

ENVIRONMENTAL  
AND LAND  
MANAGEMENT  
CONSULTANTS



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## **BLACKWALL MOUNTAIN RESERVE PLAN OF MANAGEMENT**

**GOSFORD CITY COUNCIL**

**FEBRUARY 1996  
(REF:418)**



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## SECTION 1

### INTRODUCTION AND BACKGROUND

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#### 1.1 REQUIREMENTS FOR THE PREPARATION OF PLAN OF MANAGEMENT

The Local Government Act (1993) requires that a Plan of Management be prepared for areas of bushland reserves managed by local councils. A Plan of Management is a document that outlines how the Reserve will be managed in future years to address specific management objectives.

*Integrated Site Planning and Management* were engaged by Gosford City Council to prepare a Plan of Management for Blackwall Mountain Reserve. This involved completion of the necessary environmental assessments required to determine the ecological characteristics and management issues relating to Blackwall Mountain Reserve. In this regard a Project Team with skills and experience in Bushland Management, Flora and Fauna Surveys, Archaeological Investigations and Recreational Planning was utilised to complete the required investigations and prepare this Plan of Management.

The purposes of this Plan of Management are to provide a document outlining the natural characteristics of Blackwall Mountain Reserve and to identify a range of actions to guide the future management of the Reserve. Management of the Reserve should consider passive recreational pursuits within ecologically sustainable limits while promoting flora and fauna conservation and environmental education opportunities. Future management actions will be undertaken to develop and maintain the Reserve as an area attracting visitors from the local area of the Woy Woy Peninsula, rather than as a regional reserve.

Ecologically sustainable limits can be interpreted as the 'carrying capacity' or number of people who can use the area without the area becoming degraded. The carrying capacity or intensity of use for Blackwall Mountain Reserve relates to the impacts of visitors on the reserve, such as litter, vandalism, soil erosion, vegetation and fauna habitat disturbances through trampling or traffic.

Blackwall Mountain Reserve Reserve is located in the southern areas of the Gosford City Council local government area near the suburbs of Ettalong and Woy Woy as shown in Figure 1.1. The total area of the Reserve is approximately 45 hectares.

The allotments comprising Blackwall Mountain Reserve Reserve are shown in Figure 1.2 and detailed in Appendix I. All of the land within the Reserve has been classified as Community Land and categorised as Natural Area - Bushland.

Zoning for the majority of the Reserve is 6(a) Public Recreation with Lots 274, 275 DP 10172 being zoned 4(c) Industrial (Extractive) and Lots 50, 51 DP 11071 being zoned 4(a) Industrial (General) as shown in Figure 1.2.

## 1.2 PROCEDURES FOR THE PREPARATION OF THE PLAN OF MANAGEMENT

The Draft Plan of Management was prepared and placed on public exhibition in 1994 and public comment was invited during the exhibition period. Matters raised in the public comments have been considered and amendments made in the preparation of this final Plan of Management.

This Plan of Management is supported by the technical working papers prepared by the members of the Project Team. Additionally, this final Plan of Management contains detailed management/action plans addressing specific issues such as Bushfire Management, Bush Regeneration and Access Track Upgrading. Issues relevant to the future use and management of Blackwall Mountain Reserve discussed in this Plan of Management and appropriate actions addressing these issues have been prioritised.

In assessing the natural characteristics and management issues associated with Blackwall Mountain Reserve the following assessments were completed by specific members of the Project Team. These assessments incorporated:

### ***Topographical Assessment***

- Including terrain, drainage, slope and aspect analysis.  
*(Integrated Site Planning and Management).*

### ***Flora Survey***

- Including field survey, National Parks & Wildlife Service (NP&WS) computer file checks for rare plant species, vegetation mapping, identification of weed infestations.  
*(Integrated Site Planning and Management, Gordon Limburg - Bush Regeneration Consultant).*

### ***Fauna Survey***

- Including spotlight surveys, small mammal trapping, bat surveys local resident survey, NP&WS computer file search for endangered species, habitat assessment.  
*(Integrated Site Planning and Management, FBN Bat Surveys, Local Resident survey).*

### ***Geological and Soil Erosion Assessment***

- Geological and soil descriptions, important geological features, soil erosion assessment of walking and vehicle tracks and disturbed areas.  
*(Integrated Site Planning and Management).*

### ***Bushfire Hazard***

- Determination of existing bushfire hazard, existing fire breaks/fire trails, future bushfire hazard management.  
(John Travers - Bushfire Management Consultant).

### ***Aboriginal Archaeological Survey***

- Including NP&WS Site Register Search, site survey by aboriginal archaeological consultant.  
(‘Goorie’ Aboriginal Heritage Consultancy).

### ***Bush Regeneration Plan***

- Determination of existing problems with the Reserve and identification of priority areas, costs and labour involved.  
(Gordon Limburg - Bush Regeneration Consultant).

### ***Recreational Facility Assessment***

- Existing facilities such as access, parking, walking tracks and picnic areas were surveyed with recommendations for proposed upgrading provided.  
(*Integrated Site Planning and Management*).

Specific issues relating to each of the above assessments were considered within the overall process of developing this Plan of Management. Where relevant, these specific issues have been outlined in the following sections of the Plan of Management. Appropriate actions or management objectives have been identified to address these issues.

## **1.3 URBAN BUSHLAND MANAGEMENT ISSUES**

Blackwall Mountain Reserve is a bushland area managed by Gosford Council. Due to its zoning, (6(a) Open Space - Public Recreation) and its location within an urban area, the Reserve is subject to the provisions of State Environmental Planning Policy N° 19 - Bushland In Urban Areas (SEPP N° 19).

The general aim of SEPP N° 19 is to protect and preserve urban bushland because of its:

- (a) *value to the community as part of the natural heritage;*
- (b) *aesthetic value;*
- (c) *value as a recreational, educational and scientific resource.*

In regard to bushland protection and management the specific aims of SEPP N° 19 are:

- (a) to protect the remnants of plant communities which were once characteristic of land now within an urban area;*
- (b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term;*
- (c) to protect rare and endangered flora and fauna species;*
- (d) to protect habitats for native flora and fauna;*
- (e) to protect wildlife corridors and vegetation links with other nearby bushland;*
- (f) to protect bushland as a natural stabiliser of the soil surface;*
- (g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape;*
- (h) to protect significant geological features;*
- (i) to protect existing landforms, such as natural drainage lines, watercourses and foreshores;*
- (j) to protect archaeological relics;*
- (k) to protect the recreational potential of bushland;*
- (l) to protect the educational potential of bushland;*
- (m) to maintain bushland in locations which are readily accessible to the community; and*
- (n) to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.*

SEPP N° 19 (Clause 4) identifies the following specific matters which need to be addressed when preparing a Plan of Management for Urban Bushland:

- (4) The plan of management shall not be inconsistent with the aims of this Policy and, in respect of bushland to which it applies, it shall -*
  - (a) identify the bushland to which the plan applies;*
  - (b) describe and analyse the bushland taking into consideration the matters listed in clause 2(2) (a)-(m); and*
  - (c) specify measures to be taken -*
    - (i) to implement the specific aims of this Policy;*
    - (ii) to enable recreational use of the bushland;*
    - (iii) to reduce hazard from bushfire;*
    - (iv) to prevent degradation of bushland, including degradation through alteration of drainage patterns, rubbish dumping, infestation with weeds and exotic plants or the intrusion of vehicles; and*
    - (v) to restore and regenerate degraded areas of bushland.*

The preparation of this Plan of Management has followed the general and specific aims of SEPP N° 19 and has been prepared in accordance with SEPP N° 19, as outlined above.

#### **1.4 MANAGEMENT OBJECTIVES FOR BLACKWALL MOUNTAIN RESERVE**

In preparing this Plan of Management in accordance with the Management Guidelines for Urban Bushland (Dept of Planning 1988) specific management objectives have been developed for Blackwall Mountain Reserve. These Management Objectives are listed below:

- (1) to conserve and regenerate native vegetation;*
- (2) to protect and enhance fauna and fauna habitats;*
- (3) to protect natural and cultural heritage;*
- (4) to maintain and/or expand recreational opportunities;*
- (5) to provide and maintain safe and efficient access to, and within the Reserve for vehicles and pedestrians;*
- (6) to enhance soil erosion and drainage control within the reserve;*



- (7) to improve the aesthetic quality of the Reserve;
- (8) to restore or reclaim degraded land, including eroded and weed infested areas;
- (9) to balance the role of fire as a management tool and its role in maintaining the ecology of the Reserve;
- (10) to encourage environmental education and scientific research;

These various objectives have been developed following a detailed assessment of the characteristics and management issues relevant to Blackwall Mountain Reserve.

## **1.5 FORMAT OF PLAN OF MANAGEMENT**

This Plan of Management follows the following format:

### **SECTION 1 INTRODUCTION AND BACKGROUND**

- Outlines the general purposes and specific objectives of preparing this Plan of Management.

### **SECTION 2 BLACKWALL MOUNTAIN RESERVE**

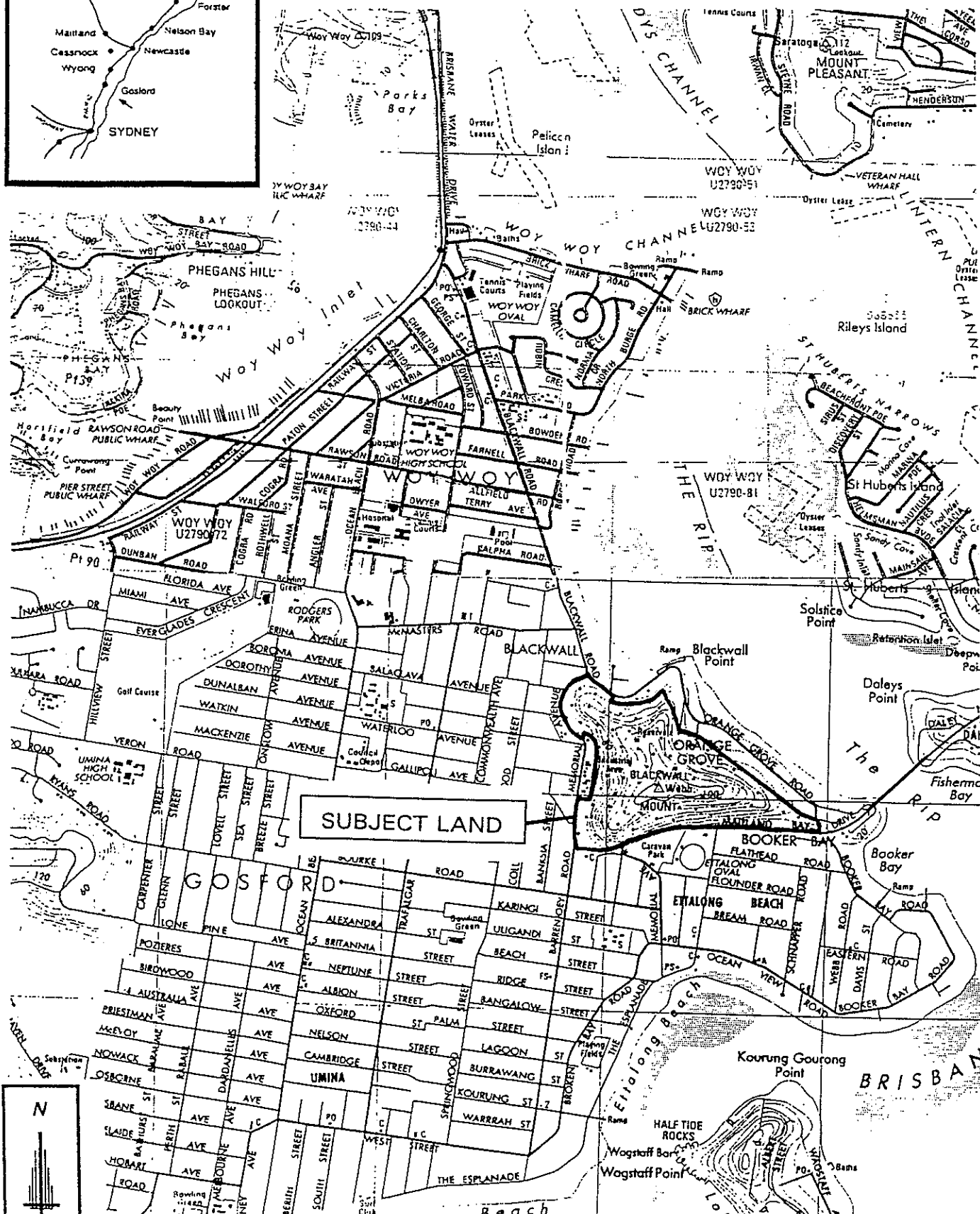
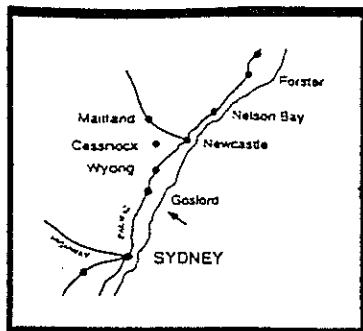
- Identifies the main physical, ecological and cultural characteristics of the Reserve and provides an outline of the various assessments undertaken as part of the procedures in preparing this Plan of Management.

### **SECTION 3 MANAGEMENT OBJECTIVES AND PROPOSED ACTIONS**

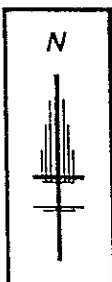
- Identifies the actions proposed for the future use and management of Blackwall Mountain Reserve in accordance with the specified objectives.

### **SECTION 4 PLAN IMPLEMENTATION**

- Outlines a procedure and priority for implementation including the future progressive development of this Plan of Management.



**SUBJECT LAND**



SCALE 1:25 000

0 1 2 Kilometres

CONTOUR INTERVAL 10 METRES

**FIGURE 1.1 LOCATION**

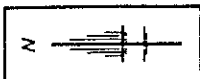
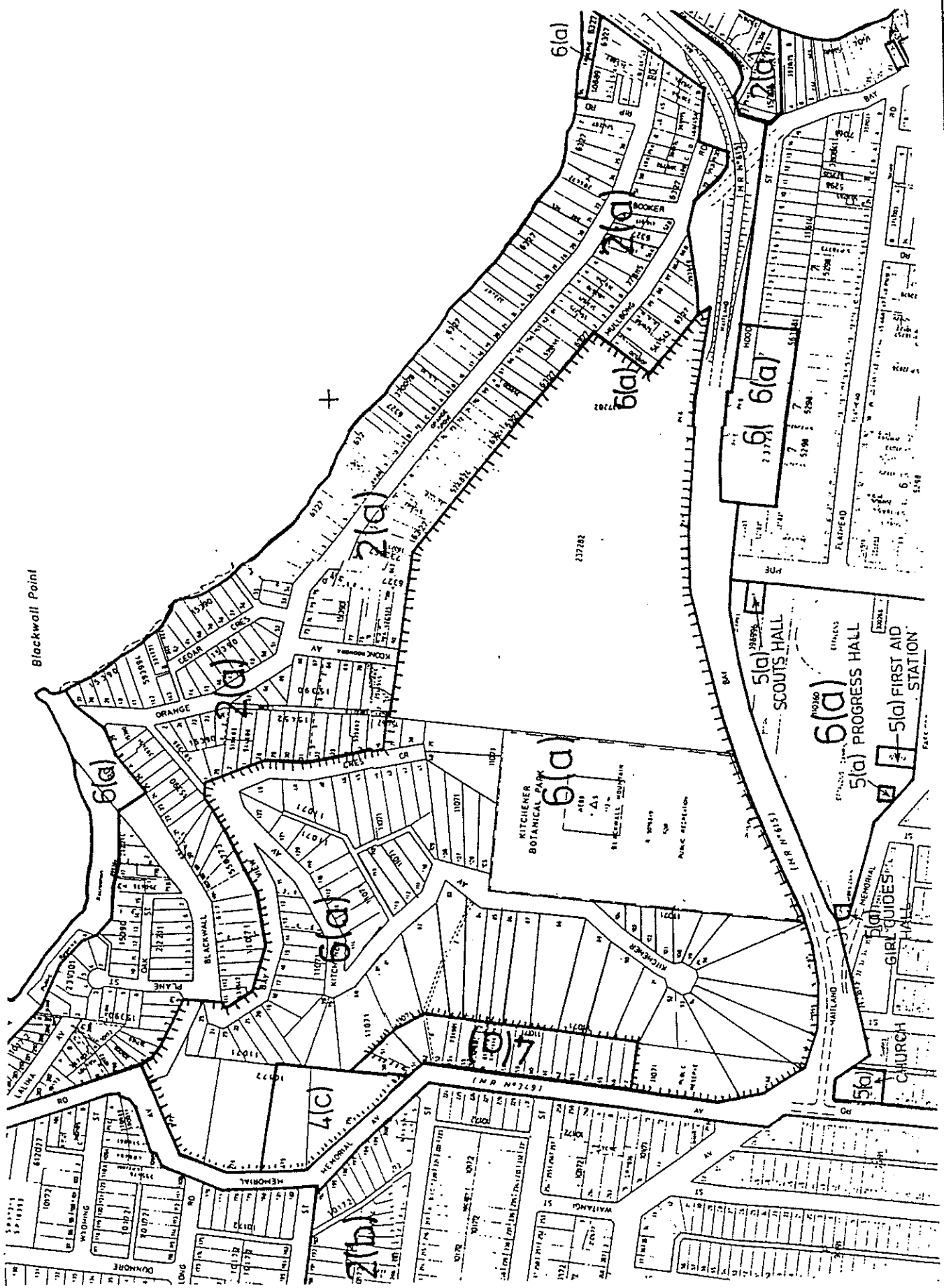


FIGURE 1.2 ZONING

## SECTION 2

### BLACKWALL MOUNTAIN RESERVE

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#### 2.1 LOCAL SETTING

Blackwall Mountain Reserve is an elevated land unit of sandstone geologies surrounded by the flat Woy Woy sand plain. The Reserve stands as a dominant backdrop to the surrounding residential areas of Blackwall, Ettalong, Orange Grove and Woy Woy. The highest point on Blackwall Mountain Reserve is Webb Trig (111m AHD) which contrasts markedly with the surrounding urban areas located on the sandy plain with elevations between 2 and 6 metres AHD.

Apart from the natural areas of Brisbane Water National Park the vegetated area of Blackwall Mountain Reserve is one of the few natural bushland areas on the Woy Woy Peninsula. It forms a bushland 'island' separated from other bushland areas by existing developed urban areas.

Blackwall Mountain Reserve covers approximately 45 hectares of undulating to steep land and is managed by Gosford City Council. Developments on the Reserve include various walking tracks, a vehicle access road, picnic tables and a Council operated water storage reservoir which serves as a storage and water pressure control reservoir for the surrounding areas.

Public vehicle access to the Reserve is prevented through the provision of locked gates at Bay View Crescent and Mullbong Road. However trail bikes can gain entry at several locations along the eastern side. The Reserve is currently used by a range of local visitors partaking in non-structured recreational pursuits such as exercise walking and bushwalking with some limited picnicking. The Reserve has no toilet or barbecue facilities although several timber picnic tables and seats are provided on the central plateau areas. The prevention of vehicle access to the central plateau areas generally limits the use of the Reserve to those individuals who walk up the steep road or access tracks. Restricted vehicle access virtually excludes the use of the Reserve by families with young children, elderly people with impaired mobility and disabled people.

Due to the topographical, geological and vegetative features the use of the Reserve for recreational activities is generally concentrated on the central plateau areas and along the cliff top overlooking Ettalong. This concentration of users into several distinct areas has resulted in localised occurrences of land degradation (eg. soil erosion, vegetation disturbance through trampling and fire wood collection) while at the same time much of the steeper areas of the Reserve are in a relatively undisturbed condition.

The majority of the area included in the Plan of Management is currently zoned 6(a) Open Space Public Recreation. Lots 274 and 275 DP 10172 are zoned 4(c) Industrial (Extractive), and Lots 50 and 51 DP 11071 are zoned 4(a)

Industrial. These 4(a) and 4(c) zoned allotments have a zoning which is not compatible with their inclusion in the Public Reserve.

## **2.2 TOPOGRAPHY AND DRAINAGE**

Blackwall Mountain Reserve is characterised by steep side-slopes (gradients 50-70%) surrounding a relatively flat ridge top with slopes between 5-10% gradient. The slope gradients of the Reserve are shown in Figure 2.1.

The Reserve has a 360° aspect with the side-slopes each having a specific orientation to either the east, west, north or south.

Elevations range from 111m AHD at the highest point (Webb Trig) located on the southern part of the Reserve, to 10 metres AHD around the base of the Reserve.

Stormwater runoff from the Reserve to lower areas is generally by overland flow to a series of small, localised drainage lines located around the steep slopes. Due to the steepness of these drainage lines they do not pond water for long periods after runoff.

A large roadside drain is located between the Reserve and Maitland Bay Drive to the south. Other drains have been constructed above the industrial area to the west and the residential areas to the east. Drainage from the northern slopes is intercepted by Bay View Crescent and the main vehicle access where it is picked up by a combination of pipes and overland flow to outlet in Brisbane Water near Blackwall Point.

Surface water is scarce on Blackwall Mountain Reserve and is generally restricted to some small ponds on the sandstone rocks along the top of the southern escarpment and to the two small sediment traps present below the track system (one being located approximately 80 metres south east of the Water Reservoir and the other near the picnic table area north of the lookout).

## **2.3 GEOLOGY AND SOILS**

Blackwall Mountain Reserve is geologically important because it is located on the interface between the Hawkesbury and Narrabeen Sandstones. The ridge top and steep upperslopes consist of Hawkesbury Sandstone characterised by large sandstone boulders, rockshelves, rock overhangs and generally shallow sandy soils. These soils are highly erodible, particularly when subjected to concentrated flows of runoff which can occur along the access tracks.

The lower slopes consist of Narrabeen Group sandstones and shales (Terrigal Formation) which weather to form rounded boulders, rocks and deeper sandy to sandy clay podzolic soils. These also have a high erosion potential, particularly when disturbed or after concentrated flows of stormwater runoff occur.

Soils of the Narrabeen Group sandstones and shales generally have higher organic content, nutrient status and better water holding capacity than the shallow sandy soils derived from the Hawkesbury Sandstone. The relatively low nutrient status of both soil types is reflected in the vegetation present and needs to be considered in any future landscaping or bush regeneration program. Significant changes to the nutrient status of the soils may have an adverse impact on the long term survival of the natural plant communities present.

## 2.4 VEGETATION

The vegetation covering the northern, eastern and western slopes of Blackwall Mountain Reserve is generally open forest with a moderate understorey of shrubs and ground species.

The southern slope, also open forest, differs from slopes with north, east or west aspects in that its dominant tree species is the Spotted Gum (*Eucalyptus maculata*), whilst the understorey is dominated by fern and climber species.

On the ridgetop of Blackwall Mountain Reserve the vegetation opens to *Angophora costata* woodland with a moderate cover of low shrubs. Despite weed incursions on the lower margins, the bushland of Blackwall Mountain Reserve is in good condition.

Brief details on the structure and floristics of each vegetation community are provided below while a detailed plant species list is included in Appendix II. Figure 2.2 shows the distribution of the plant communities on the Reserve.

### WOODLAND COMMUNITY

Structure:	<i>Strata</i>	<i>Height (m)</i>	<i>%Cover</i>
	Trees :	15-20	< 40
	Shrubs:	1-3	< 20
	Groundlayer:	< 1	30-40

#### Floristics:

Trees: *Angophora costata*, *Allocasuarina torulosa*, *Eucalyptus gummifera*

Shrubs: *Acacia ulicifolia*, *A.longifolia*, *Epacris longiflora*, *Doryanthes exelsa*

Groundlayer: *Themeda australis*, *Hardenbergia violacea*, *Goodenia heterophylla*

## OPEN FOREST (DRY UNDERSTOREY) COMMUNITY

Structure:	<i>Strata</i>	<i>Height (m)</i>	<i>%Cover</i>
	Trees :	15-25	40-50
	Shrubs:	1-2	20-30
	Groundlayer:	<1	80

### Floristics:

Trees: *Angophora costata*, *Eucalyptus punctata*, *E. pilularis*

Shrubs: *Pultenaea daphnoides*, *Persoonia levis*, *Macrozamia communis*

Groundlayer: *Lomandra longifolia*, *Xanthorrhoea resinosa*, *Themeda australis*

## OPEN FOREST (MOIST UNDERSTOREY) COMMUNITY

Structure:	<i>Strata</i>	<i>Height (m)</i>	<i>%Cover</i>
	Trees :	15-25	50-60
	Shrubs:	1-3	20
	Groundlayer:	<1	90

### Floristics:

Trees: *Eucalyptus maculata*, *Syncarpia glomulifera*, *Allocasuarina torulosa*

Shrubs: *Pteridium esculentum*, *Lantana camara*\*

Groundlayer: *Adiantum aethiopicum*, *Smilax australis*, *Blechnum cartilagineum*

The open forest, of the sheltered southern slopes, contains several rainforest elements and plant species more characteristic of the sheltered rainforest gullies present throughout the Gosford area. With the exclusion of bushfires and other disturbances which have altered the protective canopy in this area, it could be reasonably expected that this area will continue to develop towards a vegetation community more characteristic of sheltered rainforests than the open eucalypt forest of the upper slopes and ridge tops.

Despite detailed field surveys completed by several consultants during the field investigations no threatened plant species as listed in the Threatened Species Conservation Act (1995) were observed.

Several specimens of *Epacris longifolia* (Native Fuchsia) are present along the rock outcrops of the ridge top area. This small heath species is the floral

emblem of Gosford City Council and it would be expected that in the immediate local area it would be restricted to Blackwall Mountain Reserve.

The exotic plant survey has revealed that the Reserve is in relatively good floristic condition and that troublesome weeds such as Lantana, Blackberry, Crofton Weed, Morning Glory and Pampas Grass are generally restricted to the lower slopes. Several native plants not indigenous to the local area have also been identified (eg. Kangaroo Paw, Cootamundra Wattle) in the Reserve. These exotic and 'foreign' plant species are targeted in the Bush Regeneration Plan for removal.

## **2.5 BUSHFIRE HAZARD**

Due to the steep slope present around the Reserve and the open eucalypt forest type present, the Reserve has a medium fire hazard according to the Fire Hazard Assessment criteria provided in the Circular C10 Planning in Fire Prone Areas (Department of Planning, 1984). (This assessment criteria identifies that slopes greater than 10% gradient with dry sclerophyll forest have a medium fire hazard).

However, the risk of bushfires affecting adjoining residential or industrial areas is greatly reduced by their downslope location in relation to the area's fire hazard. Residents within these areas 'perceive' that there is a high fire risk due to the existence of the upslope bushland areas.

The existing vegetation is dependant on the occurrence of bushfires to develop and maintain the structure and composition of the vegetation. In the absence of 'natural conditions' prescribed burning should be implemented to small areas on a predetermined pattern to provide a spacial and temporal variation in developing the understorey. This prescribed burning can be integrated with areas of hazard reduction burning to reduce the potential bushfire hazard from identified areas.

## **2.6 FAUNA**

The detailed fauna survey incorporating small mammal trapping, spotlight surveys, bat survey (Working Paper N° 3), habitat surveys and local resident surveys has revealed that a variety of fauna species are resident within the Reserve or visit the Reserve at various times of the year. A full fauna list is provided in Appendix III.

With the exception of one bat species all of the fauna observed or known to occur are common throughout the Gosford area. In regards to endangered fauna species, as listed in Schedule 1 and 2 of the Threatened Species Conservation Act (1995) only the Common Bent-wing Bat (*Miniopterus schreibersii*) was observed in the Reserve.



The Reserve provides a diverse variety of fauna habitats including:

- Rock caves and overhangs
  - bat and owl roosts
- Hollow limbs and tree trunks
  - bat and owl roosts, possum and parrot nesting holes
- Loose surface rocks
  - reptile and small mammals cover
- Ground cover and logs
  - reptile and small mammal cover
- Flowering trees and shrubs
  - food source for birds, bats
- Dense ground and shrub cover
  - cover for small birds, mammals
- Rock pools and created wetlands
  - frog habitat, water supply for birds.

The location of the Reserve surrounded by urban areas ensures that the Reserve provides a valuable refuge area for local wildlife. However this also contributes to the pressure on fauna within the Reserve from predation by domestic cats and dogs and abuse from vandals.

The shortage of aquatic habitats, particularly on the ridge top area, may restrict the variety of frog and small bird species present. Small birds generally need a denser shrub cover as protection against predation from larger birds and benefit from the easy availability of drinking water. The large numbers of Currawongs present may cause a reduction in small bird numbers due to predation of eggs, young and adult birds.

Significant disturbances to the existing habitats through uncontrolled vehicle movement, firewood collecting, bush rock removal and frequent bushfires would place increased pressure on the already low numbers of fauna species present. With little opportunity for recolonisation of the site by fauna from nearby bushland reserves the long-term sustainability of the Reserve as a fauna habitat area requires both appropriate ecological management and recreational usage.

Residents have reported two separate incidences of feral pigs in the Reserve over the past few years. The diggings and ruttings of these pigs are still visible throughout the area, particularly along the southern and eastern slopes. The damage that such introductions can cause to the flora and fauna of such an isolated and small reserve is extreme. The presence of any feral or domestic stray animal should be treated as a severe threat to the ecology of the area and these introduced animals should be immediately eradicated by the most appropriate means. It is understood that these feral pigs were removed by Council staff.

## 2.7 ABORIGINAL HERITAGE

Due to its prominent location and elevation it is likely that the area was utilised by Aboriginal people prior to European settlement in the area. A search of the National Parks and Wildlife Archaeological Site Register indicated that no aboriginal sites or artefacts have been recorded on the Reserve. Despite this a detailed survey of the Reserve was undertaken by a Consultant Archaeologist as part of the site assessment for this Plan of Management (Working Paper N° 1). This detailed search found evidence that the area was used by Aboriginal people.

This evidence is a set of axe grinding grooves located on a flat sandstone rock outcrop next to a small rock pool. This evidence of Aboriginal use of the Reserve presents both opportunities and constraints for management planning. The set of axe grinding grooves are in an exposed position on the southern ridge top. Due to their location, they can be protected from vehicle damage by the placement of large log barriers. The axe grinding grooves can then be utilised for educational purposes.

## 2.8 EUROPEAN HERITAGE

Blackwall Mountain Reserve has long been locally recognised as an important landmark and visual area. The following extract from Place Names of the Central Coast (E.Pratt, Brisbane Water Historical Society, 1978), provides an interesting background to Blackwall Mountain Reserve and the nearby Blackwall Point.

*Named by Rock Davis after Blackwall on the River Thames, where many naval vessels were built until wooden ships gave way to steel.*

*Rock Davis moved from Davistown to Blackwall in 1862 because there was no underground water but at Blackwall excellent well water was available.*

*Blackwall Mountain Reserve was known as Signal Hill. Rock Davis kept a watchman on the top of Signal Hill to sight the arrival of vessels, in which he was interested, as they came to the entrance of Broken Bay. he would then send a steam launch to tow the ketches up to the wharf.*

*The shipbuilding yard at Blackwall is an historic site and the covered shed was a landmark for many years.*

*Rock Davis died on 27th June, 1904 but the yard continued in production until 1912.*

Because of the nearby location of the shipbuilding yard at Blackwall it could reasonably be expected that some trees growing on Blackwall Mountain Reserve may have been suitable for various components of boat building. These may

have been cut down and utilised for this purpose or perhaps used for the construction of the boat-yard sheds. Large tree stumps are present throughout the Reserve and perhaps these are the remains of historical logging operations.

An area within the Reserve has been named Kitchener Botanical Park while the main access road near the water reservoir is actually named Kitchener Avenue. A check of records through the Crown Lands Office has failed to identify the origin of this name and reasons for establishing the Kitchener Botanical Park. It is suggested that this name was applied to the site after Lord Kitchener, Commander in Chief of the combined forces in South Africa during the Boer/Zulu wars of the late nineteenth century and then Secretary of State for England during World War 1, until his death in 1916. Many streets in the Woy Woy district have been named after important battles and military personnel and it seems reasonable to expect a military naming system was applied here when the land was subdivided between 1910-20 (Council zoning maps indicate that part of the Reserve was part of an earlier subdivision development of which only the lower slopes were developed).

In the early 1970's a local Rotary Club undertook a project of upgrading the visitor facilities of Blackwall Mountain Reserve. This involved the provision of several picnic tables on concrete bases, the provision of power, toilet facilities and construction of garden beds and access tracks. Due to neglect and vandalism over the ensuing years much of this development fell into disrepair. However the concrete picnic slabs, access tracks and some remnant gardens are still present.

Maps of the Reserve also indicate that a Trig Station (Webb Trig) is present on the summit of Blackwall Mountain Reserve. The location of this Trig Station is poorly marked on the ground. The origin of this name has not been identified but it is likely to be linked to Webbs Reef, the old name for the passage of water between Daleys Point and Orange Grove, now known as The Rip.

Based on the information currently available it is proposed that Blackwall Mountain Reserve has some locally important heritage value and that some remnants of past development on the Reserve should be retained where these developments are not likely to affect the long term viability of the Reserve.

## **2.9 VISUAL CHARACTER**

Blackwall Mountain Reserve forms an important visual unit at both the local and subregional level. This elevated, vegetated backdrop is visually prominent from all of the peninsula suburbs including Woy Woy, Umina, Ettalong, Orange Grove and Blackwall as well as areas across Brisbane Water such as Daleys Point, St. Huberts Island and Saratoga. Blackwall Mountain Reserve is also visible from as far south as Mount Ettalong, near Pearl Beach.

Because of its visual significance any proposals for future development should not detract from its existing scenic quality. In this regard future management of the Reserve should also address possibilities for reducing the visual impact of

the two dominant visual intrusions: namely the reflective silver/grey water reservoir and the erosion scar on the north-east corner.

## **2.10 SIGNIFICANCE OF BLACKWALL MOUNTAIN RESERVE**

Based on the above information and detailed assessments undertaken as part of the resource assessment stage in the preparation of this Plan of Management it has been determined that Blackwall Mountain Reserve has significant value in regards to:

- Local Setting;
- Flora conservation;
- Fauna and Habitat Conservation;
- Landform and Geological character;
- Aboriginal and European Heritage;
- Visual Character.

In combining these values it becomes apparent that Blackwall Mountain Reserve also offers locally significant opportunities for recreation and education purposes.

Therefore it is essential that future use and management of Blackwall Mountain Reserve be undertaken and implemented in such a manner that maintains the existing environmental character and wherever possible improves visual and environmental quality.

## **2.11 IDENTIFIED MANAGEMENT ISSUES**

The detailed resource assessments and consultations undertaken as part of the investigation stages in the preparation of this Plan of Management have identified a variety of issues and problems which need to be addressed in the future management and use of Blackwall Mountain Reserve. These issues are categorised and listed below according to their most appropriate management criteria.

### **Natural Vegetation Management**

- Disturbance to vegetation communities from traffic/trampling;
- Increased soil nutrient levels;
- Changes to soil moisture levels;
- Weed invasion;
- Pilfering of plants such as Grass Trees, Elkhorn Ferns;
- Tree felling for firewood collection;
- Impact of bushfires.

### **Fauna and Fauna Habitat Management**

- Predation of fauna by feral and domestic animals;
- Low recruitment potential for fauna species;

- Habitat disturbance - log and bushrock removal;
- Weed invasions;
- Lack of water within Reserve;
- Lack of large hollow bearing trees (some cut down).

### **Natural and Cultural Heritage**

- Potential disturbance to aboriginal heritage items;
- Potential disturbance to characteristic landform/geology/vegetation;
- Retention of some features from past developments/eras.

### **Recreational Use**

- Lack of public facilities - (no toilets, barbecues, three picnic tables);
- Limited vehicle access - (600m from locked gate to lookout);
- No directional signs for visitors;
- Inadequate and unsafe vehicle parking;
- Eroding walking tracks;
- Lack of formal entry or presentation to the Reserve.

### **Access**

- Limited vehicle access - narrow poorly marked access road;
- Restricted parking;
- Eroded walking tracks;
- Dead-end fire trail;
- Erosion of main vehicle access;
- Lack of a formal signposted entry to the Reserve.

### **Soil Erosion and Drainage**

- Drains on lower slopes blocked with debris;
- Visible erosion scar on north-east corner;
- History of landslips into industrial area (western side);
- Eroded access tracks (vehicle and pedestrian);
- Degraded sediment traps;
- Erosion from bare areas near water reservoir.

### **Visual/Aesthetic Impacts**

- Highly visible water reservoir painted reflective silver/grey colour;
- Visible erosion scar on north-east corner;
- Unsightly tracksides and bare areas near reservoir;
- Remains of past developments eg: Water tank, garbage bin holders;
- Damaged signs and picnic tables;
- Painted lettering on exposed sandstone.

## **Degraded Land**

- Eroded and unvegetated track sides particularly main access and top walking track;
- Erosion scar on north-east corner;
- Weed infestations particularly Lantana on eastern/northern slopes below access;
- Soil dumping near water reservoir (nutrients/weed seed supply).

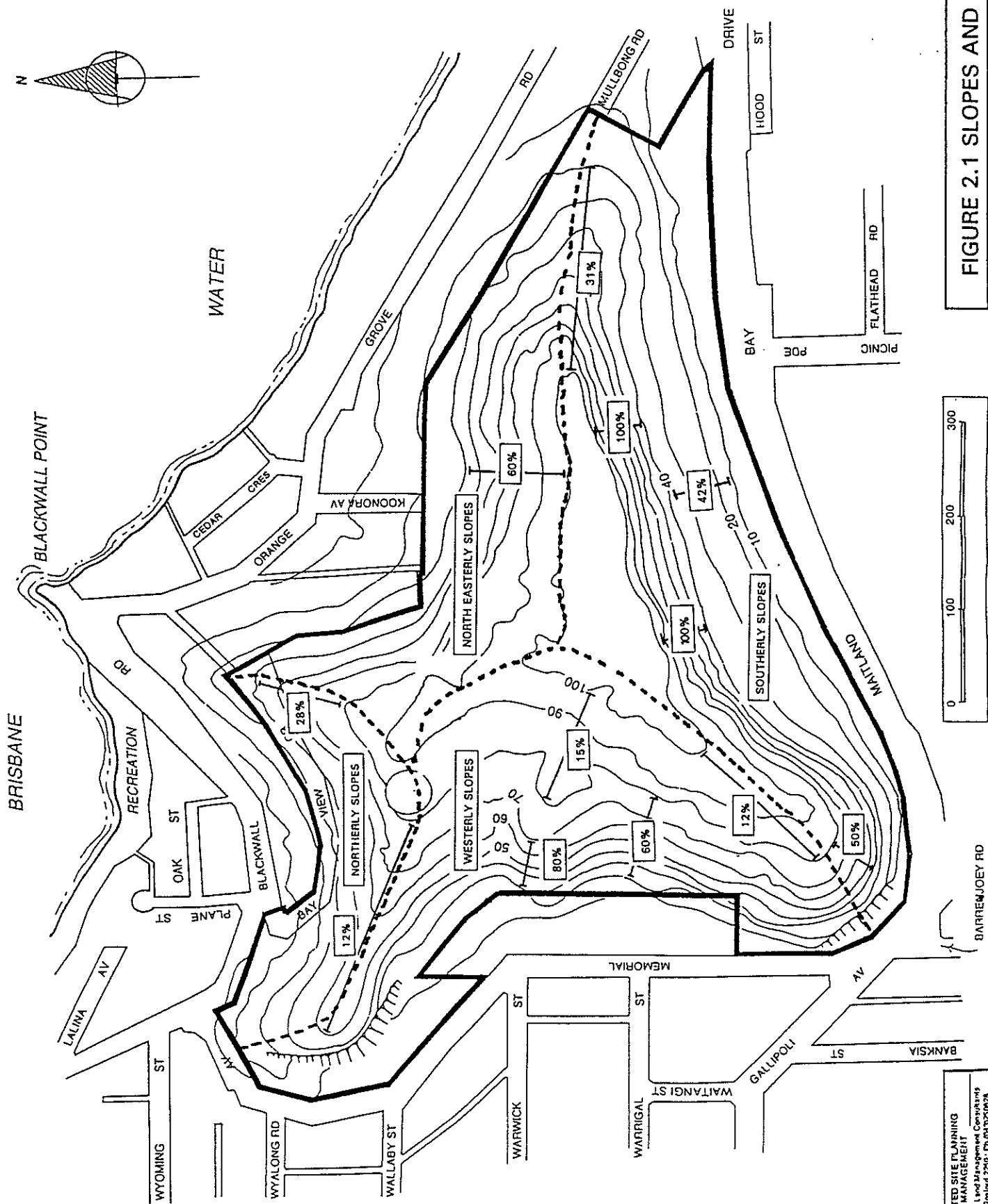
## **Bushfire**

- Weed invasions following bushfires (eg: Lantana);
- Perceived threat of bushfire by residents;
- Limited access dead end fire trail along lower eastern slope;
- Small reserve size - severe fire could destroy all vegetation;
- Generally moderate fire hazard due to slope/vegetation/fuel levels;
- Moderate threat to adjoining properties due to downslope location;
- Possible current balance between fires and ecology;
- Under control of Ettalong Fire Brigade.

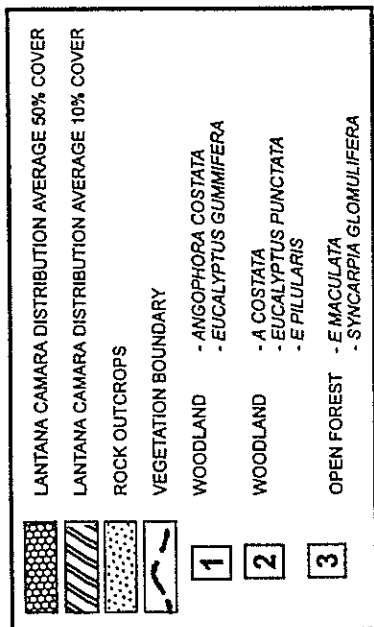
## **Environmental Education**

- Inadequate vehicle access and parking for groups;
- Lack of facilities eg: toilets;
- Poor signposting for visitors.

Each of these management problems have been assessed and recommended actions have been identified in the following section to address these problems and to guide future ecologically sustainable use and management of the Reserve.

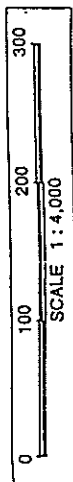


**FIGURE 2.1 SLOPES AND ASPECT**



**FIGURE : 2.2**

**VEGETATION AND FAUNA HABITATS**





## SECTION 3

### MANAGEMENT OBJECTIVES AND PROPOSED ACTIONS

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#### 3.1 MANAGEMENT OBJECTIVES AND FUTURE USE

As determined by the results of the various assessments completed, Blackwall Mountain Reserve is considered to have a relatively fragile environmental character due to its:

- relatively small size of 45ha;
- isolation from surrounding bushland areas;
- erodible soils;
- potential weed invasions;
- low diversity of fauna species;
- vulnerability of disturbance to habitat from bushfires, access tracks, bushrock and firewood gathering.

It has also been determined that the Reserve has significant natural and cultural characteristics that could easily be damaged by overuse or inappropriate management. Therefore it is important to implement sound environmental management practices while developing the Reserve within its inherent capabilities to sustain limited recreational use.

The key objective developed for the future use and management of Blackwall Mountain Reserve is to:

***Manage Blackwall Mountain Reserve as a natural bushland area, maintaining its opportunities for flora and fauna conservation and environmental education whilst providing for appropriate passive recreational pursuits.***

To generally achieve this objective the future use and management of Blackwall Mountain Reserve should include low levels of passive recreational opportunities with the provision of minimal public facilities whilst improving existing access and parking. The works proposed are illustrated in Figure 3.1.

It is anticipated that the Reserve will continue to be regularly utilised by local residents from the neighbouring areas of Woy Woy, Ettalong and Umina rather than attracting visitors from throughout the region which would require a greater diversity of facilities (such as barbecues, toilets etc.) which are generally utilised by larger numbers of visitors for relatively longer visits. Examples of such regional reserve areas are Somersby Falls and Girrakool picnic areas (administered by the National Parks & Wildlife Service), and Katandra Reserve, and Kincumba Mountain Regional Reserve administered by Gosford City Council.

By limiting facilities to picnic tables and improving the vehicle and pedestrian access it is intended that visitors will restrict their time spent in the Reserve to between 2-4 hours. The absence of toilet facilities will also restrict the stay of visitors. The purpose of managing the Reserve for short duration visits is to control the numbers of people using the Reserve which will then reduce potential environmental degradation from over use. Additionally, with a limited number of visitors utilising the Reserve, future maintenance is expected to be within existing Council resources.

Within the framework of this key objective, ten specific objectives have been developed to guide the future use and management of Blackwall Mountain Reserve. Each of these specific objectives have been developed following an assessment of the natural and cultural characteristics and a determination of the opportunities and constraints for both future use and management of the Reserve. Each specific objective also required consideration of the aims and objectives of State Environmental Planning Policy N° 19 - Bushland in Urban Areas.

These ten supporting objectives are:

- (1) to conserve and regenerate native vegetation;
- (2) to protect and enhance fauna and fauna habitats;
- (3) to protect natural and cultural heritage;
- (4) to maintain and/or expand recreational opportunities;
- (5) to provide and maintain safe and efficient access to, and within, the Reserve for vehicles and pedestrians;
- (6) to enhance soil erosion and drainage control within the reserve;
- (7) to improve the aesthetic quality of the Reserve;
- (8) to restore or reclaim degraded land, including eroded and weed infested areas;
- (9) to balance the role of fire as a management tool and its role in maintaining the ecology of the Reserve;
- (10) to encourage environmental education and scientific research;

Each of these supporting objectives are outlined in the following sections and appropriate actions are identified to direct future use and management of the Blackwall Mountain Reserve Reserve as per the key objective of utilising the Reserve for passive recreational pursuits within its natural, ecologically sustainable limits.

Each of these objectives are discussed in the following format:

<i>Objective:</i>	What is to be achieved?
<i>Background:</i>	What is the importance of the issue?
<i>Action:</i>	What will be done to achieve the identified objective?

### 3.2 NATURAL VEGETATION MANAGEMENT

*Objective:*

To conserve and regenerate native vegetation.

*Background:*

The vegetation exhibits a high diversity of floristics and structural variation. Although resilient to minor disturbances the natural vegetation is prone to degradation by repeated disturbances and pressures from frequent bushfires, trampling, weed invasion, soil nutrient and moisture changes. Activities that will disturb the natural vegetation should not be undertaken in the Reserve.

*Actions:*

- (1) Restrict future developments/activities to those not disturbing existing vegetation or causing long term changes to soil nutrient levels.
- (2) Implement a Bush Regeneration Program targeting identified weeds (Lantana, Morning Glory, Pampas Grass etc) in specified locations.
- (3) Restrict future plantings to species present in the Reserve and preferably with specimens grown from local seed/cuttings.
- (4) Encourage development of rainforest type vegetation on southern slopes by restricting disturbance, fire, weed invasions etc.
- (5) Prevent plant pilfering or timber removal by suitable placement of warning/protection signs and vehicle exclusion fencing at access points to reserve (signage details in Appendix IV).
- (6) Implement sympathetic revegetation programs which include runoff control measures, use of site soil, mulching and planting with local species for severely degraded sites adjacent to tracksides and the north-east corner near Barrenjoey Road.

*Details:*

The bush regeneration program (Working Paper N° 2) has identified the following sites requiring special attention:

- The north-east corner of the Reserve;
- Roadworks and tracks;
- Disturbed area around the water reservoir;
- The south facing slope.

The following restoration work is required within these areas to prevent further erosion, eliminate weed species, re-establish native topsoil and for revegetation with plants grown from seed collected within the reserve:

- Complete weed removal with special attention required for *Lantana camara*.
- All roads and tracks require effective stormwater control and correctional landscaping to allow for future traffic.
- Altered fire regimes to protect the vegetation of the south facing slope and for future management of the Reserve.
- Planting of tube stock germinated from seed material collected on the site.

An estimation of the total work hours required is:

Year 1: 660 hrs (weed removal, herbicide application, planning).  
Year 2: 330 hrs (weed removal, plant/maintain tube stock).  
Year 3: 60 hrs (maintenance).  
Subsequent years: 60 hrs (maintenance).

All work should be closely supervised by a qualified Bush Regenerator.

Other areas requiring attention are the eradication of introduced fauna and restriction of illegal rubbish dumping.

### **3.3 FAUNA AND FAUNA HABITAT MANAGEMENT**

#### ***Objective:***

To protect and enhance fauna and fauna habitats.

#### ***Background:***

While having a generally low number of fauna species the Reserve has a good diversity of fauna habitats which are capable of being occupied by a range of fauna species. Threats from feral and roving domestic animals to existing fauna species is high. The diversity of habitats needs to be maintained through exclusion of firewood and bushrock collecting and where possible enhanced through implementation of additional habitats to allow for an increased variety of fauna species.

#### ***Actions:***

- (1) Control feral and domestic animal presence in Reserve by regular trapping programs.
- (2) Supplement fauna recruitment potential by releasing of appropriate native species into Reserve by wildlife rescue groups such as WIRES/ARC. Only those species likely to have naturally occurred on the site are to be considered for recruitment.
- (3) Prevent removal of bushrock, ground timber, hollow trees and other items by vehicle access controls and appropriate signposting (signage details in Appendix IV).

- (4) Upgrade existing sediment traps to provide small wetland habitat areas.
- (5) Install additional nest logs/nest boxes on suitable trees to supplement existing nesting sites.

### **3.4 NATURAL AND CULTURAL HERITAGE PROTECTION**

*Objective:*

To protect natural and cultural heritage.

*Background:*

Blackwall Mountain Reserve has a variety of locally significant environmental and visual characteristics which form an integral part of its natural heritage. The cultural heritage of the Reserve contains some important links to the historical use of the Reserve by the area's Aboriginal occupants and by later European residents. These features require a high order of protection as they are now irreplaceable items of both natural and cultural heritage.

*Actions:*

- (1) Implement recommendations provided by Darkinjung Aboriginal Land Council/NP&WS for protection and management of aboriginal heritage items.
- (2) Prevent activities or future developments likely to disturb the natural heritage value (Landform/Geology and Vegetation).
- (3) Retain features of previous developments which reflected past use eg: Concrete slabs, rock walls along walking track, rock cairn on Rip Lookout.
- (4) Protect axe grinding grooves by placement of large logs around rock shelf and provide informative sign posting.

### **3.5 DEVELOPMENT OF RECREATIONAL OPPORTUNITIES**

*Objective:*

To maintain and/or expand recreational opportunities.

*Background:*

Blackwall Mountain Reserve currently provides opportunities for passive recreational pursuits such as bushwalking, birdwatching, picnicking, trail walking and natural history interpretation. Deterioration of informal walking trails has resulted in some soil erosion and vegetation decline. Current use of the Reserve is restricted due to the closure of the vehicle access from Bay View Crescent. The existing recreational opportunities can be easily upgraded and expanded to accommodate limited passive use.

**Actions:**

- (1) Develop areas for low impact passive recreational activities such as birdwatching, bushwalking, picnicking, school/group visits not requiring toilet and barbecue facilities.
- (2) Maintain and repair existing and damaged picnic table facilities.
- (3) Install a total of three new tables/benches near proposed carpark (2) and along top walking track (1).
- (4) Provide directional signs along walking tracks and places of interest (signage details in Appendix IV).
- (5) Provide focal entry points with information boards at main vehicle entry point on Bay View Crescent and at pedestrian entry point off Mullbong Road.
- (6) Implement erosion control and revegetation works along tracksides.
- (7) Promote the upgrading of works/facilities in the local press to inform residents of improvements and encourage their use of the Reserve.
- (8) Identify activities not permissible, including the following:
  - motorcycle riding/trailbike riding;
  - horse riding;
  - consumption of alcohol;
  - camping;
  - four-wheel driving.

### **3.6 PROVISION OF CONTROLLED ACCESS**

**Objective:**

To provide and maintain safe and efficient access to, and within, the Reserve for vehicles and pedestrians.

**Background:**

Public vehicle access to the Reserve is currently restricted at the locked gate at Bay View Crescent. The narrow vehicle track from this gate to the Water Reservoir provides the main vehicle access. Some uncontrolled vehicle access to the fire trail off Mullbong Road occurs. This has allowed access for bush rock, soil and firewood removal. An unformed pedestrian track along the Mullbong Road spur to the Reserve ridge top concentrates stormwater runoff and is eroding. Some internal access tracks previously used by vehicles and pedestrians are eroded/degraded and require rehabilitation. Trail bike riders currently use the Reserve and have caused damage to tracksides, vegetation and items of cultural heritage.

**Actions:**

- (1) Upgrade existing vehicle access road from Bay View Crescent by bitumen sealing surface (to control erosion) and with provision of vehicle safety barrier (post and cable type) along edge. Passing bays can be provided by sealing the inside edge (with drainage pipes under sealed section) allowing for greater width of surface.

- (2) Develop disturbed area near water reservoir as vehicle access spot with car parking facilities for 7-10 vehicles.
- (3) Provide vehicle exclusion fencing (low visual impact post and cable type barrier) and locked access bar south of water reservoir to prevent public vehicles gaining access to top of Reserve.
- (4) Upgrade the informal walking trail from Mullbong Road to suitable standards as per the National Parks and Wildlife Service Walking Track Construction Guidelines (in Appendix IV).
- (5) Extend existing fire trail off Mullbong Road to Koonura Avenue to provide emergency vehicle access and egress.
- (6) Maintain existing gate at lower end of Bay View Crescent and have this gate opened each day at 7.30am, closed at 4.30pm by Council Ranger. Signage to be provided advising visitor of access restriction.

### **3.7 CONTROL OF SOIL EROSION AND DRAINAGE PROBLEMS**

#### ***Objective:***

To enhance soil erosion and drainage control within the Reserve.

#### ***Background:***

Soil erosion is evident along several of the access tracks particularly on the steeper sloping land in the western facing slopes, along the Mullbong Spur track and along the main vehicle access track to the Water Reservoir. Sediment eroded from these areas may disturb the adjoining bushland or ultimately enter Brisbane Water. Two small sediment traps are present below the existing access tracks. Stormwater runoff from the eastern and western slopes of the Reserve enters a series of catch drains prior to entering the piped stormwater drainage system. Blockage of these drains results in uncontrolled overflows through downslope residential and industrial areas.

#### ***Actions:***

- (1) Inspect all lower slope drainage works on a three monthly basis and remove any debris build up which is likely to impede the flow of runoff water.
- (2) Upgrade existing sediment traps to improve functioning and provide wetland habitat areas for aquatic fauna and bird species.
- (3) Install new sediment trap below (proposed) car park area to intercept runoff and trap sediments from bare areas.
- (4) Revegetate disturbed trackside areas and erosion scar in north-east corner in appropriate manner depending on the situation (that is, provide drainage control, soil, mulch and planting where appropriate).

### 3.8 IMPROVEMENT OF AESTHETIC QUALITY

*Objective:*

To improve the aesthetic quality of the Reserve.

*Background:*

Blackwall Mountain Reserve has high visual quality when viewed from nearby and distant areas and the vegetation landform and geological character within the Reserve also provides a high visual quality. However the visual quality from nearby and distant views is impaired by the sight of the Water Reservoir and the bare and eroded north-east lower corner of the Reserve. Likewise visual quality from within the Reserve is reduced where remnants from previous developments, such as an old water tank, garbage bin holders and other miscellaneous items remain. It is possible to improve the aesthetic quality of the Reserve through the following actions.

*Actions:*

- (1) Repaint water reservoir with non-reflective green toned paint when repainting required.
- (2) Revegetate visible erosion scar on north-east corner.
- (3) Repair damaged tables and signs.
- (4) Revegetate bare trackside areas.
- (5) Remove painted lettering on exposed sandstone rocks.
- (6) Remove debris from around lookout area such as water tanks, steel table, garbage bin support, pole etc.
- (7) Restrict any future developments/activities to those that do not cause visual intrusion from outside or within the Reserve.

### 3.9 REHABILITATION OF DEGRADED LAND

*Objectives:*

To restore or reclaim degraded land including eroded and weed infested areas.

*Background:*

Although Blackwall Mountain Reserve is generally heavily vegetated with natural vegetation some areas of significant degradation including soil erosion and weed infestations are present. Left unchecked these areas of degradation have potential to cause long term visual and environmental problems both on the site and to nearby off-site areas. Degradation of the land surface and vegetation on the site has resulted from inappropriate use or from overuse of tracks by pedestrians, vehicles or motorcycles. Implementation of appropriate rehabilitation and land management programs will assist in reversing the process of land and vegetation degradation.



**Actions:**

- (1) Implement an appropriate Bush Regeneration Program in designated areas particularly eastern and northern slopes.
- (2) Revegetate bare and eroded areas particularly track sides along the ridge top and the erosion scar on the north-east corner. Revegetation to include runoff control, soil placement, mulching and planting with appropriate species.
- (3) Remove soil dumps from area proposed for car parking and appropriately revegetate.

### **3.10 BUSHFIRE MANAGEMENT**

**Objective:**

To balance the role of fire as a management tool and its role in maintaining the ecology of the Reserve.

**Background:**

Blackwall Mountain Reserve generally has a medium bushfire hazard due to its vegetation type and steep slope gradients. However the actual threat to adjoining developed areas is generally much lower than the threat perceived by local residents. The diversity in vegetation type, slope aspect, fauna habitats and small size of the reserve requires that both controlled burning and unplanned bushfires are carefully managed to ensure areas of representative habitats and vegetation types remain unburnt for prescribed periods.

**Actions:**

- (1) Extend existing fire trail from Mullbong Road to Koonora Avenue. This will involve the use of a dozer and will require minimal tree removal. The area involved is invaded with lantana and it should be possible, with consideration, to direct the fire trail through areas infested with the weed thereby causing minimal disturbance to native flora species.
- (2) Maintain a fuel reduced zone of approximately 20 metres between the Koonora Avenue fire trail and residential land.
- (3) Monitor on a bi-annual basis the recently burnt area of open forest on the eastern slopes to determine impact on weed species and changes to vegetation characteristics.
- (4) Exclude wherever possible bushfires and all hazard reduction burning from the sheltered southern slopes where the vegetation contains fire sensitive rainforest species.
- (5) Exclude the use of open fires and wood/charcoal burning barbecues from within the Reserve. Appropriate signs should be erected advising visitors of this restriction.
- (6) Implement the Bushfire Management Plan (Working Paper N° 4) for each designated area as identified.
- (7) Notify the local bushfire brigade of changes to the vehicle access system and provide appropriate maps of the Reserve accompanying the Bushfire Management Plan.

### **3.11 ENCOURAGEMENT OF ENVIRONMENTAL EDUCATION**

*Objective:*

To encourage environmental education and scientific research.

*Background:*

Blackwall Mountain Reserve has some unique qualities for bushland in the local area. It is truly a remnant area of bushland in relatively good ecological condition. It provides a diversity of opportunities for environmental education covering many aspects of botanical, zoological, ecological and environmental management interest. The area is within easy access of several primary and secondary schools and can be easily integrated with the nearby Woy Woy Environment Centre.

*Actions:*

- (1) Develop improved opportunities for environmental education through liaison with the local, state and private school systems.
- (2) Encourage the Woy Woy Environment Centre to take a key role in the promotion of this local bushland reserve.
- (3) Encourage local environmental organisations/groups to become actively involved in supplementing the biological resource inventory (flora, fauna records etc) so that updated information can be provided for ongoing management purposes.
- (4) Prepare a public information brochure on the natural and cultural heritage value of the Reserve and provide details on future management objectives.

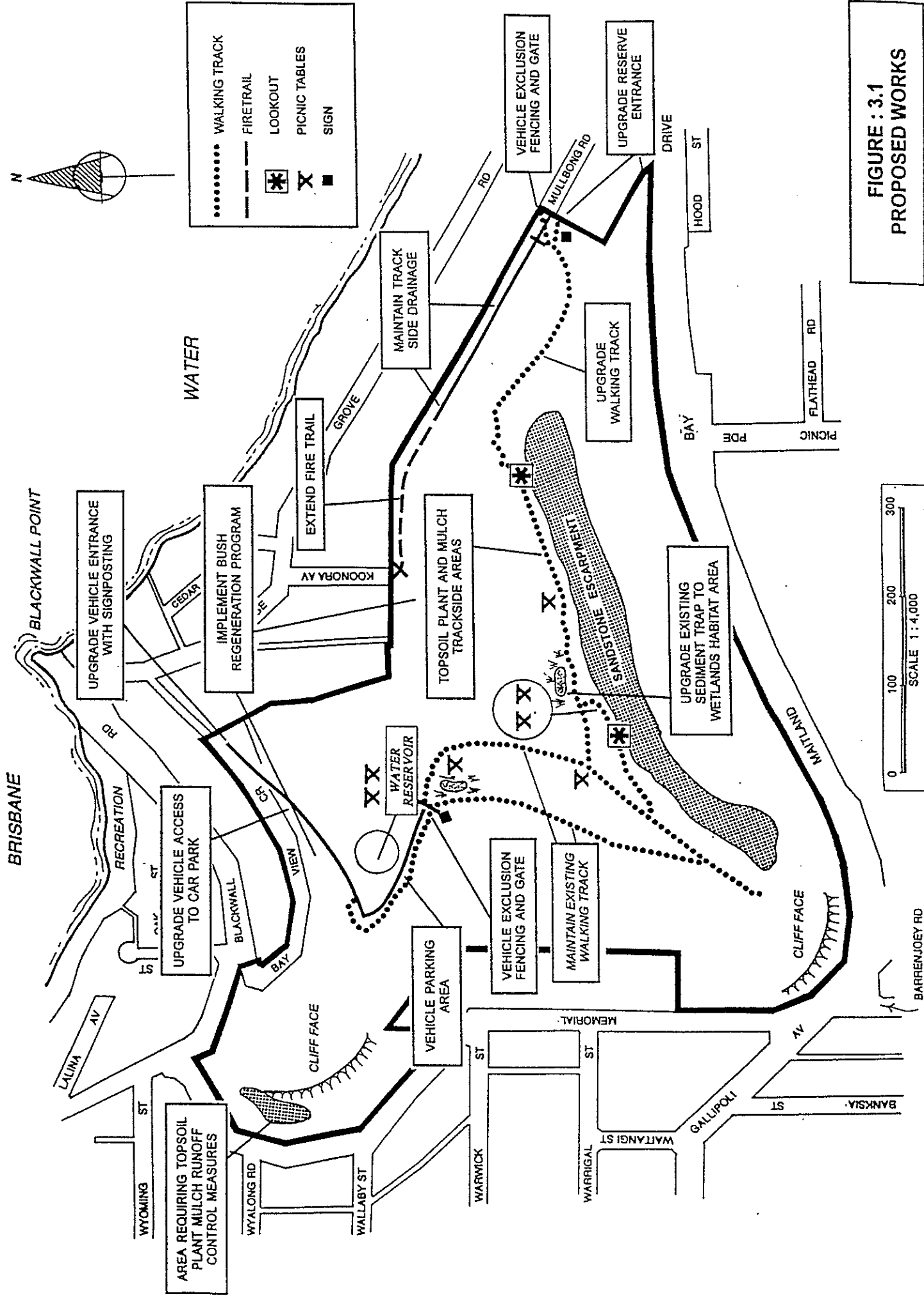
### **3.12 LEASES AND LICENCES**

Council will consider granting leases and licenses on community land subject to the following conditions:

- Restricted to a public purpose.

Public Open Space should not be leased for the exclusive use of any one group. The open space (or facility) should be made available for general public use. Development should be for a purpose which promotes or is ancillary to the use and enjoyment of a park as a public park and for public recreation.

- Period will not exceed 21 years (including any period for which the lease or licence could be renewed by the exercise of an option).
- If the period is to exceed five years, additional requirements apply. Council will comply with Section 47 of the Act for the granting of leases and licences for a period of more than five years.



## SECTION 4

### PLAN IMPLEMENTATION

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#### 4.1 PLAN IMPLEMENTATION AND REVIEW

The Plan of Management has been prepared with appropriate consideration given to any public comments provided. The Plan of Management has identified a priority schedule for completing the proposed works. This schedule is provided below.

Implementation of the Plan of Management will be the responsibility of Gosford Council and it could be expected that various local groups or organisations will be involved in undertaking some of the works proposed in Section 3.

The process of preparing and implementing a Plan of Management is a dynamic ongoing process and is subject to some variability due to funding allocations, availability of staff, resources and the changing character of the Reserve (such as bushfires). These criteria need to be determined in association with developing an implementation procedure for proposed works.

Review of this Plan of Management should be completed at least every five years so that progressive development may incorporate environmental practices for the management of bushland reserves as new and relevant information becomes available.

It is considered that the most potential damage to the site would arise from uncontrolled access of cars and trail bikes in terms of vegetation/habitat destruction and causing soil erosion. Therefore, the highest priority of works should be directed to actions to overcome this problem. The following is a prioritised list of management objectives and proposed actions.

- 1) Provision of controlled access;
- 2) Natural and cultural heritage protection;
- 3) Control of soil erosion and drainage problems;
- 4) Bushfire management;
- 5) Rehabilitation of degraded land;
- 6) Natural vegetation management;
- 7) Fauna and fauna habitat management;
- 8) Encouragement of environmental education;
- 9) Improvement of aesthetic quality;
- 10) Development of recreational opportunities.

A schedule of works detailing the task, responsibility, cost of works, funding source, and time of completion will be formulated by Council and will be implemented in accordance with the Plan of Management as detailed in the preceding document.

## 4.2 FUNDING

The proposed strategies (above) will be implemented as soon as funding is available. Investigation of funding options by Council will determine responsibility for the implementation of works, and appropriate time frames for completion. Options include Federal and State Government grants (such as Landcare, recreation oriented programs, employment/training schemes), Council budget allocations and voluntary labour. For example, the provision of controlled access may be divided into two components, the first being access for vehicular traffic, and the second pedestrian access.

The provision of vehicular access to and within the reserve is the responsibility of Council. Accordingly, the funding source for this component will be incorporated into budget allocations as detailed in Council's works program.

Pedestrian access, however, may be funded through a Landcare or similar grant, which may be initiated by Council or the community. Voluntary labour and some contribution by Council in the form of machinery or materials are often vital components of this type of activity.

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\* PO BOX 82 GOSFORD EAST \* (043) 250828 \*

# **APPENDICES**

## **APPENDIX I LAND DETAILS**

## **APPENDIX II FLORA SPECIES LIST**

## **APPENDIX III FAUNA SPECIES LIST**

## **APPENDIX IV PROPOSED WORKS**

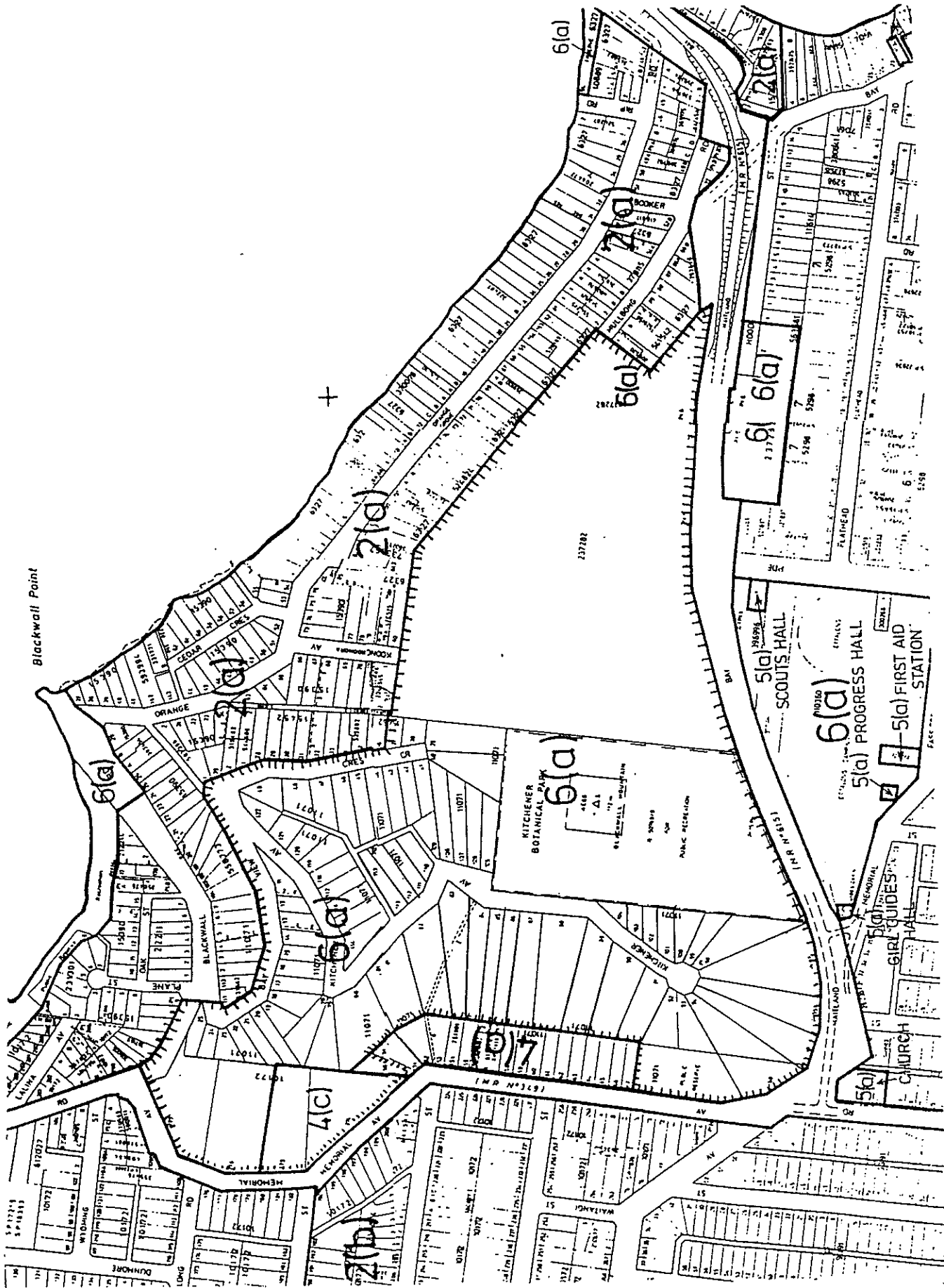


FIGURE 1.2 ZONING



## GOSFORD CITY COUNCIL - CLASSIFICATION OF LAND

TABLE : PRISM REPORT : 6

MAP NUMBER	Dp	Sec	Lot	Reserve No	Ownership	COMMON NAME \ USAGE	STREET NAME	SUBURB	CLASSIFICATION	CATEGORY	PLAN OF MANAGEMENT
278A	11071		11		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		114		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		115		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		116		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		117		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		118		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		119		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		12		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		120		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		121		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		122		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		13		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		14		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		15		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		16		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		17		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		18		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		19		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		20		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		21		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		22		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		23		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		24		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		25		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		45		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		46		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		47		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		48		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		49		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		78		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		79		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		80		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	11071		81		GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278A	10172		274		GCC	BLACKWALL MOUNTAIN	MEMORIAL AV	BLACKWALL	COMMUNITY		

GOSFORD CITY COUNCIL - CLASSIFICATION OF LAND

TABLE : PRISM REPORT : 6

MAP Reserve

NUMBER	Dp	Sec	Lot	No	Ownership	COMMON NAME \ USAGE	STREET NAME	SUBURB	CLASSIFICATION	CATEGORY	PLAN OF MANAGEMENT
278A	10172		275		GCC	BLACKWALL MOUNTAIN	MEMORIAL AV	BLACKWALL	COMMUNITY		
278A	10172		276		GCC	BLACKWALL MOUNTAIN	MEMORIAL AV	BLACKWALL	COMMUNITY		
278A	10172		277		GCC	BLACKWALL MOUNTAIN	MEMORIAL AV	BLACKWALL	COMMUNITY		
278A	11071		50		GCC	BLACKWALL MOUNTAIN	MEMORIAL AV	BLACKWALL	COMMUNITY		

GOSFORD CITY COUNCIL - CLASSIFICATION OF LAND

TABLE : PRISM REPORT : 6

MAP

Reserve

No

NUMBER

Dp

Sec

Lot

No

Ownership

COMMON NAME \ USAGE

STREET NAME

SUBURB

CLASSIFICATION

CATEGORY

PLAN OF  
MANAGEMENT

278C	11071		100	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		101	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		102	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		103	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		104	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		105	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		106	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		107	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		108	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		109	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		110	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		111	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		112	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		113	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		38	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		39	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		40	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		41	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		42	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		43	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		44	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		68	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		82	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		83	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		84	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		85	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		86	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		87	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		88	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		89	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		90	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		91	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		92	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		93	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	
278C	11071		94	GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY	

GOSFORD CITY COUNCIL - CLASSIFICATION OF LAND

TABLE : PRISM REPORT : 6

MAP NUMBER	Dp	Sec	Lot	Reserve		Ownership	COMMON NAME \ USAGE	STREET NAME	SUBURB	CLASSIFICATION	CATEGORY	PLAN OF MANAGEMENT
				No								
278C	11071		95			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	11071		96			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	11071		97			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	11071		98			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	11071		99			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	15452		37			GCC	BLACKWALL MOUNTAIN	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	237282		6			GCC	BLACKWALL MOUNTAIN \ KITCHENER P	BAY VIEW CR	BLACKWALL	COMMUNITY		
278C	755251		EA	R50768		CROWN CALM \ GCC TRUS	BLACKWALL MOUNTAIN	MAITLAND BAY DR	BLACKWALL	N/A		

**APPENDIX II**  
**FLORA SPECIES LIST**

## BLACKWALL MOUNTAIN RESERVE FLORA SPECIES LIST

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### PTERIDOPHYTA

#### ADIANTACEAE

*Adiantum aethiopicum*

Common Maidenhair Fern

#### BLECHNACEAE

*Blechnum cartilagineum*

Gristle Fern

*Doodia aspera*

Rasp Fern

#### DAVALLIACEAE

*\*Nephrolepis cordifolia*

Fishbone Fern

#### DENNSTAEDTIACEAE

*Pteridium esculentum*

Bracken

#### DICKSONIACEAE

*Calochlaena dubia*

False Bracken Fern

#### GLEICHENIACEAE

*Gleichenia dicarpa*

Pouched Coral Fern

#### LINDSAEACEAE

*Lindsaea microphylla*

Lacy Wedge Fern

#### SINOPTERIDACEAE

*Cheilanthes austrotenuifolia*

### GYMNOSPERMAE

#### ZAMIACEAE

*Macrozamia communis*

Burrawang

*M. spiralis*

### ANGIOSPERMAE

#### Dicotyledons

#### ACANTHACEAE

*Pseuderanthemum variable*

Pastel Flower

#### ANACARDIACEAE

*\*Toxicodendron succedaneum*

APIACEAE	
<i>Centella asiatica</i>	
<i>Hydrocotyle peduncularis</i>	
<i>Platysace lanceolata</i>	Native Parsnip
ARALIACEAE	
<i>Polyscias sambucifolia</i>	Elderberry Panax
ASCLEPIADACEAE	
* <i>Araujia sericiflora</i>	
* <i>Gomphocarpus fruticosus</i>	Narrow leaf cotton bush
ASTERACEAE	
* <i>Ageratina adenophora</i>	Crofton Weed
* <i>Aster subulatus</i>	Wild Aster
* <i>Bidens Pilosa</i>	Farmer's Friend
<i>Brachycome aculeata</i>	
<i>Cassinia aculeata</i>	
* <i>Conyza albida</i>	Tall Fleabane
* <i>C. bilbaoana</i>	
* <i>C. bonariensis</i>	Flaxleaf Fleabane
* <i>C. canadensis</i>	
<i>var. canadensis</i>	Canadian Fleabane
* <i>C. parva</i>	
* <i>Coreopsis lanceolata</i>	Coreopsis
* <i>Crassocephalum crepidioides</i>	Thickhead
* <i>Delairea odorata</i>	
* <i>Hypochoeris radicata</i>	Catsear
<i>Ozothamnus diosmifolius</i>	
<i>Senecio vagus</i>	
<i>ssp. eglandulosus</i>	
* <i>Soliva sessilis</i>	Bindii
* <i>Sonchus oleraceus</i>	Milk Thistle
* <i>Taraxacum officinale</i>	Dandelion
BIGNONIACEAE	
<i>Pandorea pandorana</i>	
* <i>Tecomaria capensis</i>	Wonga Wonga Vine
CAESALPINIACEAE	
* <i>Senna pendula</i>	
CAMPANULACEAE	
<i>Wahlenbergia gracilis</i>	Native Bluebell
CAPRIFOLIACEAE	
* <i>Lonicera japonica</i>	Japanese Honeysuckle
CARYOPHYLLACEAE	
* <i>Stellaria media</i>	Chickweed

CASSYTHACEAE

*Cassytha sp.*

Devil's Twine

CASUARINACEAE

*Allocasuarina distyla*

*A. littoralis*

*A. torulosa*

Scrub She-Oak

Black She-Oak

Forest Oak

CELASTRACEAE

*Maytenus silvestris*

CONVOLVULACEAE

\**Dichondra repens*

\**Ipomoea cairica*

\**I. indica*

\**I. purpurea*

Kidney Weed

Coastal Morning Glory

Blue-Morning Glory

Common Morning Glory

CRASSULACEAE

\**Bryophyllum pinnatum*

DILLENIACEAE

*Hibbertia dentata*

*H. diffusa*

*H. scandens*

Twining Guinea Flower

Golden Guinea Flower

ELAEOCARPACEAE

*Elaeocarpus reticulatus*

Blueberry Ash

EPACRIDACEAE

*Epacris longifolia*

*Leucopogon amplexicaulis*

*L. juniperinus*

*Monotoca elliptica*

Native Fuschia

Prickly Bearded Heath

Tree Broom-Heath

EUPHORBIACEAE

*Breynia oblongifolia*

\**Euphorbia peplus*

*Glochidion ferdinandi*

*Phyllanthus gasstroemii*

*Poranthera microphylla*

\**Ricinus communis*

Petty Spurge

Cheese Tree

Blunt Spurge

Small Poranthera

Castor Oil Plant

FABACEAE

*Bossiaea heterophylla*

*Daviesia ulicifolia*

*Desmodium varians*

*D. rhytidophllum*

*Dillwynia ericifolia*

*D. retorta*

\**Erythrina x sykesii*

Variable Bossiaea

Coral Tree



*Glycine clandestina*  
*G. tabacina*  
*Hardenbergia violacea*  
*Kennedia rubicunda*  
*Oxylobium ilicifolium*  
*Platylobium formosum*  
     *ssp. parviflorum*  
 \**Psoralea pinnata*  
*Pultenaea daphnoides*  
*P. flexilis*  
 \**Senna pendula*  
     *var. glabrata*  
 \**Vicia sativa*  
     *ssp. angustifolia*  
 \**V. tetrasperma*

Twining Glycine  
 False sarsaparilla  
 Running Postman  
 Native Holly

Graceful Bush-Pea

Common Vetch  
 Slender Vetch

# GOODENIACEAE

*Goodenia hederacea*  
*Scaevola ramosissima*

Violet-leaved Goodenia  
 Snake-Flower

# HALORAGACEAE

*Gonocarpus teucrioides*

Germander Raspswort

# LAMIACEAE

*Plectranthus parviflorus*

# LAURACEAE

\**Cinnamomum camphora*

Camphor Laurel

# LINACEAE

*Linum marginale*

Native Flax

# LOBELIACEAE

*Pratea purpurascens*

White Root

# MALVACEAE

\**Pavonia hastata*  
 \**Sida rhombifolia*

Pavonia  
 Paddy's Lucerne

# MELIACEAE

*Synoum glandulosum*

Scentless Rosewood

# MIMOSACEAE

\**Acacia baileyana*  
 \**A. elata*  
*A. falcata*  
*A. longifolia*  
     *var. sophorae*  
*A. longissima*  
*A. myrtifolia*

Cootamundra Wattle  
 Mountain Cedar Wattle

\**A. podylariifolia*

\**A. saligna*

*A. schinoides*

*A. suaveolens*

*A. ulicifolia*

Sweet Wattle

Prickly Moses

#### MORACEAE

*Ficus rubiginosa*

Port Jackson Fig

#### MYRSINACEAE

*Rapanea variabilis*

Mutton Wood

#### MYRTACEAE

*Angophora bakeri*

Narrow-leaved Apple

*A. costata*

Smooth-barked Apple

*A. floribunda*

Rough-barked Apple

*Backhousia myrtifolia*

Grey Myrtle

*Callistemon sp.*

*Eucalyptus acmenoides*

White Mahogany

\**E. globulus*

*E. maculata*

Spotted Gum

*E. paniculata*

Grey Ironbark

*E. pilularis*

Blackbutt

*E. punctata*

Grey Gum

*E. resinifera*

*ssp.resinifera*

Red Mahogany

*Kunzea ambigua*

Tick Bush

*Syncarpia glomulifera*

Turpentine

*Tristaniopsis laurina*

Water Gum

*Syzygium oleosum*

Blue Lillypilly

#### OCHNACEAE

\**Ochna serrulata*

#### OLEACEAE

\**Ligustrum lucidum*

Large-leaved Privet

\**L. sinense*

Small-leaved Privet

*Notelaea longifolia*

Mock Olive

\**Olea europea*

*ssp.africana*

Wild Olive

#### ONAGRACEAE

\**Epilobium ciliatum*

\**Oenothera stricta*

*ssp.stricta*

Common Evening Primrose

#### ORCHIDACEAE

*Acianthus fornicatus*

Pixie Orchid

*Pterostylis nutans*

Nodding Greenhood

*Pterostylis sp.*

PASSIFLORACEAE

*\*Passiflora edulis*

Common Passion-fruit

PITTOSPORACEAE

*Billardiera scandens*

*var.scandens*

*Pittosporum revolutum*

*P. undulatum*

Apple-berry

Yellow Pittosporum

Sweet Pittosporum

PLANTAGINACEAE

*\*Plantago lanceolata*

Lamb's Tongue

POLYGONACEAE

*\*Polygonum decipens*

*\*Rumex sagittata*

Slender Knotweed

PRIMULACEAE

*\*Anagallis arvensis*

Pimpernel

PROTEACEAE

*Banksia integrifolia*

*B. serrata*

*Persoonia linearis*

*P. levis*

Coastal Banksia

Old Man Banksia

Narrow-leaved Geebung

Smooth Geebung

RANUNCULACEAE

*Clematis glycinoides*

Old Man's Beard

ROSACEAE

*\*Eriobotrya japonica*

*\*Malus x domestica*

*\*Pyracantha angustifolia*

*Rubus hillii*

*R. parvifolius*

Loquat

Broad-leaved Bramble

Native Raspberry

RUBIACEAE

*Opercularia aspera*

*Pomax umbellata*

Thin Stink Weed

Pomax

RUTACEAE

*Correa reflexa*

*var.reflexa*

*Crowea saligna*

*Zieria smithii*

Sandfly Zieria

SCROPHULARIACEAE

*Veronica plebia*

## SOLANACEAE

\**Solanum mauritianum*

\**S. nigrum*

*S. prinophyllum*

Wild Tobacco Tree

Blackberry Nightshade

Forest Nightshade

## STERCULIACEAE

\**Brachychiton acerifolius*

Flame Tree

## STYLIDIACEAE

*Stylidium graminifolium*

Trigger Plant

## THYMELAEACEAE

*Wikstroemia indica*

## VERBENACEAE

\**Lantana camara*

\**Verbena bonariensis*

Lantana

Purple Top

## VITACEAE

*Cissus antarctica*

\**C. hypoglauca*

Kangaroo Grape

Water Vine

## Monocotyledons

## AGAVACEAE

*Doryanthes excelsa*

Gynea Lily

## COMMELINACEAE

*Commelina cyanea*

\**Tradescantia albiflora*

Scurvy Weed

Wandering Jew

## CYPERACEAE

*Caustis flexuosa*

*Cyperus laevis*

*Gahnia clarkei*

*G. sieberana*

*Ptilanthelium deustum*

Old Man's Beard

## DIOSCOREACEAE

*Dioscorea transversa*

## HAEMODORACEAE

\**Anigozanthus sp.*

## IRIDACEAE

*Patersonia sericea*

Silky Purple Flag

## JUNCACEAE

*Juncus continuus*

*J. planifolius*

Broad-leaf Rush

## LILIACEAE

\**Asparagus officinalis*  
\**Chlorophytum comosum*  
\**C. comosum*  
    *cv. variegatum*  
*Dianella caerulea*  
*D. caerulea*  
    *var. producta*  
*D. revoluta*  
\**Protasparagus aethiopicus*

Asparagus

Mauve Flax Lily

## PHILESIACEAE

*Eustrephus latifolius*  
*Geitonoplesium cymosum*

Wombat Berry  
Scrambling Lily

## POACEAE

\**Andropogon virginicus*  
\**Axonopus affinis*  
\**Briza maxima*  
\**Bromus catharticus*  
\**Cortaderia selloana*  
*Cymbopogon refractus*  
\**Cynodon dactylon*  
*Danthonia linkii*  
    *var. fulva*  
*Digitaria parviflora*  
\**D. sanguinalis*  
\**Echinochloa crus-galli*  
*Echinopogon caespitosus*  
*E. ovatus*  
\**Ehrharta erecta*  
*Entolasia marginata*  
\**Eragrostis curvula*  
\**E. mexicana*  
\**E. sororia*  
*Imperata cylindrica*  
    *var. major*  
*Microlaena stipoides*  
    *var. stipoides*  
*Oplismenus imbecillis*  
*Panicum simile*  
*Paspalidium distans*  
\**Paspalum dilatatum*  
\**P. urvillei*  
\**Pennisetum clandestinum*  
*Poa affinis*  
\**Setaria palmifolia*  
\**S. gracilis*  
\**S. pumila*  
\**S. verticillata*

Whisky Grass  
Narrow-leaf Carpet Grass  
Blowfly Grass  
Prairie Grass  
Pampass Grass  
Barbed-wire Grass  
Couch

Smallflower Fingergrass  
Summer Grass  
Barnyard Grass  
Tufted Hedgehog Grass

African Lovegrass

Blady Grass

Weeping Grass  
Basket Grass  
Two Colour Panic

Paspalum

Kikuyu

Whorled Pigeon Grass

\**Sporobolus indicus*  
*var.capensis*  
*Themeda australis*

Kangaroo Grass

SMILACACEAE

*Smilax australis*  
*S. glycyphylla*

Native Sarsaparilla

XANTHORRHAECACEAE

*Lomandra filiformis*  
*ssp.filiformis*  
*L. gracilis*  
*L. longifolia*  
*L. obliqua*  
*Xanthorrhoea resinosa*

Mat Rush  
Fish Bones

\* Introduced or Exotic to the area.

**APPENDIX III**

**FAUNA SPECIES LIST**

## BLACKWALL MOUNTAIN RESERVE FAUNA SPECIES LIST

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### BIRDS

Brush Turkey	<i>Alectura lathamii</i>
Laughing Kookaburra	<i>Dacelo novaeguineae</i>
Sulphur Crested Cockatoo	<i>Cacatua galerita</i>
Galah	<i>C. roseicapilla</i>
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>
Scaley-breasted Lorikeet	<i>T. chlorolepidotus</i>
King Parrot	<i>Alisterus scapularis</i>
Eastern Rosella	<i>Platycercus eximius</i>
Whistling Kite	<i>Haliastur sphenurus</i>
Wedge-tailed Eagle	<i>Aquila audux</i>
White-breasted Sea-eagle	<i>Haliaeetus leucogaster</i>
Crested Pigeon	<i>Ocyphaps lophotes</i>
Topknot Pigeon	<i>Lopholaimes antarcticus</i>
Peaceful Dove	<i>Geopelia placida</i>
Common Koel	<i>Eudynamys scolopacea</i>
Boobook Owl	<i>Ninox novaeseelandiae</i>
Tawny Frogmouth	<i>Podargus strigoides</i>
Grey Butcherbird	<i>Cracticus torquatus</i>
Pied Butcherbird	<i>Cracticus nigrogularis</i>
Pied Currawong	<i>Strepera graculina</i>
Red Wattlebird	<i>Anthochaera carunculata</i>
Common Myna	<i>Acridotheres tristis</i>
Eastern Whipbird	<i>Psophodes olivaceus</i>
Noisy Miner	<i>Manorina melanocephala</i>
House Sparrow	<i>Passer domesticus</i>

### MAMMALS

Brown Antechinus	<i>Antechinus stuartii</i>
Short Beaked Echidna	<i>Tachyglossus aculeatus</i>
Brush-tailed Possum	<i>Trichosurus vulpecula</i>
Ring-tailed Possum	<i>Pseudocheirus peregrinus</i>
Little Free Tail Bat	
Gould's Wattled Bat	<i>Chalinobus gouldii</i>
Large Bent-wing Bat	
(Endangered Species)	
House Mouse	<i>Mus domesticus</i>
Black Rat	<i>Rattus rattus</i>
Feral Pig	<i>Sus scrofa</i>



## REPTILES

Blue Tongue Lizard  
Three Toed Skink  
Whites Skink  
Coppertail Skink  
Leaf-tailed Gecko  
Marsh (Grass) Snake  
Green Tree Snake  
Eastern Brown Snake  
Red-bellied Black Snake

*Tiliqua scincoides*  
*Saiphos equalis*

*Ctenotus taeniolatus*  
*Phyllurus platurus*  
*Hemiaspis signata*  
*Dendrelaphis punctulata*  
*Pseudonaja textilis*  
*Pseudechis porphyriacus*

## AMPHIBIANS

Brown Striped Frog  
Green Tree Frog  
Common Eastern Froglet

*Litoria caerulea*  
*Crinia signifera*

**APPENDIX IV**  
**PROPOSED WORKS**

### **3. REASSURANCE SIGNS**

Number: 2

Dimension: 150 x 150 x 1500

Construction: Routed Timber, single post of timber with angled top cemented into ground

To be located half way between the lookout and the reservoir

To contain the following wording:

- Lookout
- Walking Trail

### **4. WELCOME SIGN**

In addition, an information sign may be erected in the carpark, which may include the following information:

#### **WELCOME TO BLACKWALL MOUNTAIN**

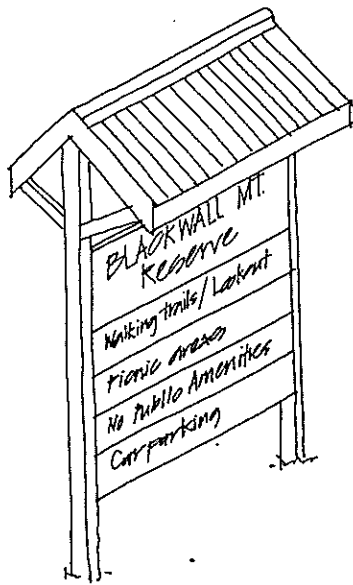
Works have been conducted on this Reserve by Gosford Council and ....(voluntary &/or community group(s)) to improve the opportunities available for walking, sightseeing and picnicking.

Please enjoy your stay and remember:

- leave everything as you find it
- place rubbish in the bins provided or take it home with you.

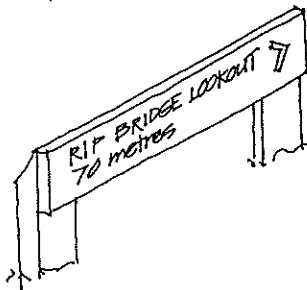
The following diagrams illustrate the preferred style of signage and additional works which have been recommended in the Plan of Management.

NOTE: All signs can be constructed by Tharwa Signs, Terry Hills to Gosford Council Specifications. Telephone (02) 450 1967  
Contact Name: Ms Erica Platt



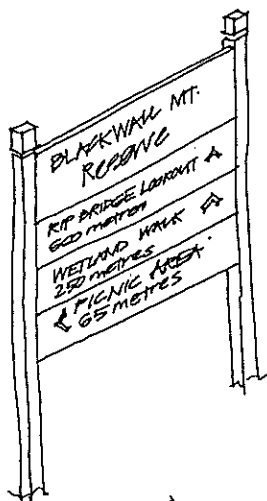
### IDENTIFICATION BOARD

- Located at the two main entry points to the reserve being Orange Grove Rd & Mullberry Rd.
- sign to identify facilities within the reserve
  - Walking trails/ lookout
  - picnic areas
  - No Public Amenities
  - Carparking etc.



### DIRECTIONAL SIGNS

- Located along walking trails to denote distances to focal points from the main trail
- Rip bridge lookout 70 metres
  - Wetland walk 20 metres etc.



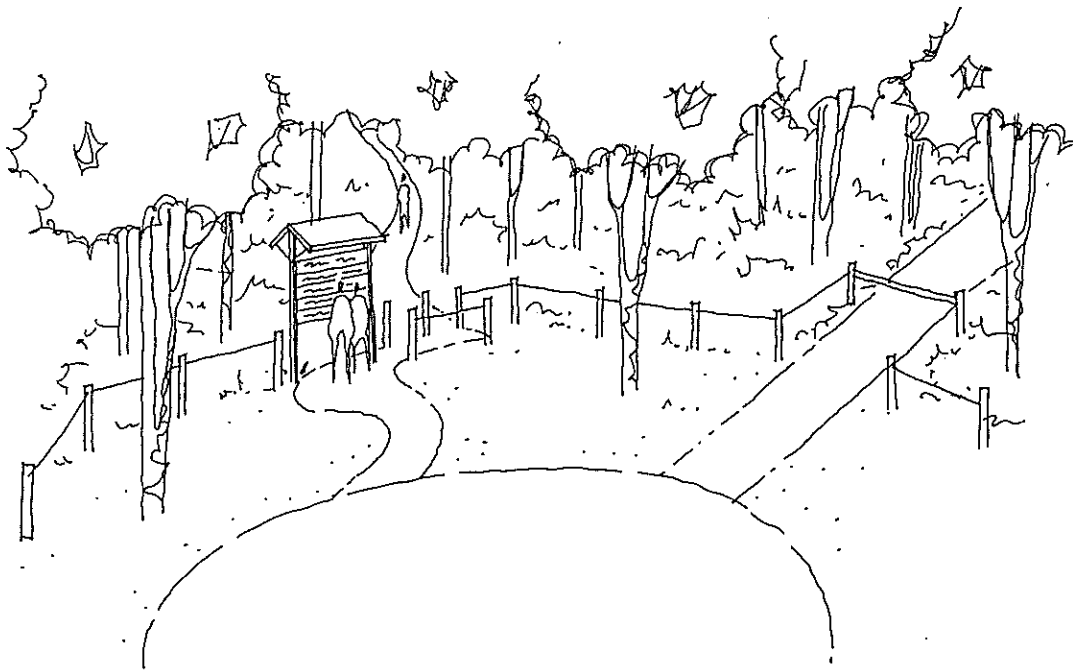
### INFORMATION BOARD

- Located within carpark at entry point to walking trails, displaying available walks & distances
  - Rip bridge lookout 660 metres
  - Wetland walk / picnic area 250 metres etc.



### REASSURANCE SIGNS

- Located along walking trails to reassure visitors of direction of the facilities
  - Lookout
  - Carpark etc.



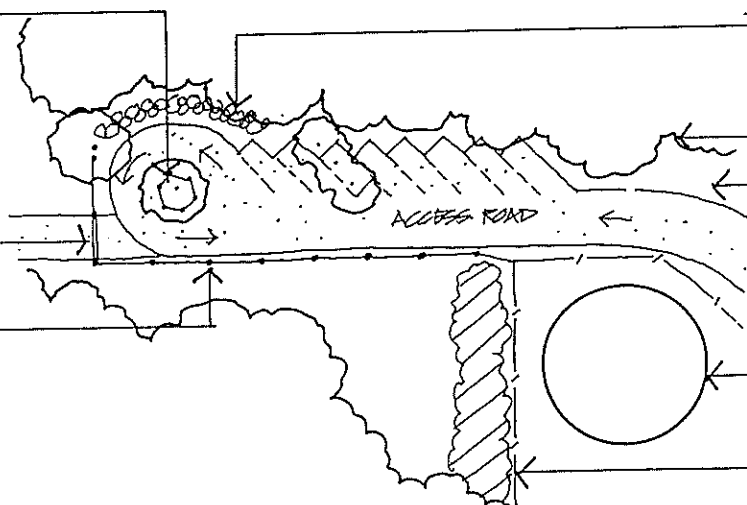
### MULLBONG RD ENTRY

- Upgrade existing entry into reserve
- Provide barrier to eliminate access by motorcycles & horses
- Provide identification sign
- Retain emergency access gateway
- Remove weeds from bushland
- Upgrade existing walking track to minimise erosion

Turning circle.  
Protect existing tree  
with timber post &  
cable barrier. mulch  
beneath tree

Gateway for emergency  
vehicles

Timber post and cable  
vehicular barrier



### CARPARK CONCEPT

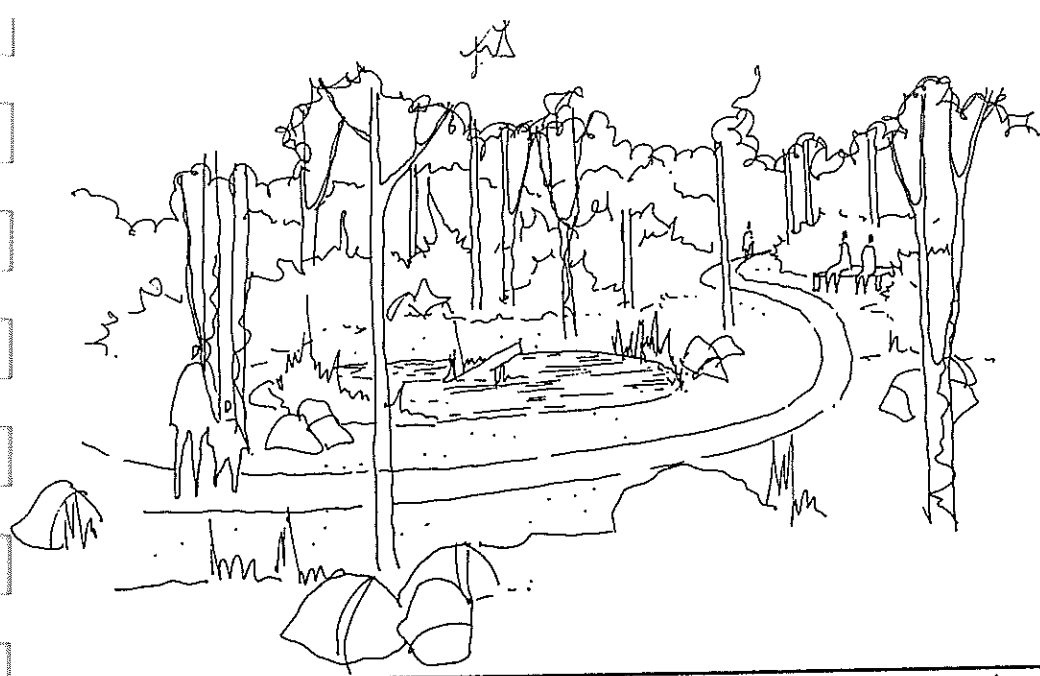
Vehicular barrier  
constructed from  
placed rock

Existing vegetation

Overflow carpark

Existing Reservoir

Provide screen  
planting to fence  
using indigenous  
species

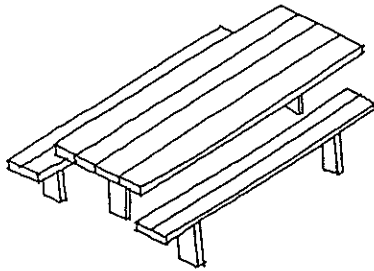


### SEDIMENT TRAP / WETLAND

- Upgrade existing sediment trap
- Provide shallow pond with wildlife refuge
- Provide designated trail to wetland from the main walking trail
- Provide timber bench to enable visitors to rest or picnic as desired.

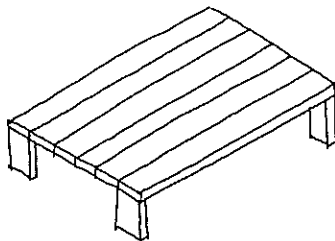
### PICNIC TABLES / BENCHES

located near focal points within the reserve to provide the visitor with picnic facilities or as a resting point along the walking trails



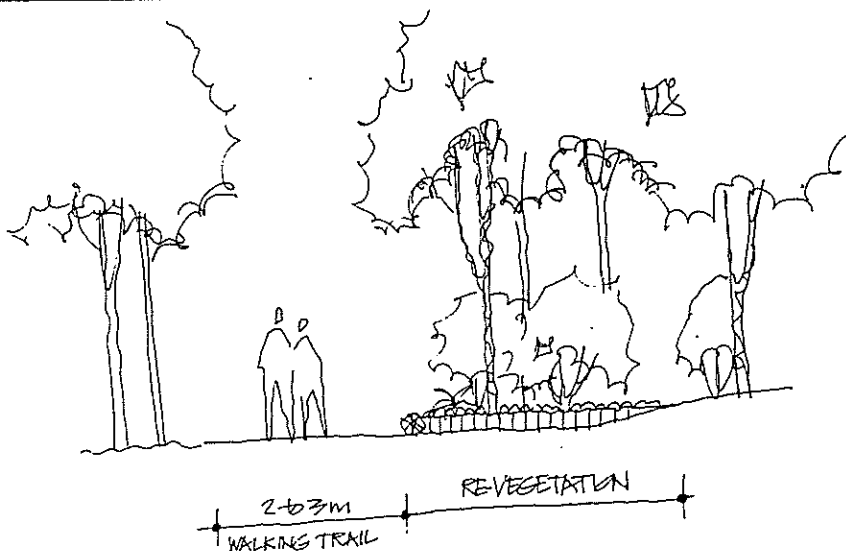
### PICNIC TABLES

constructed of treated pine secured in concrete footing with hardwood fines mulch surrounds



### BENCHES

1800 x 1800 x 450 mm high constructed of treated pine secured in concrete footing with hardwood fines mulch surround. benches can be utilised as a picnic table or seat.



### EXISTING TRAIL

Throughout the site trails are of varying widths and need only be 2-3 metres wide. In these areas reduce trail width as follows:-

- Provide log edge
- Rip existing compacted soil.
- Provide site topsoil
- Plant with indigenous plant species
- install etc.