

# **FIRE MANAGEMENT PLAN**

**LOTS 9001, 9002, 9003, 9004 &  
9005 HIGHLAND ESTATE**

**BRIDGETOWN**

**SHIRE OF BRIDGETOWN-GREENBUSHES**

**February 2007**

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## **1.0 PURPOSE OF THE MANAGEMENT PLAN**

The purpose of this Bushfire Management Plan is to detail the Fire Management methods and requirements that will be implemented within the proposed subdivision. The aim of the Bushfire Management Plan is to reduce the threat to residents and fire fighters in the event of a fire within or near the subdivision.

## **2.0 SUBDIVISION LOCATION AND DETAILS**

The subject land comprises Lots 9001-9005 Highland Estate, Bridgetown and is located approximately 3kms west of the Bridgetown township and is accessed off Peninsula Road (refer Diagram 1).

## **3.0 SITE DETAILS**

The site is characterised by an extensive, generally flat ridge which runs through the eastern half of the land. This ridge falls to the east and west where the land is gently sloping. To the south the ridge extends almost to the southern boundary to form plateaus from which the land falls steeply.

A creek system is in the western portion of the site and extends to the southern boundary. It is proposed to build a large dam on this creek as part of the proposed tourist site.

The site is cleared with some pockets of remnant vegetation.

A blue gum plantation is located on the northern boundary and is setback about 40 metres from the proposed development. Currently houses have been allowed to build within State 1 of Highlands Estate with normal Council setbacks. Setbacks from the blue gum plantation are to follow this precedent and will be as determined by the Shire of Bridgetown-Greenbushes.

A CALM Nature Reserve is located along the western boundary of the site.

A pine plantation (although cut down the property is still zones plantation use) is located on the southern boundary and the owner is discussing with Council future land use options including plantation establishment.

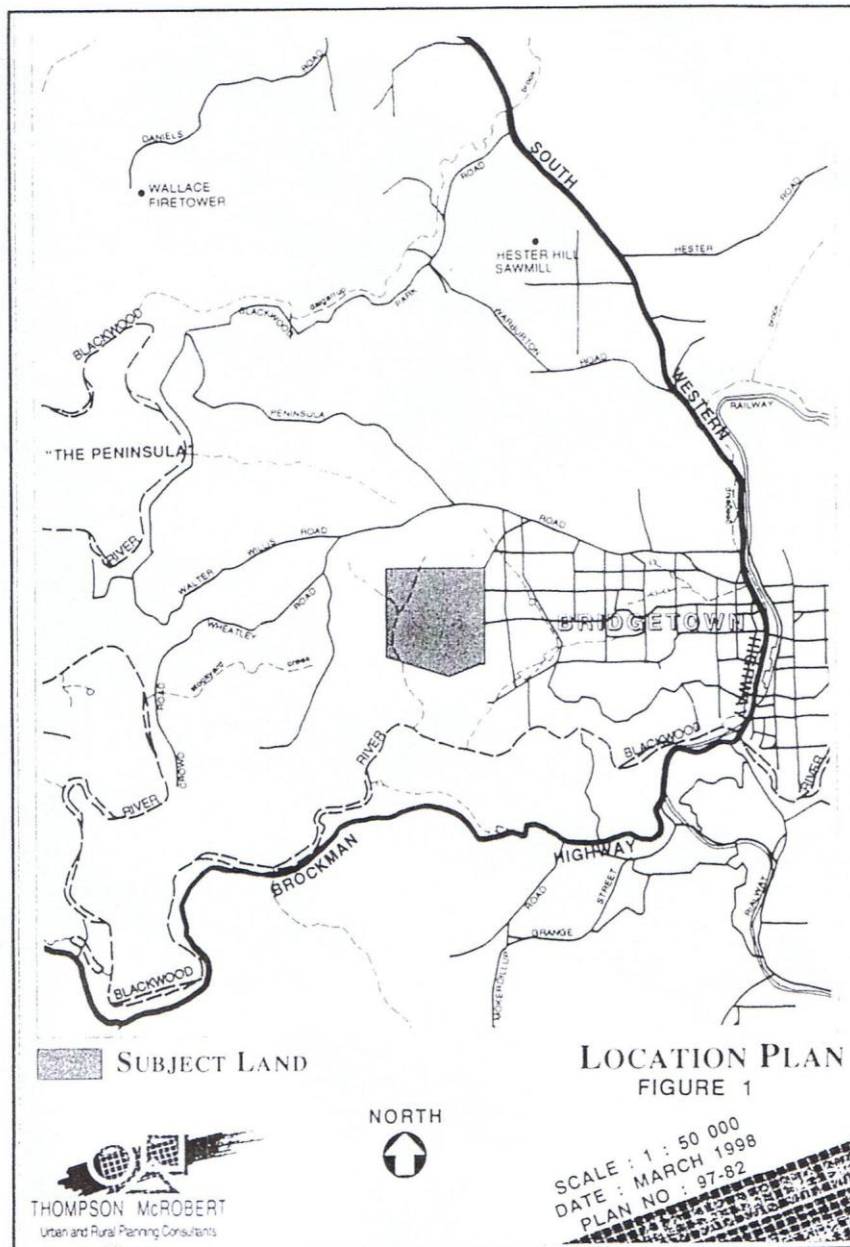
To the east of the site is the Town Boundary with the area developed into Lots ranging in size.

## **4.0 STATUTORY CONDITIONS**

The Shire of Bridgetown-Greenbushes requires as part of Town Planning Scheme 4 Amendment 40 the preparation of a 'Bushfire Management Plan' for the proposed development as part of the Condition of Subdivision. This document has been prepared to satisfy that requirement and covers all of Highland Estate.

As fire management strategies may require altering to meet changing environment and land use needs, you are advised that provisions of the Bush Fires Act 1954 may still be enforced in addition to this Fire Management Plan.

### Diagram 1 Locality of Proposed Subdivision Not to Scale



## 5.0 BUSH FIRE HAZARD ASSESSMENT

The assessment of fire risk takes into account existing site conditions which include:

- Topography with particular reference to ground slopes and accessibility;
- Vegetation cover – both remnant and likely revegetation; and
- Relationship to surrounding development.

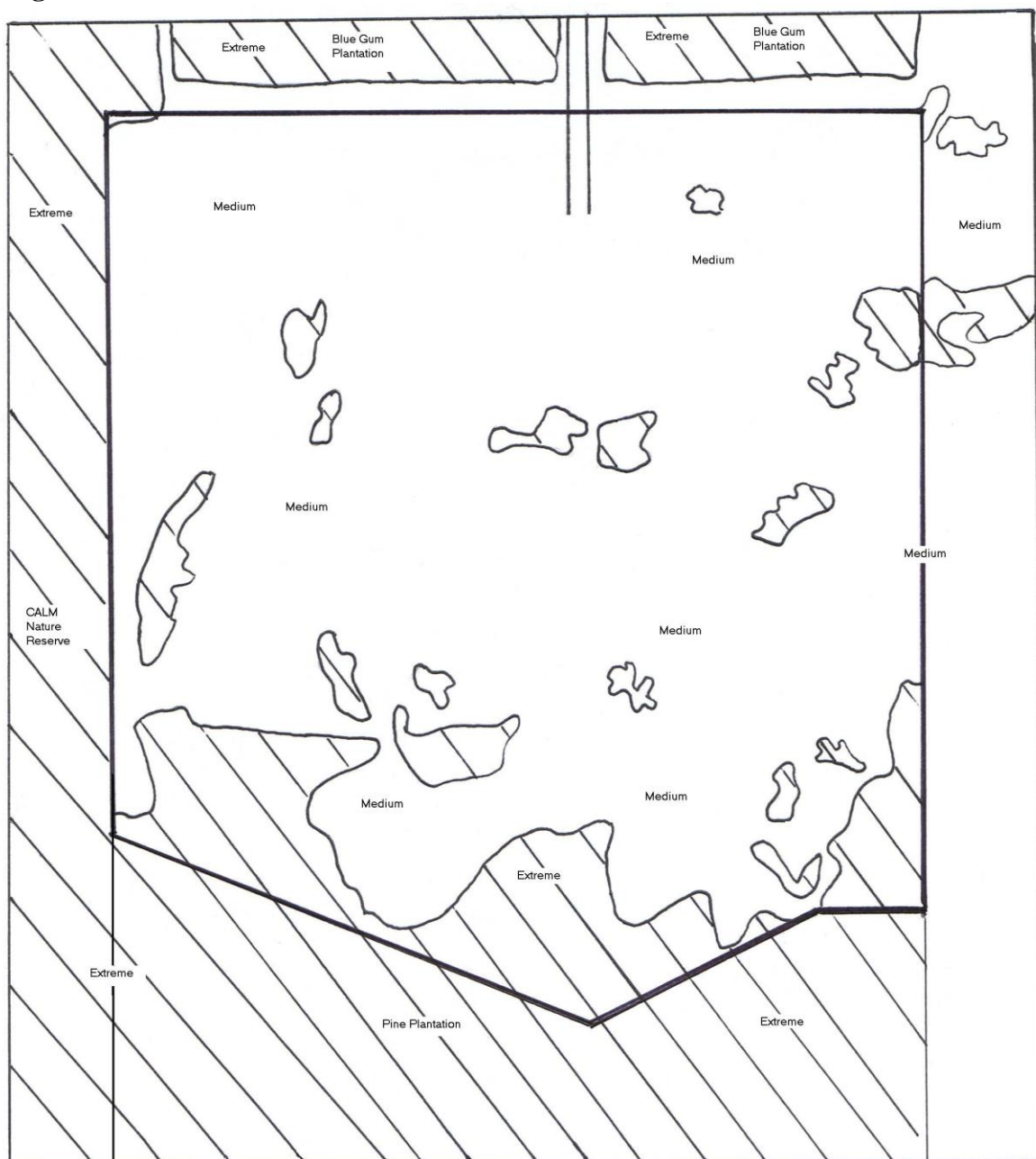
The Bush Fire Hazard Assessment for the proposed Lots is Medium in cleared areas. See Diagram 2.

The bush fire hazard assessment for the adjoining property is medium in cleared areas and extreme in remnant vegetation.

The Mediterranean climate experienced by this area is such that the majority of rain falls in late autumn through to early spring. This rainfall supports substantial vegetation growth which dries off in Summer/Autumn.

The combination of prevailing winds and dry vegetation poses a fire risk and bush fire control is considered essential for the protection of life and property, and to ensure that frequently and uncontrolled burning does not degrade existing and replanted vegetation.

**Diagram 2 Bush Fire Hazard Assessment – Not to scale**



## **6.0 FIRE MANAGEMENT PLAN**

The aim of the Fire Management Plan is to reduce the threat to residents and fire fighters in the event of bush fire within or near the site.

The Fire Management Plan has been developed to incorporate fire management methods.

- Estate Layout and Road Pattern.
- Strategic and Internal Firebreaks systems.
- Dwelling Construction.
- Building Protection Zones.
- Hazard Separation Zone.
- Hazard Reduction.
- Driveways.

### **6.1 ESTATE LAYOUT AND ROAD PATTERN**

The main access is through Location 495 to the north linking up with Peninsular Road.

As there is a blue gum plantation on the northern boundary of the site, a Nature Reserve to the west and a cleared pine plantation on the southern boundary an alternative public road is required along the eastern boundary.

The development has allowed for a connection to Hackett Street from the eastern boundary. This access is to be a minimum of 6metre wide gravel or sealed surface suitable for 2wheel drive vehicles and if not a public road a gate or removable bollards may be erected. A sign on the gate or bollards is to indicate Emergency Egress Only, wording to be agreed to by the Developer and the Shire of Bridgetown – Greenbushes.

### **6.2 STRATEGIC FIREBREAK SYSTEMS**

This firebreak must be cleared to 6m wide, 5metre vertical clearance of all branches and scrub and have a 4m trafficable surface for fire fighting equipment and is to be installed and maintained by the dates detailed in the Shire of Bridgetown-Greenbushes Firebreak Order. Gates are to be installed where fence lines intersect strategic firebreaks

The strategic firebreaks will be used by fire appliances for access in the event of an uncontrolled fire. See Appendix A for Location of Strategic Firebreaks.

Strategic firebreaks are required around the tourist development area and public open space and along the southern and eastern boundary to the access road connecting to Hackett Road. See Appendix A.

### **6.3 INTERNAL FIREBREAKS**

All lots are to comply with the firebreak requirements of the Shire of Bridgetown-Greenbushes Firebreak Order.

## **6.4 DWELLINGS**

### **6.4.1 Dwelling Construction**

Individual dwellings on each lot shall be designed and built to conform with:

- Bush Fire Survival Manual Guidelines.
- The Shire of Bridgetown-Greenbushes Specification and Requirements.
- Australian Standards AS 3959 (Recommended).

It is recommended that all dwellings within 100metres of the northern, western and southern boundaries comply with the Australian Standard AS 3959 “Construction of Buildings in Bush Fire Prone areas”.

Copies of The Homeowners Bush Fire Survival Manual or other suitable documentation will be issued to each property owner by the developer of the sale of the allotment.

### **6.4.2 Dwelling Setbacks**

No habitable buildings will be constructed within the setbacks provided for in the Plan attached to Appendix A

## **6.5 BUILDING PROTECTION ZONE**

The aim of the Building Protection Zones is to reduce bush fire intensity close to dwellings, and to minimise the likelihood of flame contact with buildings.

The building protection zone is a low fuel area immediately surrounding a building.

Non flammable features such as driveways, vegetable patches, lawn, or landscaped gardens (including deciduous trees) should form part of building protection zones. Isolated trees and shrubs may be retained within building protection zones. A building protection zone of 30 metres is to be constructed around all buildings. It must fulfil the following conditions:

- Bush Fire fuels must be maintained below a height of 50mm in height.
- The first 5m around all building is to be cleared of all flammable material. Reticulated gardens may be located in this zone.
- For the next 25 metres (i.e. from 5-30metres surrounding any buildings) the spacing of trees should 15 metres apart to provide for a 5 metre separation between crowns. Fruit trees may be planted closer together provided they are reticulated and grass is either green (e.g. reticulated lawn) or dry grass is mown to 50mm in height. Recommended species for planting are contained in Homeowners Bushfire Survival Manual or Planning for Bush Fire Protection.

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- Branches, must be removed at least 2 metres back from the eaves of all buildings.
  - All leaves, tall grass, and clearing slash of trees must be removed from within the building protection zone area.
  - Grass is to be trimmed and maintained to no more than 50mm.
  - Building Protection Zone and Hazard Separation Zones are to be installed prior to any dwelling construction commencing and is to be part of the Building License approval.

## **6.6 HAZARD SEPARATION ZONE**

There must be physical separation between bush fire hazards and development. Hazard separation zones assist in reducing fire intensity when a bush fire impacts on buildings within a subdivision.

The building protection zone and the hazard separation zone are essential for this subdivision to proceed. It is essential that owners maintain the building protection and hazard separation zones to have any degree of safety.

Bush fire fuel loadings must be maintained within the Hazard Separation Zone as detailed in Section 6.7 Hazard Reduction.

The hazard separation zone should extend at least a further 70 metres beyond the building protection zone or to the property boundary.

## **6.7 HAZARD REDUCTION**

In remnant vegetation bush fuels must be maintained below 6-8 tonnes/ha. Shire of Bridgetown-Greenbushes can provide advice on appropriate techniques to achieve this.

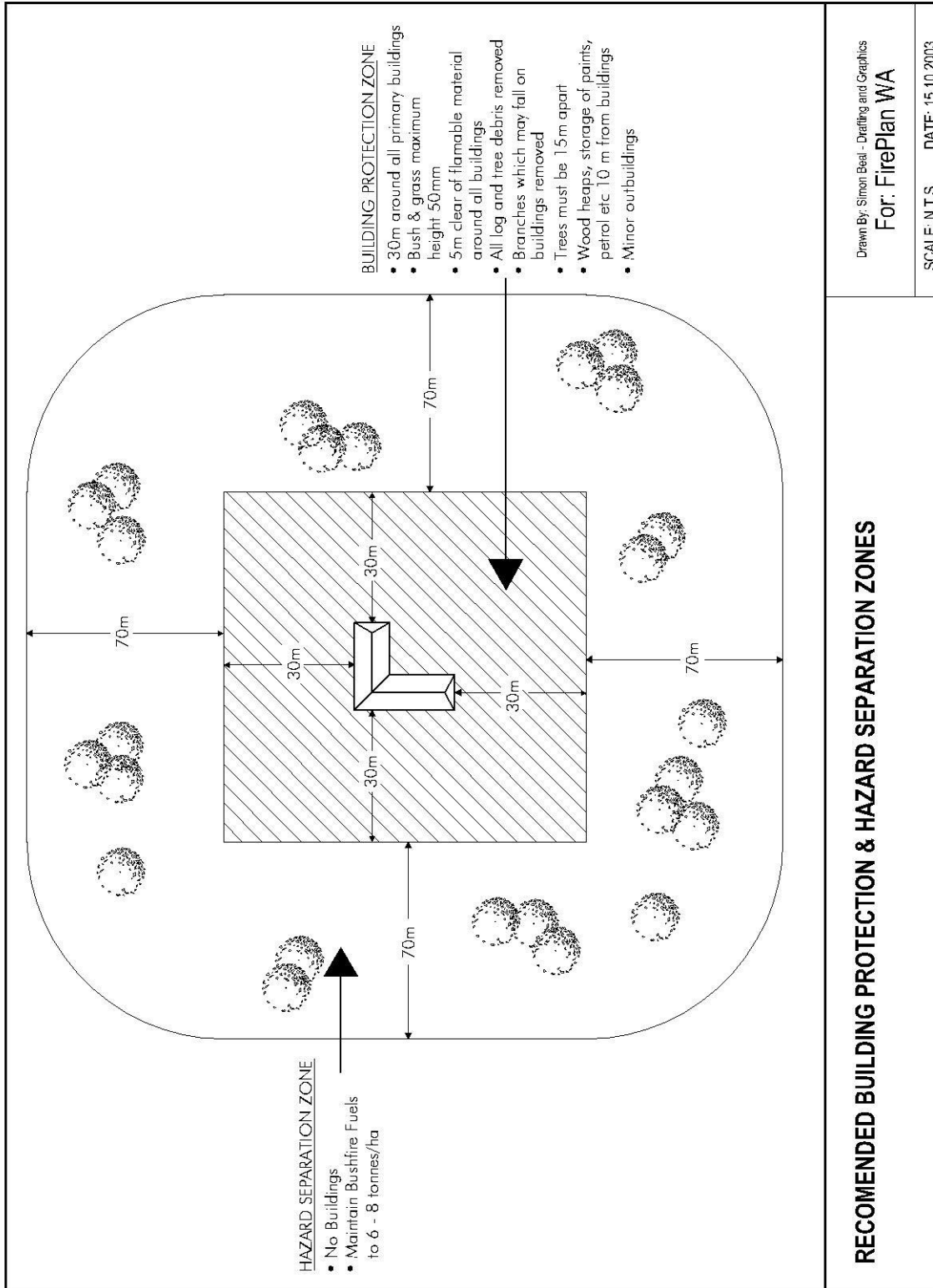
Grass fuels must be maintained below 50mm over the whole of each lot and can be achieved by mowing, grazing and slashing.

## **6.8 DRIVEWAYS**

Driveways are to be constructed to the same standard as Strategic Firebreaks as detailed in Section 6.2.



**Diagram 3 Building Protection Zone and Hazard Separation Zone.**



## **6.9 Planting of Trees**

It is recommended that no trees are planted within 6 metres of the centre of any firebreaks and trees and shrubs are to be planted so as to create a parkland cleared effect. Clumps of trees and shrubs should not exceed the equivalent of 8 metres in diameter with 5 metres of slashed grassed area surrounding clumps.

“The Homeowners Bush Fire Survival Manual” (available from the Shire Office) has a list of plants recommended for planting in Bush Fire Prone Areas.

## **7.0 FIRE FIGHTING FACILITIES**

### **7.1 Water Supply**

Reticulated water will be supplied to each lot.

Fire hydrants are to be installed every 200 metres along roadways. Fire hydrants are to be marked by standard road and pole markings. See Appendix C.

## **8.0 SUMMARY**

### **8.1 Overall Fire Threat**

The design of this development and the facilities constructed at the time of development are such that with implementation of this Fire Management Plan, fire threat to persons and property within the subdivision is significantly reduced.

### **8.2 Property Owner's Responsibilities**

To maintain the reduced level of risk and threat of fire, the owners/occupiers of lots created by this proposal will be responsible for undertaking, complying and implementing measures protecting their own assets from the threat and risk of bush fire.

- Maintain strategic and internal firebreaks (clear of flammable material) on their property by the dates shown on the Shire of Bridgetown-Greenbushes Firebreak Order as detailed in Section 6.2 & 6.3;
- Maintain in good order and condition all property fencing and gate;
- Ensure all domestic dwellings are designed and constructed in full compliance with the requirements of the Shire of Bridgetown-Greenbushes. It is recommended that homes within 100metres of the northern, western and southern boundaries of the site are built to the AS395 “Construction of Buildings in Bush Fire Prone Areas” and The Homeowners Bush Fire Survival Manual or equivalent provided by the Shire of Bridgetown-Greenbushes. See Section 6.4;
- Implement and maintain Building Protection Zone as detailed in Section 6.5;

- Implement and maintain Hazard Separation Zone as detailed in Section 6.6;
- Implement Hazard reduction as detailed in Section 6.7;
- Install and maintain driveways as detailed in Section 6.8; and
- Implement tree planting standards as detailed in Section 6.9.

### **8.3 Developer's Responsibilities**

Prior to subdivision being given Final approval by the W. A. Planning Commission the developer shall be required to carry out works as described below:

- Notifying land purchasers of the responsibilities of this fire management plan;
- Construction of Strategic and Internal firebreak and where required, an appropriate easement for fire and emergency services access;
- Install fire hydrants as detailed in Section 7.0;
- Notify buyers that compliance is required with the approved Fire Management Plan and buyers will be notified of the Bushfire Survival Manual on sale of the allotment; and
- Install Road connection to Hackett Drive;

all in accordance with subdivision approval issued by the WA Planning Commission.

Subsequent to Final Approval to subdivide, the developer shall have no further responsibilities to provision of fire fighting facilities which pass from their ownership.

### **8.4 Shire of Bridgetown-Greenbushes Responsibilities**

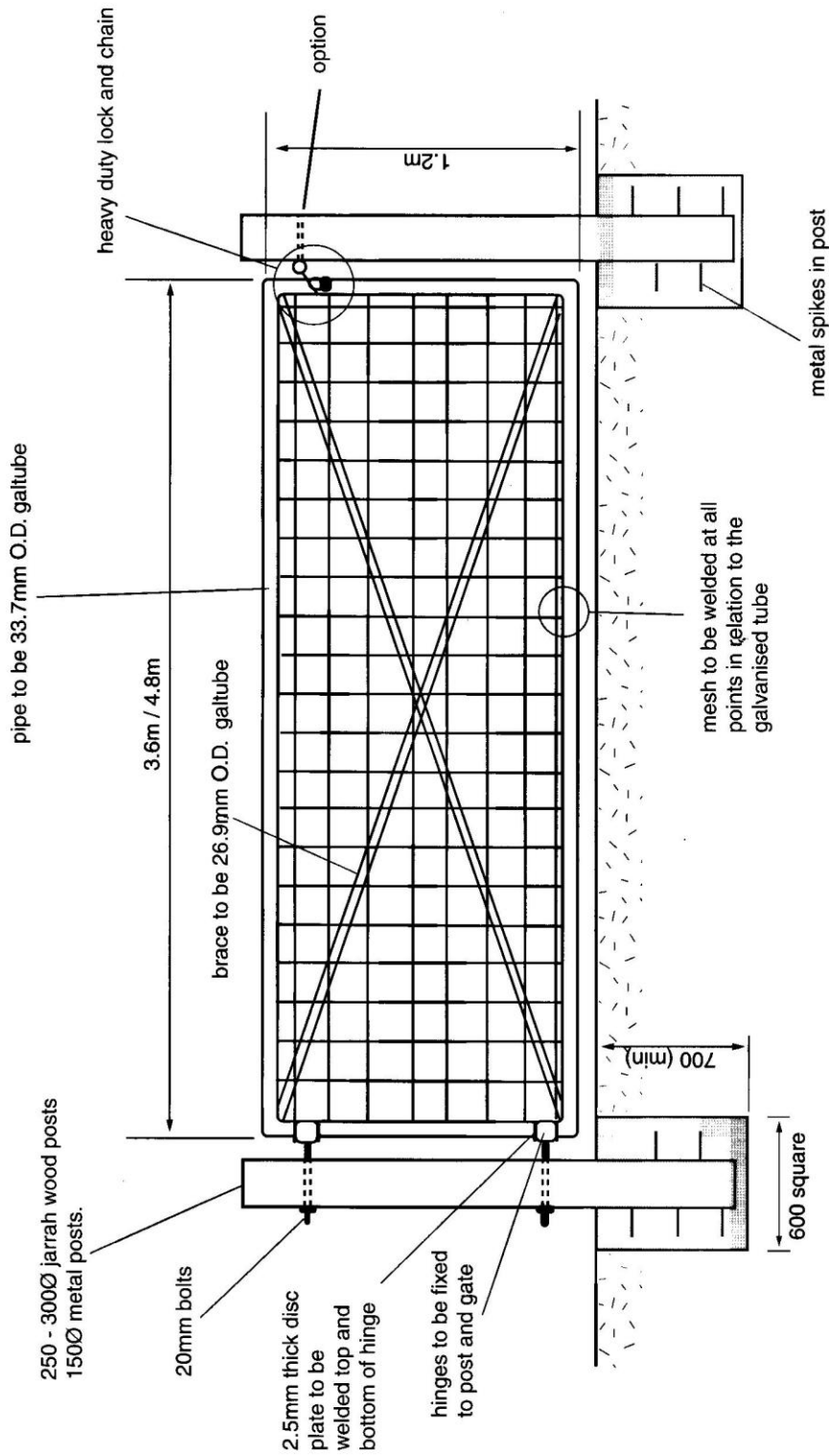
The responsibility for compliance with the law rests with individual property owners and occupiers and the following conditions are not intended to unnecessarily transfer some to the responsibilities to the Shire of Bridgetown-Greenbushes.

The Shire of Bridgetown-Greenbushes shall be responsible for:

- Approving land purchaser notifications associated with the WA Planning Commission Approval;
- Developing and maintaining District Fire Fighting Facilities; and
- Maintaining in good order the condition of the district water tanks and the apparatus for fire fighting purposes.



**Appendix B. Sample Gate Design.**

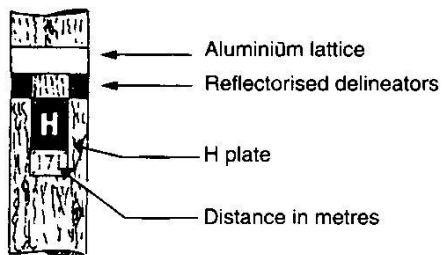
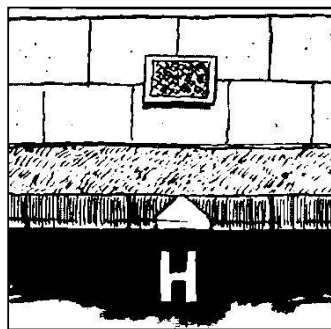
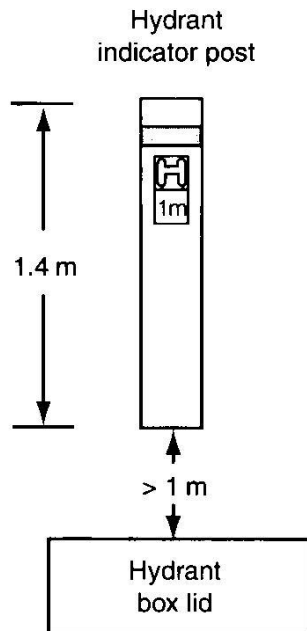


Note: Mesh to be metric mesh 46G5 and galvanised finish complete with fittings.

**Appendix C. Fire Hydrant Standard Markings.**



*Hydrant indicators post.*



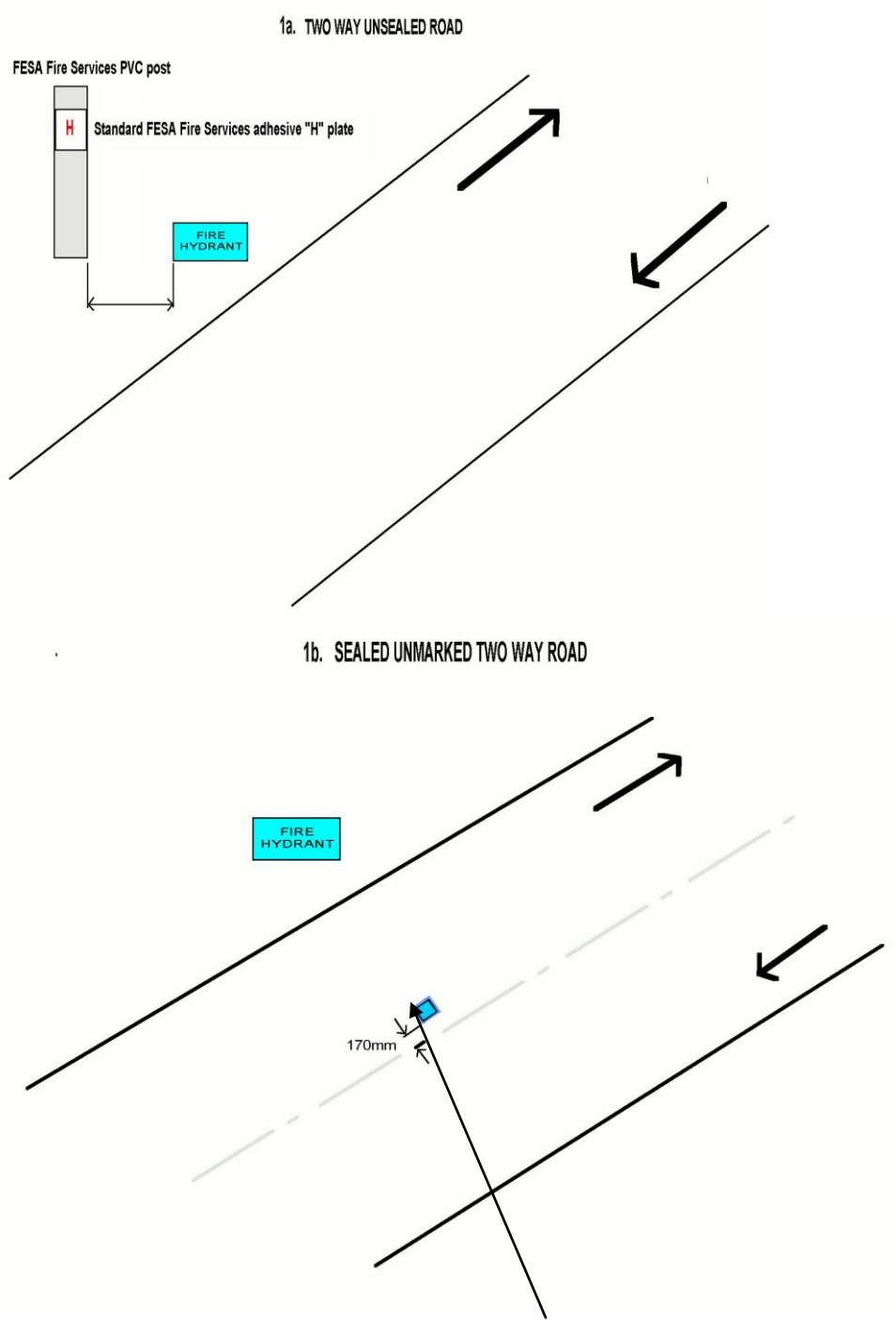
Indicates that the hydrant is on the same side of the street as the pole



Indicates that the hydrant is on the opposite side of the street as the pole

**BLUE RAISED RETROREFLECTIVE PAVEMENT MARKER & HYDRANT INDICATING GUIDLINES**

The implementation of the blue raised retro reflective pavement marker (RRPM's) and new hydrant indicating regime is designed to provide greater ability for fire fighters to readily identify fire hydrant locations, particularly at night or where smoke affects visibility.



**Blue raised retro-reflective pavement marker**