

BALANNUP LAKE AND ADJACENT BUSHLAND, SOUTHERN RIVER/FORRESTDAL

Boundary Definition: protected area/bushland part taken to cadastre boundary

SECTION 1: CADASTRAL INFORMATION

(Lots, locations and derived information to be updated in the public submission period)

Bushplan Site no. 413 **Map no.** 69

Map sheet series ref. no. 2033-I NE

Other Names

Submission Area 213 and 241; part Gosnells remnant bushland area 17 (Trudgen and Keighery 1995)

Area (ha): total 80.2 (includes open water); bushland 76.6

Local Authorities (Suburb)

City of Gosnells (Southern River), City of Armadale (Forrestdale)

Zoning

MRS: Rural, Parks and Recreation, Important Regional Roads

TPS: Rural, Landscape, General Rural

Lot/Location/Reserve numbers (Purpose),

Street name

1, 1625, 1626, 1627, 1628 Ranford Rd; 1630, 1631, 1632, 1769 Furley Rd; 1771, 1772 Matison St; 1770 Southern River Rd; 506 Balannup Rd

Crown Reserve

Reserve 1821 (Conservation of Flora and Fauna)

Ownership Categories

Private (including commercial organisation), State Government, Local Government, Not identified

CALM Managed Land

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Bassendean Dunes

Bassendean Sands (Qpb: S8)

Bassendean Dunes/Pinjarra Plain

Bassendean Sands over Guildford Formation (Qpb/Qpa:S10)

Wetlands (within the Bassendean Dunes/Pinjarra Plain)

Holocene Swamp Deposits (Qrw: Sp1, Sp2)

VEGETATION AND FLORA

Vegetation Complexes

Combinations of Bassendean Dunes/Pinjarra Plain

Southern River Complex

Floristic Community Types: *not sampled, types inferred

Supergroup 2: Seasonal Wetlands

*4 *Melaleuca preissiana* damplands

*11 Wet forests and woodlands

*12 *Melaleuca teretifolia* and/or *Astartea* aff. *fascicularis* shrublands

Supergroup 3: Uplands centred on Bassendean Dunes and Dandaragan Plateau

*21c Low lying *Banksia attenuata* woodlands or shrublands

*23a Central *Banksia attenuata* — *B. menziesii* woodlands

WETLANDS

Wetland Types: sumpland, dampland, artificial channel

Natural Wetland Groups

Bassendean—Pinjarra transition OR Bassendean with fluvial features

Bennett Brook (B/P.4)

Wetland Management Objectives: Conservation (32ha), Resource Enhancement

Swan Coastal Plain Lakes EPP: 7.1 ha

THREATENED ECOLOGICAL COMMUNITIES

Not assessed

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, vegetated uplands

Vegetation and Flora: limited survey (Submission no. 164b, Trudgen and Keighery 1995)

Structural Units: mapping (Trudgen and Keighery 1995)

Uplands: *Banksia attenuata*, *B. menziesii* and *Nuytsia floribunda* Low Woodland; *Banksia menziesii*, *B. attenuata*, *Allocasuarina fraseriana* and *Eucalyptus tottiana* Low Woodland; *Banksia menziesii*, *B. attenuata*, *Nuytsia floribunda* and *Allocasuarina fraseriana* Low Open Woodland to Low Open Forest; *Banksia menziesii* and *B. ilicifolia* Low Woodland to Low Open Forest; *Banksia attenuata*, *B. menziesii*, *B. ilicifolia* and *Eucalyptus tottiana* Low Open Woodland to Low Woodland; *Eucalyptus tottiana* and *Allocasuarina fraseriana* Low Open Woodland

Wetlands: *Melaleuca preissiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda*, *Eucalyptus marginata* and *E. tottiana* Low Open Woodland; *Allocasuarina fraseriana*, *Melaleuca preissiana*, *Eucalyptus tottiana* and *Nuytsia*



floribunda Low Open Woodland to Low Woodland; *Melaleuca preissiana*, *Allocasuarina fraseriana* and *Nuytsia floribunda* Low Open Woodland; *Melaleuca raphiophylla* Low Forest; *Melaleuca teretifolia* Tall Open Scrub; *Melaleuca preissiana* Low Open Woodland; *Pericalymma ellipticum* Open Heath to Closed Heath; *Regelia ciliata* Open Heath; *Juncus pallidus* and *Phalaris* sp. Sedgeland/Grassland

Vegetation Condition: >80% Excellent to Very Good, <20% Good to Degraded, with areas of severe localised disturbance

Total Flora: not known

Significant Flora: *Blancoa canescens*

Fauna: no systematic survey. Significant mammal species: Quenda (Friend 1996 D)

Linkage: adjacent bushland to the north and south (BS342); part of proposed Greenway 142 (Tingay, Alan & Associates 1997a); part of a regionally significant fragmented bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes: 'wetland of special note' (Payne 1993a, 1993b); important waterbird habitat (Submission no. 164b), Scopewest site; recommended to be protected with the purpose of conservation of nature and recreation compatible with the conservation of nature in study of bushland in the City of Gosnells (Trudgen and Keighery 1995); Category One Area Middle Canning Catchment Study (Evangelisti & Associates *et al.* 1995); part Bushplan Site included in Jandakot Botanic Park Proposal (MfP 1995)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, Maintaining ecological systems or natural processes, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation

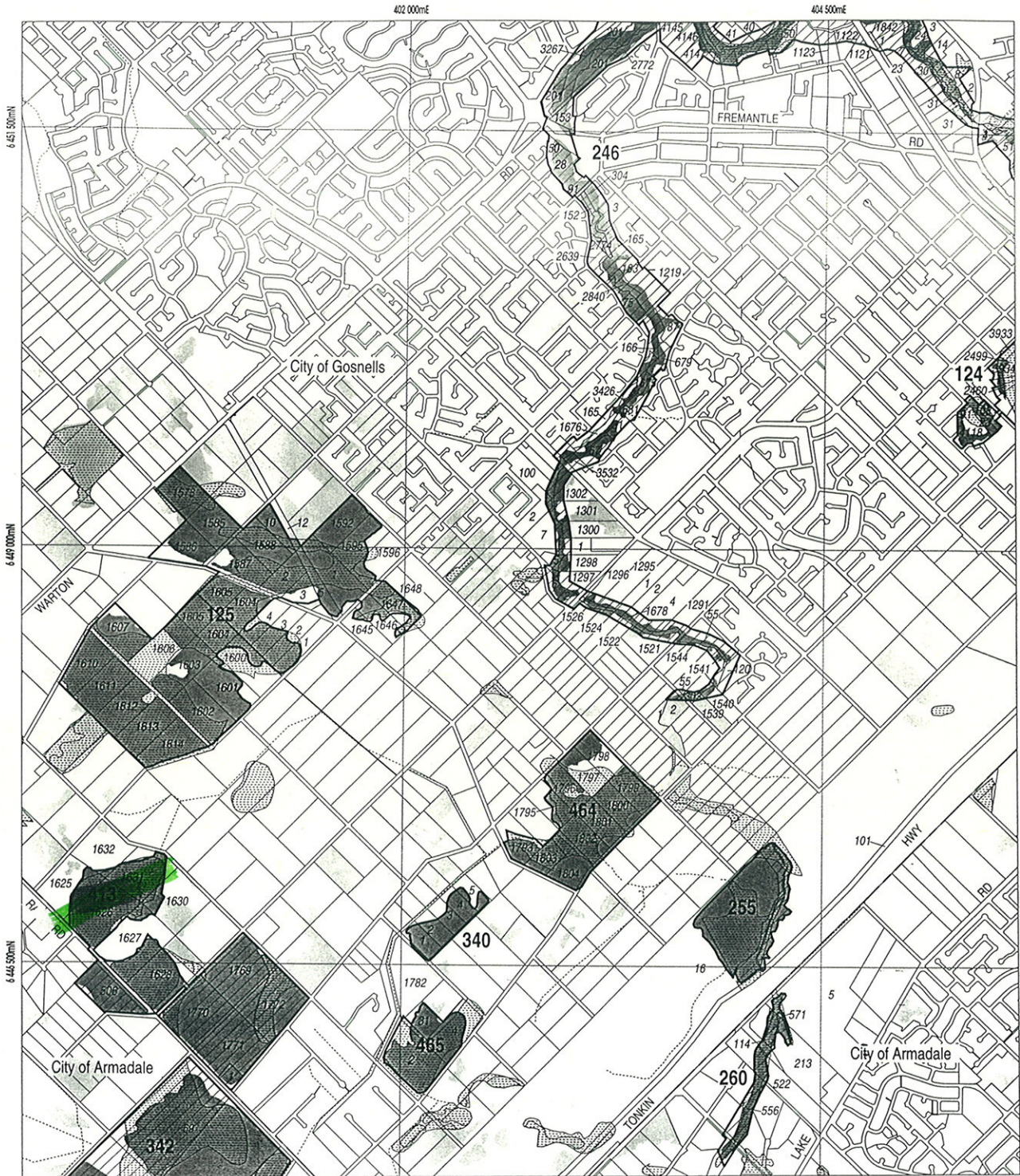
Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site subject to Swan Coastal Plain Lakes EPP; location of conservation category wetlands; under MRS Parks and Recreation Reservation and TPS Landscape Zoning, Crown Reserve

Constraints: private land; under MRD regional road requirements

Recommendation: The care, control and management of parts of this Bushplan Site for conservation purposes within Jandakot Regional Park is endorsed. The most appropriate mechanism for the protection of the remainder of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).





LEGEND

472 Bushplan Sites With Regionally Significant Bushland

Other Native Vegetation

Conservation Category Wetlands

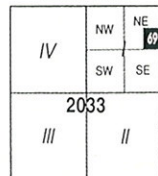
Bushplan Sites With Some Existing Protection

Lot Number, Location Number

Channel Wetlands

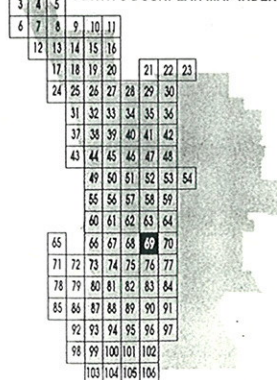
Local Government Boundary

2033 - I NE

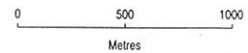


1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

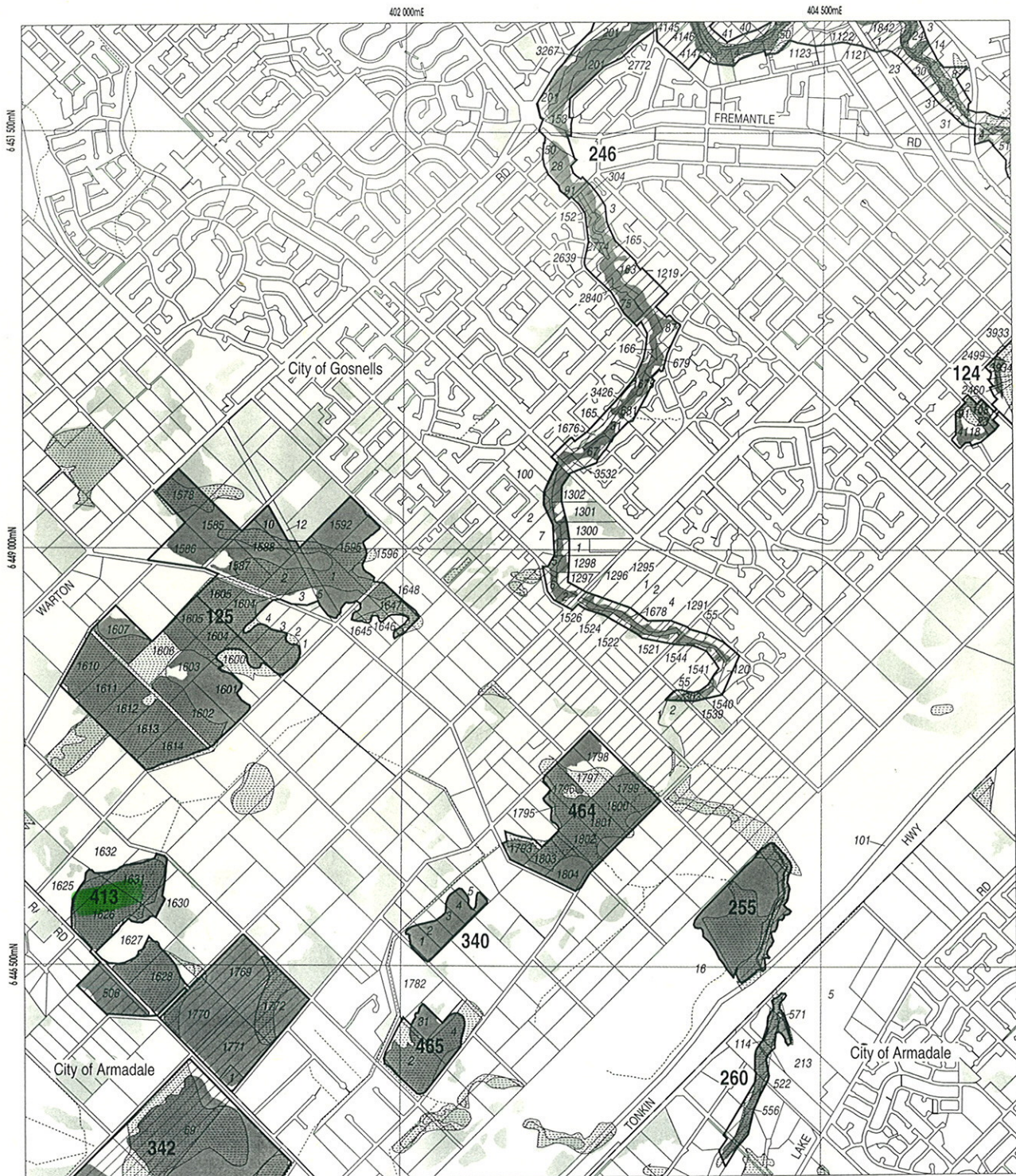
PERTH'S BUSHPLAN MAP INDEX








SCALE



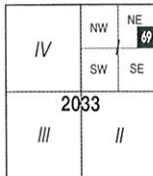
Produced by Project Mapping Section
 Land Information Branch, Ministry for
 Planning, Perth W.A. November 1998
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 Cadastral Data supplied by Department
 of Land Administration, W.A.
 Wetlands Data supplied by
 Water and Rivers Commission
 Native Vegetation Extent for Study Area
 supplied by Agriculture Western Australia



LEGEND

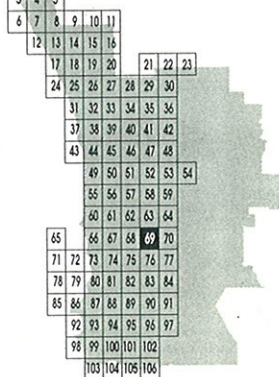
-  Bushplan Sites With Regionally Significant Bushland
-  Other Native Vegetation
-  Conservation Category Wetlands
-  Bushplan Sites With Some Existing Protection
-  Lot Number, Location Number
-  Channel Wetlands
-  Local Government Boundary

2033 - I NE

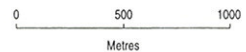


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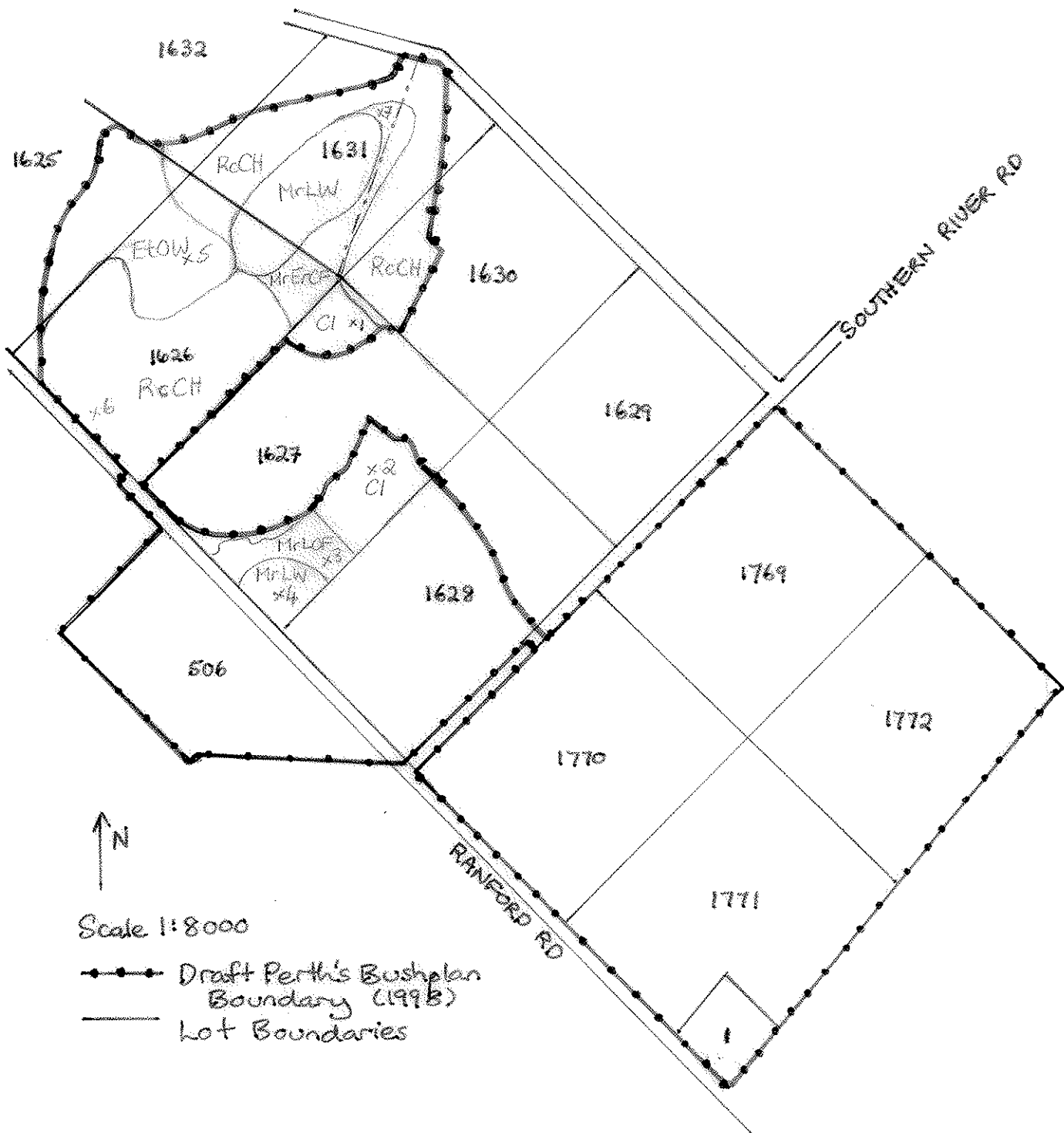
PERTH'S BUSHPLAN MAP INDEX

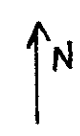
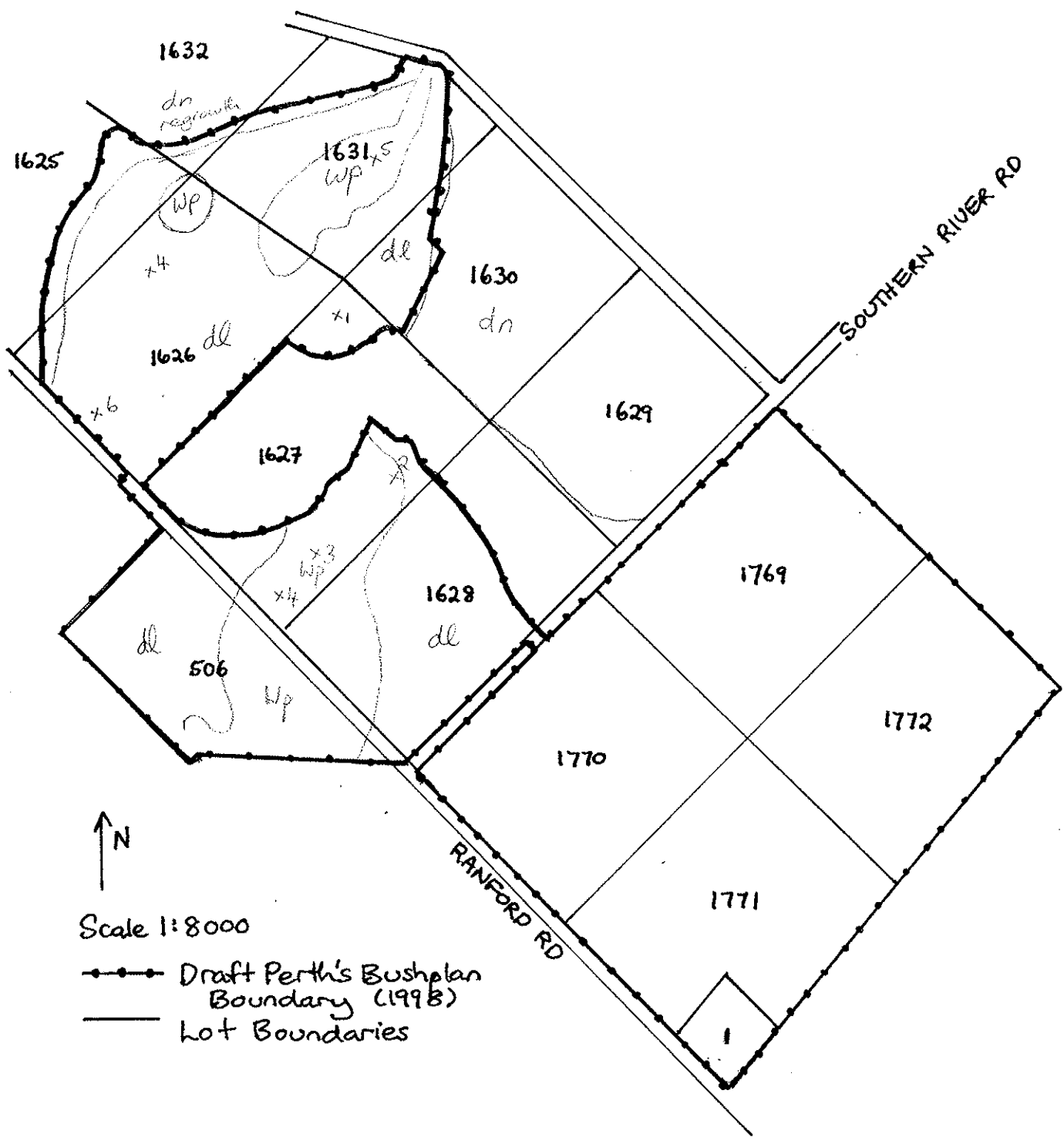


SCALE



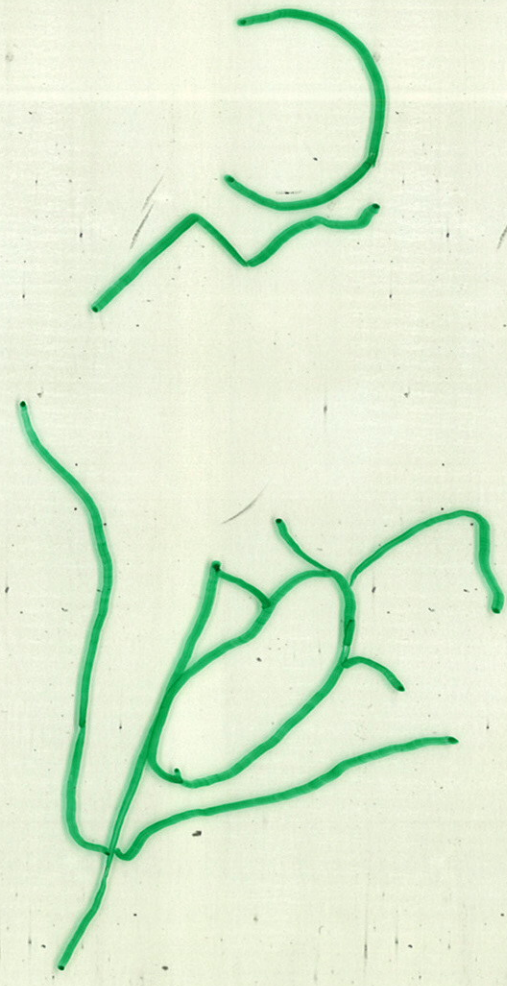
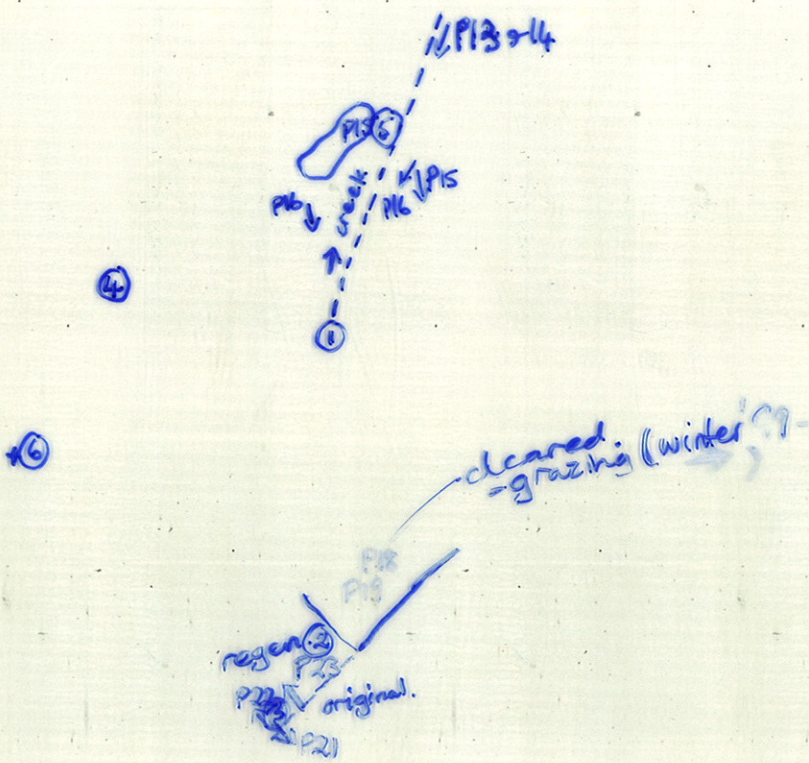
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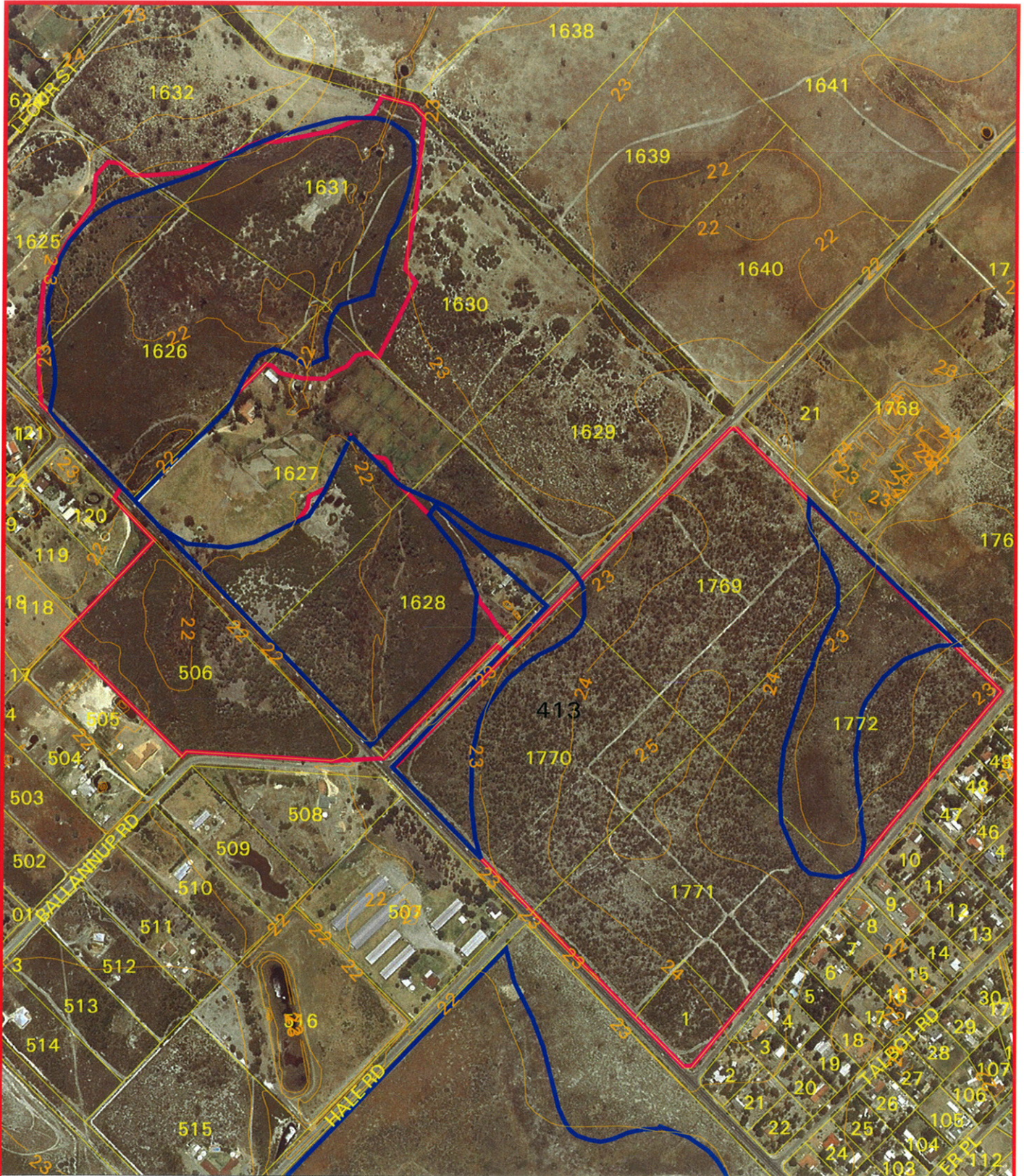





Scale 1:8000

- Draft Perth's Bushplan Boundary (1998)
- Lot Boundaries





Bushplan Site 413

-  Bushplan Sites (boundaries)
-  Cadastre with Lot Numbers
-  Contours - 1m & 2m (WAWA)
-  Conservation Category Wetlands Boundary

MFP INTERNAL USE ONLY

Prepared By: Andrea Zappacosta

Prepared For: CATHERINE THOMSON

Map Ident: plot000120_1

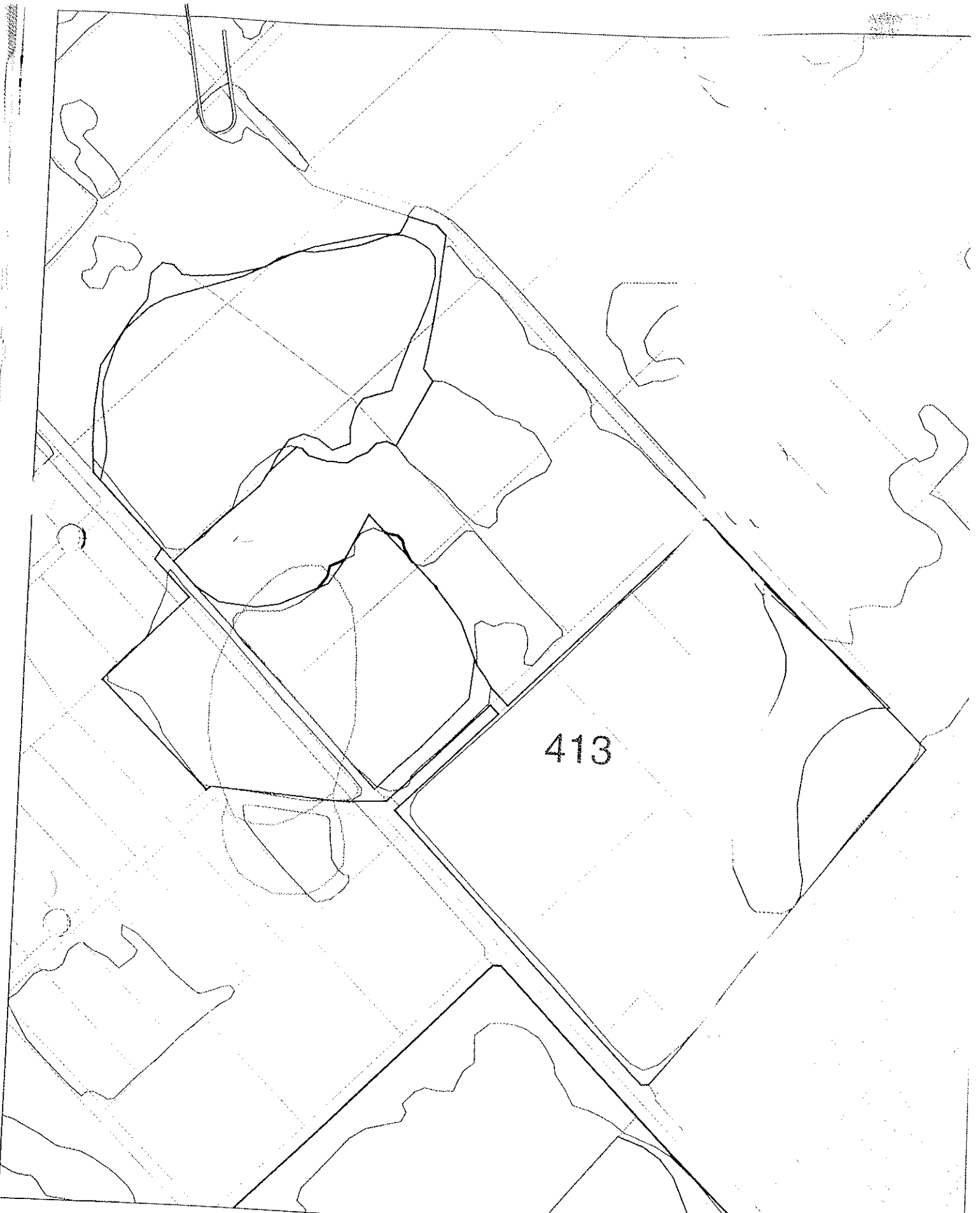
Date: 20 Jan 2000

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DOLA AERIAL 2000 1:1534



SECTION S.E. OF BALANUP RD & OF N.R. 1821 (LOT 506) - SYSTEM SIX SUBMISSION SAYS THIS IS FILLED WITH RUBBLE. PHOTO AGREES



413

BUSHPLAN SITES CORRECTED

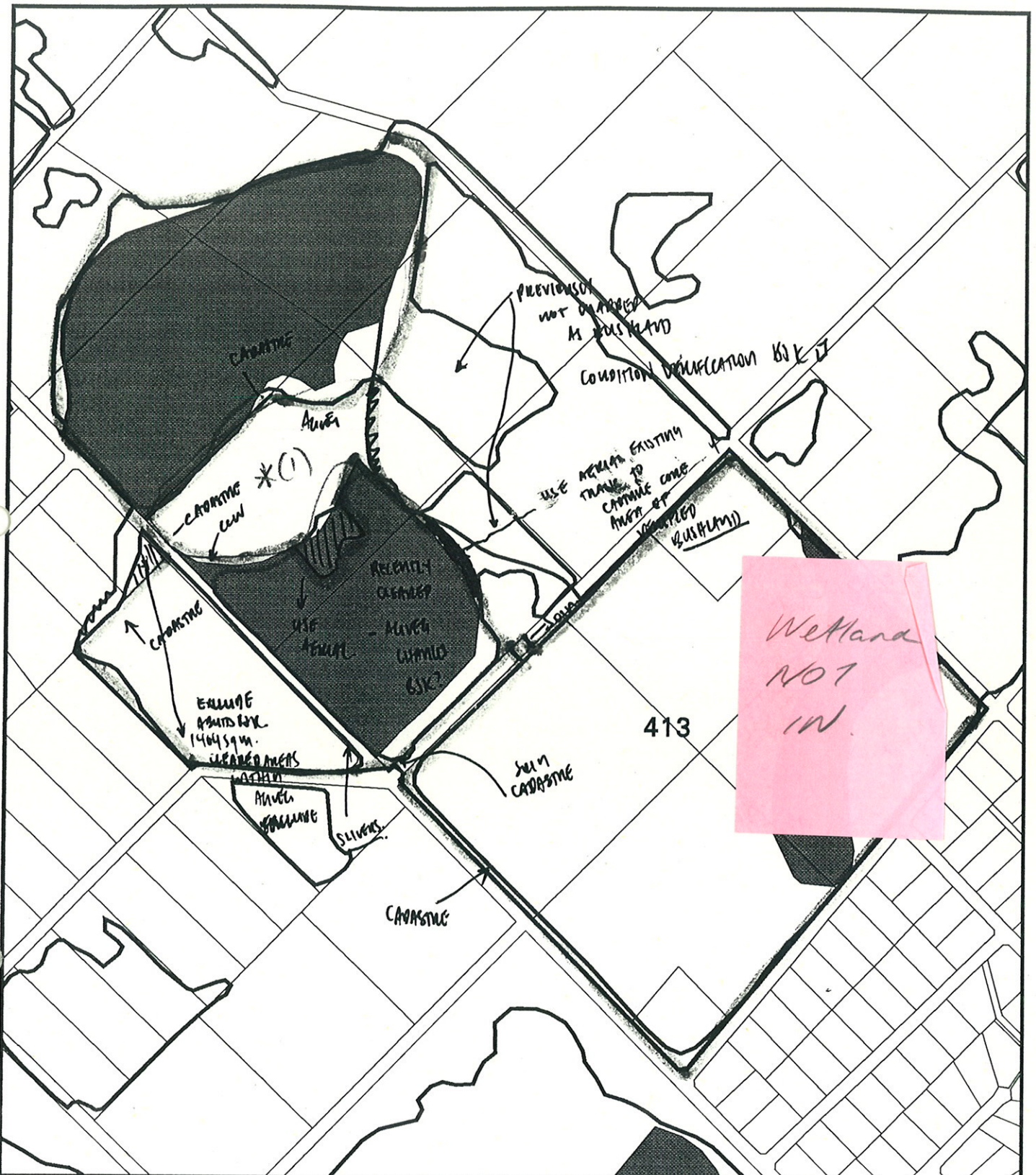


WESTERN
AUSTRALIAN
PLANNING
COMMISSION







B 76 28/10/18





bp site 413

REGUL PLOT PLEASE

-  Cadastre
-  Bushplan sites refno 1-500 SCP BOUNDARY THEME
-  cons category wetlands
-  AG VEG 1998 BOUNDARY THEME

NT/JA 20ct
new blue boundary
OK.

MFP INTERNAL USE ONLY

Prepared By: Andrea Zappacosta

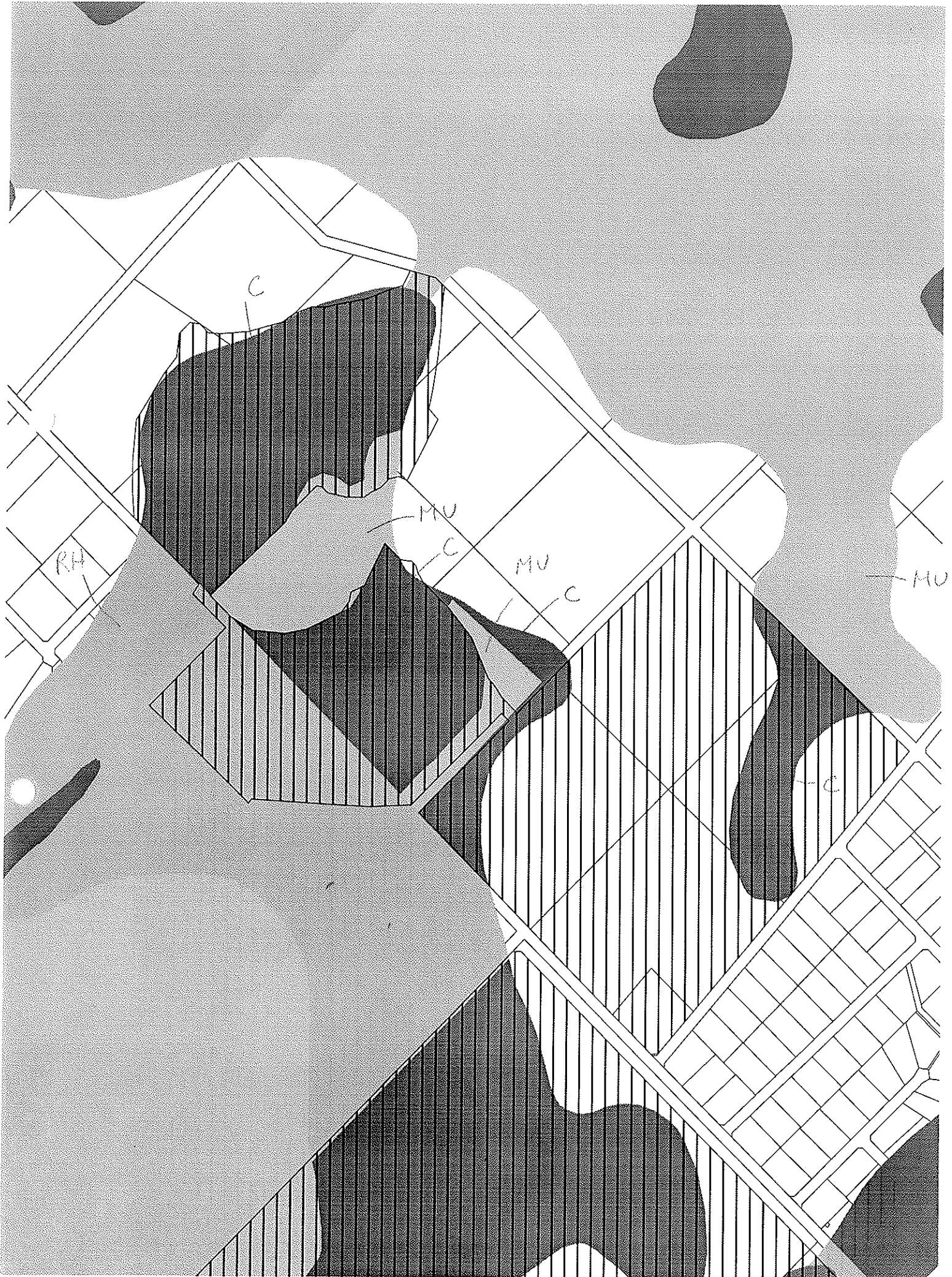
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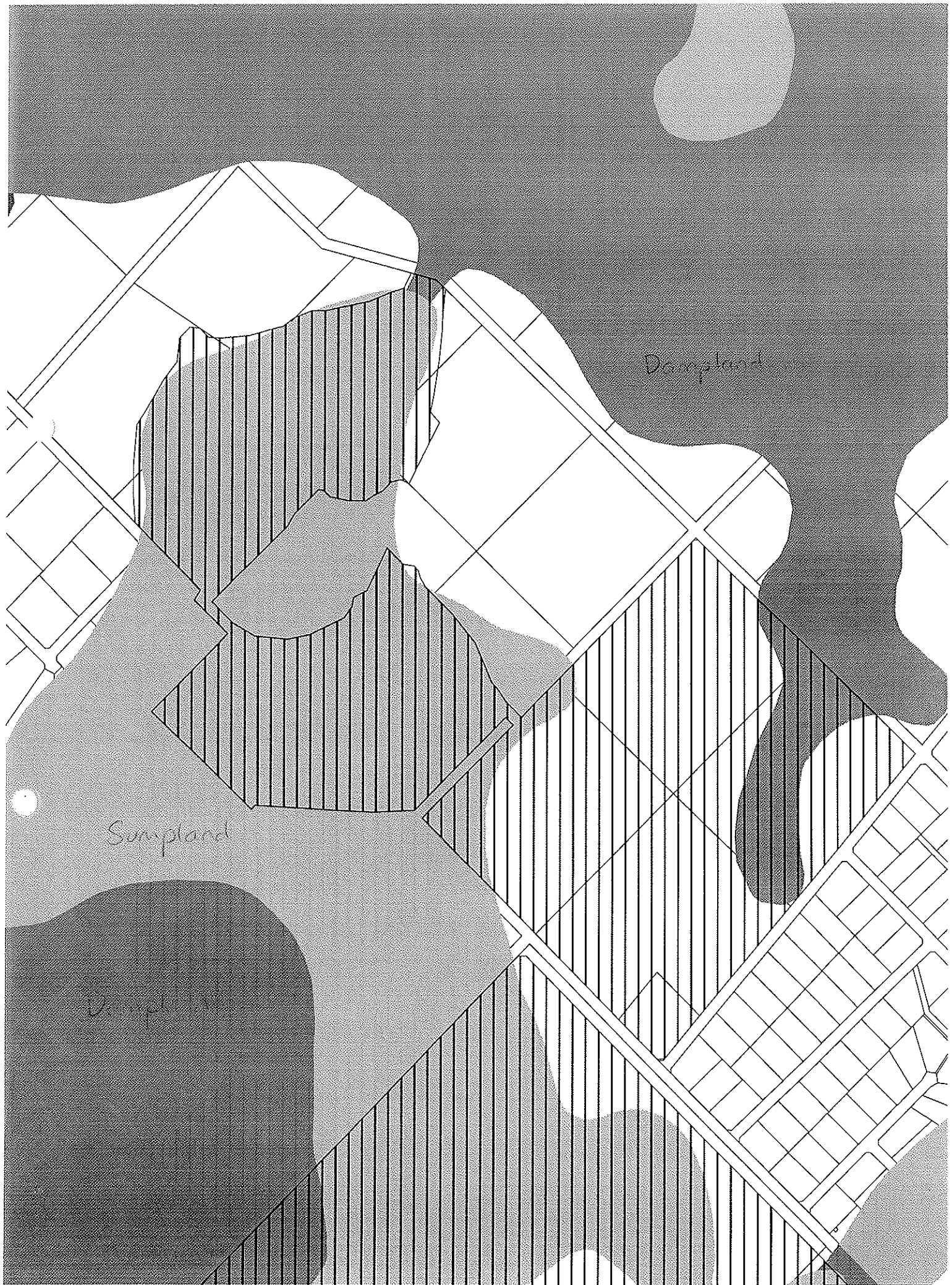
Map Ident: plot980608_1

Date: 08 Jun 98

Scale 1:8280

(1) Can we avoid including this cleared area
in Bushplan Site? yes
Past decision for
Management
boundary
Lost, B/K
20/11

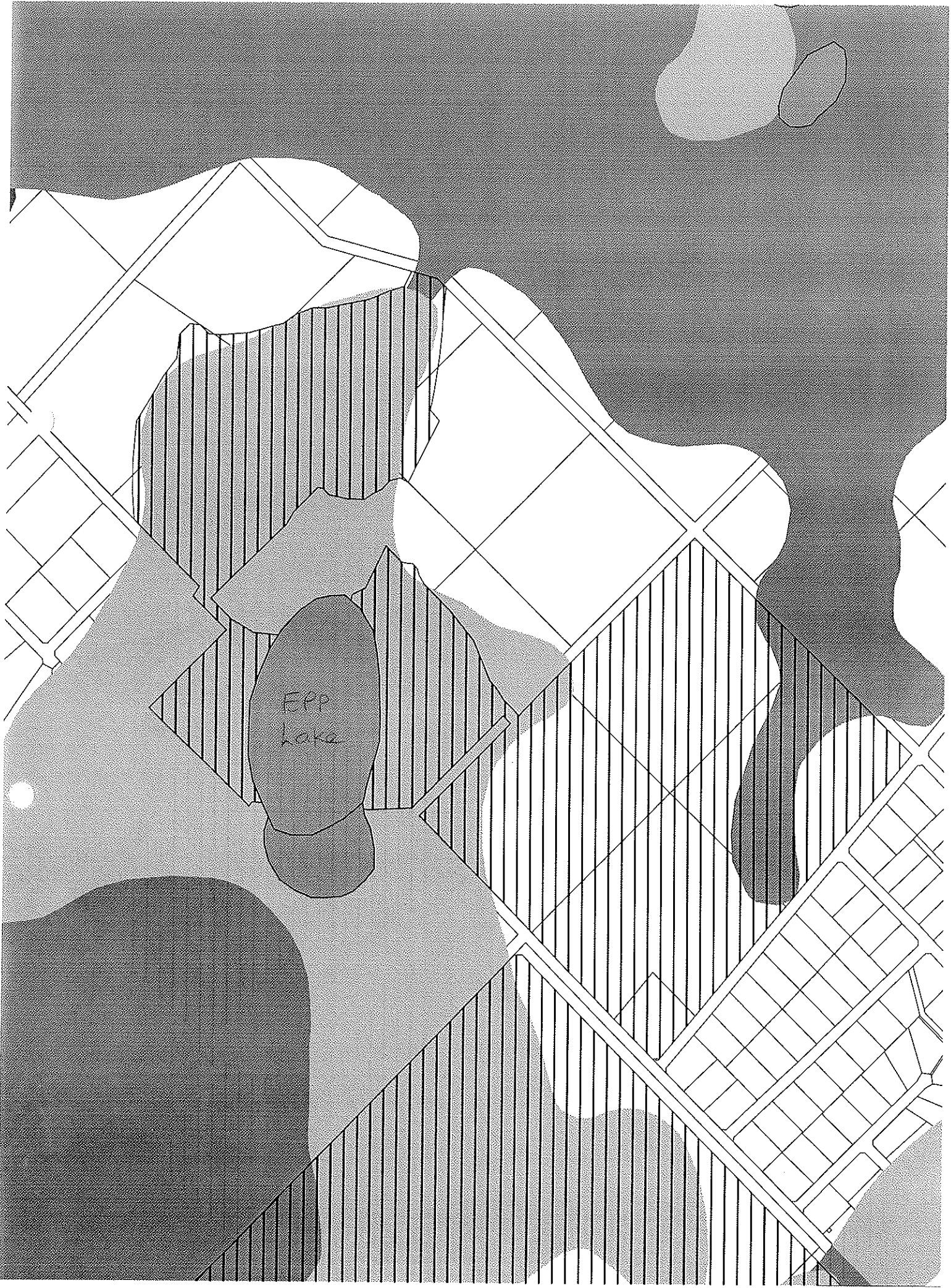




Swampland

Dampland

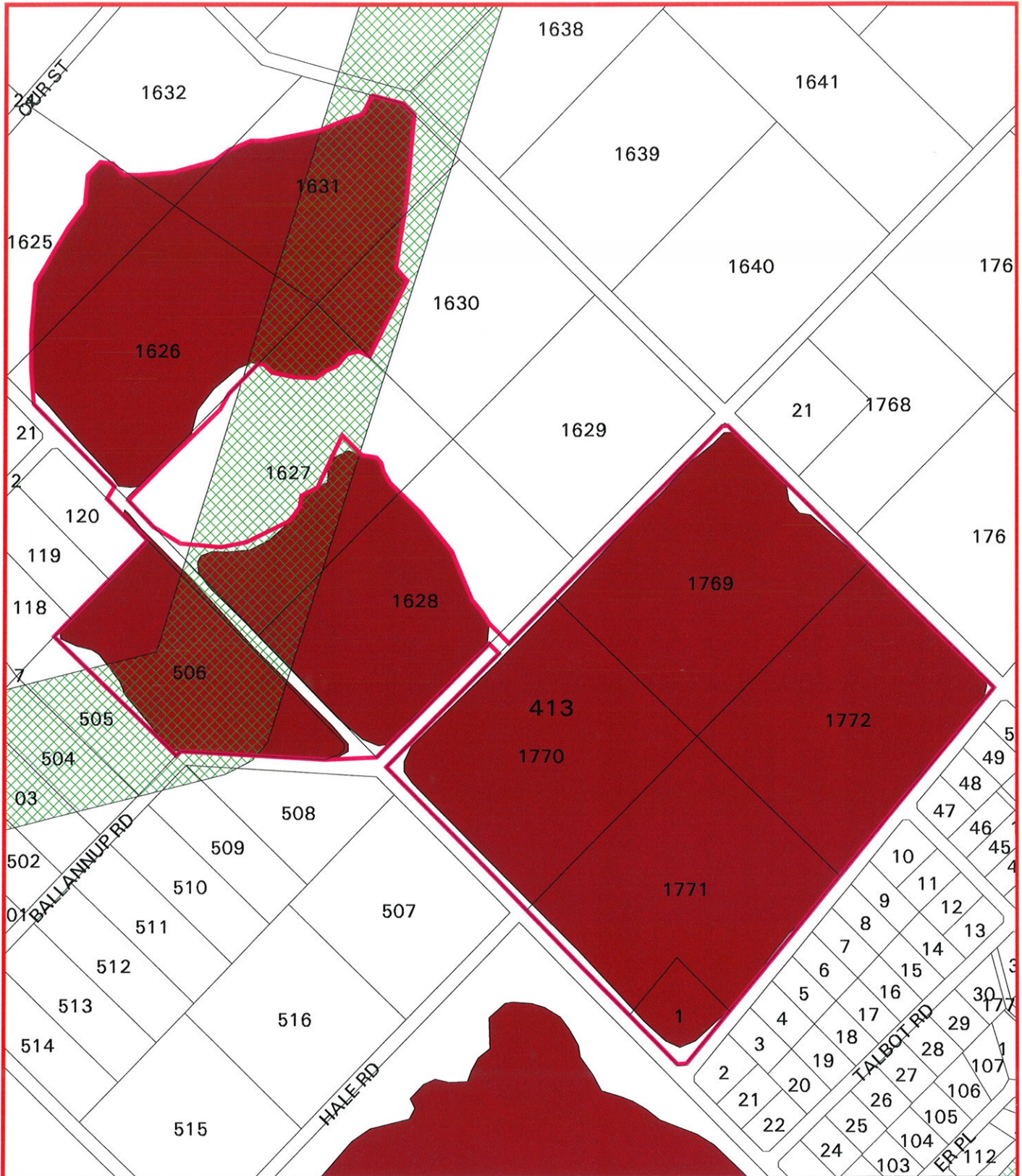
Dampland







EPP
Lake

* Southern River Complex



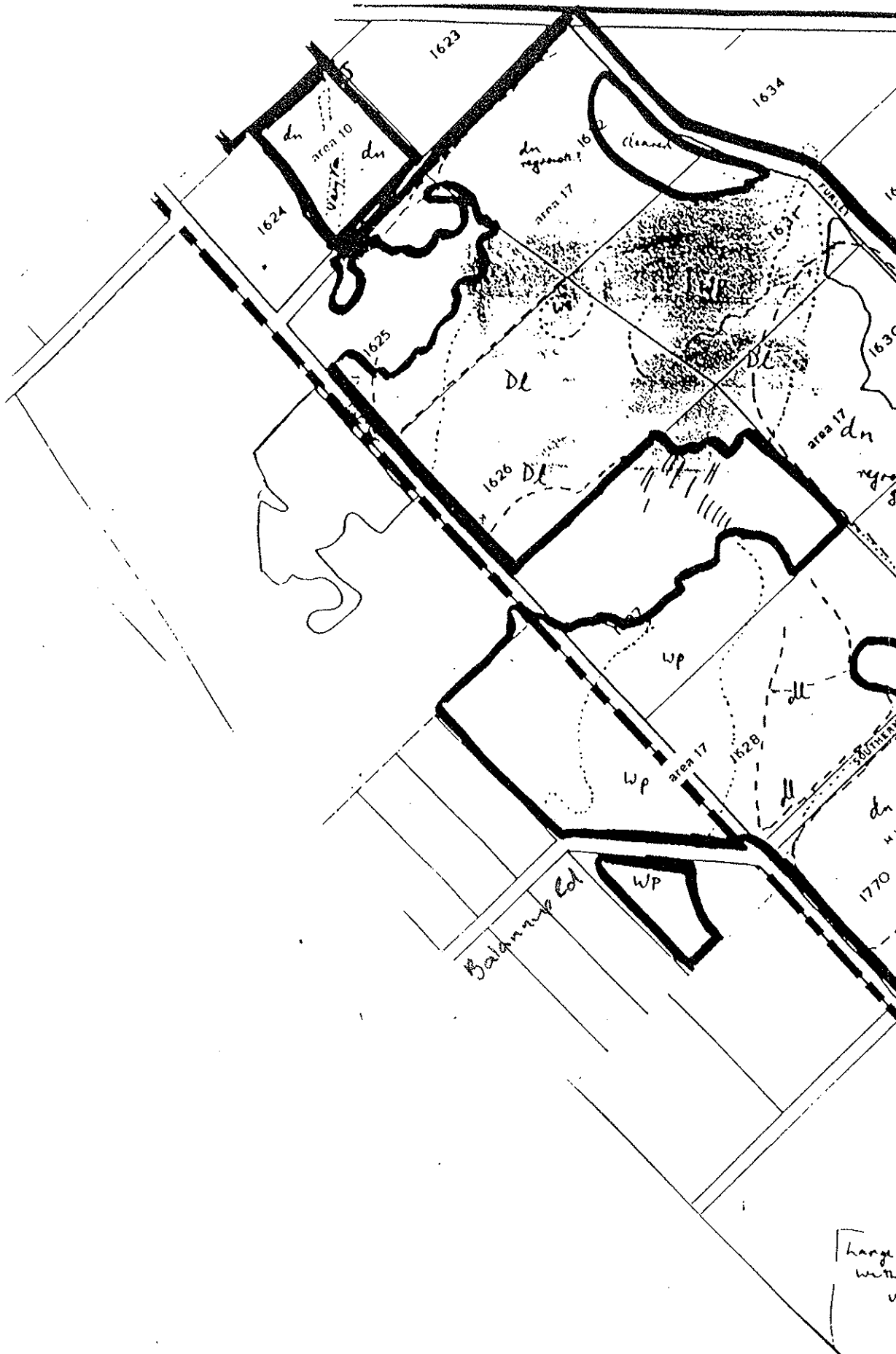


Bushplan Site 413

-  Bushplan Sites (boundaries)
-  Cadastre with Lot Numbers
-  Southern River Complex
-  Proposed Greenway

MFP INTERNAL USE ONLY

Prepared By: Andrea Zappacosta
 Prepared For: CATHERINE THOMSON
 Map Ident: plot000120_1
 Date: 20 Jan 2000
 Scale 1:8000



NEW BALANUP LAKE BOUNDARY
10/4/97

SUBMISSION: BALANUP LAKE

Missing portion
sumplan

ADJUSTED TO
BLUE 11/4/97
(PINK = ORIGINAL)



**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: Balannup rd - Southern River rd.

b) Nearest Corner: Balannup + Ranford rds.

c) Lot Number: 506 (NR 1821) Street Number: + (2 Lots N of Ranford rd ?)

d) Town/Suburb/Location: Forrestdale - Southern River.

e) Local Council: Armadale - Gosnells.

f) Site Name (if any): Balannup Lake (Both sides of Ranford rd)

g) Approximate size of the area (ha): 15 ha ?

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

..... Map attached
.....

i) Map: Streetsmart / UBD / Other:
.....

j) Map no.: 105
.....

k) Grid Ref: 36 x 13-14
.....

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

.....
.....

m) Are you aware of any development proposals that are likely to affect the area?

..... No. (not at moment). Ranford rd may be
..... diverted around this Lake (Swamp)?
.....

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) *CALM own the southern 1/2 (Forrestdale)*
..... *Private N side (2 Lots) (Gosnells)*

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)

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

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)
..... *An important waterbird habitat with good surrounding*
..... *vegetation especially W side & NE corner.*

6. What is/are the soil type/s and colours ?

Type: Sand/Clay/Gravel/Loam/Silt
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? *Open area on N side of Ranford rd*
..... *Views of Tall paperbarks on N side of " "*

8. Is the area a wetland or does it include a wetland? *yes*

If yes, what kind of a wetlands is it?

- 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?

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

10. What percentage of the area is indigenous vegetation? 90% ?

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion. The N side of Ranford rd - (NW corner)

..... Its an important component of Balonnup Lake and is regenerating after

12. Has any previous flora or fauna survey work been done on the area? bulldozing a few years ba

If yes, please give details of the work I've done waterbird

..... surveys for CALM. (Scopewest) 1989-92

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

- a) pristine
- b) excellent - NE side (Area)
- c) very good - S area.
- d) good - NW corner.
- e) degraded
- f) completely degraded
- g) don't know

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

- a) Partial clearing (NW area)
- 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 Burnt out last summer
- 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

- m) Grazing: stock, overgrazing by feral or native mammals
 - n) Proliferation of tracks, fire breaks and walk trails
 - o) Off-road vehicle use
 - p) Use as service corridors by the SEC (Main Roads) Water Authority.
- (Source: B Keighery. Bushland Plant Survey, September 1994)

15. Does the area contain any plant species of special interest that you know of? (eg. declared rare flora, priority taxa, outlier populations)

A professional Botanical surveys needs to be done.

Do you know what they are?

16. Do you know of any native animals that use the area?

Can you list those you know of? (birds, mammals, reptiles, amphibians etc)

CALM can provide waterbird list. (from Scopewest surveys)

17. Is the area used by any native animals of special interest? (eg. endangered species, large/important populations).....

If yes, please name them and indicate source of information

.....

.....

CAN YOU TELL US A LITTLE ABOUT THE SURROUNDING AREA

18. Are there any bushland areas (including wetlands) near to this area?

yes

If yes, how close are they? *Greens Swamps (Bot park) 800m. W.*

Lot 69 Hale rd. (Bot Pk) 500m SE.

Lot: 1770 adjacent to Southern River d. (Reserved.)

Are they already conservation reserves? *yes (Bot Pk) | Amendment 927/93*

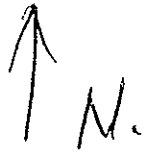
What is their approximate size? *100 ha +*

19. Does the submitted area link other bushland areas?

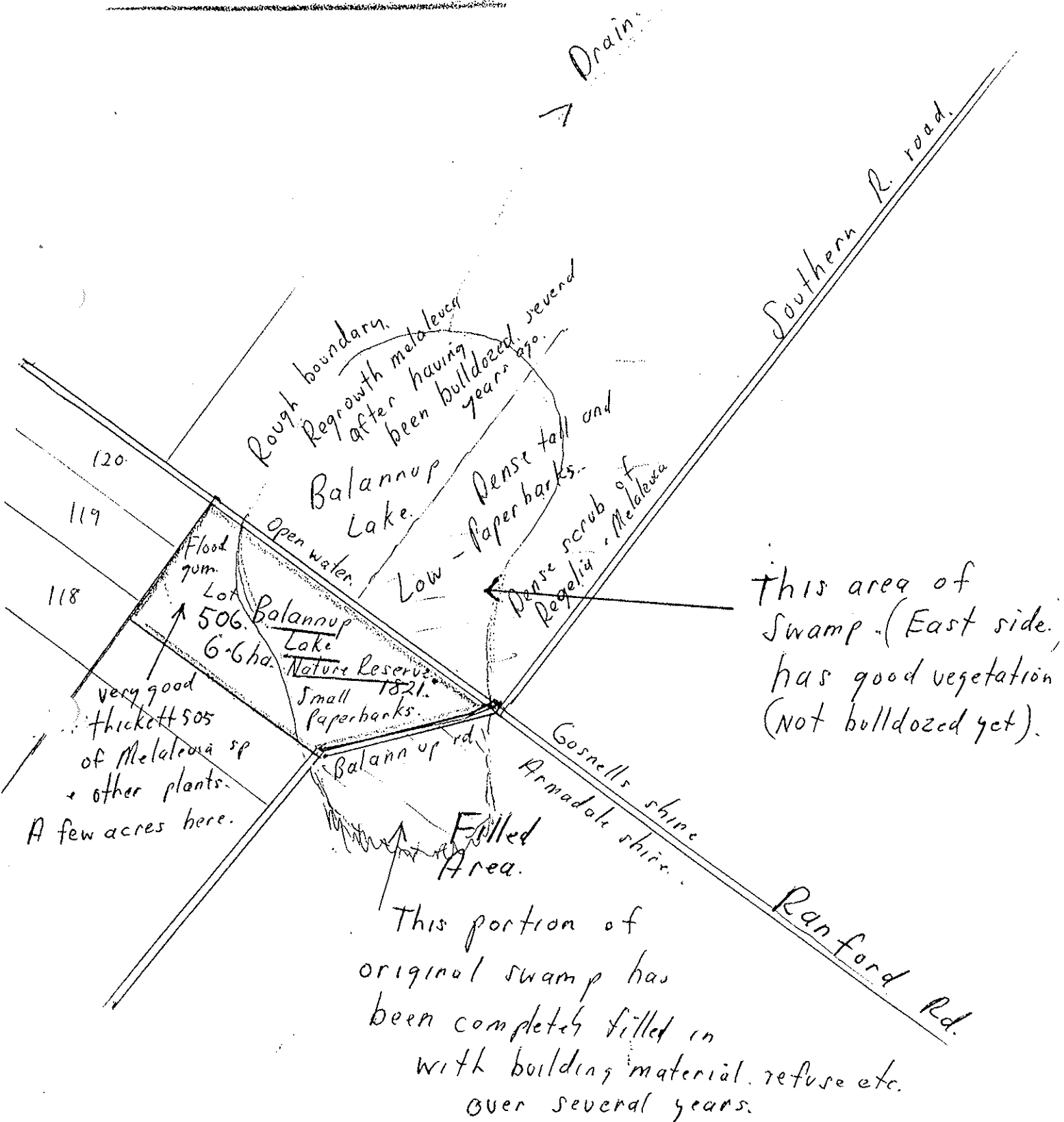
.....

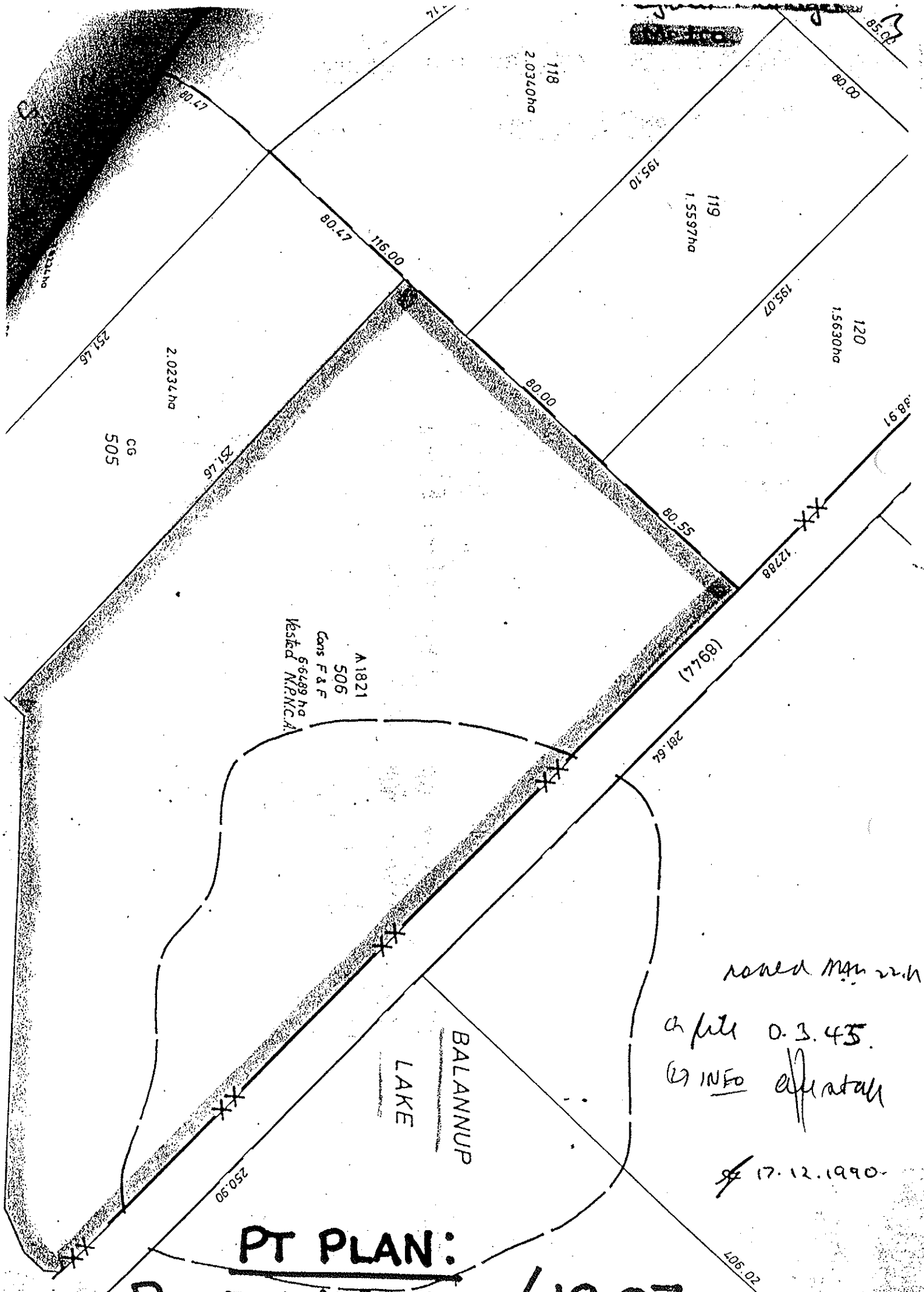
.....

Please attach any additional information about the area which may be of use when assessing it.



Balannup Lake





118
2.0340ha

119
1.5597ha

120
1.5630ha

CG
505

2.0234ha

A 1821
506
66.89 ha
Vested N.P.N.C.A.
Cons F & F

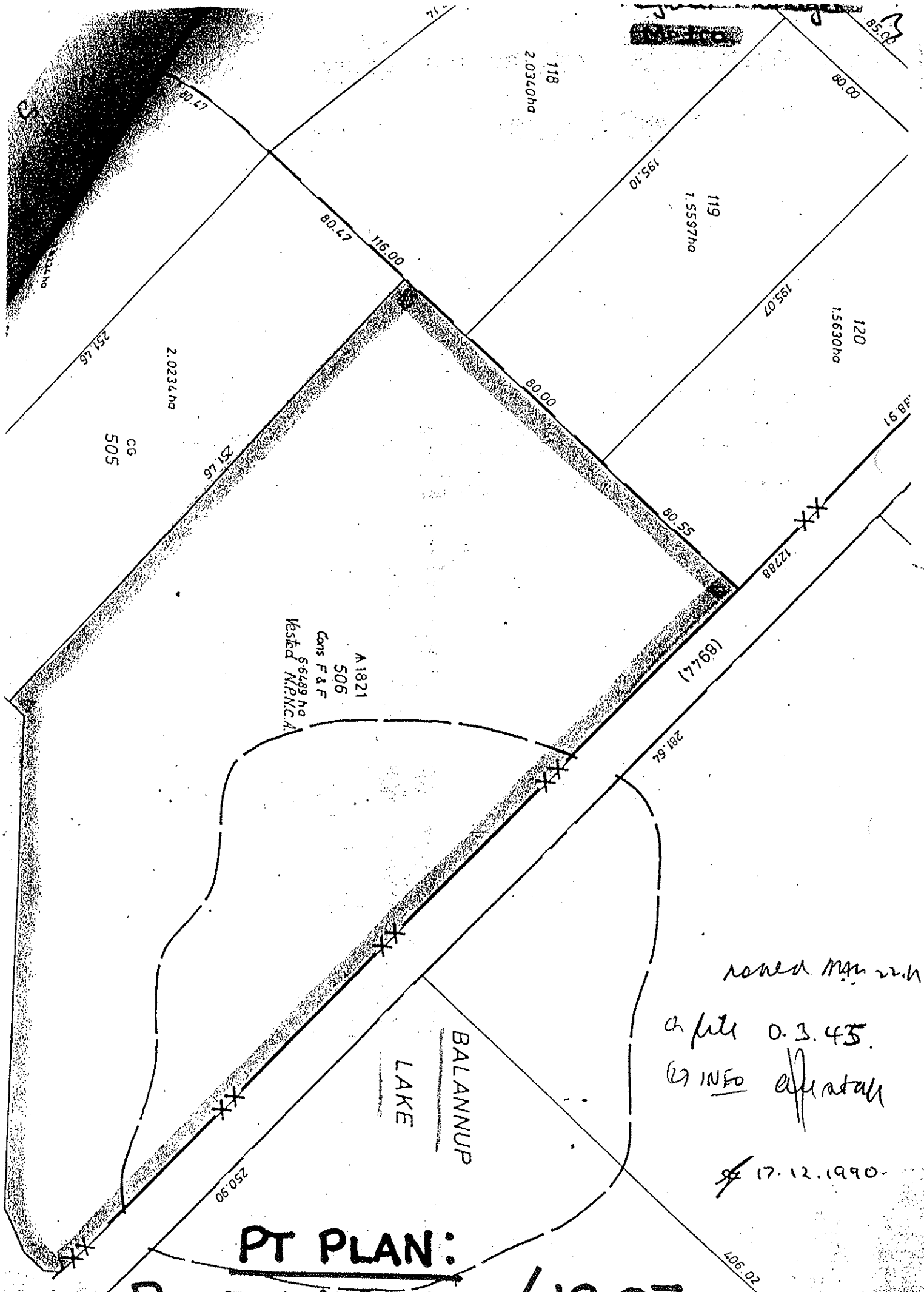
BALANNUP
LAKE

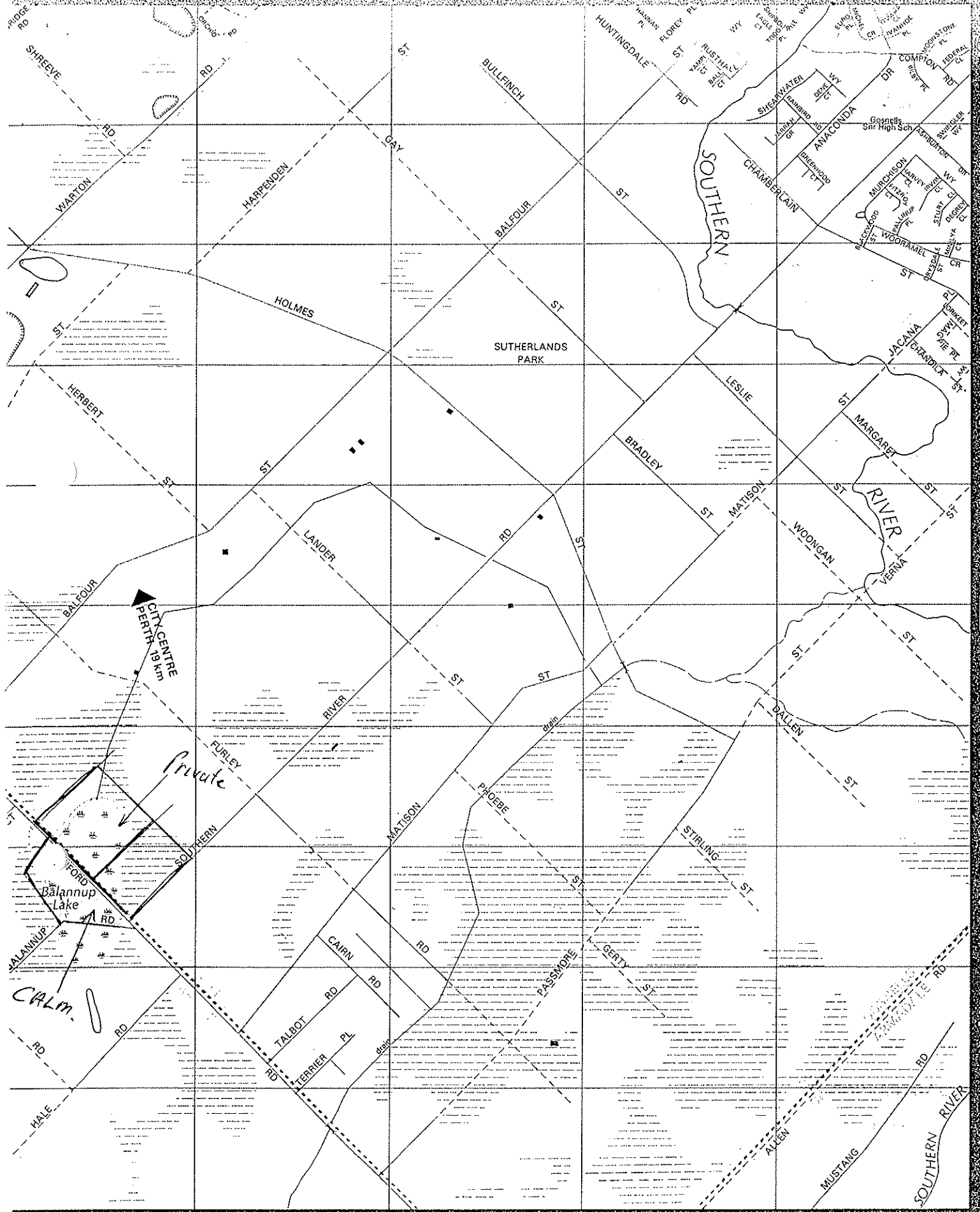
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a file 0.3.45.
(2) INFO essential

17.12.1990

PT PLAN:

DEPT 1:2000 / 18.07





POLICE STATION
HOSPITAL

POST OFFICE
PUBLIC TELEPHONE

TRAFFIC FLOW
TRAFFIC LIGHTS

FOR COMPREHENSIVE
LEGEND, SEE PAGE 3

Plants recorded at Balannup Lake, Nature Reserve, 23.3.91

Melaleuca teretifolia

M. lateritia

M. incana

M. raphiophylla

M. viminea

Hakea varia

Astartea fascicularis

Eucalyptus rudis

Acacia saligna

A. pulchella

Petersonia occidentalis

Cassytha sp.

Dianella divaricata

Emelea sp.

Baumea sp.

Typha

Robin Redbreast Bush

Grey Honeymyrtle

Freshwater Paperbark

Mohan

Variable-leaved Hakea

Flood Gum

Golden Wreath Wattle

Prickly Moses

Purple Flags

Dodder Laurel

Flax Lily

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: SOUTHERN RIVER RD, FURLEY + MATISON STS.,
RAV FORD RD.

b) Nearest Corner:
Includes FOT1640

c) Lot Number: Street Number: /

d) Town/Suburb/Location: Sauthern River

e) Local Council: City of Gosnell

f) Site Name (if any): Lake Balannup + Matison St/Furley Rd
woodland.

g) Approximate size of the area (ha):

h) Please locate the area on a map and give us map references if possible:
See EPA Bulletin No. 717. November 1993

i) Map: Streetsmart /UBD/Other:

j) Map no.:

k) Grid Ref:

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

(See MRS Amendment - South East Corner -
Canning Vale - Southern River 927/33.)

m) Are you aware of any development proposals that are likely to affect the area?

Yes - Dursan development adjacent to area
② Re-routing of Rarford Road.

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) *Private + Government*

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)

4. What is the area zoned? (please indicate whether zoning is Town Planning Scheme or Metropolitan Region Scheme) *Parks + Recreation*

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)

Almost no upland vegetation left in Southern Dunes - Canning Vale. In good condition (although partly burnt last year).

6. What is/are the soil type/s and colours?

Type: Sand/Clay/Gravel/Loam/Silt

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? *Wetlands + banksia woodland*

If yes, what kind of a wetlands is it?

a) lake

b) river

c) stream

d) swamp

e) estuary

f) seasonally wet

g) other *+ waterlogged seasonally*

9. What percentage of the wetland is open water in summer?

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

10. What percentage of the area is indigenous vegetation?

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion. See Q. 5

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

..... Refer M.F.P. studies + PEP + WAWA. "Wetlands in the City of Gosnell"

If yes, please give details of the work

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

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 Burnt last year
- 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

- m) Grazing stock, overgrazing by feral or native mammals
- n) Proliferation of tracks, fire breaks and walk trails
- o) Off-road vehicle use
- p) Use as service corridors by the SEC, Main Roads, Water Authority.

(Source: B Keighery. Bushland Plant Survey, September 1994)

15. Does the area contain any plant species of special interest that you know of? (eg. declared rare flora, priority taxa, outlier populations) *not known*

Do you know what they are?

16. Do you know of any native animals that use the area? *Yes*

Can you list those you know of? (birds, mammals, reptiles, amphibians etc)

High waterbird use, Quenda

17. Is the area used by any native animals of special interest? (eg. endangered species, large/important populations) *Quenda*

If yes, please name them and indicate source of information

.....

CAN YOU TELL US A LITTLE ABOUT THE SURROUNDING AREA

18. Are there any bushland areas (including wetlands) near to this area?

Yes - Holmes, Barfleur, Furlley, Jandals, Furlley, Southern River + Siphon C - 1 M75, Phaelle, Passgate

If yes, how close are they? *Varies 500 metres - 1.2 km*

.....

Are they already conservation reserves? *M75 only*

What is their approximate size?

19. Does the submitted area link other bushland areas? *Could be linked, by reserving areas*

.....

Please attach any additional information about the area which may be of use when assessing it.

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 *MATISON RD. Bushland.*

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: *Matison Rd / Ranford / Rhoelie*

b) Nearest Corner:

c) Lot Number: Street Number:

d) Town/Suburb/Location: *Southern River*

e) Local Council: *City of Gosnell*

f) Site Name (if any):

g) Approximate size of the area (ha):

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

*See South East Corridor Stage A - MRS map. *This area*

i) Map: Streetsmart / UBD / Other: *included in
Balannup Swamp for
re-zoning.*

j) Map no.:

k) Grid Ref:

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

.....

m) Are you aware of any development proposals that are likely to affect the area?

.....

.....

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

9. What percentage of the wetland is open water in summer?

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

10. What percentage of the area is indigenous vegetation?

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion.

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

...See Semenuk, PEP, MAS report

If yes, please give details of the work

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

a) pristine

b) excellent

c) very good

Damaged by fire in 1994

d) good

e) degraded

f) completely degraded

g) don't know

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

Suggested name of area (1996)

Some Other Commonly used Names:

Balannup Lake (Subm 213 and 241) and adjacent bushland

Local Authorities (Suburb)

City of Gosnells (Southern River), City of Armadale (Forrestdale)

Lot/Reserve numbers, Street name

Area (ha):**Zoning**

MRS: Rural, Parks and Recreation

TPS:**Ownership Categories (Purpose)**

CALM (Nature Reserve)

LANDFORM AND SOIL**Geomorphology and soils****Bassendean Dunes**

Bassendean sands (Qpb: S8)

Bassendean Dunes/Pinjarra Plain

Bassendean sands over Guildford Formation (Qpb/Qpa:S10)

Wetlands (within the Quindalup Spearwood Bassendean Dunes Pinjarra Plain)

Holocene swamp deposits (Qrw: Sp1, Sp2)

REGIONAL VEGETATION AND FLORA**Vegetation Complex****Combinations of Bassendean Dunes/Pinjarra Plain**

Southern River Complex

Floristic Community Types: not sampled types inferred (*)**Supergroup 2 - Seasonal Wetlands***4 *Melaleuca preissiana* damplands

*11 Wet forests and woodlands

*12 *M. teretifolia* and / or *Astartea* aff. *fascicularis* shrublands**Supergroup 3 - Uplands, centred on Bassendean Dunes and the Dandaragan Plateau***21c Low lying *Banksia attenuata* woodlands or shrublands*23a Central *Banksia attenuata* - *B. menziesii* woodlands**REGIONAL WETLANDS**

Wetland Types: sumpland, dampland

Consanguineous suite**Bassendean - Pinjarra transition OR Bassendean with fluvial features**

Bennet Brook (B/P.4)

Wetland Management Objective: Conservation, Resource Enhancement

Lake EPP: 8.2 ha

THREATENED COMMUNITIES

Not assessed

AREA DESCRIPTION

Landscape features: lake, vegetated wetland, vegetated uplands

Vegetation and Flora

Structural units: limited survey (Trudgen and Keighery 1995)

Banksia attenuata, *Banksia menziesii* and *Nuytsia floribunda* Low Woodland; *Banksia menziesii*, *Banksia attenuata*, *Allocasuarina fraseriana* and *Eucalyptus todtiana* Low Woodland; *Banksia menziesii*, *Banksia attenuata*, *Nuytsia floribunda* and *Allocasuarina fraseriana* Low Woodland to Low Open Forest; *Banksia menziesii* and *Banksia attenuata* Low Open Woodland to Low Open Forest; *Banksia menziesii* and *Banksia ilicifolia* Low Woodland to Low Open Forest; *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus todtiana* and *Banksia ilicifolia* Low Open Woodland to Low Woodland; *Eucalyptus todtiana* and *Allocasuarina fraseriana* Low Open Woodland; *Melaleuca preissiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda*, *Eucalyptus marginata* and *Eucalyptus todtiana* Low Open Woodland; *Allocasuarina fraseriana*, *Melaleuca preissiana*, *Eucalyptus todtiana* and *Nuytsia floribunda* Low Open Woodland to Low Woodland; *Melaleuca preissiana*, *Allocasuarina fraseriana* and *Nuytsia floribunda* Low Open Woodland; *Melaleuca preissiana* Low Open Woodland; *Pericalymma ellipticum* Open Heath to Closed Heath; *Regelia ciliata* Open Heath; *Juncus pallidus* and **Phalaris* sp. Sedgeland;

limited survey (Subm. No. 164b), (detailed survey), (mapping)

Melaleuca raphiophylla Low Forest, *M. teretifolia* Tall Open Scrub**Remnant Vegetation (canopy only):**

Vegetation Condition: >80% Excellent to Very Good with <20% Good to Degraded, with areas of severe localised disturbance

Total Flora: not known, (estimated), (site generated list only), (estimated >50% expected flora), (estimated >75% expected flora), (estimated >90% expected flora)

DRF/Priority and significant flora: not surveyed

Fauna

Mammals: Quenda (*Isoodon obesulus*)

Linkage: bushland linkage to north-west available, to the south recognised

Special Attributes: 'wetland of special note' (Payne 1993a&b), important waterbird habitat (Subm. No 164b), Scopewest site; recommended to be protected with the purpose of conservation of nature and recreation compatible with the conservation of nature in study of bushland in the City of Gosnells (Trudgen and Keighery 1995)

INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed

CONSERVATION RECOMMENDATIONS

Criteria met for inclusion: Representation of ecological communities, Diversity, Rarity, Maintaining ecological systems or natural processes, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation, Criteria not relevant to determination of conservation value, but which may be applied when evaluating areas having similar values

Constraints: Private land, MRS Urban zoning, Mineral Resource Area, Mineral Lease,

Recommendation:

Draft Only



CITY OF GOSNELLS

2120 Albany Highway Gosnells 6110
PO Box 662 Gosnells 6990
Western Australia

Telephone 08 9391 3222
Facsimile 08 9398 2922
E-mail council@gosnells.wa.gov.au

BS 413 61

PB206

24 March 1999

Perth's Bushplan
Ministry for Planning
Albert Facey House
469 Wellington Street
PERTH WA 6000

Our Reference: WvL:4.5.2
Your Reference:
Enquiries: Wayne van Lieven

MINISTRY FOR PLANNING
26 MAR 1999
805-2-1-32 p12
FILE

Dear Sir/Madam

Submission on Perth's Bushplan

The Council of the City of Gosnells fully supports Perth's Bushplan and its aims. There are, nonetheless, issues that are of concern to the City, and to Local Government in general. The City's concerns are as follows:

1. Compensation should be considered when a Local Government incurs a financial loss where a *Bushplan* site negatively affects the use of lands owned in fee simple by a Local Government. An equitable outcome could be achieved through the linking of compensation monies to the acquisition by Local Government of locally significant bushland.
2. There is a crucial requirement for State Government support to ensure the correct management of *Bushplan* sites already in Local Government management.
3. The City endorses the proposed support for Local Government on the conservation of "locally significant bushland", but stresses that the State Government must recognise the complexity and enormity of the task facing Local Government. Measures to be developed to assist in this matter must be commensurate to the task and satisfactory to the whole of Local Government. The Ministry for Planning is encouraged to work closely with Local Governments to determine the most appropriate method(s) of assistance required rather than delivering a predetermined package.
4. A coordinated and standardised approach should be applied to the mapping of "locally significant bushland" and the development of conservation strategies, and that this be proactive to allow for identification ahead of urbanisation.
5. With respect to the Tom Bateman Sporting Complex (Bushplan site [redacted]), managed by the City of Gosnells, Council fully supports the conservation of the remnant vegetation covering approximately 40% of the site, and confirms that any future development will take this into account and will in no way compromise the values of the bushland areas.
6. Local Governments, in developing "negotiated planning solutions" for rural zoned lands very importantly need clear indications of Ministry for Planning support and clearly delineated development assessment parameters.
7. Clearing of bushland ahead of development/subdivision approval in order to maximise options (from the developer's point of view) is widespread. The existing regulatory framework does

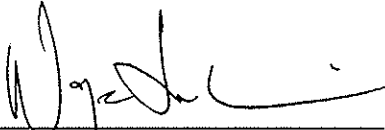
SUBMISSION NO. 352

not provide robust protective mechanisms. There is an urgent need for a high-level policy position, ie a Statement of Planning Policy as a high priority.

8. Balannup Lake and Adjacent Bushland (Bushplan site ~~45~~) contains some lands already included in the Jandakot Botanic Regional Park. The City recommends that consideration be given to the entire Bushplan site being included in this Regional Park.

I thank you for the opportunity to comment on Perth's Bushplan. Should you wish to discuss any aspect of this submission, please do not hesitate to contact me on 9391 3230 or e-mail wvanlieven@gosnells.wa.gov.au.

Yours sincerely



WAYNE VAN LIEVEN
ENVIRONMENTAL COORDINATOR



CONSULTANTS

CONSULTING ENGINEERS
TOWN PLANNERS
PROJECT MANAGERS
BUILDING DESIGNERS
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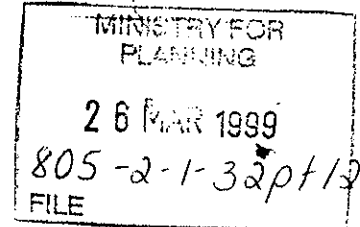
BS 413

PB206

P991-007--RD90075.10--RD

March 25, 1999

Perth's Bushplan
C/- Ministry for Planning
Albert Facey House
469 Wellington Street
PERTH WA 6000



Dear Sir/Madam

**SUBMISSION ON PERTH'S BUSHPLAN - BUSHPLAN [REDACTED] (Map 69)
LOT 1627 RANFORD ROAD, SOUTHERN RIVER**

BSD Consultants act for Mr P. Jordan, landowner of Lot 1627 Ranford Road, Southern River on whose behalf BSD were engaged to undertake a site visit and provide a letter report on the biological values of the land in response to *Perth's Bushplan*. The landowner has sought independent assessment on the validity of proposed *Bushplan* Site No. 413 which includes areas of Lot 1627, and an evaluation of the existing EPP wetland within his property also identified in *Bushplan*.

1. BACKGROUND

BSD Consultants undertook a preliminary site visit of Lot 1627 Ranford Road, Southern River on Tuesday 23rd March 1999. The lot is currently under the private ownership of Mr. P Jordan, who is resident on site with his family.

2. SITE DESCRIPTION

The site visited and evaluated consisted only of Lot 1627, with some reference to bordering lots where relevant. The total area of the lot is approximately 11 hectares, with a dwelling and agistment facilities located towards the north-west corner of the lot.

2.1 Current and historical land-use

Over the last three years the majority of the lot has been given over to horse agistment, and currently supports approximately 30 horses. The previous landowner utilised the lot for grazing cattle. These combined uses have resulted in serious local disturbance, with the majority of lot 1627 now clear of remnant vegetation.

SUBMISSION NO. 331



BSD Consultants Pty Ltd ACN 908 119 030
As Trustee for the BSD Unit Trust
Offices: Perth, Geraldton, Bunbury

2.2 Bushplan Site No. 413

Bushplan has identified Site No. 413 as containing regionally significant bushland, extending over a total area of 80.2 ha, and includes areas already afforded some protection under existing reserve status, such as the Balannup Lake Reserve. This assessment has been through the use of aerial photographs and existing mapping atlas's for wetlands and associated vegetation (Wetlands of the Swan Coastal Plain, WRC, 1996).

Sections of Lot 1627 are included in this newly identified site, as illustrated in Plan 1. These sections (areas A, B and C, Plan 1) have been identified as areas containing significant bushland or conservation category wetlands (including wetlands afforded protection under the Environmental Protection (Swan Coastal Plain Lakes) Policy (EPP, 1992).

3. EVALUATION

A field evaluation (which did not include a detailed botanical assessment) undertaken on the 23rd March 1999 indicated that ***the initial assessment of the extent of regionally significant vegetation identified in Bushplan for preservation on Lot 1627 and environs is not accurate.*** There is evidence of significant disturbance around the lot boundary, particularly on the borders of lots 1626, 1631 and 1630. A five metre firebreak surrounds the whole property and the proponent has advised that fire has recently spread though the vegetation bordering the interface of lots 1627 and 1630. Weeds (including *Eragrostis curvula*) are prevalent along the borders of lot 1627 which is further evidence of the level of disturbance in the area. The lot itself has been used extensively for animal husbandry in excess of three years and as such is significantly disturbed, with the majority of the lot now cleared for horse agistment.

Area A

Area A has been identified as containing regionally significant bushland and also a small portion of the remnants of the Lake Balannup system, assessed as a conservation category wetland (WRC, 1996). Whilst wetland vegetation does border the north-west corner of lot 1627, the disturbance on the lot itself is such that only scattered Eucalypts remain. ***No significant stands of vegetation (including associated wetland vegetation) remain in Area A.***

The field evaluation did not allow for a full assessment of the status of the wetland area on lots 1626 and 1631. However, there is evidence of disturbance along the border of lot 1627 with lots 1626, 1631 and 1630, including anecdotal evidence of fire damage. The abundance of new *Kunzea* and *Beaufortia* sp. in lot 1630 is an indication of this recent disturbance. In regard to this it appears there is a need for a full field evaluation of the conservation value of vegetation marked outside and bordering lot 1627.

Area B and C

Areas B and C (Plan 1), as marked on *Bushplan*, consists of regionally significant bushland associated with the Balannup Lake system. This wetland has already been assigned status as a conservation category wetland (WRC, 1996). The area of wetland in lots 506, 1627 and 1628 is also afforded protection under the Swan Coastal Plain Lakes (1992) Environmental Protection Policy. As such any encroachment on it requires referral to the Environmental Protection Authority (EPA).

Area B

The field evaluation conducted revealed that area B has undergone significant disturbance as a result of a number of years of cattle grazing and current land uses. The existing stands of wetland vegetation in area B (consisting species of *Melaleuca*, *Kunzea*, *Beaufortia* and a variety of sedges) are severely degraded and now generally isolated from area C in the southern corner. Remnant vegetation now exists in small areas or narrow strips prone to weed invasion and further degradation. ***Substantial rehabilitation would be required in order to restore any sustainable ecological functions in this unit.***

Requirements under the Swan Coastal Plain Lakes EPP (1992) should be considered separately from the finalisation of *Bushplan* documents as this is a separate legislative process which already exists. Definition of wetland boundaries under this legislation relate to a 50 metre buffer zone from the high water mark (as determined on the 1st December 1992). There is sufficient evidence on site however to call for a review by the Department of Environmental Protection of this EPP boundary given existing land uses and potential changes in local hydrology in the area.

Area C

Area C remains relatively undisturbed and consists of an area approximately 200 by 100 metres (2 ha). This has been fenced for at least three years and protected from previous land uses such as cattle grazing. ***The proponent has recognised that this area is of conservation value and can be retained on site protected by the existing fence line surrounding it.*** It is therefore recommended that the revised boundary for this wetland follow the delineation of area C on Plan 1, and as marked on site by the existing fence line, thereby affording protection to the remaining 2 ha of wetland on lot 1627 which can be considered in good condition.

4. TOWN PLANNING MATTERS

Lot 1627 lies within the Southern River area where much of the land has long been identified as "*Relatively Unconstrained for Development*". The Department of Planning and Urban Development's *Urban Expansion Policy Statement for the Perth Metropolitan Region* (1990) included the land, and Southern River in total, within Area 30 of the policy statement. Area 30 is identified as "Category A - Relatively Unconstrained for Development / Movement of Development Front.

While it is recognised that the land is affected by an EPP wetland, and that the Urban Expansion policy recommendations are subject to detailed assessment, there is also an expectation from the landowner that much of the balance of lot 1627 would be suitable for some form of urban development in the medium term. It was on this basis that the land was acquired several years ago, with horse agistment seen as an ideal short term use for the land.

In addition to the above, it is noted that Ranford Road is an "Important Regional Road" under the Metropolitan Region Scheme. The road provides an integral link to Tonkin Highway which will eventually extend in a southerly direction to the southeast of this land.

Following discussion with Ministry for Planning staff it is understood that road widening requirements do exist for Ranford Road, though these are currently proposed on the south

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side of Ranford Road. The road widening is currently planned to facilitate a six lane ultimate capacity road, though demand may warrant this being reduced to a four lane ultimate capacity road. Importantly, the current road widening requirements do not appear to place any significance on Lake Balannup as the existing reserve south of Ranford Road would be affected by the road widening. Advice from MfP staff suggested that previous strategic planning efforts to realign Ranford Road around Lake Balannup were not pursued. Clearly, inconsistencies exist in the various government agency views as to the significance of Lake Balannup and its surrounds.

The Ministry for Planning is currently undertaking a structure planning exercise for the Southern River area and it is acknowledged that the study will need to be cognisant of *Bushplan*. We would ask, however, that the recommendations of this advice also be considered in finalising any draft material for this structure plan.

5. RECOMMENDATIONS AND OVERALL CONSIDERATIONS

In light of the field visit and observations detailed above, it is recommended that:


- ***The vegetation marked on lot 1627 as Area A on Plan 1, and shown in Bushplan as covering the north-west corner of lot 1627, be removed from revised Bushplan documents as this no longer exists on the property.***
- ***The extent of regionally significant wetland associated vegetation marked on lot 1627 as Area B on Plan 1, and shown in Bushplan as covering the east/south-eastern portion of lot 1627, be re-evaluated due to the degraded and fragmented nature of this vegetation, and subsequently removed from future Bushplan documents.*** Requirements under the Swan Coastal Plain Lakes EPP (1992) should be considered separately from the finalisation of *Bushplan* documents.
- ***The area of wetland associated vegetation marked approximately as Area C on Plan 1, and shown in Bushplan as covering the south-eastern portion of lot 1627, be retained within the existing fenced area and retained on future Bushplan documents as required.*** Regardless of the outcomes of *Bushplan*, this section of wetland will remain protected under the Swan Coastal Plain Lakes EPP (1992) and any future impacts on this will require referral to the EPA.

In summary, decisions regarding conservation of wetlands and adjacent bushland, and on future development in the area, should be made with consideration of existing infrastructure and constraints in the area. Balannup Lake already has a two lane roadway running across it (Ranford Road) and the existing Balannup Lake Reserve is surrounded by development. Existing ongoing management/maintenance in the area is poor. Litter is abundant in the area and the existing environments are likely to be influenced by road drainage and changes in the local hydrological regime as a result of new development in close proximity to the Balannup Lake and adjacent wetlands.

We request that, on behalf of the landowner, the above matters be taken into consideration in the finalisation of *Bushplan* and that *Bushplan* Site No.413 (Map 69) be amended to reflect the above comments.

Should you have any queries regarding the above matters please do not hesitate to contact either Mr Peter Bayliss, environmental scientist at BSD Consultants or the undersigned on Ph 9273 3888.

Yours faithfully



Rod Dixon
Town Planner

cc:

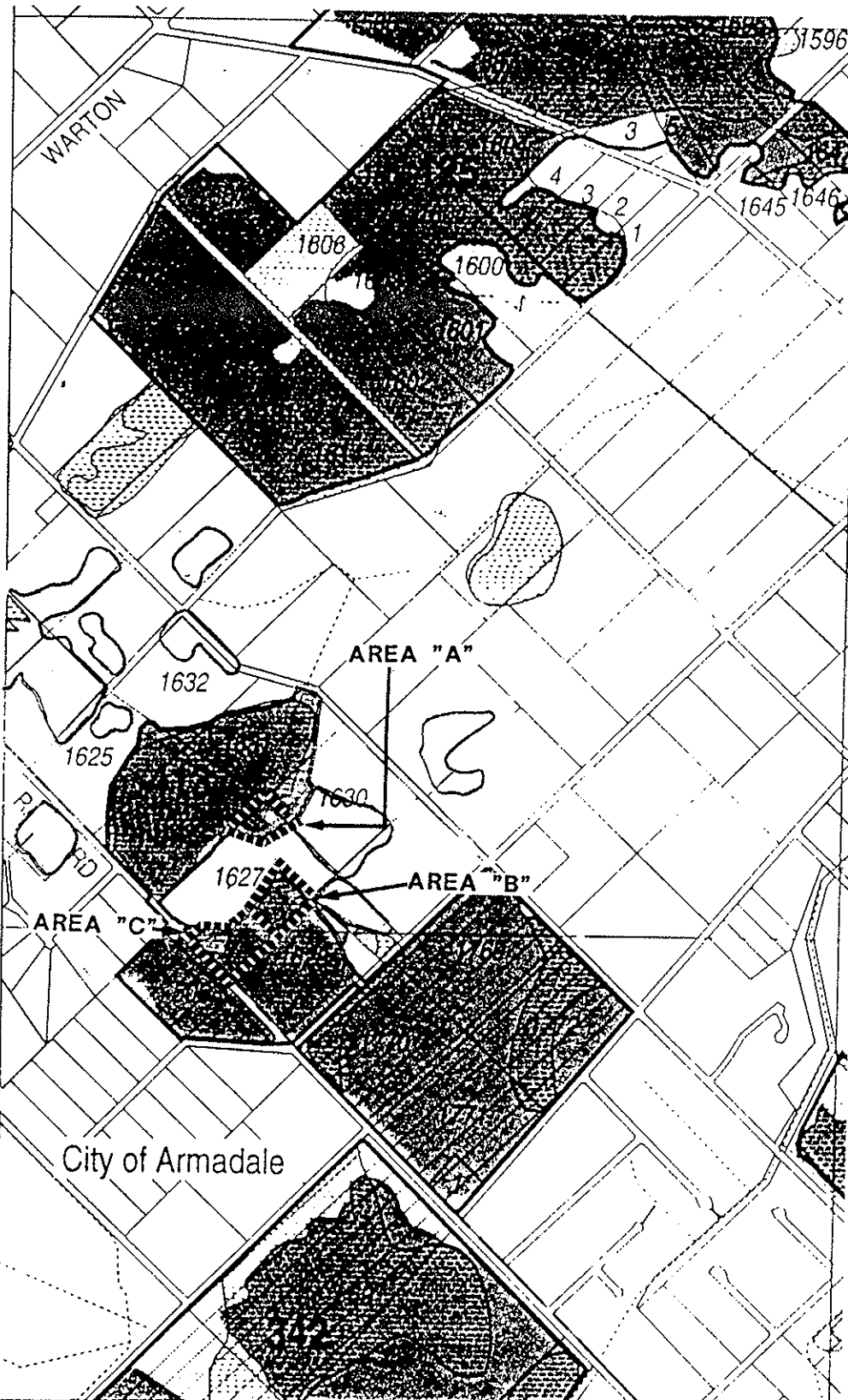
Mr P Jordan
Lot 1627 Ranford Road
SOUHERN RIVER WA 6110

Mr N Leong
Ministry for Planning
Albert Facey House
469 Wellington Street
PERTH WA 6000

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- LEGEND**
- BUSHPLAN SITES WITH REGIONALLY SIGNIFICANT BUSHLAND
 - OTHER NATIVE VEGETATION IN PROXIMITY TO LOT 1627
 - CONSERVATION CATEGORY WETLANDS
 - BUSHPLAN SITE WITH SOME EXISTING PROTECTION

SOURCE : PERTH'S BUSHPLAN
DECEMBER 1998, VOLUME 2 : PART C



PLAN 1

PROJECT LOT1627 RANFORD ROAD
SOUTHERN RIVER

DRAWING TITLE PERTH'S BUSHPLAN MAP 69 - EXTRACT

PRINCIPAL MR P. JORDAN

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	CONSULTING ENGINEERS TOWN PLANNERS PROJECT MANAGERS ENVIRONMENTAL CONSULTANTS	Date 25.03.99	Scale	N.T.S.
		Designed <i>[Signature]</i>	Checked	SLA
		Drawn <i>[Signature]</i>	Approved	<i>[Signature]</i>
		Local Authority	Sheet	Of
	BSD Centre 2 Beesley Road P.O. Box 155 Subiaco Western Australia 6004 Telephone 1081 9273 2466 Facsimile 1081 9386 3531	CITY OF ARMADALE Project Number P991-007	Drawing Number P513-SK1	Sheet 1 Of 1 Revision

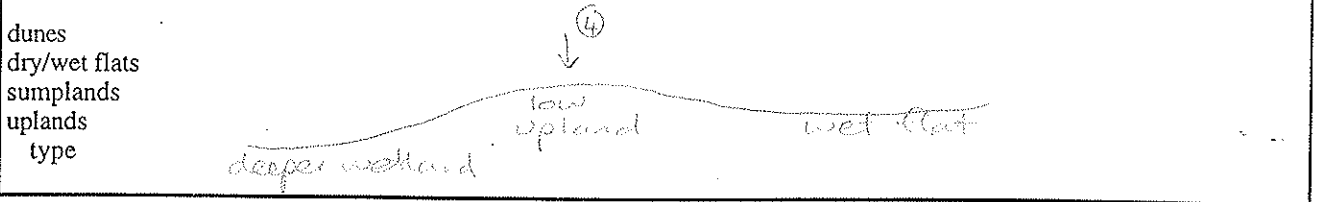
DEP SYSTEM 6 / BUSHLAND - SURVEY SHEET B.J. KEIGHERY 6/97
 BUSHLAND AREA PS 112 SITES YES/NO
 DATE 21/1/00 RECORDERS K. Clarke

Observations edge transects Site 4

Geographic Location Latitude S Longitude E
 Reference Map

Photograph Photographer's Name K. Clarke Photo No P25

Transect of landscape units (draw in transect incorporating features listed and any other relevant unit)



Soil - surface Exposed rock type % area sub -soil

FLORA/VEGETATION (list dominant and significant plants below, see over for vege association descriptions)

Eucalypts	<i>E. calophylla</i>	<i>E. wandoo</i>	<i>E. marginata</i>	<i>E. toditiana</i>	<i>E. rudis</i>
	<i>E. decipiens</i>	<i>E. drummondii</i>	<i>E. haematoxylon</i>	<i>E. lanepoolei</i>	<i>E. gomphocephala</i>
	<i>E. accedens</i>	<i>E. patens</i>	<i>E. laeliae</i>	<i>E. megacarpa</i>	
Sheoaks	<i>Allocasuarina fraserana</i>	<i>Casuarina obesa</i>			few
Banksia	<i>B. attenuata</i>	<i>B. menziesii</i>	<i>B. prionotes</i>	<i>B. illicifolia</i>	<i>B. grandis</i> <i>B. littoralis</i>
Melaleuca	<i>M. preissii</i>	<i>M. raphiophylla</i>	<i>M. lanceolata</i>		<i>M. cuticularis</i>
Others	<i>Callitris preissii</i>				
Mallees	Eucalypts	<i>E. argutifolia</i>	<i>E. petrensis</i>	<i>E. decurva</i>	<i>E. foecunda</i> <i>E. latens</i>

SIGNIFICANT SPECIES / DOMINANT SPECIES
Myrtle, Jack stem?, Acapul, Dasbram, Phl oil,
Xan pocs, Grom tom, Con sp, Melubum, Ade egg
 (see over for vegetation descriptions)

Vegetation Condition - Keighery 1994 (Trudgen 1993) (show range and indicate predominant class)

- 1 = 'Pristine' (Excellent)
- 2 = Excellent (Very Good)
- 3 = Very Good (Good) Very Good - Excellent
- 4 = Good (Poor)
- 5 = Degraded (Very Poor)
- 6 = Completely Degraded

Specific aspects of disturbance

partial clearing cleared & grazed in past

weeds (list): Buz max, Frhealy, Glad conyoph

selective removal of species: timber cutting mowing fire grazing dieback %area

fire frequency: 2-5 yrs ago cleared in past & grazed 10-15 yrs

'enrichment plantings' (list) in past N/A

animal impact: horse foxes rabbits cats dogs goats pigs overgrazing by native mammals

soil movement: mining dumping rubbish dumping roadworks

changes in water regimes: flooding drainage watering nutrient influx

Tracks: fire breaks walk trails off road vehicle use animal tracks

Service corridors: SEC Main Roads Water Authority Telecom

Other

VEGETATION (describe each unit of vegetation using dominants and life form/height class and canopy cover according to the Muir ^{codes} codes above)

Fauna comments

Adjacent bushland (refer to aerial photograph)

OTHER COMMENTS

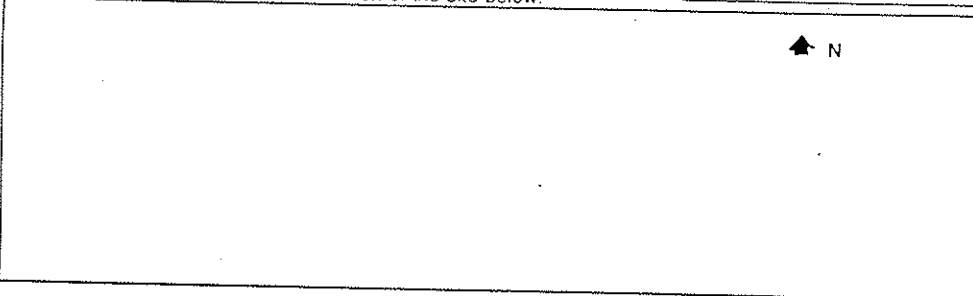
BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA BS413 SITE NUMBER 4
 DATE TRIP 2/1/00 RECORDERS V. Clarke
 DATE TRIP _____ RECORDERS _____
 DATE TRIP _____ RECORDERS _____
 BOTANIST _____

1. LOCATION of the QUADRAT

Mud Map Draw a sketch of the location of the site below.

From 'Bushland Plant Survey' written
 B. Keighery (1994) and published by
 Wildflower Society of WA (Inc.), PO 1
 64 Nedlands WA 6008

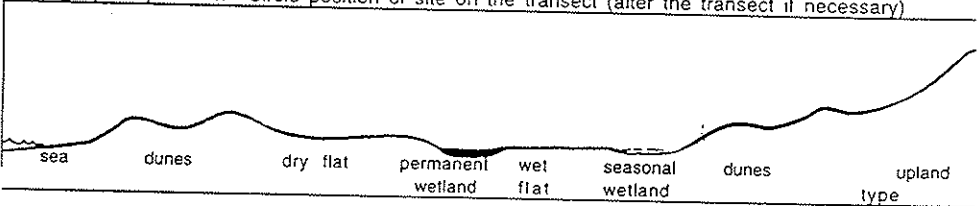


Road Location _____

Geographic Location Latitude _____ S Longitude _____ E Altitude _____
 Reference Map _____

Photograph _____ Photographer's Name _____ Photo No _____

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

Slope flat gentle steep Aspect N NE E SE S SW W NW

Surface Soil Grey Bass-like Sand Colour _____
 Exposed rock type N/A % surface _____

Sub-surface Soil Grey Bass-like Sand Colour _____
 Rock type (moist) depth to rock _____

Drainage well mod poor depth water _____ cm Wet all year winter/spring

Litter _____ % cover _____
 Depth _____ cm Bare Ground _____ % cover _____

LIFE FORM	TREES			MALLEES	
	over 30m	0 - 30m	under 10m	over 8m	under 8m
COVER CLASS (%)		2-10%			
DOMINANT SPECIES		Eucod	(Eucod)		
LIFE FORM	SHRUBS		SHRUBS		
	over 2m	2m - 1m	under 1m		
COVER CLASS (%)	2-10%	2-10%	10-30%		
DOMINANT SPECIES	Ade cya	Jac stem	Gorison		
		Xanprel			
LIFE FORM	GRASSES	HERBS	SEDGES	OTHER	
COVER CLASS (%)	2-10%	30-70%	2-10% (pot)		
DOMINANT SPECIES	Eriocaly	Pastrom			
		Phyll	Hul excur		
		Kat occ.	Dectasc		

4. VEGETATION CONDITION

1 'PRISTINE'		COMMENTS VG - Ex.
2 EXCELLENT		
3 VERY GOOD		
4 GOOD		
5 DEGRADED		

* Carex dv

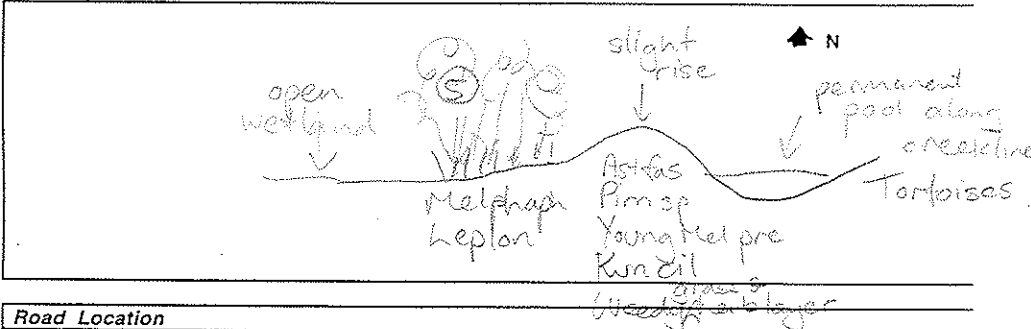
Animang, Hempung

BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA BS 413 SITE NUMBER 5
 DATE TRIP _____ RECORDERS K Clarke
 DATE TRIP _____ RECORDERS _____
 DATE TRIP _____ RECORDERS _____
 BOTANIST _____

1. LOCATION of the QUADRAT

Mud Map Draw a sketch of the location of the site below.

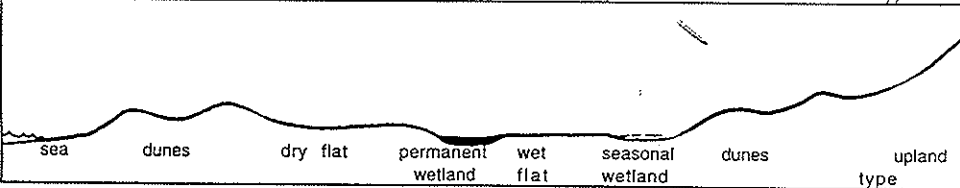


Road Location _____

Geographic Location Latitude _____ S Longitude _____ E Altitude _____
 Reference Map _____

Photograph _____ Photographer's Name _____ Photo No _____

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

Slope flat gentle steep Aspect N NE E SE S SW W NW

Surface Soil _____ Colour _____
 Exposed rock type _____ % surface _____

Sub-surface Soil _____ Colour _____
 Rock type _____ depth to rock _____

Drainage well mod poor depth water cm Wet all year winter/spring

Litter _____ % cover _____
 Depth cm _____
 Bare Ground _____ % cover _____

From 'Bushland Plant Survey' written B. Keighery (1994) and published by Wildflower Society of WA (Inc.), PO 1 64 Medlands WA 6008.

LIFE FORM	TREES			MALLEES	
	over 30m	30m	under 10m	over 8m	under 8m
COVER CLASS (%)		70-100%			
DOMINANT SPECIES		Melpha Eucalyd			
LIFE FORM	SHRUBS over 2m		SHRUBS under 1m		
	over 2m	2m - 1m	under 1m		
COVER CLASS (%)					
DOMINANT SPECIES					
LIFE FORM	GRASSES	HERBS	SEDGES	OTHER	
					1m
COVER CLASS (%)			70-100%	Lepton?	
DOMINANT SPECIES					

4. VEGETATION CONDITION

1 'PRISTINE'	COMMENTS Ex - Vig.
2 EXCELLENT	
3 VERY GOOD	
4 GOOD	
5 DEGRADED	

Handwritten scribble

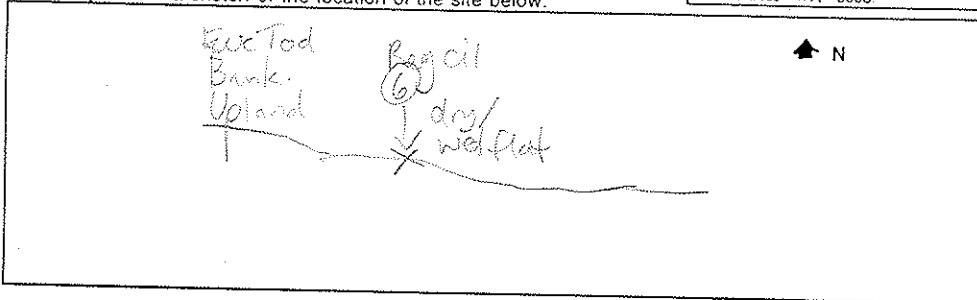
BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA BS413 SITE NUMBER Site 6
 DATE TRIP 24/1/200 RECORDERS K. Clarke
 DATE TRIP _____ RECORDERS _____
 DATE TRIP _____ RECORDERS _____
 BOTANIST _____

1. LOCATION of the QUADRAT

From 'Bushland Plant Survey' written
 B. Keighery (1994) and published by
 Wildflower Society of WA (Inc.), PO 1
 64 Nedlands WA 6008

Mud Map Draw a sketch of the location of the site below.

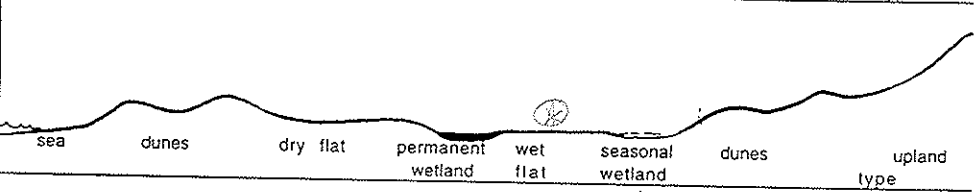


Road Location _____

Geographic Location Latitude _____ S Longitude _____ E Altitude _____
 Reference Map _____

Photograph _____ Photographer's Name K. Clarke Photo No P19

Topographic position Circle position of site on the transect (after the transect if necessary)



2. SITE DATA Circle the correct response.

Slope flat gentle steep Aspect N NE E SE S SW W NW

Surface Soil Dk Grey Sand Colour _____
 Exposed rock type _____ % surface _____

Sub-surface Soil Dk Grey Sand Colour _____
 Rock type _____ depth to rock _____

Drainage well mod poor depth water _____ cm Wet all year winter/spring

Litter _____ % cover _____
 Depth _____ cm Bare Ground _____ % cover _____

LIFE FORM	TREES			MALLEES		30m 10m
	over 30m	7-30m	under 10m	over 8m	under 8m	
COVER CLASS (%)				Emergent/Scattered		
DOMINANT SPECIES			Kelp tree			
LIFE FORM	SHRUBS		SHRUBS			2m 1m
	over 2m	2m-1m	under 1m			
COVER CLASS (%)			70-100%			
DOMINANT SPECIES			Ragwort			
LIFE FORM	GRASSES	HERBS	SEDGES	OTHER		1m
COVER CLASS (%)			30-70%			
DOMINANT SPECIES			Schubertia?			

4. VEGETATION CONDITION

1 'PRISTINE'		COMMENTS <u>Excellent - V. good</u>
2 EXCELLENT		
3 VERY GOOD		
4 GOOD		
5 DEGRADED		

Eragrost on edges.

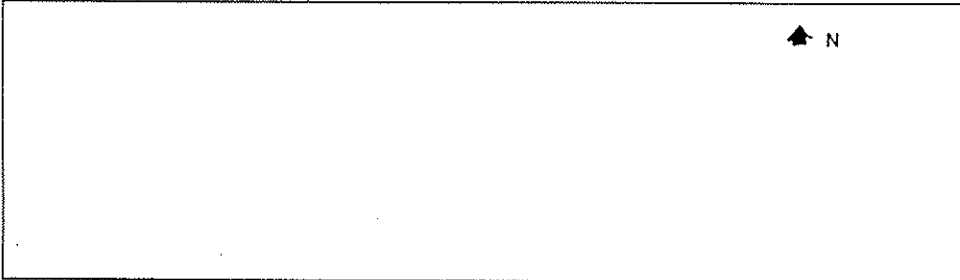
BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA _____ SITE NUMBER _____
 DATE TRIP _____ RECORDERS _____
 DATE TRIP _____ RECORDERS _____
 DATE TRIP _____ RECORDERS _____
 BOTANIST _____

1. LOCATION of the QUADRAT

From 'Bushland Plant Survey' written
 B. Keighery (1994) and published by
 Wildflower Society of WA (Inc.), PO 1
 64 Nedlands WA 6008.

Mud Map Draw a sketch of the location of the site below.

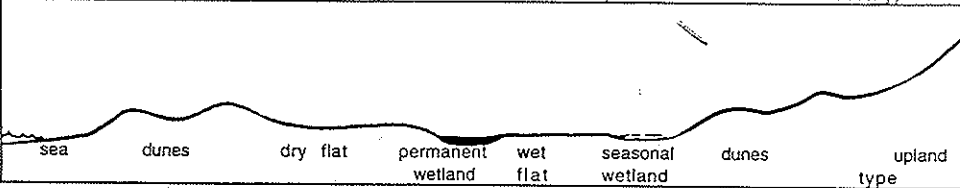


Road Location _____

Geographic Location Latitude _____ S Longitude _____ E Altitude _____
 Reference Map _____

Photograph Photographer's Name _____ Photo No _____

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

Slope flat gentle steep **Aspect** N NE E SE S SW W NW

Surface Soil _____ **Colour** _____
Exposed rock type _____ % surface _____

Sub-surface Soil _____ **Colour** _____
Rock type _____ depth to rock _____

Drainage well mod poor depth water cm **Wet** all year winter/spring

Litter _____ % cover _____
 Depth cm

Bare Ground _____ %cover _____

LIFE FORM	TREES		MALLEES	
	over 30m	30m	under 10m	under 8m
COVER CLASS (%)				
DOMINANT SPECIES				
LIFE FORM	SHRUBS		SHRUBS	
	over 2m	2m - 1m	under 1m	
COVER CLASS (%)				
DOMINANT SPECIES				
LIFE FORM	GRASSES	HERBS	SEDGES	OTHER
COVER CLASS (%)				
DOMINANT SPECIES				

4. VEGETATION CONDITION

1	PRISTINE	COMMENTS
2	EXCELLENT	
3	VERY GOOD	
4	GOOD	
5	DEGRADED	

Record of Telephone Call

Call from Kelly Chapman	Call to Karen Clarke	Folio No.
Dept BSD Consultants	Dept Cons. Branch	File No. PB206
Subject BS413 Development	Date 17 / 1 / 00	Time 3.05 pm

Details

Kelly Chapman
BSD Consultants

Working for a client - Lot 1627. who wants to develop Bushplan site 413, advising on constraints to develop.

Mel press/ Mel teret. woodland in sthn corner
Landowner happy keeping Bushplan vegn.
but boundaries need revising.

Nthn corner scattered trees, drain
slightly thicker vegn.

Wants urban zoning

Transferred (087) to Julie Tilleke re EPP Wetland
↑ in boundary for Balabup Lake?

Action taken/Recommendation(s) (where applicable)

Approval (if required)



Department of Environmental Protection

Westralia Square, 8th Floor, 141 St Georges Terrace, Perth WA 6000

Swan-Canning EPP area also.
Middle Canning Catchment Study - Category One

EPP Lakes

8 CCW's etc.

MRS - Parks & Rec Reserve, TPS Landscape et al (1995)

Lot 1625

Zoning,

Lot 1627 -

Crown Reserve

Lot 506 - CALM?

Constraints - private,
MRO regional road
requirement

lots 1769, 1770, 1771 & 1772 - WAWA -
purchased for sewage treatment plant
but no use made.

Floristic plots in Lots?

→ Lots 30 & 31 Phoebe St, Southern River

* Linkage

BSD consultants (Peter Bayliss)

March '99 enquiry re EPP Lake, Lot 1627
CCW's

see Ruth's advice.

* BED subm ^{→ MFF} on behalf of landowner on
see Biol. File: BS 413 Lot 1627

* BSD assessment

* Southern River ... Structure Plan.

BS 413 comments.

* Widening
Realignment of Ranford Rd

& Southern River Rd?

City of Manning Submission 24/3/99

BS 413 contains some lands
already in Jarradale Rot Reg. Park - City
recommends entire site be in Reg. Park.
(MFP 1995)

Wetland Study/s

Wetlands in City of Gosnell

BS 413

⑧ Trogans Keyfery 1995 - City of Gosnell Study.
Gosnell's remn bushland area 17

413 ^{2 pastures} Cleared / 25 yrs ago, new owners
800 sheep & slashed ^{sheep} / 10 months 10-15 yrs ago.

389 Fraser Rd.

, Sth section linking to BS 390.

Mt cleared Photo P20, P21, P22

looking " " "
Sth Est Nth

Taken 1/2 way between sth. end Fraser Rd
& Cessna

, Upland NE of enr Cessna & Fraser Rd

cleared & regenerating

P23 & P24 (close-up)

BS413

P13 & P14

Pools - long neck
+ tortoises !

④ 2 horses on property
413 & 11RD - 6 lane Round Rd.
thru Pal Lake

Photo 16 looking SE

① NW Corner - Scattered *E. rudis* s.
Mel. preiss? - paddock grass understorey
some *Astfasc*, *Ragell* regeneration.

Urban develop. proposed - small lot
been here. ~~25~~ 45 yrs.

Photo 17 looking SW from NE corner of
this corner.

Emus before, now grazed by
horses currently.

Photos 18, 19 Cleared/cleared section mid-way
down eastern boundary.

Horse grazing width 99 →
central section cleared 200 m width

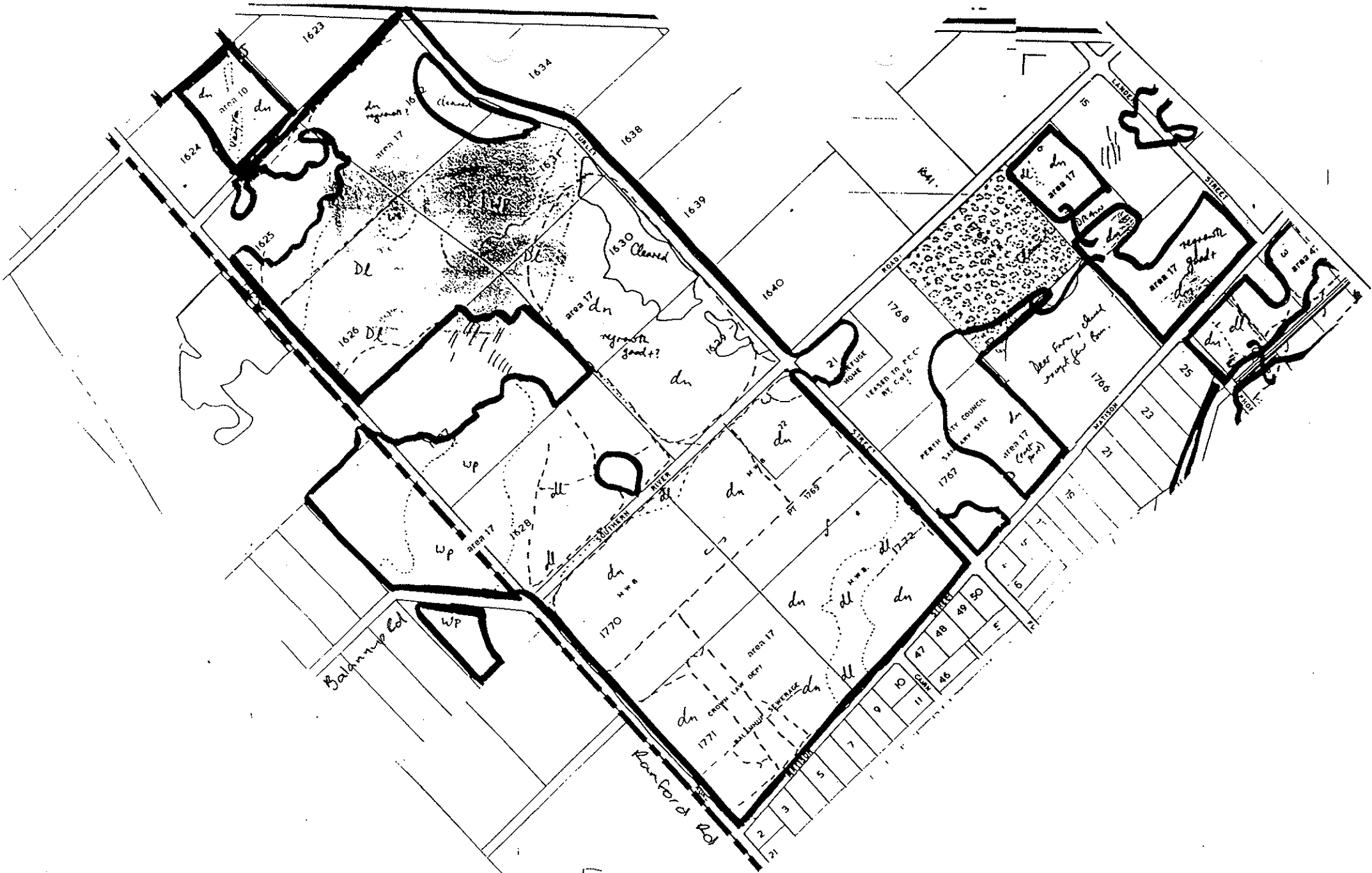
6.8 m standing Oct - Dec → reducing depth

H use area same. Photo 20

Black, very rich soil
Mel rhizome 40-100% < 10m

(3) Open deep water area ~ 2.8m in pool
Open region Mel rhaph - some Taypha
 < 10m 30-40% - 10-30% variable.

Photo 24 E. rodii, Mel rhaph, Bowman art?
1 on edge SW corner of Balas Lake.



Large Bush areas
with high conservation
value owned
by Gosnell

5.17 Gosnells remnant bushland area seventeen

Identification

- 1a: Vegetation ID Gosnells remnant bushland area seventeen
- 1b: Nearest Street intersection North from Mattison Street to Southern River Road between Ranford Road and Lander Street, then north from Southern River Road between Ranford Road and Furley Street, most of the way to Balfour Street.
- 2: Date 17/12/94, 18/12/94
- 3: Recorder: M.E. Trudgen
- 4: Page one of thirteen
- 5: Photograph -
- 6: Does the patch still exist? Several remnants exist within the area marked on the COG map: "Urban Bushland Inventory. Survey Sites 1/11/94" But the area as a whole has not been fully vegetated for some time.)
- 7: Are the boundaries accurate? No; see maps in this report for more accurate boundaries.

Disturbance/Condition

- 8: Has there been a recent fire? Yes. Post fire ages are given for the sites recorded at the time they were recorded however, shortly after the recording of sites on the south side of Southern River Road near Ranford Road the remnant there was burnt again.

9: Partial clearing

- | | |
|-----------------------------|---------------------------|
| grassed areas | No |
| mowing | No |
| mining | No |
| grazing by domestic animals | Yes |
| damage from rabbits | Some slight damage. |
| internal tracks | Yes |
| internal firebreaks | Yes |
| service corridors | Yes (road reserve) |
| drains | Yes |
| other | Clearing for agriculture. |
| total cleared area > 30% | Yes |
- 10: Rubbish dumping Yes but, localised.
11. Overall appreciation of condition The condition of the vegetation varies, much of it

is in very good condition with some areas of good or good to very good. In addition, there are areas that have been partially cleared and that have regenerated quite well (although still not near the condition of undisturbed vegetation). An area of dampland/wetland not visited seems to be in excellent condition from the aerial photographs.

Landscape features

12: Landscape features (cultural)

None.

13 Landscape features (natural)

The area has a varied suite of wetland, dampland and dune areas.

Vegetation present

Regretably, parts of this block that had not been burnt before the survey field work took place were burnt shortly after it was surveyed, for these areas the fire ages recorded in the site data are for the last fire previous to the survey visit (sites 114, 115, 120, 121, 122, 123 possibly also 118, 119), rather than the most recent fire.

Banksia attenuata, Banksia menziesii, Nuytsia floribunda low woodland over Adenanthos cygnorum high open shrubland to open scrub over Acacia pulchella, Allocasuarina humilis, Melaleuca thymoides open shrubland over Hibbertia hypericoides, Leucopogon conostephioides, Stirlingia latifolia, Scholtzia involucrata, Gompholobium tomentosum shrubland to low open heath over Lyginia barbata, Conostylis setosa, Loxocarya flexuosa, Amphipogon turbinatus, Patersonia occidentalis, Blancoa canescens herbland/sedgeland.

Site 114. Low sand drift to low dune. Grey sand over whitish sand. Weed invasion was low with *Gladiolus caryophyllaceus and *Ursinia anthemoides recorded. The last fire was more than ten years before but, there was still some fire damage to the scattered trees of Eucalyptus marginata (Jarrah). The stand was assessed as being in very good to excellent condition, except for the north-east corner of the block near the site, which was more weedy and had rubbish including parts of car bodies and garden refuse dumped in it. Associated species included Eucalyptus todtiana (small mallees), Burchardia umbellata, Lomandra sericea, Banksia ilicifolia, Melaleuca seriata, Phlebocarya filifolia, Tripterococcus brunonis, hibbertia pachyrhiza?, Thysanotus arbuscula, Dasypogon bromeliaefolius, Petrophile linearis, Arnocrinum preissii, Anigosanthos manglesii, Quinettia urvillei, Laxmannia squarrosa and a few Xanthorrhoea preissii. There were some small areas of Kunzea ericifolia high shrubland

as a taller shrub layer beneath the Banksias.

Site 129. Next to 114 with similar vegetation but, more disturbed. Weed invasion was moderate to high with *Ehrharta calycina, *Ursinia anthemoides, *Wahlenbergia capensis, *Gladiolus caryophyllaceus, *Briza minor, *Hypochaeris glabra and *Avena sp. recorded. The last fire was about 2 years ago. The condition of the stand was variable with the west half assessed as being in good condition and the east half in poor to very poor condition. Associated species in the west half were Patersonia occidentalis, Xanthorrhoea preissii?, Hensmannia turbinata, Schoenus sub-bulbosus, Podotheca sp., Stirlingia latifolia, Phlebocarya ciliata, Xanthorrhoea preissii, Eucalyptus marginata, Calytrix flavescens, Nuytsia floribunda, Lyginia barbata, Phlebocarya filifolia, Blancoa canescens, Petrophile linearis, Stipa compressa, Hibbertia hypericoides, Melaleuca thymoides and Bossiaea eriocarpa.

Banksia attenuata, Banksia menziesii, Banksia ilicifolia low woodland to low open forest over Adenanthos cygnorum, Kunzea ericifolia high shrubland over Petrophile linearis, Melaleuca thymoides, Bossiaea eriocarpa, Calytrix flavescens low shrubland over Phlebocarya ciliata, Patersonia occidentalis, Blancoa canescens, Lyginia barbata, Amphipogon turbinatus, herbland/sedgeland.

Site 115. Flat area on sand drift. Grey sand over whitish sand. Weed invasion was very low with *Ursinia anthemoides and *Gladiolus caryophyllaceus recorded. The last fire was about 12 to 18 months ago. Most of the Banksia trees survived the fire and were sprouting epicormically (i.e. from the branches) and the stand was generally regenerating very well. Some Jarrah has been cut out and has not regenerated. Some animal scratchings and piles of rabbit droppings. The site was assessed as being in very good condition and would have been assessed as being in very good to excellent condition except for the recent fire and the cutting of the Jarrah. Much of the Adenanthos cygnorum was killed in the last fire and would have been high open scrub before that fire. Associated species included Dasypogon bromeliaefolius, Jacksonia furcellata, Nuytsia floribunda, Lomandra sericea, Arnocrinum preissii, Leschenaultia expansa, Dampiera linearis, Tricoryne elatior, Burchardia umbellata, Anigosanthos manglesii, Schoenus sub-bulbosus, Haemodorum spicatum, Stipa compressa, Conostephium pendulum, Acacia pulchella and Petrophile linearis.

Allocasuarina fraseriana, Melaleuca preissiana, Eucalyptus todtiana, Nuytsia floribunda low open woodland over Pericalymma ellipticum, Xanthorrhoea preissii, Adenanthos obovatus shrubland to open heath over Phlebocarya ciliata, Dasypogon bromeliaefolius, Hypolaena exsulca mid-dense herbland/sedgeland.

Site 116. Ecotone (transition) between a seasonal dampland area and Banksia woodland, on a slight slope. Grey sand. Weed invasion was very low with only *Ursinia anthemoides recorded. The last fire was about 12 to 18 months ago. Some of the larger trees were killed by this fire. There were some rabbit scratchings and droppings. The condition of the site was assessed as very good (would have been very good to excellent except for the recent fire). Associated species included Jacksonia aff. sericea (swamp form), Scholtzia involucreta, Haemodorum spicatum, Calytrix flavescens, Lobelia tenuior, Stylidium piliferum, Patersonia occidentalis, Eriostemon spicatus, Boronia sp., Lomandra sericea, Stipa compressa, Loxocarya fasciculata and Melaleuca seriata.

Pericalymma ellipticum open heath to closed heath (pre-fire) over Schoenus rodwayanus sedgeland.

Site 117. Seasonal dampland/wetland in a slight depression down a slight slope. Grey sand. Burnt about 12 to 18 months before recorded. There was enough dead stems of the Pericalymma ellipticum to identify them in conjunction with the distinctive regrowth. There was much regeneration of the Schoenus rodwayanus from seed as well as from the bases of some clumps (others were killed by the fire). If all the Schoenus rodwayanus seedlings survive then this species will become denser than before the fire. There were rabbit droppings throughout the stand but, few scratchings. No weeds were recorded. The condition of the stand was assessed as very good and would have been assessed as excellent if it had not been burnt. Associated species included Aotus procumbens, Stylidium guttatum, Astartea sp. Brixton Street, Dasypogon bromeliaefolius and Hypolaena exsulca.

Banksia attenuata, Banksia menziesii, Eucalyptus todtiana, Banksia ilicifolia low woodland over Adenanthos cygnorum, Jacksonia furcellata high open shrubland to open scrub over Acacia pulchella, Melaleuca thymoides, Allocasuarina humilis open shrubland to shrubland over Hibbertia hypericoides, Stirlingia latifolia, Leucopogon conostephioides, Melaleuca seriata, Scholtzia involucreta, Gompholobium tomentosum, Calytrix flavescens, low shrubland to low open heath over Blancoa canescens, Lyginia barbata, Amphipogon turbinatus herbland/grassland.

Site 118. Low lying sand drift area. Grey sand. Weed invasion was very low with *Ursinia anthemoides and *Gladiolus caryophyllaceus recorded with *Ehrharta calycina only near the firebreaks. The last fire was more than ten years ago. There were some rabbit scratchings. The stand was assessed as being in very good to excellent condition (would have been

excellent but the Eucalyptus tottiana was fire damaged. Associated species included Anigosanthos manglesii, Hypolaena exsulca, Lomandra sericea, Macrozamia reidleyi, Eremaea asterocarpa, Laxmannia ramosa, Burchardia umbellata, Leschenaultia expansa, Arnocrinum preissii, Lysinema ciliatum and a Cassythia species.

Eucalyptus tottiana, Allocasuarina fraseriana low open woodland (scattered trees) over Adenanthos cygnorum high open shrubland over Eremaea asterocarpa, Scholtzia involucreta, Gompholobium tomentosum low open shrubland over Phlebocarya ciliata, Lyginia barbata, Blancoa canescens Amphipogon turbinatus, herbland/sedgeland

Site 119. Small area on a gentle slope of a low dune. Grey sand. The area was chained, possibly ten to fifteen years ago (stumps uprooted but, the lower vegetation layers were not physically cleared. Not burnt for more than ten years. Weed invasion was very low with *Ursinia anthemoides, Eucalyptus calophylla and *Gladiolus caryophyllaceus recorded. The condition of the area was assessed as good, if Banksia attenuata and Banksia menziesii re-invaded from the surrounding bushland then it could return to very good. Associated species included Calytrix angulata, Anigosanthos manglesii, Dampiera linearis, Phlebocarya filifolia and a Podotheca species.

Banksia attenuata, Banksia menziesii, Allocasuarina fraseriana, Eucalyptus tottiana low woodland Adenanthos cygnorum, Kunzea ericifolia high shrubland to high open scrub over Gompholobium tomentosum, bossiaea eriocarpa, Leucopogon conostephioides low open shrubland over Phlebocarya ciliata, Patersonia occidentalis, Hypolaena exsulca, Dasyogon bromeliaefolius, Amphipogon turbinatus, Blancoa canescens mid-dense herbland/sedgeland.

Site 120. Near the crest of a low dune. Grey sand. Weed invasion was very low, with only *Gladiolus caryophyllaceus recorded. Not burnt for more than ten years. There were some rabbit scratchings. The stand was assessed as being in very good to excellent condition (it would have been assessed as in excellent condition except for the death of some Banksia trees). Associated species included Conostephium pendulum, Lomandra sericea, Calytrix angulata, Petrophile linearis, Acacia pulchella, Dampiera linearis, Arnocrinum preissii, Anigosanthos manglesii, Hovea trisperma and Burchardia umbellata.

Melaleuca preissiana, Allocasuarina fraseriana, Nuytsia floribunda low open woodland over Pericalymma ellipticum, Xanthorrhoea preissii shrubland to open heath over

Phlebocarya ciliata, Lyginia barbata, Hypolaena exsulca, Schoenus rodwayanus
herbland/sedgeland.

Site 121. Seasonal dampland. Grey sand. Weed invasion was very low. There were a few rabbit scratchings and the last fire was five to ten years ago. The condition of the site was assessed as very good to excellent. Associated species included Regelia ciliata, Verticordia densiflora, Boronia sp., Conostylis sp., Thysanotus multiflorus and Melaleuca thymoides.

Regelia ciliata open heath to Chamaescilla corymbosa over Hypocalymma angustifolium
low open shrubland over Schoenus rodwayanus, Phlebocarya ciliata, Hypolaena exsulca
sedgeland/herbland.

Site 122. Seasonal wetland. Grey sand. No weeds were seen. There were many rabbit scratchings. The last fire was more than ten years ago. The site was assessed as being in very good to excellent condition. Associated species included Leucopogon gracillima, Adenanthos obovatus, Nuytsia floribunda, Xanthorrhoea preissii, Pericalymma ellipticum, Melaleuca seriata, Dasyopogon bromeliaefolius and a Cassytha species.

Melaleuca preissiana, Allocasuarina fraseri, Nuytsia floribunda, Eucalyptus marginata,
Eucalyptus todtiana low open woodland over Adenanthos cygnorum high shrubland
over Xanthorrhoea preissii open shrubland to shrubland over Scholtzia involucreta,
Acacia pulchella? low open woodland over Hypolaena exsulca, Lyginia barbata,
Phlebocarya ciliata, Patersonia occidentalis sedgeland/herbland.

Site 123. Very gently sloping ecotone from Banksia woodland into a seasonal dampland. Grey sand. Weed invasion was very low except next to the road. There were a few rabbit scratchings. The last fire was more than ten years ago. The condition of the stand was assessed as being very good. Associated species included Dampiera linearis, Schoenus sub-bulbosus, Gonocarpus sp., Lomandra sericea, Leucopogon gracillima, Pericalymma ellipticum, Leschenaultia expansa, Calytrix flavescens, Burchardia umbellata, Lysinema ciliatum and Arnocrinum preissii.

Juncus pallidus, *Phalaris sp. tall open sedgeland/grassland over *Lotus angustissimus
herbland.

Site 130. Almost flat area, seasonally wet area. Dark grey sand. Weed invasion is very high with *Phalaris sp., *Lotus angustissimus, *Briza minor, *Hypochaeris glabra, *Sonchus

asper and *Conyza spp. Burnt one to two years ago. The vegetation was assessed as completely degraded. The native species recorded was Juncus pallidus.

Melaleuca preissiana low open woodland over Regelia ciliata, Xanthorrhoea preissii shrubland to open heath over Phlebocarya ciliata open herbland.

Site 131. Gentle slope. Light grey sand. Weed invasion was moderate with *Ursinia anthemoides, **Lotus angustissimus, *Briza maxima and *Briza minor recorded. The last fire was about one year ago. There were a few rabbit scratchings but no burrows were seen. The vegetation was assessed as being in good condition (would regenerate to very good or better if not burnt for some time). Associated species included Stipa compressa, Eucalyptus marginata, Schoenus sub-bulbosus, Amocrinum preissii, Lomandra sericea and Melaleuca seriata.

Banksia attenuata, Banksia menziesii, Banksia ilicifolia, Nuytsia floribunda, Allocasuarina fraseriana low woodland to low open forest over Melaleuca thymoides, Xanthorrhoea preissii shrubland to open heath (Melaleuca thymoides fire killed) over Dasypogon bromeliaefolius, Patersonia occidentalis herbland.

Site 132. Gentle slope. Light grey sand. The last fire was about one year ago. Some of the trees in the stand were killed (to 25% in parts of the stand and to 50% in one area) but, seedlings of Banksia attenuata and Banksia menziesii were present. Weed invasion was low with *Briza maxima, *Ursinia anthemoides and *Sonchus asper (mostly next to the firebreak) recorded. The vegetation was assessed as in good condition, it could regenerate to very good condition (possibly very good to excellent) in time if not burnt again. Associated species included Dampiera linearis, Melaleuca seriata, Stipa compressa, Hibbertia subvaginata, Burchardia umbellata, Haemodorum spicatum, Macrozamia reidlei, Lomandra sericea, Bossiaea eriocarpa, Calytrix flavescens and Petrophile linearis. It was noted that there was no Hypolaena exsulca present.

Banksia attenuata, Banksia menziesii, Nuytsia floribunda, Allocasuarina fraseriana low woodland over Melaleuca thymoides high shrubland to open scrub over Calytrix flavescens, Bossiaea eriocarpa low open shrubland over Phlebocarya ciliata, Lyginia barbata, Blancoa canescens, Hypolaena exsulca herbland/sedgeland. (There was also Stipa compressa annual grassland but, this had died.)

Site 133. Low rise, light grey sand. Weed invasion was low to moderate with *Gladiolus carvophyllaceus, *Ursinia anthemoides and *Briza maxima recorded (as well, *Avena sp. was

present along the adjoining road). The area was burnt about 12 months ago. There were some rabbit scratchings. The vegetation was assessed as being in good condition, and would return to very good to excellent if unburnt for some time. Associated species included Petrophile linearis, Haemodorum spicatum, Eucalyptus marginata, Tricoryne elatior, Lomandra sericea, Eucalyptus todtiana, Conostephium pendulum, Burchardia umbellata, Macrozamia reidlei, Stirlingia latifolia, Acacia pulchella, Phlebocarya filifolia, Xanthorrhoea preissii, Amocrinum preissii, Burnettia nigricans and Jacksonia aff. sericea (swamp form). There was a strip of vegetation the same as that described from site 131 on the north-west edge of the stand. At its north-east corner, the stand extends in a small strip to the east, this had moderate weed invasion.

Banksia attenuata, Banksia menziesii, Banksia ilicifolia, Eucalyptus todtiana low open woodland (regeneration) over Melaleuca thymoides open shrubland over Leucopogon conostephioides, Scholtzia involucrata, Acacia pulchella, Calytrix flavescens low shrubland to low open heath over Phlebocarya ciliata, Patersonia occidentalis, Lyginia barbata, Blancoa canescens, Hypolaena exsulca, herbland/sedgeland.

Site 134. Lower slopes of a low sand rise (dune). Light grey sand. Partially cleared at some time in the past (trees bulldozed but lower shrub and herb layers not much damaged). Weed invasion was low with *Gladiolus caryophyllaceus and *Briza maxima recorded, except along a windrow (of bulldozed trees) where there were more weeds. Not burnt for more than ten years. The site was assessed as being in good condition (actually the lower layers were probably in better than good condition). Associated species included Amphipogon turbinatus, Burchardia umbellata, Stylidium repens, Petrophile linearis, Macrozamia reidlei, Phlebocarya ciliata, Melaleuca seriata and Conostephium pendulum.

Banksia attenuata, Banksia menziesii low open woodland (mostly regeneration) over Adenanthos cygnorum high open shrubland over Phlebocarya ciliata, Amphipogon turbinatus, Lyginia barbata, Blancoa canescens mid-dense herbland/sedgeland.

Site 135. Near the crest of a low dune. Light grey-brown sand. Weed invasion was low with *Ursinia anthemoides, *Gladiolus caryophyllaceus and *Briza maxima recorded. The stand had been partly cleared at some time in the past with the trees most affected and the lower layer not much affected. There was probably a layer of Melaleuca thymoides before the clearing. The stand had not been burnt for more than ten years. The vegetation was assessed as being in good condition and could return to very good condition if unburnt for a reasonable time. Associated species included Phlebocarya ciliata, Hypolaena exsulca, Amocrinum preissii,

Conostephium pendulum, Dasypogon bromeliaefolius, Laxmannia squarrosa, Nuytsia floribunda, Eucalyptus marginata, Burchardia umbellata, Melaleuca seriata, Acacia pulchella, Eriostemon spicatus and a Podotheca species.

Allocasuarina fraseriana, Melaleuca preissiana, Eucalyptus todtiana, Nuytsia floribunda low open woodland to low woodland over Regelia ciliata, Xanthorrhoea preissii, Adenanthos obovatus, Jacksonia aff. sericea (swamp form) open heath to closed heath over Phlebocarya ciliata, Dasypogon bromeliaefolius, Hypolaena exsulca herbland/sedgeland.

Site 136. Margin of a seasonal dampland. Light grey-brown sand. The Regelia ciliata had been killed by the last fire and had not regenerated yet and the Adenanthos obovatus was regeneration. Weed invasion was low with *Ursinia anthemoides, *Briza minor, *Aira? and *Sonchus asper recorded. The last fire was about two years ago. The vegetation was assessed as being in good condition (would regenerate to very good condition if not burnt for some time). The understorey changes from Regelia ciliata to Melaleuca thymoides over Phlebocarya ciliata further up the slope. Associated species included Leschenaultia expansa, Dampiera linearis, Boronia sp., Patersonia occidentalis, Tricoryne tenella, Trachymene pilosa, Haemodorum spicatum, Stipa compressa, Lomandra sericea, Burchardia umbellata, Melaleuca seriata, Lobelia tenuior, Arnocrinum preissii and Acacia stenoptera.

Banksia attenuata, Banksia menziesii low woodland to low open forest over Kunzea ericifolia high open shrubland over Melaleuca thymoides, Xanthorrhoea preissii open shrubland over Phlebocarya ciliata, Dasypogon bromeliaefolius open herbland.

Site 137. Low sand drift. Light grey-brown sand. Weed invasion was low to moderate with *Briza maxima, *Sonchus asper and *Ehrharta calycina recorded. The last fire was about two years ago, some trees were killed (about 10% or more). There were a few rabbit scratchings and some old burrows between 136 and 137. The condition of the stand was assessed as good to very good (it would return to very good or perhaps very good to excellent if unburnt for some time). Associated species included Chamaescilla corymbosa, Haemodorum spicatum, Hypolaena exsulca, Acacia pulchella, Tricoryne tenella, Phlebocarya filifolia, Stipa compressa, Burchardia umbellata, Kennedia prostrata, Schoenus sub-bulbosus, Dampiera linearis and a Thysanotus species.

Melaleuca preissiana low open woodland over Astartea sp. Brixton Street, Pericalymma ellipticum open shrubland (burnt, regenerating) over Lepidosperma longitudinale open

sedgeland (lower part of stand only).

Site 138. Weed invasion was moderate to high with *Sonchus asper, *Lotus angustissimus, *Ursinia anthemoides, *Avena sp., *Briza minor, *Hypochaeris glabra, *Solanum nigrum and others observed. The stand was assessed as being in good condition but, was quite weedy. Associated species included Schoenus rodwayanus, Schoenus rigens, Juncus pallidus? and Cyathochaete avenacea.

Assessment of conservation value

The area from Mattison Street north across Southern River Road nearly to Balfour Street between Ranford Road and Furley Street has very high conservation value for vegetation and flora. This is because it contains a range of vegetation types including Banksia woodlands of the dunes, damplands and wetlands. The value is increased by the large size of the remnant and the good shape for management. It is also added to by the adjoining Nature Reserve (west of Ranford Road, just out of the City of Gosnells). The high value for vegetation implies a similar high value for fauna, the wetland is probably very important for the conservation of waterfowl, as well as aquatic plant species.

The smaller areas to the east of the larger remnant within the original area, have less value because of their smaller sizes. However, they still have conservation value, particularly as they contribute to the linking of remnant 17 to other remnants. One block has been partially cleared but, it appears that the understorey was not disturbed badly as it has regenerated extremely well.

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Bass S.



Water Authority
of Western Australia

Wetlands in the City of Gosnells

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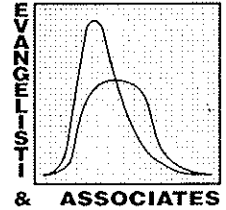
**Full document
available
on request**

Metropolitan Region Scheme Major Amendment No 927/33 - Canning Vale - Southern River area

A submission by the Environmental Protection Authority on the
document released for review by the State Planning
Commission

**Full document
available
on request**

Environmental Protection Authority
Perth, Western Australia
Bulletin 717
November 1993



WATER RESOURCES MANAGEMENT PLAN

MIDDLE CANNING CATCHMENT

(STAGE 1 - VOLUME 1)

Prepared for the

Water Authority of Western Australia

By

Evangelisti & Associates
Consulting Engineers and Project Managers

in association with

Landvision
Consultants in Urban and Environmental Planning

and

The V & C Semeniuk Research Group
Environmental Scientists

October 1995

DRAFT PERTH'S BUSHPLAN -

**VEGETATION ASSESSMENT OF BUSHPLAN SITE 413 – BALANNUP LAKE
AND ADJACENT BUSHLAND, SOUTHERN RIVER/FORRESTDAL**

Department of Environmental Protection
K. Clarke and B. Keighery
September 2000

BACKGROUND

Bushplan Site 413 covers 80.2 ha almost all of which is remnant vegetation. Lots 1, 1769, 1770, 1771, 1772 are all in government ownership under Parks and Recreation zoning. Lot 506 is a Nature Reserve administered by the Department of Conservation and Land Management. The remaining Lots are zoned Rural and under private ownership. As part of the public review of Perth's Bushplan BSD Consultants made a submission (dated 25 March 1999) on behalf of Mr Paul Jordon, owner of Lot 1672 requesting a review of the Bushplan boundary on his land. A site visit was therefore requested for this Lot and the remaining Lots in private ownership to provide the information required for discussions with the landowners. This Bushplan Site is also covered by the Southern River-Forrestdale-Brookdale-Wungong Draft Structure Plan (WAPC 1999).

A field inspection was made by Karen Clarke and Catherine Thomson (MfP) and Melissa Patt (WRC) on 21/1/2000. On Lot 1627 the landowner, Mr P. Jordan, attended the inspection of his Lot. Approximately three hours was spent traversing the bushland by vehicle and on foot. Being January there were relatively few plants flowering and annually renewed plants were dormant. Therefore, vegetation condition assessments may be subject to revision on a mid/late spring inspection.

Vegetation in this Bushplan Site is generally typical of the transitional area between the Bassendean Dunes and the Pinjarra Plain. The Site is in the Southern River Vegetation Complex (Heddle *et al.* 1980), 11% of which is proposed for protection under Draft Perth's Bushplan. Wetland mapping (Hill *et al.* 1996a) shows the wetlands on the northern side of the Site are sumplands, with a dampland extending into the Lots to the south of Southern River Rd (see Map 1). The Site consists of vegetated uplands, vegetated wetlands and a lake with open water registered under the Environmental Protection (Swan Coastal Plain Wetlands) Policy 1999 (formally the Swan Coastal Plain Lakes EPP). The Site Description (see Appendix 1) summarises the values of the whole Bushplan Site. Map 1 shows the management categories of the wetlands and the boundary of the EPP lake.

COMMENTS ON SITE INSPECTION

GENERAL COMMENT/CONCLUSION

REFERENCES

(Unlisted references can be found in Draft Perth's Bushplan Volume 2B)

DEP (2000) Perth's Bushplan Survey 2000. Unpublished bushland plot and area records. Department of Environmental Protection, Perth Western Australia

NB: This is informal advice and should not be regarded as formal Section 38 advice under the Environmental Protection Act but represents DEP Bushplan advice subject to ratification through Coordination Group sign off.

APPENDIX 1: DESCRIPTION FOR BUSHPLAN SITE 413 - BALANNUP LAKE AND ADJACENT BUSHLAND, SOUTHERN RIVER/FORRESTDAL

Boundary Definition: protected area/bushland part taken to cadastre boundary

SECTION 1: CADASTRAL INFORMATION

(Lots, locations and derived information to be updated in the public submission period)

Bushplan Site no. 413	Map no. 69	Map sheet series ref. no. 2033-I NE
Other Names Submission Area 213 and 241; part Gosnells remnant bushland area 17 [Trudgen, 1995 #393]		Area (ha): total 80.2 (includes open water); bushland 76.6
Local Authorities (Suburb) City of Gosnells (Southern River), City of Armadale (Forrestdale)	Zoning MRS: Rural, Parks and Recreation, Important Regional Roads TPS: Rural, Landscape, General Rural	Lot/Location/Reserve numbers (Purpose), Street name 1, 1625, 1626, 1627, 1628 Ranford Rd; 1630, 1631, 1632, 1769 Furley Rd; 1771, 1772 Matison St; 1770 Southern River Rd; 506 Balannup Rd Crown Reserve Reserve 1821 (Conservation of Flora and Fauna)
Ownership Categories Private (including commercial organisation), State Government, Local Government, Not identified		
CALM Managed Land		

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Bassendean Dunes

Bassendean Sands (Qpb: S8)

Bassendean Dunes/Pinjarra Plain

Bassendean Sands over Guildford Formation (Qpb/Qpa:S10)

Wetlands (within the Bassendean Dunes/Pinjarra Plain)

Holocene Swamp Deposits (Qrw: Sp1, Sp2)

VEGETATION AND FLORA

Vegetation Complexes

Combinations of Bassendean Dunes/Pinjarra Plain

Southern River Complex

Floristic Community Types: *not sampled, types inferred

Supergroup 2: Seasonal Wetlands

*4 *Melaleuca preissiana* damplands

*11 Wet forests and woodlands

*12 *Melaleuca teretifolia* and/or *Astartea* aff. *fascicularis* shrublands

Supergroup 3: Uplands centred on Bassendean Dunes and Dandaragan Plateau

*21c Low lying *Banksia attenuata* woodlands or shrublands

*23a Central *Banksia attenuata* — *B. menziesii* woodlands

WETLANDS

Wetland Types: sumpland, dampland, artificial channel

Natural Wetland Groups

Bassendean—Pinjarra transition OR Bassendean with fluvial features

Bennett Brook (B/P.4)

Wetland Management Objectives: Conservation (32ha), Resource Enhancement

Swan Coastal Plain Lakes EPP: 7.1 ha

THREATENED ECOLOGICAL COMMUNITIES

Not assessed

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, vegetated uplands

Vegetation and Flora: limited survey (Submission no. 164b, [Trudgen, 1995 #393])

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Structural Units: mapping [Trudgen, 1995 #393]

Uplands: *Banksia attenuata*, *B. menziesii* and *Nuytsia floribunda* Low Woodland; *Banksia menziesii*, *B. attenuata*, *Allocasuarina fraseriana* and *Eucalyptus todtiana* Low Woodland; *Banksia menziesii*, *B. attenuata*, *Nuytsia floribunda* and *Allocasuarina fraseriana* Low Open Woodland to Low Open Forest; *Banksia menziesii* and *B. ilicifolia* Low Woodland to Low Open Forest; *Banksia attenuata*, *B. menziesii*, *B. ilicifolia* and *Eucalyptus todtiana* Low Open Woodland to Low Woodland; *Eucalyptus todtiana* and *Allocasuarina fraseriana* Low Open Woodland

Wetlands: *Melaleuca preissiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda*, *Eucalyptus marginata* and *E. todtiana* Low Open Woodland; *Allocasuarina fraseriana*, *Melaleuca preissiana*, *Eucalyptus todtiana* and *Nuytsia floribunda* Low Open Woodland to Low Woodland; *Melaleuca preissiana*, *Allocasuarina fraseriana* and *Nuytsia floribunda* Low Open Woodland; *Melaleuca raphiophylla* Low Forest; *Melaleuca teretifolia* Tall Open Scrub; *Melaleuca preissiana* Low Open Woodland; *Pericalymma ellipticum* Open Heath to Closed Heath; *Regelia ciliata* Open Heath; *Juncus pallidus* and *Phalaris* sp. Sedgeland/Grassland

Vegetation Condition: >80% Excellent to Very Good, <20% Good to Degraded, with areas of severe localised disturbance

Total Flora: not known

Significant Flora: *Blancoa canescens*

Fauna: no systematic survey. Significant mammal species: Quenda [Friend, 1996 D #443]

Linkage: adjacent bushland to the north and south (BS342); part of proposed Greenway [Tingay Alan & Associates, 1997 #378]; part of a regionally significant fragmented bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes: 'wetland of special note' [Payne, 1993 #313; Payne, 1993 #314]; important waterbird habitat (Submission no. 164b), Scopewest site; recommended to be protected with the purpose of conservation of nature and recreation compatible with the conservation of nature in study of bushland in the City of Gosnells [Trudgen, 1995 #393]; Category One Area Middle Canning Catchment Study [Evangelisti & Associates, 1995 #132]; part Bushplan Site included in Jandakot Botanic Park Proposal [MFP, 1995 #300]

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, Maintaining ecological systems or natural processes, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation

Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site subject to Swan Coastal Plain Lakes EPP; location of conservation category wetlands; under MRS Parks and Recreation Reservation and TPS Landscape Zoning, Crown Reserve

Constraints: private land; under MRD regional road requirements

Recommendation: The care, control and management of parts of this Bushplan Site for conservation purposes within Jandakot Regional Park is endorsed. The most appropriate mechanism for the protection of the remainder of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).

APPENDIX 2: SITE DESCRIPTIONS

Site 1 (***) on Map ***, Figure ***) –
Condition:

Site 2 (***) on Map ***, Figure ***) –
Condition:

Site 3 (***) on Map ***, Figure ***) –
Condition:

Lot 1627

1. Scattered *Eucalyptus rudis* and *Melaleuca preissiana* over paddock grasses, *Astartea fascicularis* and *Regelia ciliata* regenerating. Condition: Degraded due to clearing and grazing by horses.

1a. Cleared historically?, Jan 1999 air photo shows mostly vegetated, after winter 1999 landowner stated allowed horses to graze out vegetation and fill added to lowest areas to prevent water pooling.

2. *Melaleuca raphiophylla* Low Closed Forest regenerating from a fire in about 1995/6, deep standing water in winter (>0.5 m), remaining until October/November/December depending on year. Condition: Very Good

3. *Melaleuca raphiophylla* Low Woodland large with open patches, deep standing water in winter (>0.5 m), remaining until October/November/December depending on year. Condition: Very Good

Lot 1626

4. *Eucalyptus todtiana* Open Woodland over *Adenanthos cygnorum* Tall Open Shrubland over *Jacksonia sternbergiana* and *Xanthorrhoea preissii* Open Shrubland over *Gompholobium tomentosum* Low Shrubland over *Ehrharta calycina* Very Open Grassland, *Dasyopogon bromefolius*, *Philothea ciliata* and *Patersonia occidentalis* Herbland and *Hypoleana exsulca* and *Desmocladius flexuosus* Very Open Sedgeland. Condition: Very Good to Excellent

5. *Melaleuca raphiophylla* and *Eucalyptus rudis* Closed Forest over *Lepidosperma longitudinale* Closed Sedgeland. Condition: Excellent to Very Good

6. *Regelia ciliata* Closed Heath with scattered emergent *Melaleuca preissiana* over *Schoenus efoliatus* Closed Sedgeland. Condition: Excellent to Very Good.

Figure 1:

Figure 2:

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Figure 3:

Figure 4:

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Map 1:

Map 2:

Map 3:

Map 4:

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