

FIRE MANAGEMENT PLAN

Loc 413 Smiths Beach

Shire of Busselton

Prepared by: FirePlan WA

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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.

1.0 DEVELOPMENT LOCATION AND DETAILS

The subject land comprises Loc. 413 Smiths Beach and is located approximately 2kms south of the Yallingup township (refer Diagram 1).

3.0 SITE DETAILS

The property is located in a rural area adjoining National Park on the southern boundary, the ocean on the western and part of the northern boundary and farmland on the eastern boundary. Also adjoining on the northern boundary is the Smiths Beach Caravan Park and Resort.

The site is generally vegetated with low heathland adjoining the ocean (about 1metre in height) with vegetation increasing in height upslope away from the ocean to a maximum of 3-5 metres of stunted jarrah /marri with understorey of zantharia and Banksia in the south east corner of the site (total available bush fire fuel 17tonnes/ha one sample line SE corner).

The topography is moderate – steep slopes.

A bitumen road runs down the eastern boundary of the site providing access to Smiths Beach, the Smiths Beach Caravan Park and Resort.

4.0 STATUTORY CONDITIONS

The Shire of Busselton requires the preparation of a ‘Bushfire Management Plan’ for the proposed development as part of a Development Guide Plan process. This document has been prepared to satisfy that requirement.

As fire management strategies may require altering to meet changing environment and land use needs, 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;
- Relationship to surrounding development

The Bush Fire Hazard Assessment (as detailed in *Planning for Bush Fire Protection* Dec 2001 Section 2.5) for the proposed Lots is Extreme in remnant vegetation in the south eastern portion and high in the remainder of the site.

The bush fire hazard assessment for the adjoining properties is extreme in the National Park to the south and medium in the cleared areas and extreme in remnant vegetation to the east. See diagram 2.

Fuel loadings on the site vary from 20 tonnes/ha in dense heathland fuel of 4-5 metres in parts of the southern boundary to 1-4 tonnes per ha in 0.3-1.0 metre heathland fuel in the north.

Fires require ground fuel such as grass, leaf litter and small twigs or plants that are at ground level for a fire to be sustainable. When ground fuels are available a fire when it has enough heat will burn the canopy of vegetation immediately above the fire. A canopy fire which is burning ahead of a ground fire will only occur under extreme weather conditions and require ground fuels /energy for the fire to be raised into the canopy.

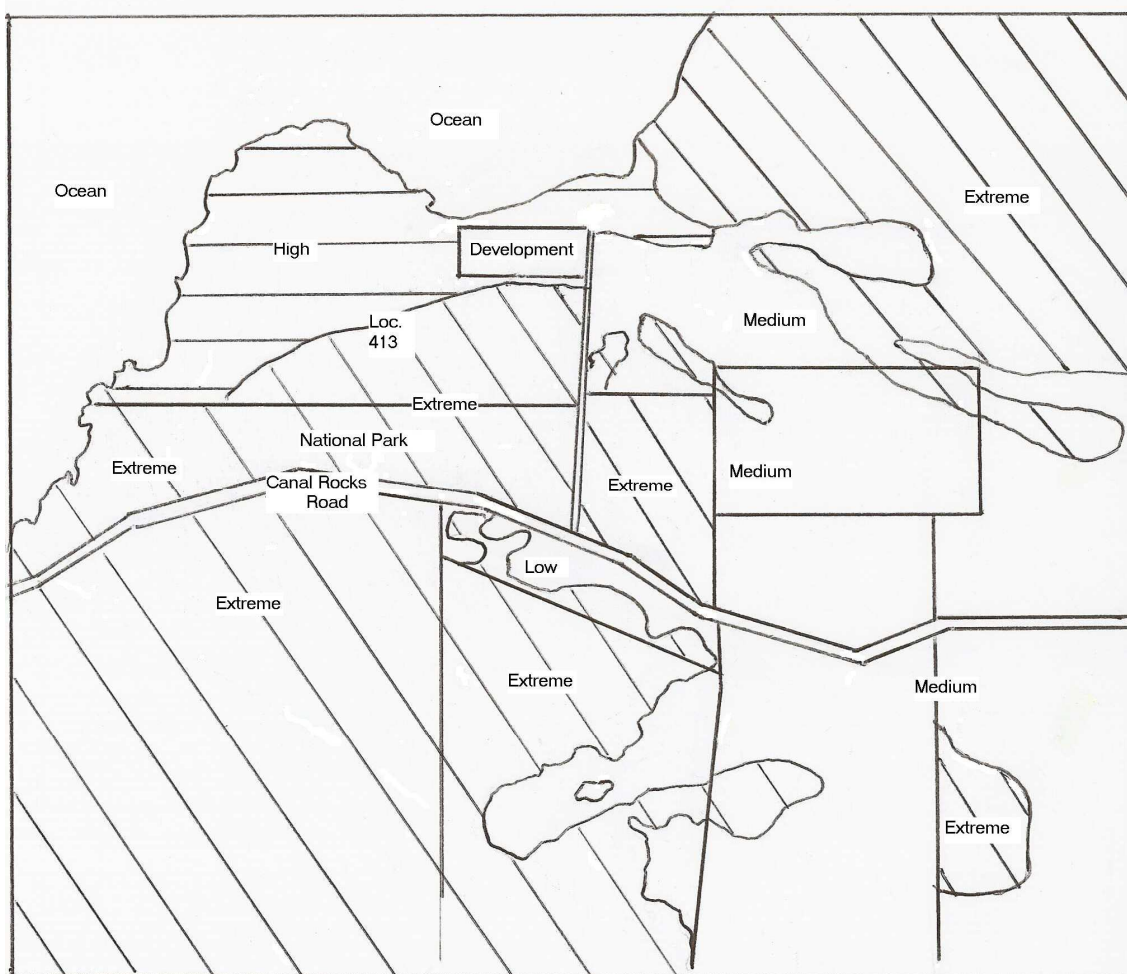
Buildings are affected by three main factors; burning debris, radiant heat and direct flame contact. By limiting the fuel quantity and fuel proximity around buildings, correct building design and location to limit exposure to extremes in fire behaviour, well designed access and egress and a reliable water supply will limit a community's vulnerability to fire risk.

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.

- Internal Firebreaks systems;
- Dwelling Construction and setbacks;
- Building Protection Zones;
- Hazard Separation Zone;
- Hazard Reduction
- Driveways

6.1 ESTATE LAYOUT AND ROAD PATTERN

Access to the site and to new lots will be provided by fully sealed, drained and engineered public roads off Canal Rocks Road and Smiths Beach Rd with an access road along the southern boundary which provides access to the beach front. There are two access roads from the eastern boundary providing additional through access.

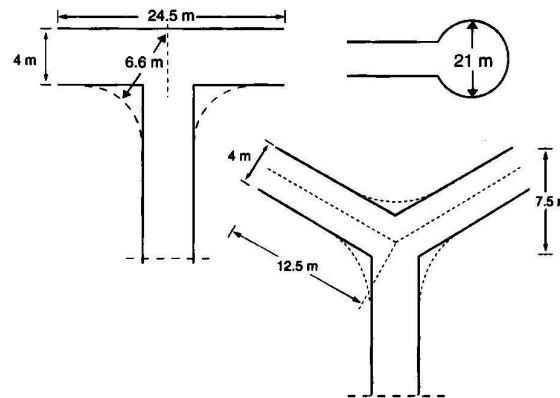
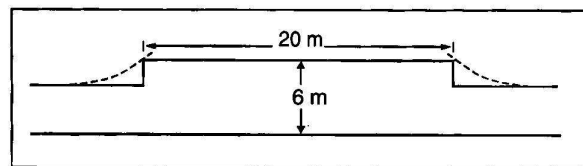
6.1.1 Walkways

All walkways are to be dual purpose walkways and emergency vehicle access. Walkways are to have a 3metre trafficable surface suitable for fire fighting vehicles and may have removable bollards to restrict non emergency vehicles. Bollard must be able to be removed by emergency services.

6.2 INTERNAL FIREBREAKS

All lots are to comply with the fire mitigation requirements of the Shire of Busselton Firebreak Notice.

The existing firebreak along the southern boundary at the western extremity of the access road is to be maintained to 6metres wide cleared and 4metres trafficable surface for Fire fighting appliances. A turn around at the western end of this firebreak is to be constructed as shown in Diagram 3.

Diagram 3 Turn around standards*Turn around area measurements.***Diagram 4 Passing Bays Standards.***Passing bay measurements.*

6.3 BUILDING SETBACKS

Buildings are to be setback 50metres from the southern boundary, 20metres from the eastern boundary and 20metres from the adjoining Caravan Park and Resort. The setbacks are required to create building protection zones and hazard separation zones as required in *Planning for Bush Fire Protection* Table 4.

6.4 DWELLING CONSTRUCTION

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

- Bush Fire Survival Manual Guidelines
- The Shire of Busselton Specification and Requirements
- Australian Standards AS 3959

It will be a mandatory requirement (enforced by covenants) that all dwellings comply with the Australian Standard AS 3959 “*Construction of Buildings in Bush Fire Prone Areas*” Level 2 Construction.

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

It is recommended that design guidelines for the project incorporate a low-pitched roof together with closed eaves, metal mesh fly screens and vent covers to provide optimum safety protection in bush fire prone areas.

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.

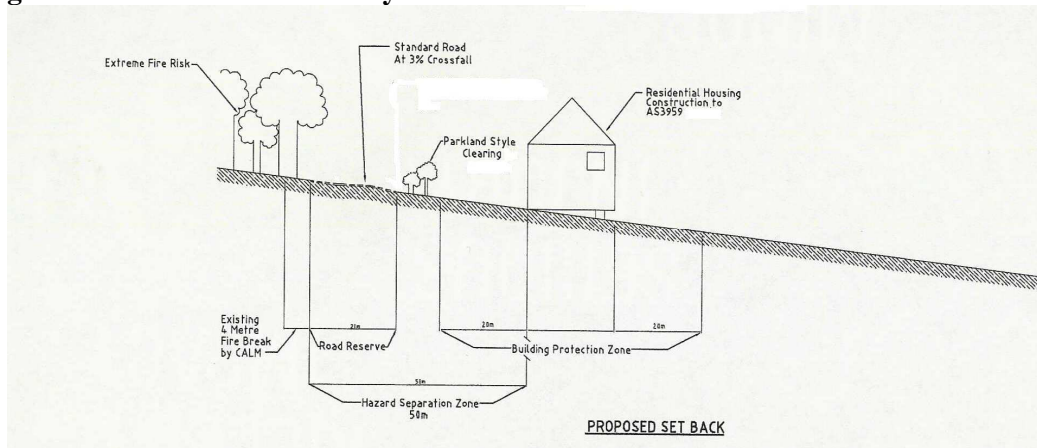
The building protection zone is a low fuel area immediately surrounding a building.

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. 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 15metres (i.e. from 5-20 metres surrounding any buildings) the spacing of trees should be a minimum of 15 metres apart to provide for a 5 metre separation between crowns. Clumps of trees are permitted provided that ground fuels under the trees are kept to a minimum. There should be a minimum of 5metres between the crowns of tree clumps.
- Branches, which may fall or overhang the house, must be removed for a minimum of 3metres away from the edge of the roof.
- 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.

6.5.1 Southern Boundary Building Protection Zone & Hazard Separation Zone.

The 50 metre setback on the southern Boundary will comprise of 20metre road reserve (to be maintained as low fuel zone), a 10 metre hazard separation zone (to be maintained by the landowner) and a 20metre building protection zone (to be maintained by the landowner). The maintenance of the road reserve will be subject to an agreement between the developer and the Shire of Busselton as to who will fund and maintain the road reserve as a low fuel area.

Diagram 5 Southern Boundary.

6.5.2 The Eastern Boundary

The 20metre setback is to be managed as a building protection zone and the 20metre road reserve is to be managed as a low fuel area and will be subject to an agreement between the Developer and the Shire of Busselton as to who will fund and maintain the road reserve as a low fuel area.

6.5.3 Western Boundary

A 20 metre building protection zone is to be installed around all building and camping areas. A 50 metre (including the building protection zone) hazard separation zone is required.

6.5.4 Northern Boundary adjoining existing Smith beach Caravan Park and Resort.

A 20 metre building protection zone is to be installed around the boundaries adjoining the existing caravan park and resort complex. A walkway or road is located within this zone.

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. Trees may remain within the hazard separation zone without restrictions on continuous canopy.

6.6.1 Southern Boundary

A 50 metre hazard separation zone including the road reserve (to be maintained as a low fuel area and a 20metre building protection zone with a 10 metre wide strip of remnant vegetation in which the fuel is to be modified as below.

Bush fire fuel loadings must be maintained within the Hazard Separation Zone and must not exceed 4-6 tonnes/ha of ground bush fire fuel. This can be achieved by burning or mechanical removal of bush fire fuels.

6.6.2 Western Boundary

A 50 metre hazard separation zone including a 20 metre building protection zone is to be maintained around all buildings and camping areas.

Within the 30metre hazard separation zone fuels are to be maintained below 4-6 tonnes/ha. Heathland fuels may be modified by slashing and leaving clumps of heathland un-slashed to achieve the 4-6tonnes/ha. Clumps of approximately 5metres diameter with 8metres of slashed area (maximum height of 100mm) between clumps or as agreed to with the Shire of Busselton may be permitted.

A 4metre firebreak/dual purpose walkway is to be installed on the western edge of the hazard separation zone. The firebreak/walkway is to zig zag down the slope in a northerly direction which will reduce soil erosion, reduce visual impact from the beach and will provide glimpses of the ocean as walkers are going to the beach. The final location of this firebreak is to be agreed to by the Developer and the Shire of Busselton. See specific detail around Cape Spur Lodge at Appendix C, also see Appendix A2.

As part of the environmental management of the site, the vegetation to the west of the GH4 Line (See Appendix A2) is to be managed as part of the conservation area.

Currently the fuel loading within the hazard separation zone around the proposed Beach Club Hotel meets the fuel loadings described above and does not require modification at this time. Monitoring of scrub and ground fuels along the western boundary is required (about every 5years) to ascertain any changes in vegetation bio-mass.

6.7 HAZARD REDUCTION

In remnant vegetation bush fuels not within a building protection zone or hazard separation zone must be maintained below 6-8 tonnes/ha of ground and scrub fuels (trees not included). Shire of Busselton can provide advice on appropriate techniques to achieve this.

Grass fuels must be maintained below 100mm over the whole of each lot and can be achieved by mowing, or slashing.

6.8 DRIVEWAYS WITHIN SURVEY STRATA LOTS

Driveways are to be constructed to 6 metres cleared with a 4 metre trafficable surface and trees pruned to a minimum of 5 metres high.

7.0 FIRE FIGHTING FACILITIES

7.1 Water Supply

Reticulated water will be supplied and fire hydrants are to be installed every 200metres and marked with standard pole and road markings as shown in Appendix B. All public buildings are to have smoke detection systems and sprinkler systems installed in accordance with the Building Code of Australia.

7.2 Fire Services

The Yallingup Bush Fire Brigade is located in the Yallingup Townsite which would be about 15-20 minutes travel time to Smiths Beach. Yallingup Rural Brigade is located on Caves Rd near the intersection with Spencer Rd which would be about 15-20 travel time to Smiths Beach.

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 with this fire management plan and implementing measures protecting their own assets from the threat and risk of bush fire.

- Maintain fire mitigation measures on their property by the dates shown on the Shire of Busselton Firebreak Notice as detailed in Section 6.2;
- Ensure all domestic dwellings are designed and constructed in full compliance with the requirements of the Shire of Busselton and as detailed in Section 6.4. It is recommended that home owners familiarize themselves with the advice given in the Standards Australia publication "Construction of Buildings in Bush Fire Prone Areas", Level 2, and the Bush Fire Survival Manual or equivalent provided by the Shire of Busselton;
- 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;

8.3 Developer's Responsibilities

Prior to Clearance of Titles the developer shall be required to carry out works as described below. Subsequent to Clearance to title, the developer shall have no further responsibilities to provision of fire fighting facilities on lots which pass from their ownership.

- Lodging a section 70A Notification on each Certificate of Title proposed by this subdivision. The Notification shall alert purchasers of land and successors in Title of their responsibilities as contained in this Fire Management Plan;
- All internal roads to have passing bays and turnaround areas as detailed in Diagram 3 & 4 ;
- Obtain agreement that the Shire of Busselton will maintain the road reserves on the eastern and southern boundaries as a low fuel area as detailed in Section 6.5
- Supply a copy of this Fire Management Plan and The Homeowners Bush Fire Survival Manual to each property owner on sale of the allotment;
- Maintain building protection and hazard separation zones around the proposed resort and camping area (Section 6.5.3) and the interface area with the existing Smiths Beach development (Section 6.5.4).
- Install fire hydrants and hydrant markings as detailed in Section 7.1

8.4 Shire of Busselton 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 Busselton.

The Shire of Busselton shall be responsible for:

- Endorsing a Section 70A Notification on each Certificate of Title affected by this Fire Management Plan.
- Developing and maintaining District Fire Fighting Facilities.
- Maintaining in good order the condition of the district water tanks and fire hydrants and the apparatus for fire fighting purposes.
- Enter into an agreement for the maintenance of the road reserve on the southern and eastern boundaries as detailed in Section 6.
- Enforcement of the Annual Firebreak Notice.

LEGEND

- Development Guide Plan Boundary
- Existing Reserves
- Principal Ridge Protection Area
- Public Open Space
- Privately Managed Open Space
- Conservation Covenant Area
- Town Planning Scheme Zoning Boundary
- Special Height Control Area
- Strategic Firebreak
- Residential
- Restricted Residential Building Area
- Tourist
- Restricted Tourist Building Area
- R-Code Boundary

Annotations:

- 20 metre setback from existing caravan park and building protection zone
- 20 metre setback from road reserve creating a building protection zone
- 50metre setback including road reserve along southern boundary creating building protection and hazard separation zones.

Map Labels:

- SMITH'S BEACH
- EXISTING CARAVAN PARK / BUILDING PROTECTION ZONE
- 20m Setback
- 20m Setback
- NATIONAL PARK
- CAMPING AND CHALET
- TWO STOREY TOURIST UNITS
- ATTACHED TOURIST UNITS
- SEMI DETACHED TOURIST UNITS
- DETACHED TOURIST UNITS
- BACKPACKERS
- BEACHSIDE RESTAURANT
- PUBLIC OPEN SPACE
- CONSERVATION COVENANT AREA
- PRINCIPAL RIDGE PROTECTION
- DWELLING HOUSE
- CHANNEL ROCKS ROAD

Scale: 1:10,000

Prepared by: [Name]

Date: [Date]

Approved by: [Signature]

Secretary: [Signature]

Endorsed by Western Australian Planning Commission

This development guide plan may change prior to Advertising.

Appendix A 2 Concept Plan Showing Conservation Areas

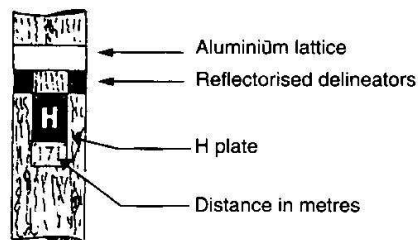
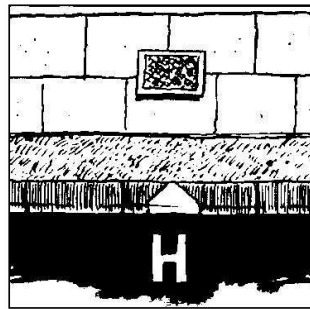
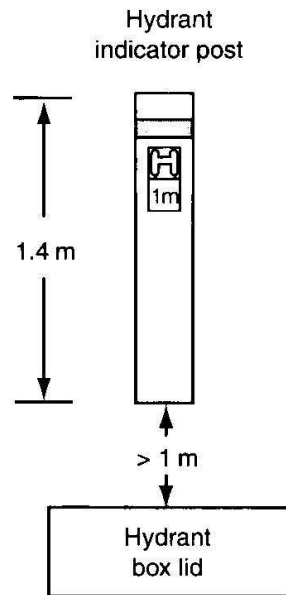


This concept plan may change prior to advertising.

Appendix B Fire Hydrant Standard Markings.



Hydrant indicators post.



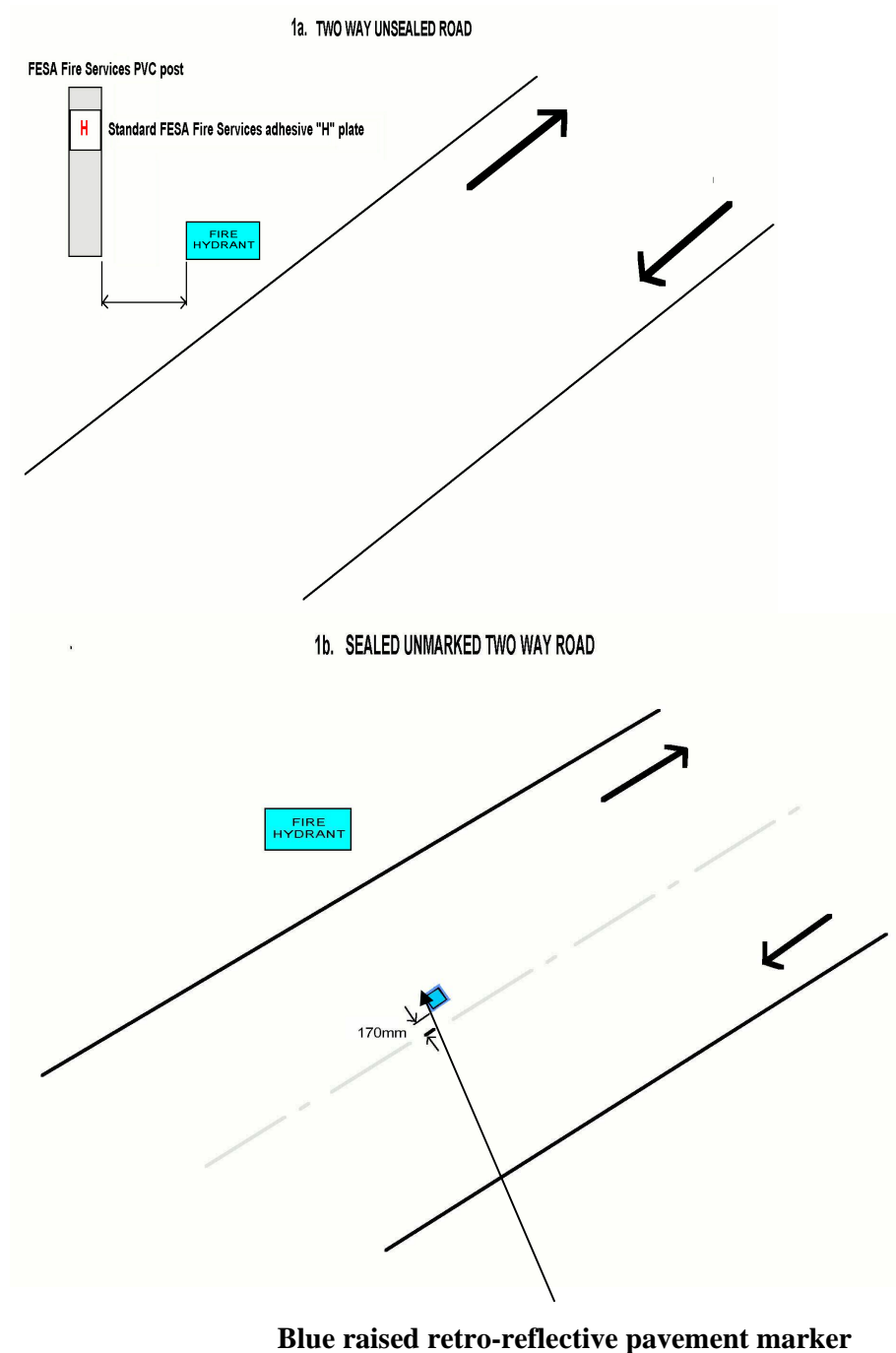
Indicates that the hydrant is on the same side of the street as the pole



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

BLUE RAISED RETROREFLECTIVE PAVEMENT MARKER & HYDRANT INDICATING GUIDELINES

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.



Appendix C Detailed fire Protection around Cape Spur Lodge.

