

SYSTEM 6 BUSHLAND SUBMISSION FORM
FOR CONSIDERATION IN THE UPDATE PROGRAMME

If you wish to submit more than one area for consideration in the System 6 update, please use a separate form for each area.

Please fill in each section giving as much information as possible.

LOCATION, OWNERSHIP AND ZONING OF THE AREA

1. Location

Please give as accurate and detailed a description as possible of the site location

Please include either a hand drawn or copied map showing the area of the area

a) Bordering Roads: RENNIE CRESCENT

b) Nearest Corner: HOLMES PLACE

c) Lot Number: Street Number:

d) Town/Suburb/Location: HILTON

e) Local Council: FREMANLE

f) Site Name (if any): HILTON PRIMARY SCHOOL

g) Approximate size of the area (ha): ONE HECTARE

h) Please locate the area on a map and give us map references if possible:

i) Map: UBD Streetsmart /UBD/Other:

j) Map no.: 34

k) Grid Ref: J 1

l) Please give any other information that may help us to find the location:

ENTER..... SCHOOL GROUNDS FROM RENNIE CRESCENT, NEAR HOLMES PLACE.

m) Are you aware of any development proposals that are likely to affect the area? No, BUT.....

..... IT IS POSSIBLE THAT THE EDUCATION DEPARTMENT COULD SELL THIS SECTION OF THE SCHOOL GROUNDS (SEE APPENDICES)

NOTE: Areas that have already been given development APPROVAL should not be nominated

Please fill out those questions that you can answer

2. Who owns the area? (If owned by the person/s making the nomination please indicate) STATE GOVERNMENT
..... (W.A. EDUCATION DEPARTMENT)

3. If you own the area, and may be interested in participating in conservation on private land initiatives please indicate (and leave your name and address at the end of this submission form) N/A

4. What is the area zoned? (please indicate whether zoning is Town Planning Scheme or Metropolitan Region Scheme) (SCHOOL SITE)

CAN YOU TELL US A LITTLE ABOUT THE PHYSICAL CHARACTERISTICS OF THE AREA

5. Why do you consider this area important? (Refer to Guiding Issues paper)
...1) No other bushland remains in Hilton... 2) May be part of a corridor for birds (see Q18) 3) Educational value (see appendices) 4) Being regenerated (see app.)

6. What is/are the soil type/s and colours? KARRAKATTA SOIL ASSOCIATION
Type: Sand/Clay/Gravel/Loam/Silt (YELLOW SAND OVERLYING AGLIARITE) - BUT AGLIARITE CLOSE TO SURFACE IN PLACES
Colour: White/Grey/Brown/Orange/Yellow/Red/Black

7. Does the area have any special features such as unusual landforms / landscapes that still retain their natural vegetation? Yes/No

If yes, what are they?
.....
.....

8. Is the area a wetland or does it include a wetland? N/C

If yes, what kind of a wetlands is it? N/A

- a) lake
- b) river
- c) stream
- d) swamp
- e) estuary
- f) seasonally wet
- g) other

9. What percentage of the wetland is open water in summer?NONE.....

CAN YOU TELL US A LITTLE ABOUT THE VEGETATION /FAUNA ON THE NOMINATED AREA.

10. What percentage of the area is indigenous vegetation? APPROX. HALF.....

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion. IT IS PROPOSED TO REGENERATE BUSHLAND OVER

THE CLEARED AREA BY PLANTING LOCAL SPECIES EVERY YEAR. THIS PROCESS HAS BEGUN - SEE WEED MATS ON MAP REPRESENTING 40 TREES/STRIPS.

12. Has any previous flora or fauna survey work been done on the area?

YES.....

If yes, please give details of the work (NOT BY A BIOLOGIST) I HAVE COMPILED A LIST OF EXISTING FLORA AND A LIST OF SPECIES PLANTED SINCE 1990. (SEE APPENDICES)

13. How would you rate the condition of the native bushland? (see attached table)

- a) pristine
 - b) excellent
 - c) very good
 - d) good
 - e) degraded
 - f) completely degraded
 - g) don't know
- DEGRADED. HOWEVER, SOME AREAS APPROACH THE "GOOD" CATEGORY. WEEDING AND PLANTING HAVE BEGUN TO IMPROVE ITS CONDITION ALREADY.

14. Please indicate the disturbances affecting the area and where appropriate the percentage of the area disturbed.

- a) Partial clearing
- b) fragmentation
- c) Selective removal of species: timber cutting, wildflower picking, mowing dieback and other plant diseases
- d) Fire regime, including intensity, season and frequency
- e) 'Enrichment plantings' that is plantings of species not found in that community
- f) Weed invasion
- g) Animal impact: horses, foxes, rabbits, cats, dogs, camels, goats etc
- h) Soil movement, both removal and dumping
- i) Changes in water regimes; flooding, drainage and watering
- j) Salinity
- k) Fertiliser drift and along waterways nutrient influx
- l) Mining, including that for road works

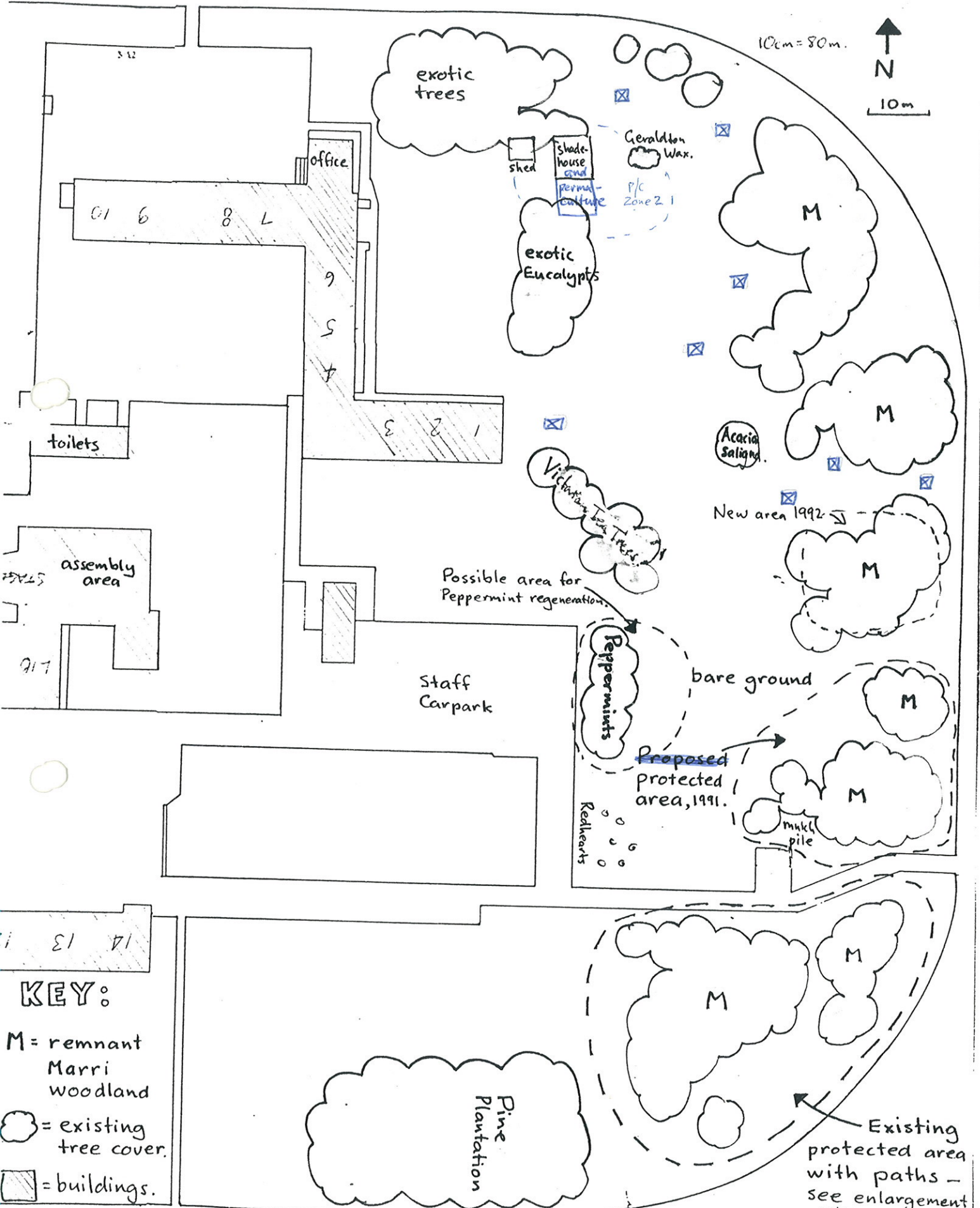
Hilton Primary School -

Appendix 1.

Fig. 1.

CONFIDENTIAL

Existing Vegetation; Proposed "Bush Garden" Locations.



KEY:

M = remnant Marri woodland

☁ = existing tree cover.

▨ = buildings.

(An aerial photograph was used to map approximate tree-cover.)

☒ = approx. position of 8 weed-mats, each planted with 5 seedlings (Marri/Goldenwreath Wattle).

Existing flora of Hilton Bush Garden (list may be incomplete):

<i>Eucalyptus gomphocephala</i>	Tuart	one individual
<i>Eucalyptus calophylla</i>	Merni	common
<i>Eucalyptus marginata</i>	Jarraah	a few
<i>Xanthorrhoea preissii</i>	Blackboy	common
<i>Macraezamia riedlii</i>	Zamia	common
<i>Hakea prostrata</i>	Marsh Hakea	a few
<i>Acacia pulchella</i>	Prickly Moses	a few
<i>Allocasuarina fraseriana</i>	Common Sheoak	one individual
<i>Banksia menziesii</i>	Firewood Banksia	one individual
<i>Hardenbergia complanata</i>	Native Wistaria	a few

* <i>Avena fetus</i>	wild Oats
* <i>Ehrharta calycina</i>	Veldt Grass
* <i>Cynodon dactylon</i>	Couch Grass
* <i>Lagurus ovatus</i>	Here's Tail
* <i>Tripsacodora divaricata</i>	Onion Grass

*introduced species

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- This list was compiled early in 1991. Subsequently more species were found and an additional list compiled (see over.)
 - Of the weeds (introduced plants) in the two lists, the greatest threat to the bushland is the perennial veldt grass Ehrharta calycina. Other weeds that may be in need of intensive control programmes are Rumex rosea and Oxalis pes-caprae, and perhaps Rumex acetosella. The other weeds are, at present, in small numbers or easy to control.

Additional list of existing flora (See notes on previous page.)

Acacia	saligna	Golden Wreath Wattle	one bush.
Burchardia	umbellata	Milkmaids.	one patch.
Dianella	divaricata	Flax Lily	two plants
Jacksonia	sternbergiana	Stinkbush	one bush.
Kennedia	prostrata	Scarlet Runner	one plant
Mesomelaena	stygia	(a sedge)	2 or 3 plants.
* Romulea	rosea	Guildford Grass	
* Oxalis	pes-caprae	Soursob.	
* Rumex	acetosella (?)	Sorrel	
* Anagallis	arvensis	Pimpernel	
* Pelargonium	capitatum	Rose Pelargonium	
* Eragrostis	curvula	African Lovegrass	
* Briza	maxima	Blowfly grass.	
* Monadenia	bracteata	South African Orchid	
* Trifolium	tomentosum	Woolly clover	
* Trifolium	campestre	Hop clover	
* Silene	gallica	French Catchfly	
* Sonchus	oleraceus	Common Sowthistle	
* Taraxicum	officinale	Dandelion	
* Hypochaeris	glabra	Flatweed	
* Arctotheca	calendula	Capeweed	
* Myrsiphyllum	asparagoides	Bridal Creeper	
* Carpobrotus	edulis	Pigface	
* Erodium	botrys	Long Storksbill	
* Petrohrayra	velutina	Velvet Pink.	

* = introduced species.

SPECIES PLANTED IN HILTON BUSH GARDEN 1991-1995

Acacia pulchella
 Acacia saligna
 Acacia stenoptera
 Adenanthos cygnorum
 Allocasuarina humilis
 Anigozanthos manglesii
 Banksia grandis
 Beaufortia elegans
 Calothamnus sanguineus
 Conostylus candicans
 Dryandra sessilis
 Eremaea pauciflora
 Eucalyptus calophylla
 Eucalyptus decipiens
 Eucalyptus foecunda
 Eucalyptus gomphocephala
 Eucalyptus marginata
 Gompholobium tomentosum
 Grevillea vestita
 Hakea lissocarpha
 Hakea prostrata
 Hardenbergia comptoniana
 Hovea pungens
 Hovea trisperma
 Hypocalymma robustum
 Jacksonia furcellata
 Jacksonia sternbergiana
 Kennedia prostrata
 Melaleuca thymoides
 Oxylobium capitatum.

EDUCATIONAL PROGRAM

In 1994 a nature trail was established through the bush garden with 20 numbered posts placed at strategic points and a kit issued to each teacher at Hilton Primary School. The kit contained a teacher's guide and a set of worksheets for the children. A sample of the teacher's guide and of the children's worksheets is enclosed. These sheets have been used by some of the teachers with their classes during the last eighteen months. The posts also show which group of children has "ownership" of that section of bush during their seven years at the school.

BUSH REGENERATION PROGRAM.

In 1991 the school was awarded a Greening Australia award ("Grow us a Home") for a programme of bush regeneration that was developed with the participation of children. (Children researched the relationship between animals and some of the plant species that existed in the "bush garden" (ie the area of remnant Marri woodland that existed on the school grounds).)

The thousand or so seedlings that were donated by Greening Australia were planted by the children. In subsequent years, more planting has been done, mainly by the children. We now have a shadehouse where we raise our own seedlings. Children and parents of the school have spent many hours weeding and spreading woodchip-mulch. The area has changed markedly since 1991, and there are shrubs growing and wildflowers blooming where once the lawnmower ran its course.

NB. Only local native species are being planted. (Karrakatta Soils system.)

FAUNA.

No fauna ~~para~~ survey has been done. The following list shows only the larger birds that are common in the Bush Garden or are common visitors to it. The list is incomplete.

Raven , Magpie , Butcher Bird , Mudlark ,
 Willie Wagtail , Galah , 28 Parrot , White-tailed black cockatoo,
 Red Wattlebird,

REASONS FOR APPLICATION FOR SYSTEM SIX LISTING:

The WA Education Department has introduced a policy of selling off sections of existing school grounds in order to raise funds. It is possible that the section of Hilton Primary School that contains remnant Marri woodland may be sold. If it were sold, we may not have any guarantee that the vegetation would be retained. The destruction of this bushland would be a great loss because:

- 1) It is the only patch of relatively natural bushland in Hilton.
- 2) Years of bush regeneration work would be wasted.
- 3) The school would lose a valuable educational resource.

The loss of this isolated piece of bush may possibly interrupt a flight corridor for birds (see Q.18) and would deprive the citizens of Hilton of any bush area in their suburb.

A "friends" group has just been initiated - there is considerable community support for its retention - and the job of bush regeneration could provide a valuable activity for community members for years to come, with social and aesthetic and educational benefits for the school children and the community.

Name: _____

HILTON BUSH GARDEN - NATURE TRAIL

<p>Grevillea</p>	<p>peg 4</p> <p><u>Grevillea</u></p> <p>★ Sketch the pattern that Grevillea leaves make.</p> <p>OR</p> <p>★ Sketch a Grevillea flower.</p> <p>DON'T PICK IT !</p>
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<p>Leaf of Dianella.</p>	<p>Flower-stalk.</p>	<p>peg 5</p> <p><u>Dianella</u></p> <p>★ Sketch the shape of a leaf and a branched flower-stalk of Dianella.</p>
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<p>Crown of Leaves on a Sheoak Twig (Magnified).</p>	<p>peg 6</p> <p><u>Sheoak</u></p> <p>★ Find a Sheoak twig on the ground. (green or brown)</p> <p>★ Break it at one of the joints and find the "crown" of tiny leaves.</p> <p>★ Sketch the "crown" of leaves as if it was magnified.</p>
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Appendix 8.

1. Rottnest Pine

- This is a native pine tree.
- It has small leaves to conserve water.
- The spherical female cones produce seeds.
- Tiny male cones on the same tree produce pollen.

2. "From a Distance"

- Plantation of exotic pines on your right.
- Weeping Peppermint trees around car park..
- Bush Garden is a remnant of woodland that existed here.
- Note several big stumps (Probably Tuarts).
- Younger chn could mime shape of trees with their body.

3. Gums & Peppermints

- W.A. Peppermint trees are to your left. (Weeping habit.)
- Eucalypt (ie gum tree) saplings are near the peg.
- Peppermints and Eucalypts are both in the Myrtle family.
- All plants in the Myrtle family have a similar leaf-smell.

Grevillea

- Nearby is a low-growing Grevillea shrub - red flowers.
- Red colour attracts birds which pollinate the flowers.
- Honeyeaters obtain nectar with their brush-tongue.
- Pollen from stamens transferred to stigma of another flower via bird's "forehead".

5. Dianella

- A small plant with strap-like leaves near the peg.
- Named after a Roman goddess.
- A northern Perth suburb is named after this plant.
- Note the branched flower-stalks (even when no flowers).

6. Sheoak

- This tree is on your left, with needle-like "leaves".
- The "leaves" are actually green twigs.
- Note "crowns" of tiny scales at the joints of these twigs.
- These triangular scales are the leaves - much reduced.
- This is a female tree - it has "cones" that bear seeds.
- Sheoaks are wind-pollinated.

7. "The Prickle Patch"

- A Prickly Moses shrub is near the peg. Very prickly.
- This is a species of wattle. Wattles are Acacias.
- It is one of the ferny-leafed wattles.
- Thorns evolved for protection against grazing mammals.

8. Balga

- "Balga" is the Nyungar name for Blackboy or Grass Tree.
- Blackboys supplied Aboriginal people with many products eg. glue, varnish, firesticks, bardi grubs, firewood.
- Bardi grubs (beetle larvae) bore into the trunk.
- A suburb of Perth is named after the Balga.

9. Harsh Hakea

- This shrub is behind you as you look at the peg.
- It has very prickly leaves that clasp the stem.
- Hakea fruits are thick & woody to protect seeds from fire.

10. "The Blood Tree".

- The large tree with the red staining is a Marri.
- The Nyungar called this tree "Marri", meaning "blood".
- The "blood" is not sap, but a gum that seals wounds.
- Also called "Redgum" - a species of eucalypt or gum tree.
- A "honkey nut" is the woody fruit (seed capsule) of Marri.
- The seeds are black, about 15mm long.