure Plan area. This will follow the alignment of Diamond Gully Road except that at its northern end (from the point where Diamond Gully Road joins with Ireland Street) it will follow the alignment of Ireland Street before connecting with the Pyrenees Highway.

Diamond Gully Road is proposed to be extended through the proposed Southern Greenfields Precinct in the southern part of the Structure Plan area, before joining with Ranters Gully Road.

Access to future development areas throughout the Structure Plan area would be by local streets (Access Lane standard). The perimeter roads around the Southern Greenfields Residential Precinct would also be constructed to this standard.

An indicative cross section for the Collector Road is presented below.



Figure 4: Typical Collector Road Cross Section (Source: Beveridge Williams; Not to scale)

In order to separate residential and industrial traffic, it is proposed that Langslow Street would be closed to vehicle traffic at Diamond Gully Road. Access to the Langslow Street Industrial Precinct would then be from Martin Street and to a lesser extent Langslow Street (which is more direct but has height limit restrictions under the railway bridge).

6.3 Pedestrian and Bicycle Linkages

Walking and cycling is an important part of our community. The Structure Plan seeks to build on this and provides for a shared pedestrian and bicycle pathway adjacent to the collector road, and also provides for future linkages from Sluicers Road to Campbells Creek. Potential alignments of these linkages will require further investigation by Mount Alexander Shire Council.

6.4 Public Transport

The collector roads within the Structure Plan area would be 7m wide to provide for bus services.

7 LAND USE AND DEVELOPMENT PRECINCTS

The Structure Plan area has been divided into various area designations (precincts).

7.1 Residential Precincts

There are 3 residential precincts:

- Northern Residential In-fill Precinct
- Southern Residential Greenfield Area Precinct
- Low Density Residential Areas Precinct

7.1.1 Northern Residential In-Fill Precinct

This area is characterised by land that is generally already zoned General Residential1 (GRZ1). Much of the area is already residentially developed and /or subject of current subdivision applications. However a significant opportunity still remains to accommodate further in-fill development.

The area also includes land which is currently zoned Industrial 1. The Structure Plan identifies that some of this land should be developed for residential purposes (although in some instances this will require further work to be undertaken to the satisfaction of the EPA where the land is within 500 metres of the existing landfill). This will improve the residential / industrial interface in the northern part of the Structure Plan area (adjacent to the collector road which is to follow the Ireland Street alignment, and further south along the east side of Diamond Gully Road).

Conventional residential development (500 – 1000 m²) will be encouraged in this area.

In-fill development within this area will have regard to the following matters:

- No direct vehicle access to properties to be provided from Pyrenees Highway.
- Provision of reticulated services and formed roads to the satisfaction of the responsible authority.
- WSUD responses should be considered, where appropriate, to protect existing watercourses.
- Provision of defensible space, access and a static water supply in accordance with Clause 52.47 and CFA requirements.

7.1.2 Southern Residential Greenfield Area

This area is predominantly held in a single ownership and represents the most significant opportunity for residential development within the Structure Plan area.

Diamond Gully Road would be extended through this area as the main collector road, and would join with Ranters Gully Road to the south.

A mix of residential typologies is encouraged in this area.

Medium density residential lots are encouraged in the inner core of this area in proximity to the watercourse, with conventional density development (400 – 1000 m²) in the area surrounding the central core.

Clustering of development is also encouraged where the opportunity exists to create shared defensible space.

Opportunities also exist in this area for:

- The heritage cottage (HO1082) to be restored and used for residential or other purposes.
- The establishment of commercial facilities such as medical centres, childcare centres and similar to serve the needs of the new community.

Apart from the main north-south collector road, access arrangements in this southern area will also comprise:

- A separate pedestrian/bicycle path adjacent to the main collector road between Diamond Gully Road and Ranters Gully Road.
- A series of access streets from the collector road, including parallel to the watercourse.
- Provision of a perimeter road (dimensions appropriate for local traffic and emergency vehicles) as the urban edge interface between the fire risk hazard and the residential areas.

Development within this area should have regard to the following matters:

- Provision of reticulated services and formed roads to the satisfaction of the responsible authority.
- WSUD responses should be considered, where appropriate, to protect existing watercourses.
- Provision of defensible space, access and a static water supply in accordance with Clause 52.47 and CFA requirements.
- The results of a further site specific audit in respect to the area of land which has the potential to be affected by migration of landfill gas and over which an Environmental Significance Overlay applies.

7.1.3 Low Density Residential Areas

Low density lots with a minimum area of 2 ha are encouraged in these areas, subject to the protection and management of the vegetation in these areas. This is achievable by siting buildings close to existing roads and by other means including protection of the vegetation through Section 173 Agreements.

The desired residential development in these areas will be facilitated by the introduction of new schedules to the Rural Living Zone (where the RLZ presently applies). Where land is currently included in the Township Zone, it will be necessary to 'back zone' to a Rural Living Zone with appropriate scheduled controls.

Development within these areas should have regard to the following matters:

- Land capability including on-site waste disposal and erosion/stability
- Native vegetation protection and offset planting
- Buffers/separation distances anticipated through other means including, but not limited to:
 - Clause 52.47 Planning for Bushfire and Australian Standard AS3959-2009
 - Clause 44.06 Bushfire Management Overlay.
- WSUD responses should be considered, where appropriate, to protect existing watercourses.
- Provision of reticulated services and formed roads to the satisfaction of the responsible authority.
- Location of building envelopes in proximity to public road in accord with Clause 52.47 and CFA requirements.

7.2 Langslow Street Industrial Area

The Structure Plan area includes the Langslow Street Industrial Precinct.

As already noted, the western edge of the Industrial 1 Zone is proposed to be rezoned to GRZ1 to improve the residential / industrial interface within the Structure Plan area. It is also proposed that the “outer core” of the Langslow Street Industrial Precinct be rezoned to Industrial 3 Zone (IN3Z) to provide for an increased level of amenity protection for the adjoining residential land. This arrangement will also enable the land within the 200m buffer around the current Castlemaine Landfill to be used for non-sensitive uses (i.e. other than residential).

Development within this area should have regard to the following matters:

- WSUD should be considered, where appropriate, to protect existing watercourses.
- Provision of a static water supply in accord with Clause 52.47 and CFA requirements.
- Provision of reticulated services and formed roads to the satisfaction of the responsible authority.
- Provision of vehicle access from Martin Street to avoid potential residential/industry traffic conflicts.

8 IMPLEMENTATION

The Structure Plan is proposed to be acknowledged in the Municipal Strategic Statement at Clause 21 of the Mount Alexander Planning Scheme, and will also be a Reference Document under the Planning Scheme.

The Planning Scheme will need to be further amended by way of zoning and overlay changes in order to give effect to the Structure Plan.

Other work to give effect to the Structure Plan includes:

- Assessment of the proposed pedestrian/bicycle path linkages between the Structure Plan area and Campbells Creek.
- Council and Parks Victoria to investigate the potential for Lushington Reserve to be expanded to include the former landfill site to the south.
- Applications for planning permits need to be assessed for their compliance with the Structure Plan.

9 REFERENCES

The following technical reports have influenced the preparation of the Structure Plan:

Subject matter	Name of report
Flora and Fauna	'Ecological assessment of the Diamond Gully Structure Plan area', Biosis Research, June 2008
Land Use and Planning	'Diamond Gully Structure Plan - Planning and Land Use Assessment' (Final), Beveridge Williams, October 2008
Infrastructure	' <i>Diamond Gully Structure Plan – Infrastructure Technical Report</i> ', Beveridge Williams, October 2008
Water and Hydrology	' <i>Diamond Gully Structure Plan – Drainage and Stormwater Management Strategy</i> ', Neil Craigie and Pat Condina, July 2008 (Version 4).
Access and Movement	' <i>Diamond Gully Structure Plan, Access and Movement Report</i> ', Traffix Group, October 2008
Landscape and Open Space	' <i>Diamond Gully Structure Plan, Landscape and Open Space – Background Report</i> ', Beveridge Williams, July 2008
Land Capability	' <i>Diamond Gully Structure Plan, Preliminary Land Capability Assessment</i> ', Wrigley Dillon, October 2008
Wildfire Management	' <i>Landscape Bushfire Risk at Diamond Gully</i> ', Terramatrix, September 2013; and ' <i>Bushfire Design Principles for Diamond Gully</i> ', Terramatrix, February 2014 (The above reports have superseded the original report ' <i>Diamond Gully Structure Plan – Wildfire Management Technical Report</i> ', prepared by Phil Neander & Associates and Beveridge Williams, October 2008)
Heritage	' <i>Diamond Gully Structure Plan – Cultural Heritage Due Diligence Report</i> ', Tardis Enterprises, October 2008
Community Services and Facilities	' <i>Diamond Gully Structure Plan - Community Planning Technical Report</i> ' (Final), Beveridge Williams October 2008
Impact of the Landfill	' <i>Castlemaine Existing and Former Landfills – Qualitative Risk Assessment</i> ', Meinhardt Infrastructure & Environment, October 2009; ' <i>Section 53 Environmental Audit of development encroaching on Castlemaine Landfill buffer</i> ', Nolan Consulting Pty Ltd, December 2012; and ' <i>Castlemaine Landfill and Odour Assessment</i> ', GHD, May 2016.

*B***W**

