

***Fagan Park, Arcadia Road, Galston***  
***Conservation Management Plan***

**APPENDICES**

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## **Appendix A      Study Brief**



# **Invitation to submit a Fee Proposal**

***For the Preparation of a  
Conservation Management Plan for Fagan Park***

***Galston NSW 2159***

Parks and Landscape Team  
Environment Division  
Hornsby Shire Council  
296 Pacific Highway  
NSW 2077

**February 2003**  
Issue No1

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### Attachment 1:

CAB Consulting, Fagan Park Heritage Impact Assessment: Preliminary Report, December 2002

### Attachment 2:

NSW Heritage Office: Conservation Management Documents

### Attachment 3:

Annexure Part A to the AS 4122(Int) – 1993 Contract

## *1. Introduction.*

Council is seeking proposals from consultants for the preparation of a Conservation Management Plan for the farm landscapes and buildings, bushland and gardens for the whole of Fagan Park, Fagan's Road, Galston.

The Conservation Management Plan is sought to enable the identification of significant heritage elements and acceptable mechanisms for their retention in the park as part of input into a broader review of the masterplan and Plan of Management for the park.

The Plan shall also enable the identification of Heritage restoration works that may be incorporated into a future Council works program.

Fagan Park is located on the edge of the village of Galston, approximately 1 kilometre north of the main shopping centre, on Fagan's Road. It occupies an area of approximately 55 hectares, encompassing historic buildings, developed and rural parkland and bushland.

Council's review of the Plan of Management will encompass the development of a new park masterplan that responds to community surveys undertaken in 2002 that identified visitation characteristics and the scope of improvements that have community support.

It is anticipated that following the development of the landscape masterplan, Council will proceed to exhibit a draft Plan of Management for the park and seek formal approval from the Minister of Land and Water Conservation to adopt the Plan of Management as exhibited.

Park improvements will be implemented as funding is identified and are expected to include a variety of recreation and environmental improvements and heritage conservation works.

## *2. Purpose.*

The purpose of this brief is to seek proposals for the preparation of a Conservation Management Plan.

## *3. Background.*

Fagan Park is an important park for regional and local recreation use, drawing visitors from across Sydney. The park has been developed to include a series of developed gardens, play and picnic/BBQ facilities for the use of visitors. The Netherby Cottage and associated farm buildings provide displays of historic elements that are managed by Hornsby Council and a volunteer group known as the Friends of Fagan Park. Bushland areas within the park are managed by Council as natural systems with assistance from the Carrs Bush Bushcare Group.

Fagan Park is a Crown Reserve, dedicated to the State of NSW by Bruce Fagan. The dedication of the land is governed by a Deed of Gift. Council has care, control and management responsibility for the park and this is governed by the current Plan of Management. The Minister of the Department of Land and Water Conservation adopted the plan of management in 1997. The owner of the land is the NSW Department of Land and Water Conservation (DLWC) on behalf of the Minister and the Crown. The park is reserved for public recreation.

Council recently investigated opportunities for the development of a multi-purpose showground in the eastern portion of the site. In consideration of this preliminary proposal,

a series of studies were undertaken to investigate site constraints. Studies completed include:

1. Ambrose Ecological Services, Identification and Management of Latham's Snipe (*Gallinago hardwickii*) Habitat at Fagan Park, Galston, January 2003-02-19
2. CAB Consulting, Fagan Park Heritage Impact Assessment: Preliminary Report, December 2002
3. Hornsby Shire Council Bushland & Biodiversity Management Team, Terrestrial Flora and Fauna Assessment, Part of a Review of Environmental Factors for Proposed Showground Facility at Fagan Park, August 2002
4. Martens & Associates, Hydrological Investigations: Fagan Park, Galston, December 2002

The Heritage Study undertaken by CAB Consulting recommended that Council prepare a Conservation Management Plan for the park to determine the level of significance of the various heritage elements within the park. A copy of this document forms Attachment 1 to this brief.

Significant heritage items identified in this study include:

1. The Netherby Farm Group buildings;
2. The rural landscape setting to the buildings;
3. Landscape and built references to past farming practices in the district;
4. Carrs Bush as a remnant of the once extensive Turpentine Ironbark Forest in the Sydney basin; and
5. The Gardens of Many Nations as a celebration of the Bicentenary of Australia.

The bushland along the western boundary of the park, near Arcadia Road, contains a locally significant forest of White Mahogany.

Council shall be undertaking a landscape masterplanning study of the park concurrently to the Heritage works identified in this brief. It is expected that this study and the associated public consultation will confirm the scope of changes to the park likely to occur over the next ten years.

It is anticipated that the landscape masterplan study will confirm the likely scope of construction works into the future. The scope of the landscape works are subject to the outcome of public consultations that shall also determine the priorities for these works.

The final Conservation Management Plan and Landscape Masterplan will then be used to prepare a revised Fagan Park Plan of Management.

Council is expected to commit funds for construction works following completion of the Conservation Management Plan, Masterplan review and adoption of the draft Plan of Management.

#### Council Policies

Relevant Policies to guide the project shall include but not be limited to:

Hornsby Shire Management Plan  
Fagan Park Plan of Management  
Hornsby Shire LEP  
Hornsby Shire Leisure Strategic Plan 2002  
Hornsby Shire Social Plan 2000

## 4. Scope.

The following is an outline of the works covered by this brief.

The work shall be completed in accordance with guidelines prepared by the NSW Heritage Office for Conservation Management Plans. A copy of this guideline and a model brief forms Attachment 2 to this brief.

In addition to the requirements identified in this document, Council expects the work to be undertaken in two stages as follows:

### **Stage 1: Understanding the Place**

1. Investigate Significance:
2. Assess significance
3. Prepare a Statement of Significance
4. Recording the findings into a Stage 1 report submission to Council.
5. Reporting the findings in presentations to Council's Steering Committee.

### **Stage 2: Conservation Policy and Implementation**

1. Consider condition of the items
2. Develop a conservation management plan
3. Develop an Implementation Policy
4. Prepare management recommendations
5. Recording the findings of the Conservation Policy and Implementation Phase into a Stage 2 report submission to Council.
6. Reporting the findings in presentations to Council's Steering Committee & Heritage Committee.

Recommendations in the Stage 2 submission shall conform with the intent and requirements of the Fagan Park Deed of Gift and will also have regard to principles of economic, social and environmental sustainability. In this regard, consideration of community acceptance and economic affordability, will be necessary.

### **Consultation**

Allow for a minimum of 6 consultation discussions with Council, stakeholders and community representatives, including the following:

1. Initial briefings with Council officers
2. Direct discussions with Community Representatives including the Hornsby Shire Historical Society, Dural and District Historical Society, Friends of Fagan Park; Carrs Bush Bushcare Group; and Fagan Park Ecogarden Volunteers.
3. Stage 2 Presentation and discussions with the Fagan Park Community Committee
4. Stage 1 presentation to Council's Steering Committee; and
5. Stage 2 presentation to Council's Steering Committee
6. Stage 2 presentation to the Hornsby Shire Heritage Advisory Committee.



## 5. Program.

The following is an outline of the timeframe for completion of the project:

Consultant engagement	Friday 21 <sup>st</sup> March 2003
<b>Stage 1 - Understanding the Place</b>	<b>March to April 2003</b>
Consultation	late March
Draft Submission	mid April
Presentation to Steering Committee	29 <sup>th</sup> April
<b>Stage 2 - Conservation Policy and implementation</b>	<b>April to May 2003</b>
Draft Submission	mid May
Presentation to Community Committee	22 <sup>nd</sup> May
Presentation to Steering Committee	27 <sup>th</sup> May
Presentation to Heritage Advisory Committee	2 <sup>nd</sup> June
Final submission follows report to 9 <sup>th</sup> July Council meeting	

All submissions will be reviewed by Council or nominated representatives.

A detailed program will be confirmed as part of the consultancy agreement with Council following the selection of the consultant.

## 6. Deliverables

The following deliverables must be submitted under this brief:

1. Draft and final Stage 1 report submission
2. Draft and Final Stage 2 report submission
3. Presentations to the Community Committee, Steering Committee and Council's Heritage Committee

**Note: Council requires 3 No. copies of all graphic and written documentation to be incorporated into the report in hard copy A4 or A3 format.**

## 7. Steering Committee and Community Consultation.

A project steering committee has been formed comprising Council officers and other representatives. The committee includes Council Officers whose specialist expertise and knowledge of operations will assist in directing the work. The following is the likely composition of this steering committee:

<b>Project Coordinator:</b>	Parks and Landscape (Kurt Henkel).
<b>Project Steering Committee:</b>	Manager Parks and Landscape (Peter Kemp) Parks Assets representative Manager Bushland & Biodiversity Team Council's Heritage Officer (Lisa Trueman) Department of Land & Water Conservation representative (John Filocamo)

Community input shall be facilitated through direct discussions with community based groups including:

1. Dural and District Historical Society
2. Hornsby Shire Historical Society
3. Friends of Fagan Park
4. Carrs Bush Bushcare Group
5. Fagan Park Eco-garden Volunteers

A Community Committee shall also be formed to enable the presentation of the Stage 2 draft submission. The committee is likely to include representatives from:

Galston Rotary Club  
Arcadia Galston Residents Association  
Galston Area Residents Association  
Friends of Fagan Park  
Hornsby Electric Flying Club  
Bushcare groups  
General residents  
Potential user groups

The Stage 2 Draft Submission shall also be presented to the Hornsby Council Heritage Advisory Committee for comment prior to reporting to a formal Council Meeting.

The steering committee will be responsible for reviewing submissions, supplying expertise and information and providing direction.

## *8. Reference Documents:*

As a minimum the consultant shall review the following documents while undertaking this brief. The consultant may identify other documents to assist in the completion of this project.

CAB Consulting Heritage Impact Statement: Preliminary Report, December 2002

Fagan Park Files: Local Studies Section, Hornsby Library (Contact Neil Chippendale, phone 9847 6807)

Fagan Park Deed of Gift 1984 (contained in the Fagan Park Plan of Management)

Heritage Study of the North West Sector of Sydney

Hornsby Shire Council, Management Plan, Creating a living Environment, 2002/03 – 2004/05.

Hornsby Shire Council, Fagan Park Plan of Management, Adopted May 1997

Hornsby Shire Heritage Study 1992

Hornsby Shire Local Environment Plan, (in particular Heritage Items p51-53)

Roberts, E., Study of Fagan Park, November 1984

Hornsby Shire Rural Lands Study 1995

Hornsby Shire Social Plan 2000

## 9. Submissions.

Under the requirements of this invitation to submit an Expression of Interest, submissions must include:

1. A lump sum fee for Stages 1 and 2 of the brief including hourly rates for time charge variations to the scope of work;
2. A statement of approach to the project, elaborating on the requirements of this brief;
3. A statement of the capability of the consultancy to undertake this project including experience with projects of a similar scale and character to this brief;
4. A statement of capacity to undertake the work within the timeframes nominated.

Submissions received will be assessed on the basis of the following selection criteria:

1. Depth of experience undertaking similar projects
2. Previous experiences working with Council and other clients
3. Value for money as represented by the skills brought to the project and the tendered price for completing the work
4. Capacity to undertake the project within the timeframe outlined in the brief

Submissions may be submitted by one of the following methods:

1. By email to: [khenkel@hornsby.nsw.gov.au](mailto:khenkel@hornsby.nsw.gov.au)

2. By fax to Kurt Henkel, 02 9847 6929

3. By post to:

Kurt Henkel  
Landscape Coordinator  
Environment Division  
Hornsby Shire Council  
296 Pacific Highway  
Hornsby NSW 2077

4. Hand delivered to:

Environment Division Counter (ground floor of the administration building)  
Hornsby Shire Council  
296 Pacific Highway  
Hornsby NSW

**Submissions must not be posted in Council's Tender Box.**

## *10. Council's Contact Person.*

Enquiries regarding this expression of Interest may be directed to:

Kurt Henkel  
Landscape Coordinator  
Parks and Landscape Team  
Environment Division

Phone: 02 9847 6887 or 0438 103 141  
Fax: 02 9847 6929

## *11. Acceptance of Quotation and conditions of engagement.*

Council shall assess all quotations in the light of all supporting evidence included in the submission and is not bound to accept the lowest of the bids it has invited.

The successful consultant shall be engaged under contract in accordance with the General Conditions of Contract identified in AS 4122(Int) – 1993 "General Conditions for Engagement of Consultants" as prepared and published by Standards Australia.

Copies of the General Conditions of Contract are available for viewing if required. A copy of the Annexure Part A to the AS 4122(Int) – 1993 Contract forms Attachment 3.

## *12. Ownership of Information.*

All documents produced under the Contract shall on completion of the particular document, become the property of Council and shall be delivered by the Consultant to Council upon request at completion of the work. The Consultant shall ensure that such documents shall not be used, copied, supplied or reproduced for any purpose other than for the execution of the work and the Consultant shall also ensure that information specific and relevant to the Contract contained in any such document shall not be used by or supplied or conveyed to any other person for any purpose other than for the execution of the work.

All project documents, drawings, and similar data supplied to the Consultant under the Contract shall remain the property of the Council and shall be returned by the Consultant to the Project Manager on demand in writing by the Project Manager.

The documents supplied to the Consultant under this Contract shall not, without the prior approval of the Project Manager, be used, copied or reproduced for any purpose other than for the execution of the work.

**Appendix B   Heritage Study Inventory Form**

**HORNSBY SHIRE HERITAGE STUDY**  
 Prepared by Perumal Murphy Wu Pty Ltd for  
 Hornsby Shire Council and the NSW Department of Planning

Reference No

31/15

Present Name Netherby

Date Inspected 05.04.92  
 Survey By VM

**Location:**

4-10 Arcadia Road  
 Town/Suburb GALSTON Postcode 2159  
 Locality  
 Real Description Lot 7 DP 16509

Category Bu  
 Sub Category 1501  
 ü

**Present Owner:**

Town/Suburb Postcode

Site Area  
 Existing Zoning

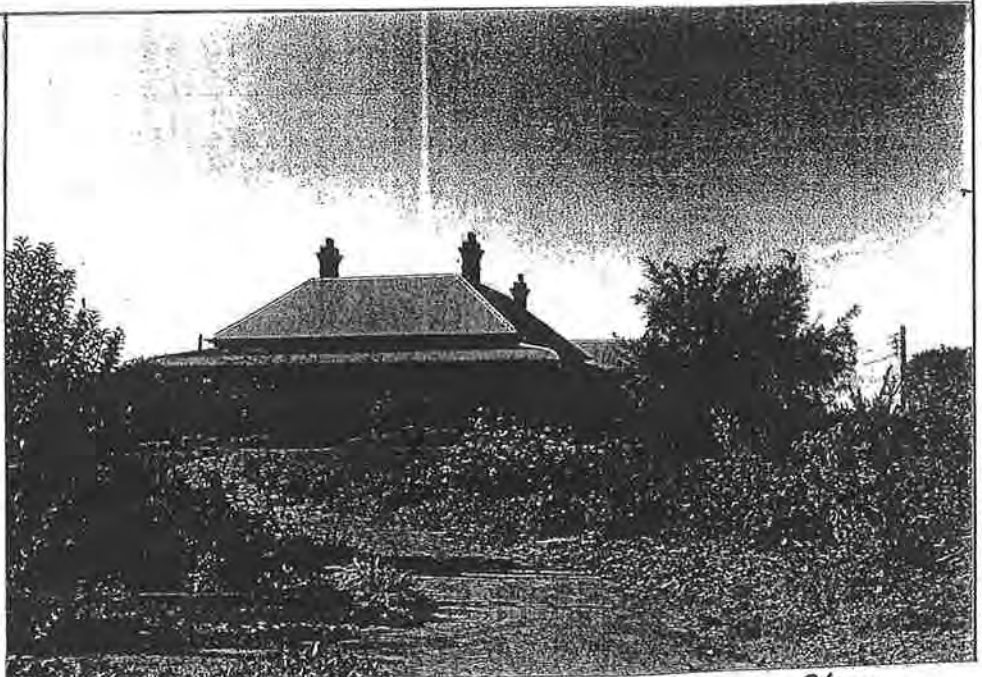
**Evaluation Criteria:**

Historic	Rare <input checked="" type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>
Aesthetic	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>
Social	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>
Scientific	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>
Other	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>

Date c1899/1900

**Significance:** Good example of a brick Victorian period homestead. In traditional form with wrap-around verandah. Excellent condition. Rich in original detail. Prominent position, enhanced by garden setting. Local significance.

**Location Plan**



9/14A

HERITAGE STUDY OF THE NORTH WESTERN SECTOR OF SYDNEY H0/GA-1

LISTINGS NATIONAL TRUST REG. OF NATURAL ESTATE N.S.W. HERITAGE COUNCIL OTHER:	TOWN/DISTRICT MUNICIPALITY NAME/ADDRESS	GALSTON HORNSBY "NETHERBY" 4 Arcadia Rd.
TITLE DETAILS Part Lot 7 D.P.16509	DATE OF CONSTRUCTION	c. 1880

PROPERTY DESCRIPTION	Bullnose				
WALLS F.BR.	ROOF C.G.I., HIP.	VERANDAH	C.G.I., C.I.	CHIMNEYS Yes	FENCING Acorn Picket
					LANDSCAPE

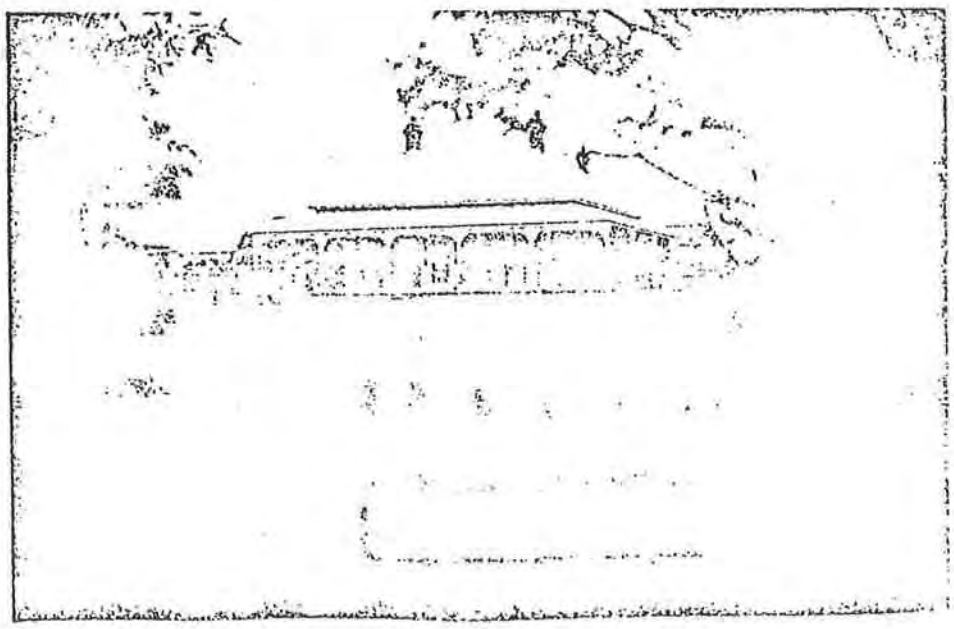
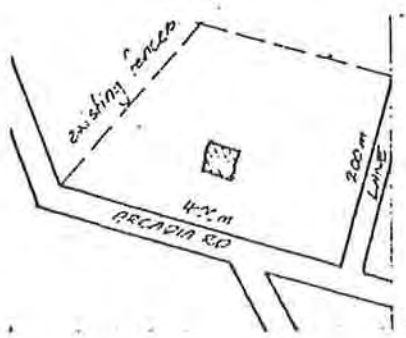
A large house of cottage formation with special red bricks to chief elevation. Main elevation is symmetrical with C.I. verandah, panelled front door with side lights and French doors with shutters. Original picket fence to street, acorn pattern, is now somewhat run down. The garden is not old, but does include some substantial plantings. The house is in excellent condition and is visually dominant. There is a gabled weatherboard annexe to the rear as well as a major complex of brick and timber outbuildings.

SIGNIFICANCE  
STATE: Substantial rural dwelling at important road junction.

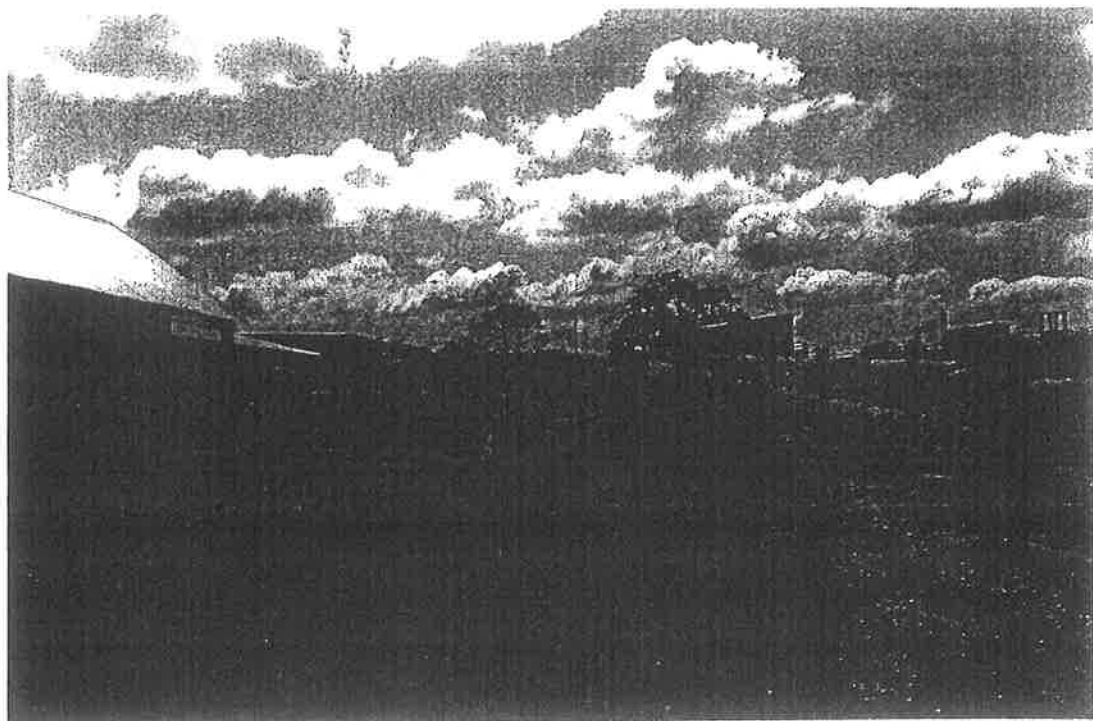
RELATED HISTORICAL THEME:  
A3: Later settlement.

CURTILAGE

PHOTO AND SKETCH PLAN  
(IF APPLICABLE)  
C3,4



- ABBREVIATIONS
- C.G.I. : CORRUGATED GALVANISED IRON
  - C.I. : CAST IRON
  - F.BR. : FACE BRICK
  - GBL : GABLED
  - HIP. : HIPPED
  - P.BR. : PAINTED BRICKWORK
  - R.M. : RENDERED MASONRY
  - SL. : SLATE
  - ST. : STONE
  - T. : TIMBER



L11-7



11-6





L11-9



L11-8

**HORNSBY SHIRE HERITAGE STUDY**  
 Prepared by Perumal Murphy Wu Pty Ltd for  
 Hornsby Shire Council and the NSW Department of Planning

Reference No  
 L203

Present Name Fagans Park

Date Inspected 10 12 92  
 Survey By WA

**Location:**

Town/Suburb Arcadia Road Postcode 2159  
 Locality GALSTON  
 Real Description *At Lot 12, Lot 13-14, Lot 16-18 DP 975148*

Category  
 Sub Category

**Present Owner:**

Town/Suburb Postcode

Site Area  
 Existing Zoning

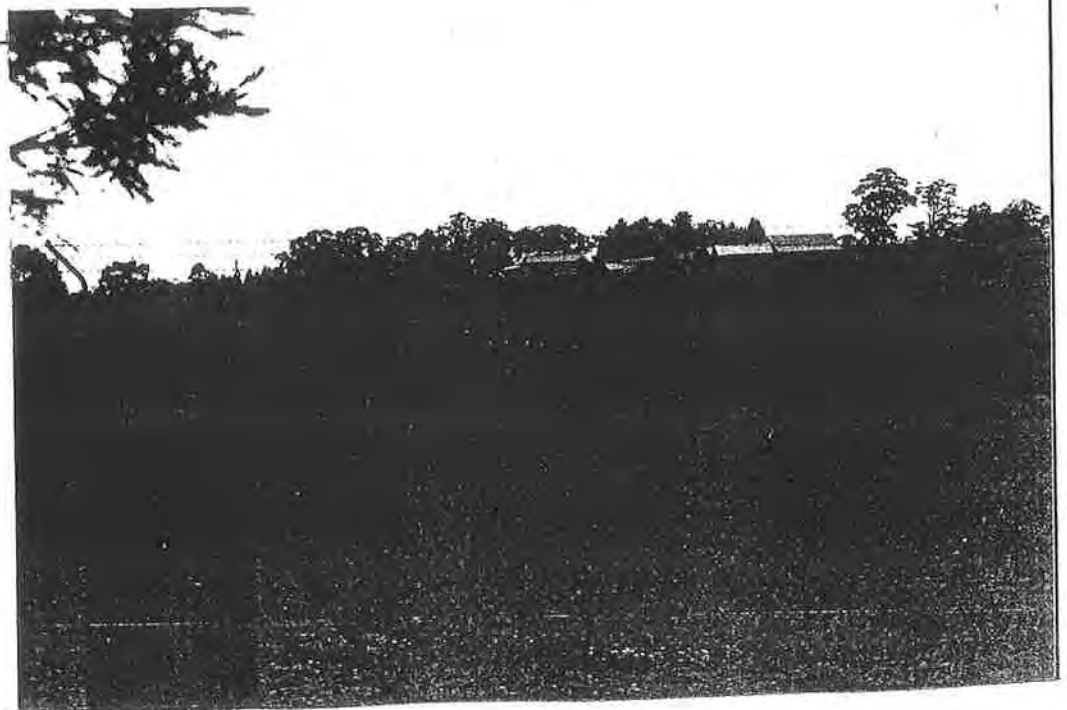
**Evaluation Criteria:**

Historic	Rare <input type="checkbox"/>	Associative <input checked="" type="checkbox"/>	Representative <input type="checkbox"/>
Aesthetic	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>
Social	Rare <input type="checkbox"/>	Associative <input checked="" type="checkbox"/>	Representative <input type="checkbox"/>
Scientific	Rare <input checked="" type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>
Other	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>

Date History  
 Architect/Designer  
 Builder

**Significance:** Large former farm conserving period farmhouse sheds and yards with a developed reconstructed cottage garden. "Garden of many nations", recreational facilities, picnic areas and lake while conserving a botanically important and scenic bushland with good stand of White Stringybark. Of regional significance.

**Location Plan**



**Physical Characteristics:**  
Architectural Style

Materials: Exterior  
  
Interior

**Description:** Former farm from c1850's located on fertile soil (derived from Wianamatta Shale) and donated to the people of Hornsby by the Fagan family. Site conserves former period farmhouse (restored), cottage garden with picket fence (reconstruction), original timber packing shed, milking shed and outbuilding with split. Post and rail fencing. Also of note, cattle still graze in the north-eastern paddock.

Site also conserves fine stands of indigenous trees along south west boundary and in the north west corner including the quite botanically important best remaining stand of White Mahogany (*Eucalyptus acmenoides*) in the County of Cumberland. (trees up to 20 metres high and 1 metre diameter, c80-100 years old). Other species (to 20m) include Grey Ironbark and Turpentine. Also Turpentine Windbreak (12m high) planted along Arcadia Road from c1970's.

Remainder of park developed as series of "Gardens of many nations", picnic areas, lake and equestrian facilities. Plan of management includes construction of golf driving range, animal farm and display orchard. A properly reconstructed orchard of the appropriate period seems particularly appropriate as it was so much part of the Fagan heritage (and might allow for the reuse of the period equipment in the packing shed.) Site also affords views from hilltop over surrounding country towards the north.

**Recommendation:** An explanatory map of site near parking area with interpretative information would be valuable.

**History:** Prehistory bushland and farmland from c1850's.

**Historical Period:**

	Built	Used
Pre 1800	<input type="checkbox"/>	<input type="checkbox"/>
1800 - 1825	<input type="checkbox"/>	<input type="checkbox"/>
1826 - 1850	<input type="checkbox"/>	<input type="checkbox"/>
1851 - 1875	<input type="checkbox"/>	<input type="checkbox"/>
1876 - 1900	<input type="checkbox"/>	<input type="checkbox"/>
1901 - 1925	<input type="checkbox"/>	<input type="checkbox"/>
1926 - 1950	<input type="checkbox"/>	<input type="checkbox"/>
1951 - 1975	<input type="checkbox"/>	<input type="checkbox"/>
Post 1975	<input type="checkbox"/>	<input type="checkbox"/>

**Heritage Listings:**

- Register of the National Estate (AHC) - Registered
- Register of the National Estate of Aust (AHC) - Interim
- Register of the National Trust (NSW)
- Register of Significant Twentieth Cent. Architecture (RALA)
- Department of Public Works Heritage and Cons. Register
- Heritage Council Register - Permanent Cons. Order
- Heritage Council Register - Interim Cons. Order
- Heritage Council Register - Section 130 Order
- Heritage Council Register - Nomination
- NSW Govt Dept Heritage Register (S.170 Heritage Act)
- NP&WS Historic Sites Register
- NP&WS Aboriginal Sites Register (Contact Sites)
- Institution of Engineers (NSW) Heritage Register
- Existing Heritage Study
- Regional Environmental Plan Heritage Schedule
- Local Environmental Plan Heritage Schedule
- Other

**Historical Themes:**

SHIP  
  
EA CE  
LO  
  
Local

**Sources**

**Appendix C      Draft State Heritage Inventory Form**

**A draft State Heritage Inventory form will be prepared when public comments on the Conservation Management Plan have been received and reviewed.**

**Appendix D      2002 Visitor Survey Data Summary and  
Community Committee Consultation Summary**

## ATTACHMENT 2

### Summary of recent Community Surveys

Extensive investigations were undertaken in 2002 into community attitudes towards provision of a multi-purpose showground facility in Hornsby Shire. Fagan Park was one of the sites identified as a possible location for provision of such a facility.

In February 2003, Council resolved to *'prepare a Heritage Conservation Management Plan and amend the Fagan Park Plan of Management, enabling informal equestrian use, and a broader recreational focus to the Park as outlined in this Report'* and to *'seek opportunities for funding both a regional facility and works within Fagan Park from grant funding sources wherever possible'*.

Surveys implemented have included:

1. **Fagan Park Users Survey** – Over 3,800 people surveyed over a period of 22 days in 2002 to determine the drawing area for the park, qualities and facilities that attracted users and improvements users would like to see.
2. **Letterbox Flier Survey** – Distribution of a flier across the Shire with 1 300 responses received by Council.
3. **Random Telephone Survey** – Survey of 400 households across the Shire and adjoining local government areas to determine community attitudes.
4. **Analysis of Boom Gate Takings** – Analysis of information relating to the usage patterns of the park and the seasonal variations of park usage.

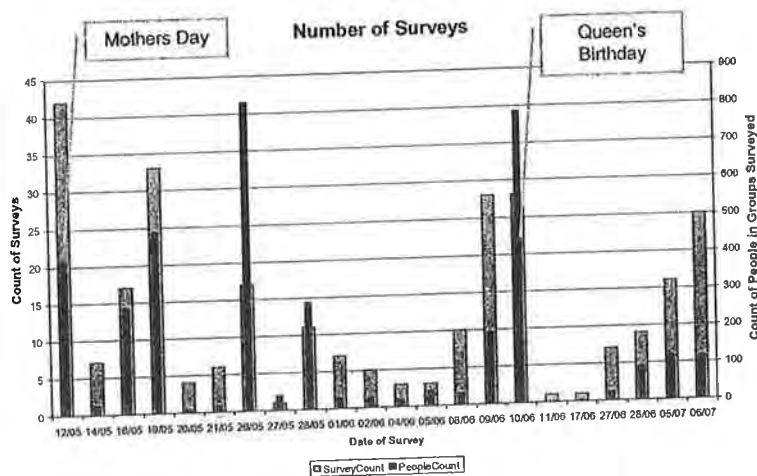
Extensive statistical analysis of the findings of all of the above surveys has been undertaken and has provided Council with a detailed insight into the usage of the park. The survey analysis has highlighted the qualities and facilities that attract users to select Fagan Park as their informal recreation destination.

# 1. Fagan Park Users Survey - Summary

## Research

In 2002 Hornsby Council undertook a comprehensive planning process to determine the feasibility and potential location for a multi-purpose showground facility in Hornsby Shire. As a result of these investigations, extensive information has been gathered on the use and users of Fagan Park.

281 surveys were conducted over May to July 2002. More than 3,800 people were in the groups surveyed ...

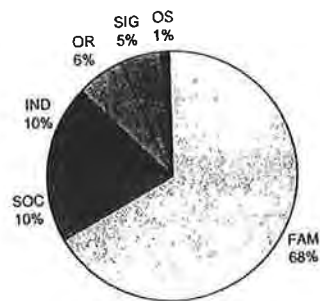


Source: Fagan Park User Interviews 12 May to 6 July, 2002



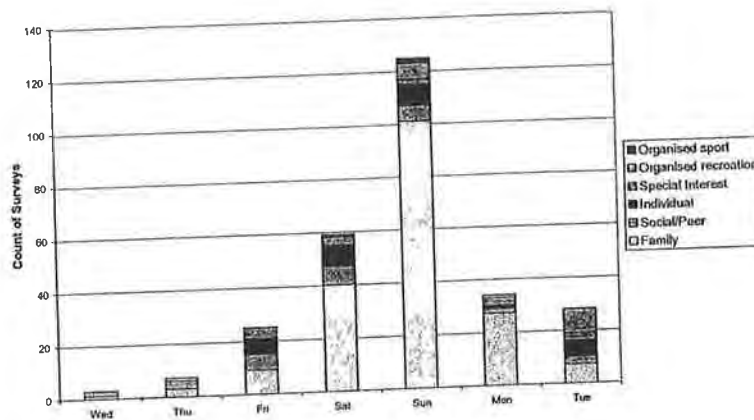
Two thirds of groups were families. 10% described as social/peer and 10% as individuals. Remainder were organised recreation or sport or special interest groups.

Type of Group



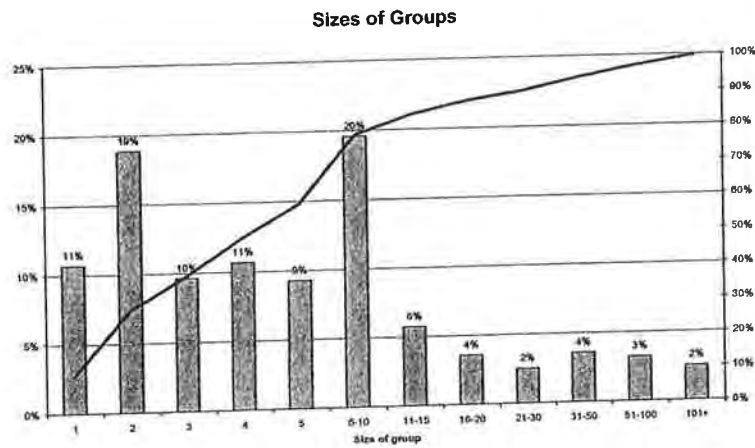
The types of groups surveyed is reasonably consistent across the different days of the week.

Types of Groups



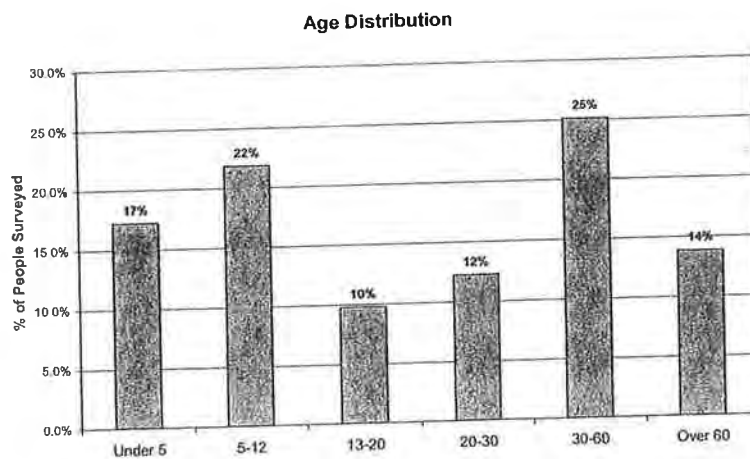
Source: Fagan Park User Interviews 12 May to 6 July, 2002

60% of surveys were of groups of five or less people. 80% were of groups with ten or less. 5% of surveys were of groups with more than 50 people, and 2% more than 100.



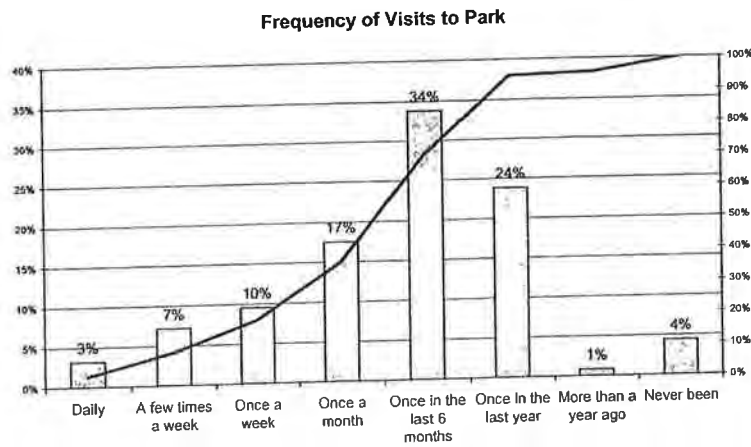
Source: Fagan Park User Interviews 12 May to 6 July, 2002

39% of people covered by surveys were children and 39% were 30 or over. Only 10% were teenagers.



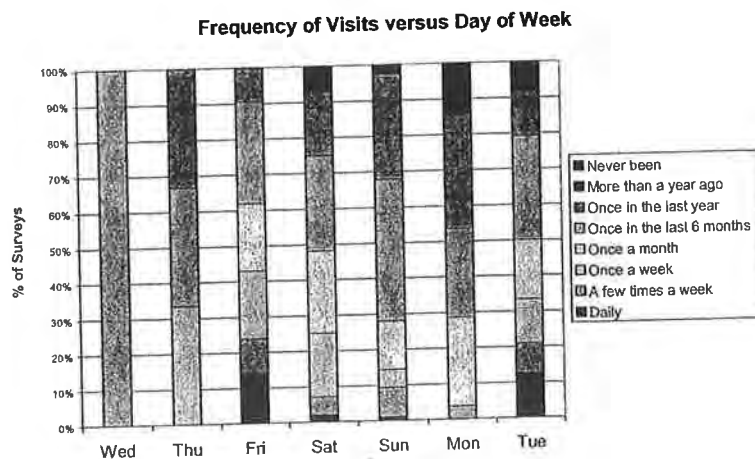
Source: Fagan Park User Interviews 12 May to 6 July, 2002

95% of surveys were of people who had visited the park at least once in the year. 20% of surveys were of people who visited at least weekly. Over half were occasional visitors.



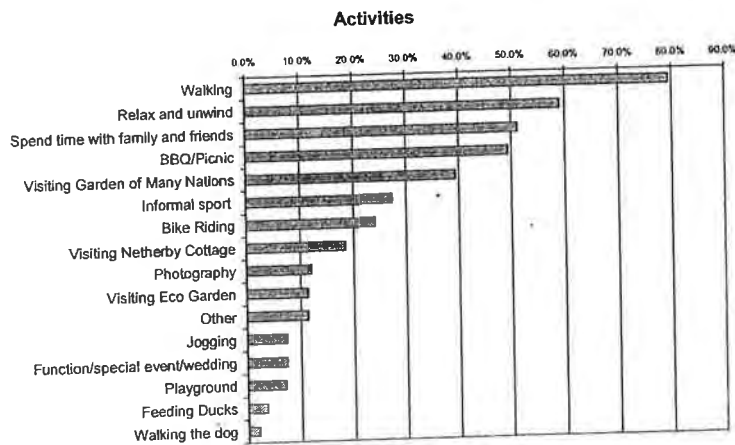
Source: Fagan Park User Interviews 12 May to 6 July, 2002

Regular visitors come to the park throughout the week. Sunday is when the occasional visitors tend to use the park.



Source: Fagan Park User Interviews 12 May to 6 July, 2002

When asked about the activities being done or planned, most respondents cited fairly passive or relaxing activities.

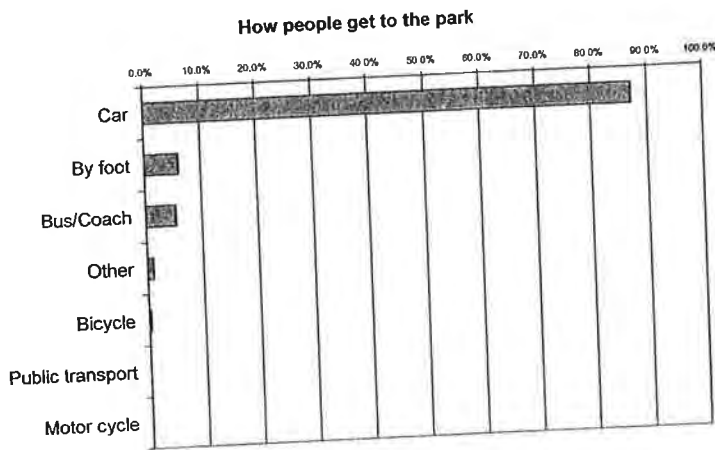


Source: Fagan Park User Interviews 12 May to 6 July, 2002. Q27-39.

### Drawing Area of Fagan Park

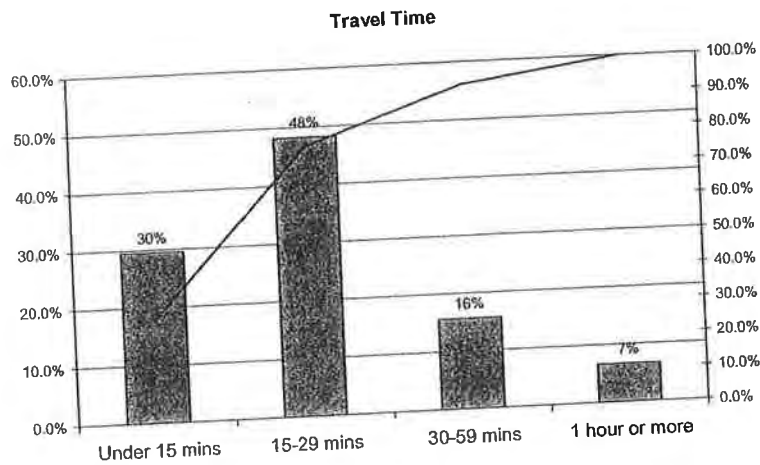
- People come to Fagan Park from all over Sydney and beyond, although most come from within the Shire.
- Social / peer groups come from surrounding area but also city and further south and east.
- Special interest groups often come from fairly distant postcodes.
- Individual visitors tend to come from the immediately surrounding suburbs.

87% of surveys were of visitors who came by car. 6% of surveys were of people who came on foot, and 5% by bus.



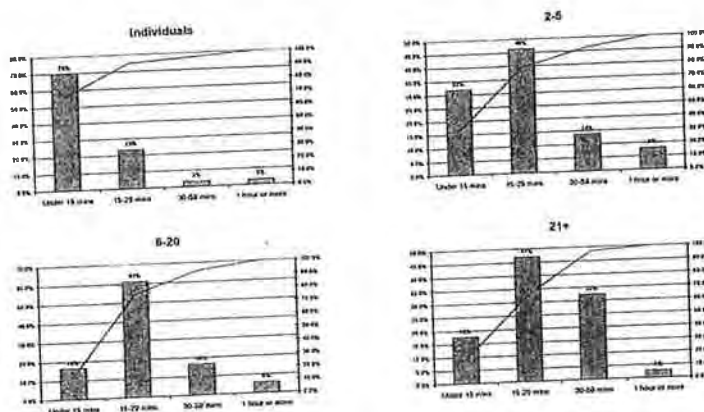
Source: Fagan Park User Interviews 12 May to 6 July, 2002

30% of the surveys were of people who travelled for less than 15 minutes, half travelled between 15-30 minutes and nearly a quarter travelled for more than half an hour.



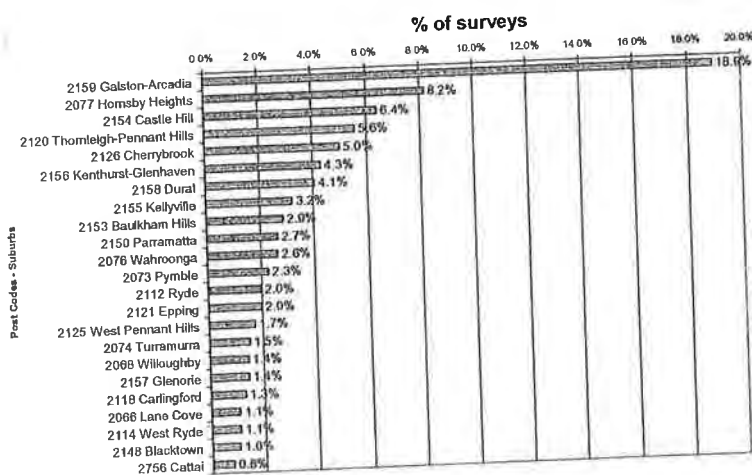
Source: Fagan Park User Interviews 12 May to 6 July, 2002

As the size of the groups increases the time taken to get to the park increases ...



Source: Fagan Park User Interviews 12 May to 6 July, 2002

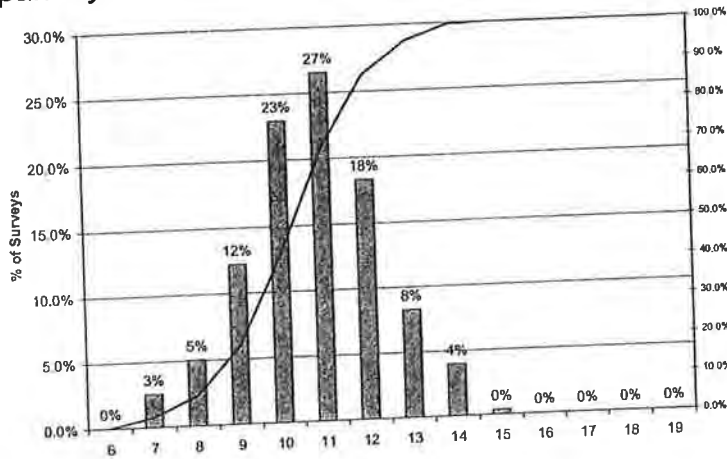
Nearly 20% of surveys were of visitors from Galston-Arcadia with 80% of surveys from just 22 postcodes out of a total of 81 postcodes.



Source: Fagan Park User Interviews 12 May to 6 July, 2002

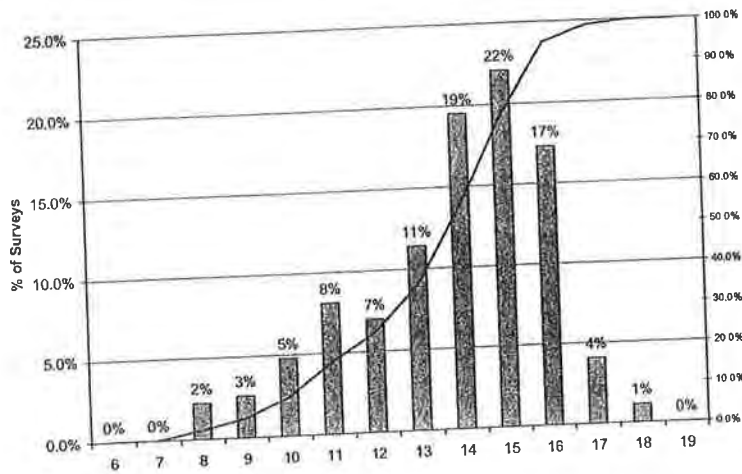
### Length of stay, arrival and departure times.

70% of those surveyed indicated that they had arrived in the park by midday.



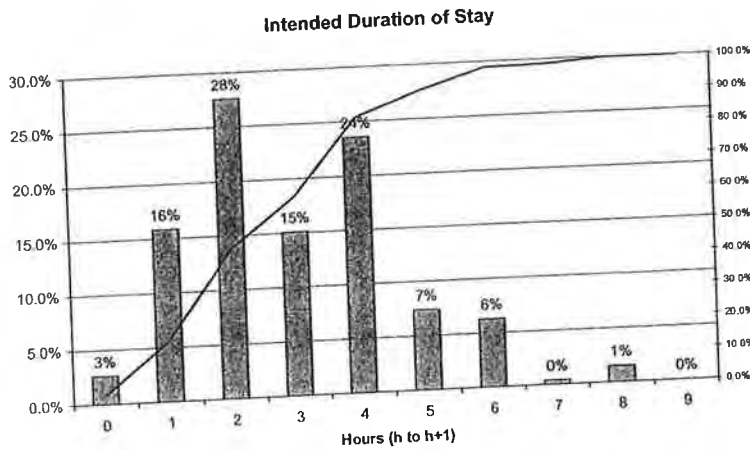
Source: Fagan Park User Interviews 12 May to 6 July, 2002

Over 80% of those surveyed stayed until after midday. Most people intended to leave between 3 and 4pm with only 5% intending to stay beyond 4pm.



Source: Fagan Park User Interviews 12 May to 6 July, 2002

Of those surveyed, 80% of people intended to stay for more than two hours. Over half intended to stay for more than three hours. Only 3% stayed for less than an hour.

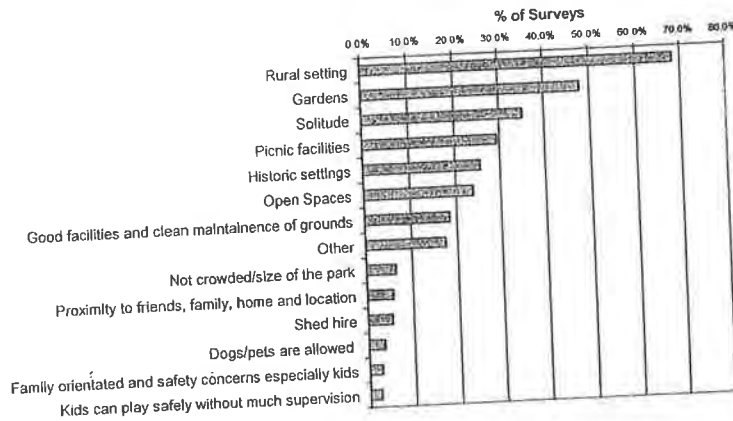


Source: Fagan Park User Interviews 12 May to 6 July, 2002

### Why choose Fagan Park and what do you enjoy most?

When asked what they most enjoy about the park, people cited the rural setting, the gardens, open space, solitude ...

What do you enjoy most about the park?

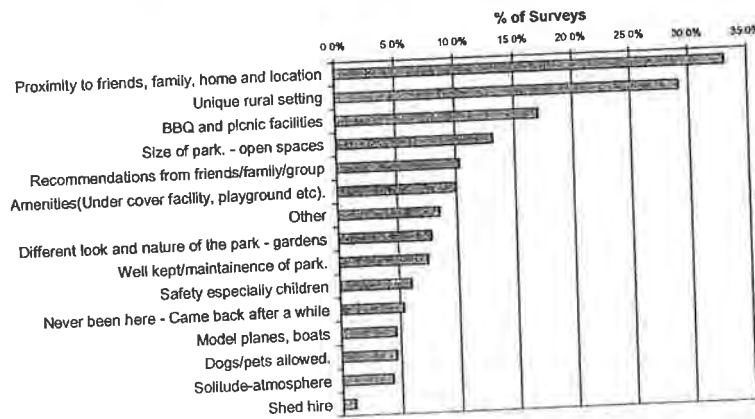


Source: Fagan Park User Interviews 12 May to 6 July, 2002



Proximity is the most cited reason for choosing Fagan Park, but the nature of the park, its facilities and the overall safe, family oriented environment are strong reasons too.

**Why did you choose the park?**



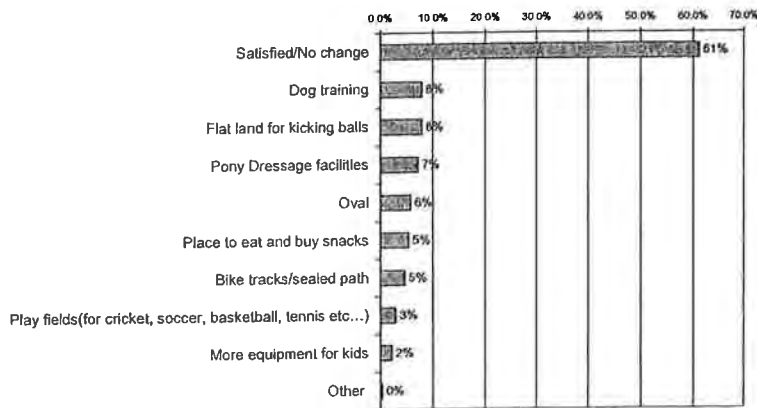
Source: Fagan Park User Interviews 12 May to 6 July, 2002

**Sensitivity of users to development**

Fagan Park User Surveys identified the sensitivity of existing users to development that will impact on the rural character of the park. The surveys also identified the types of improvements considered acceptable to park users without impacting on the Park's special rural character.

60% surveyed did not want to see any change. About 15% wanted some flat land for sports. 8% wanted somewhere for dog training, and a few wanted to get snacks.

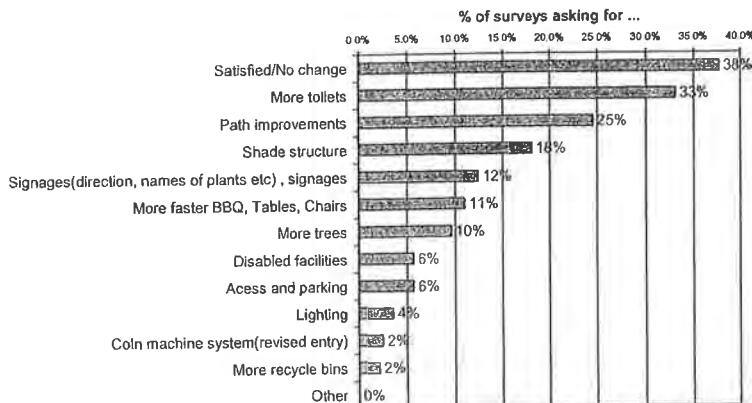
**What other activities would you like?**



Source: Fagan Park User Interviews 12 May to 6 July, 2002

A lot of surveys did not want change but people asked for more toilets, better paths, better shade, signage, disabled facilities and lighting and better ways to pay ...

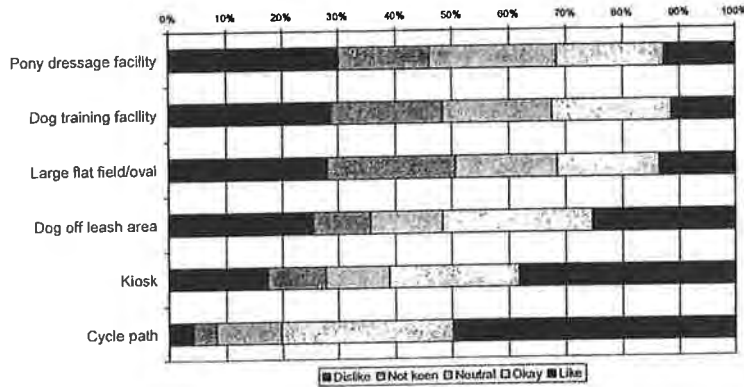
**What improvements would you like to see?**



Source: Fagan Park User Interviews 12 May to 6 July, 2002

There is reasonable support for some form of cycle path but pony and dog facilities and an 'oval' were fairly negative. A kiosk was seen as possibly 'okay'.

How would you feel about the following facilities being made available in the park?

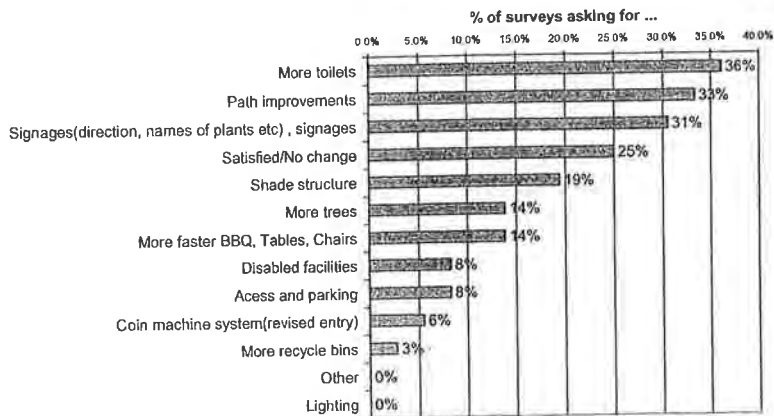


Source: Fagan Park User Interviews 12 May to 6 July, 2002

### Top requested improvements – Area A



What improvements would you like to see? - A

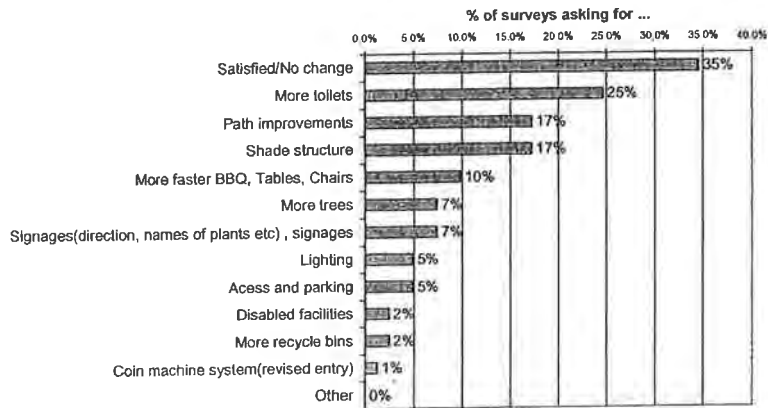


Source: Fagan Park User Interviews 12 May to 6 July, 2002

## Top requested improvements – Area B



### What improvements would you like to see? - B

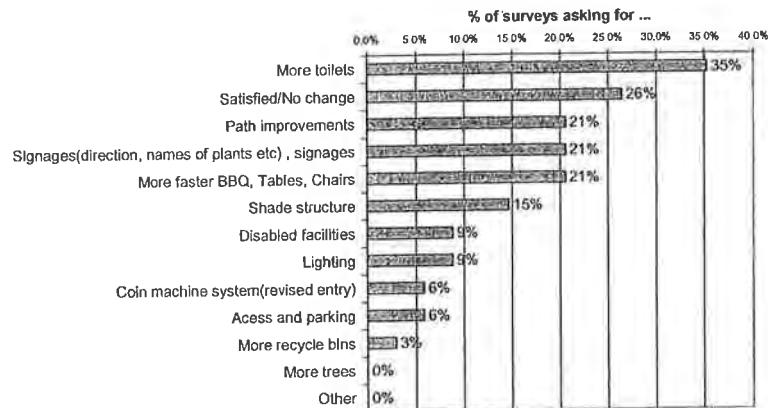


Source: Fagan Park User Interviews 12 May to 6 July, 2002

## Top requested improvements – Area C



### What improvements would you like to see? - C

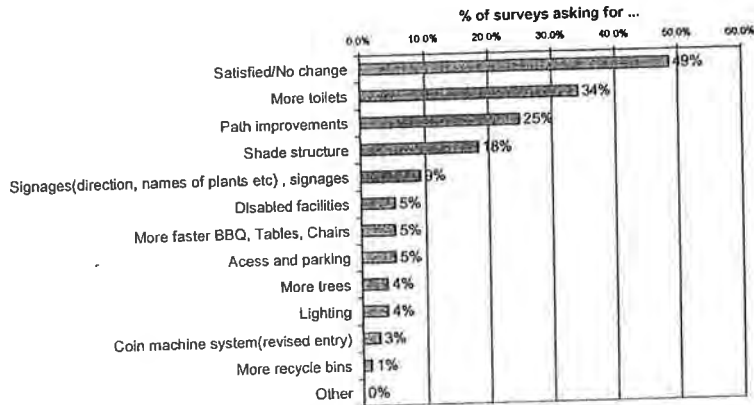


Source: Fagan Park User Interviews 12 May to 6 July, 2002

## Top requested improvements – Area D



### What improvements would you like to see? - D

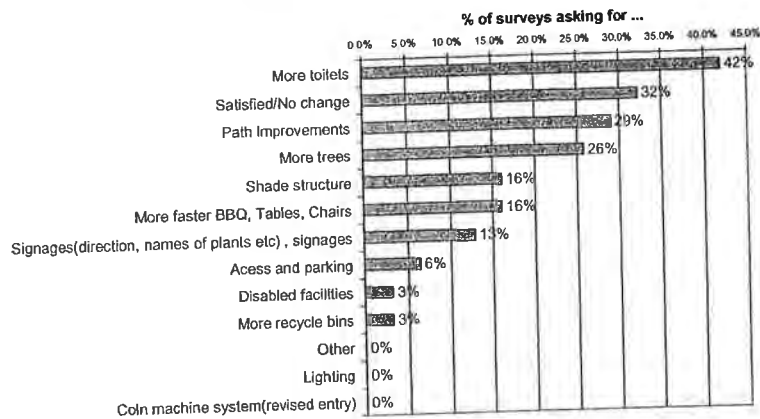


Source: Fagan Park User Interviews 12 May to 6 July, 2002

## Top requested improvements – Area E



### What improvements would you like to see? - E



Source: Fagan Park User Interviews 12 May to 6 July, 2002

## **Additional comments on proposals with some support...**

Survey showed reasonable support for a **cycle path**.

- Make path wider and seal
- Full loop of the park
- Shouldn't be allowed in gardens.

### **Dog off leash area**

- OK if a separate area, away from the main park
- As long as owners keep control of dogs and clean up after them.

**Kiosk** was seen as possibly OK. Comments on potential kiosk:

- Brings waste problem
- Weekend kiosk feasible
- Wouldn't be bad to have somewhere to eat.

## **Proposals with little support...**

Support for pony dressage facility, dog training facilities and an oval were fairly negative.

Comments on **potential dressage facility**...

- Parking implications for horse floats.
- Destructive and huge cost to rate payers.
- Good idea if fenced and separate to park.
- Would bring more people to park.
- Nice to watch.

Comments on **potential large flat field or oval**...

- Plenty of flat areas already.
- Not supportive of regular sport activity. Noisy crowds would spoil park.

Comments on **potential dog training facility**...

- Too far from anywhere for dog training.
- Basic facility would be OK.

## Other comments on potential changes...

- More tables
- Keep it natural. Like the place as it is.
- Pavement to seal flying rocks
- Organised education for school students as a service to young people.
- Restore the farm atmosphere.
- Protect heritage.
- Need something for kids

## Feelings on changes.

Users in different areas of the park were asked how they felt about the following facilities being made available in the park:

- Kiosk
- Dog off leash area
- Cycle path
- Pony dressage facilities
- Large flat field/oval
- Dog training facility



### **Area A**

- Most support for cycle path then kiosk.
- Followed by dog off leash area, Pony dressage facility and large flat field / oval.
- Least support for a dog training facility.

### **Area B**

- Most support for cycle path then kiosk.
- Followed by dog off leash area, large flat field / oval and dog training facility.
- Least support for a Pony dressage facility.

### **Area C**

- Most support for cycle path then kiosk.
- Followed by dog off leash area, Pony dressage facility and dog training facility.
- Least support for a large flat field / oval.

### **Area D**

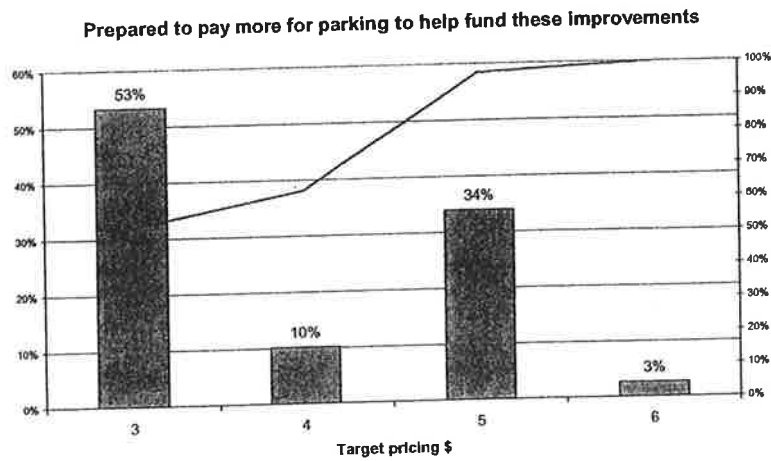
- Most support for cycle path then kiosk.
- Followed by dog off leash area, Pony dressage facility and dog training facility.
- Least support for a large flat field / oval.

### **Area E**

- Most support for cycle path then kiosk.
- Followed by dog off leash area, large flat field / oval and dog training facility.
- Least support for a Pony dressage facility.



Half the people wanted to keep the present price but a third would be happy to pay \$5 to fund improvements.



Source: Fagan Park User Interviews 12 May to 6 July, 2002

### Conclusions...

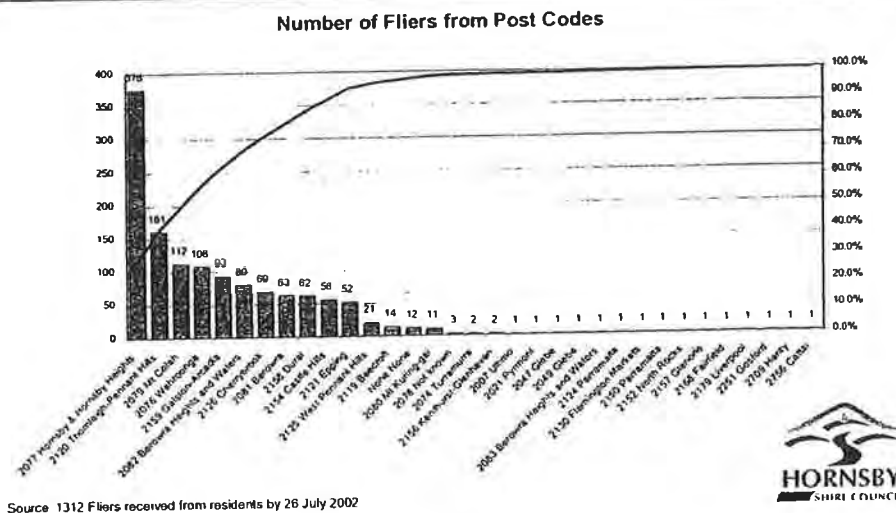
Survey identified the demographic, size, likes and dislikes of visitors to the park. It also found that many visitors travel long distances to reach the park.

There are many details contained in the findings that will help Council to prioritise improvement works, especially those that support passive recreation activities.

## FAGAN PARK – SUMMARY OF FLIER SURVEY

- In 2002 a letterbox survey was conducted with fliers distributed across the Shire and a small number being distributed outside the Shire. The survey was an investigation of community attitudes towards development of a multi-purpose showground facility within Hornsby Shire. Fagan Park was identified as a possible site for provision of such a facility.
- Detailed statistical analysis has been undertaken of the survey findings. Following is an extract of some of the relevant findings from the survey.

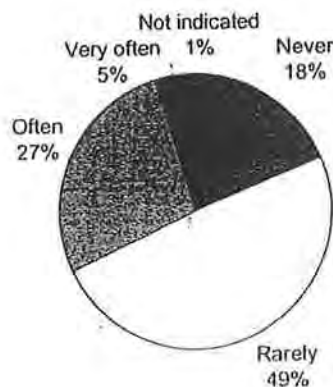
**1312 fliers have been received. 376 were from Hornsby-Hornsby Heights. A small amount (~1%) of leakage of fliers out of the shire has occurred.**



- Respondents were requested to indicate how often they used Fagan Park.

**Half the respondents indicated they “rarely” visited the park, a quarter indicated they visited “often” and just 5% said they visited “very often”.**

**Do you visit Fagan Park?**



Source: Do you visit Fagan Park question



## FAGAN PARK – SUMMARY OF RANDOM TELEPHONE SURVEY

- In 2002 a random telephone survey of 400 households across the Shire and adjoining areas was conducted. The survey was an investigation of community attitudes towards development of a multi-purpose showground facility within Hornsby Shire. Fagan Park was identified as a possible site for provision of such a facility.
- Detailed statistical analysis of the survey results has been undertaken. Following is an extract of some of the relevant survey findings including demographic information of those surveyed.

### 3.17. Fagan Park Usage

Figure 13 indicates that 39.6% of respondents indicated that they had visited Fagan Park in the past 12 months.

#### Cross tabulations revealed:

- Females (41.2%) were more likely to have visited Fagan Park than males (35.7%).
- Couples with children were more likely to have visited the park than any other household type (42.8%).

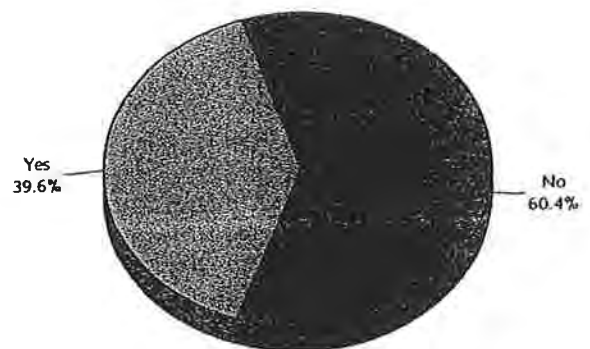


Figure 13 – Fagan Park Usage

### 3.18. Fagan Park – Distance from Home

Figure 14 indicates that half of the respondents (51.6%) resided within 20 minutes of Fagan Park by car.

#### Cross tabulations revealed:

- Those who lived more than 20 minutes from Fagan Park by car were less likely to have used Fagan Park in the past 12 months than those who lived closer.

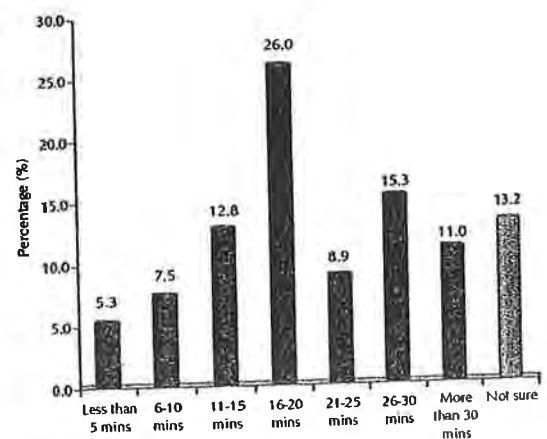


Figure 14 – Fagan Park – Distance from Home

### 3.19. Fagan Park – Purpose of Visit

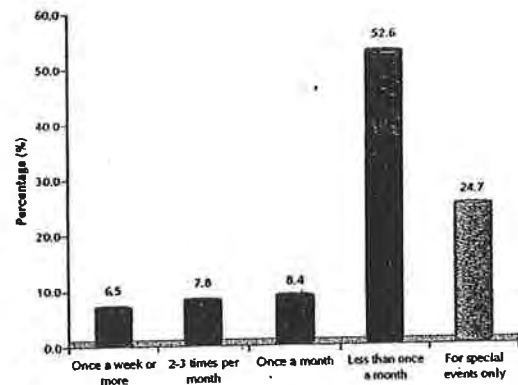
The main purposes for visiting Fagan Park in the past 12 months were for a BBQ/Picnic (41.4%), spending time with friends or family (18.6%) and relaxation (14.5%). Significantly most of the activities identified were passive leisure activities. See Table 3.

Rank	Activity	Percent
1	BBQ/Picnic	41.4
2	Spending time with friends/family	18.6
3	Relaxation	14.5
4	Walking	11.0
5	Other (please specify)	4.1
6	Informal sport	3.4
7	Function/special event	3.4
8	Visiting Eco Garden	1.4
9	Visiting Garden of Many Nations	1.4
10	Bike Riding	0.7

**Table 3 – Fagan Park – Purpose of Visit**

### 3.20. Fagan Park – Visit Frequency

Figure 15 indicates that most park users (85.7%) use Fagan Park infrequently (i.e. special events only or once or month or less).



**Figure 15 – Fagan Park – Visit Frequency**

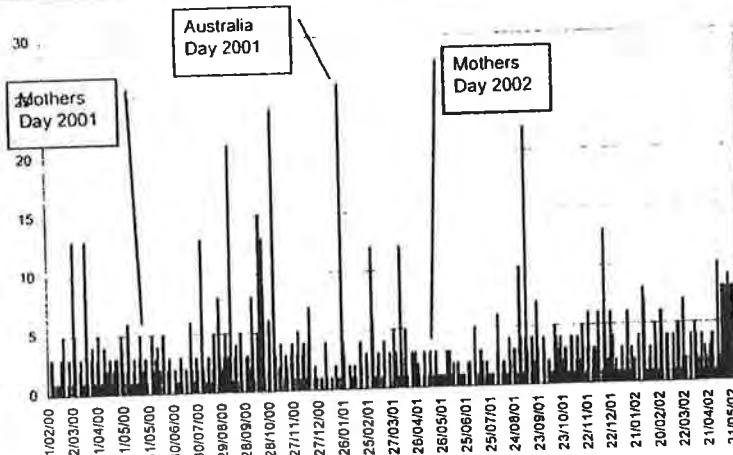
# FAGAN PARK GATE AND BOOKINGS ANALYSIS

## Bookings

Analysis of surveys shows that

- Bookings show seasonal variations;
- Bookings are usually for at least half a day;
- Large Picnic sheds are the most booked facilities.

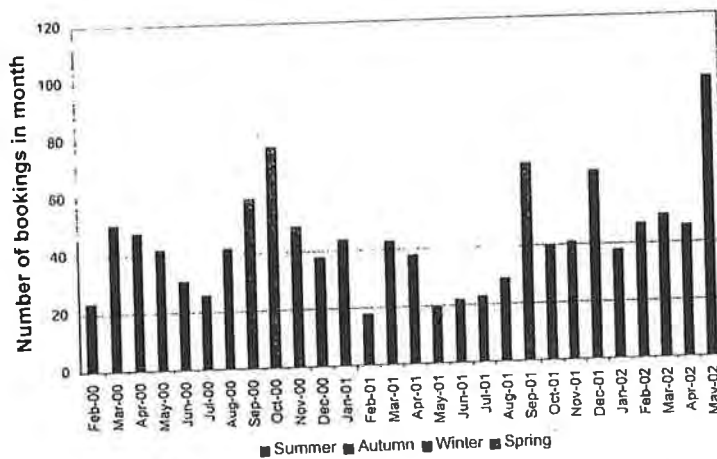
**1219 bookings have been taken for the period Feb-00 to May-02. Apart from Australia Day 2001, most 'high booking' days do not appear to be special holidays.**



Source: RMS Booking System Extract 1/2/2000 to 31/5/2002



**In an average month, there are 44 bookings with high months tending to be in spring and autumn. Winter is the low time for bookings.**

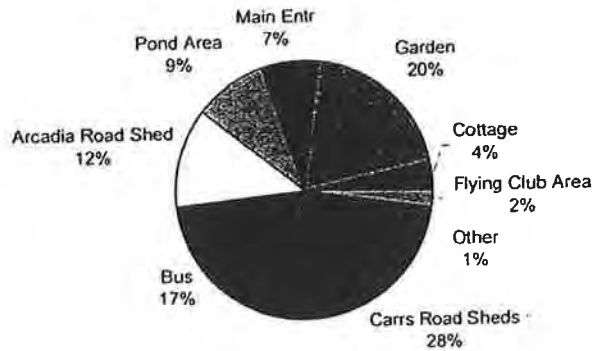


Source: RMS Booking System Extract 1/2/2000 to 31/5/2002



28% of bookings were for the Carrs Road sheds and 17% for buses, mainly via the main entrance. Bookings for gardens represented 20% of total bookings.

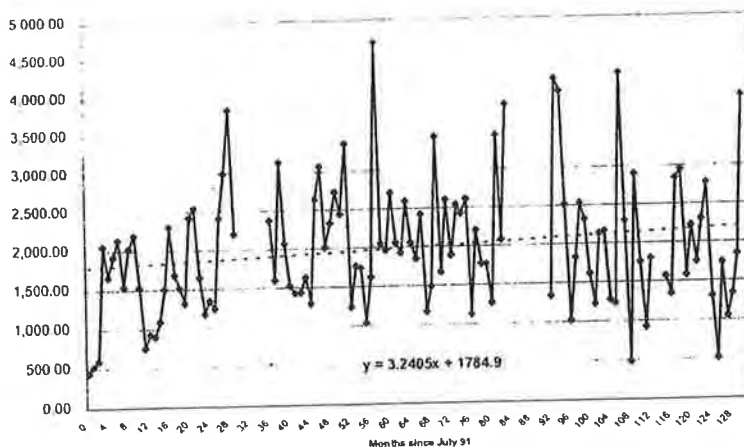
Bookings by Area of Park or Type



Source: RMS Booking System Extract 1/2/2000 to 31/5/2002



There has been a gradual increase in the number of cars amounting to a linear increase of 2.2% pa. There have been substantial monthly fluctuations.

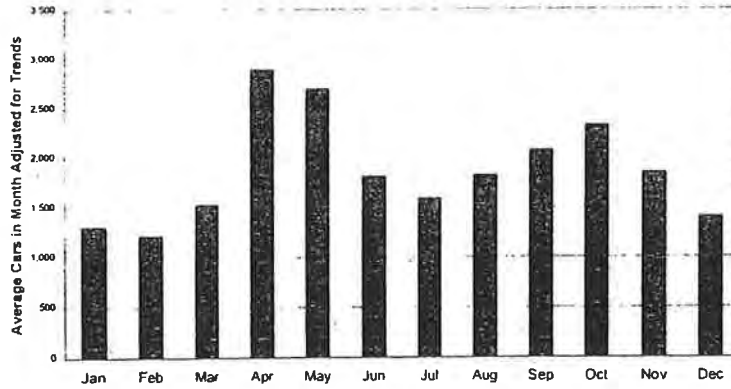


Source: General Ledger Extract - July 1991 to June 2002, Boom gate income adjusted for \$2-\$3 increase in 8/99.



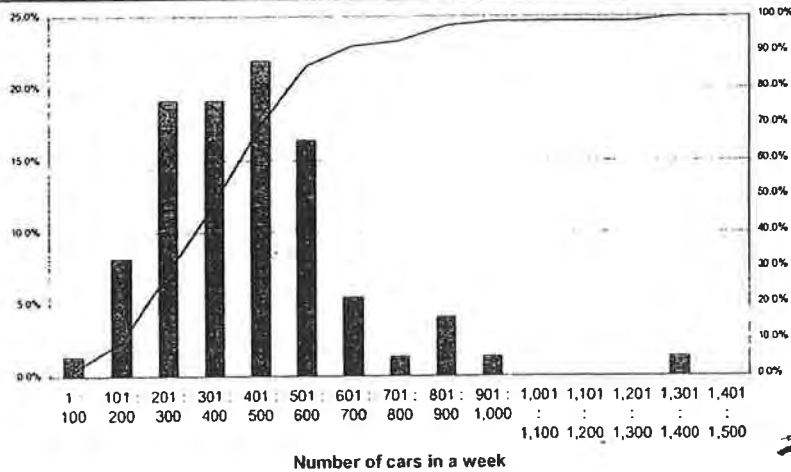
Average cars paying boom gate income is 1,877 with April being 54% above the average, and February being 35% below the average. Peaks are autumn and spring.

Cars Estimated from Boom Gate Income



Source: General Ledger Extract - July 1991 to June 2002. Original values have had the trend removed and then seasonal values have been adjusted to reflect a 2001-2 year \$ volumes adjusted for 8/99 price change.

On average 429 cars entered the park via both gates in each week. The peak to average ratio was 3.1 to 1.



Source: Revenue Return Sheets - 5 Jan 2001 to 14 June 2002. Return sheets matched with weeks beginning on Mondays.

## **Comments provided on 'post it notes' by individual attendees and tabled at the Community Committee meeting on 15<sup>th</sup> May 2003.**

### **Horse riding proposals:**

- Horse riding on the perimeter trail only
- Upgrade the perimeter trail and limit internal riding
- Western riding area is the preference with access from the outside trail
- Expand western riding zone and leave eastern zone alone
- Horse riding is not horses on lunging leads or concentrated hoof damage
- Eastern area keeps horses away from picnic people and is in the rural zone. It's the best.
- Horse riding in western area only
- Horses in the park on the eastern perimeter and more youth activities
- Horse riding:
  - On trail in rural area
  - On walking/cycle trail extensions

### **Heritage/environmental issues**

- There should be no conflict between Latham Snipe habitat and vistas in the rural zone
- Investigate reconstruction of some former orchard/farm fences in heritage/rural zone
- Agree with all efforts to conserve natural and built heritage
- Recognition of status and significance of farm buildings
- Add historic heritage to first dot point in the overall objectives identified in the POM objectives
- Can't have multi-use of 'all portions of the park. Eg. Carr's bushland (STIF)
- Renew Netherby Cottage yards

### **Entry/Garden improvements**

- Council's parking code says 1 shade tree for 5 or 6 cars. Where are the trees in the existing parking area?
- Less restriction on event use ie: Jazz and different types of concerts
- Consider a portable coffee cart etc instead of a kiosk
- Question any need for a kiosk – not necessary for picnics by families
- Explore opportunities for better use of buildings in Japanese and American gardens
- Cycle activities do not need special designated areas. Can combine walking/cycling/running tracks

### **Playground changes/proposals:**

- Playgrounds are natural things, rather than plastic
- No need for further structured playgrounds, the park is an adventure playground
- Use of open grass – hillocks for children
- No need for "structured" play equipment
- Adventure playground – Is this passive?

### **Signage improvements**

- Develop interpretive signage in Gardens of Many Nations
- Theme in gardens – uses of plants, through use of:
  - A plant registry
  - "What's flowering now"
- Need for visitor gate with positive messages rather than the legalistic By-laws (Which will still need to be displayed or at least available on site)



## **Summary of Submissions received in response to the questionnaire distributed to all attendees at the meeting:**

Eight responses were received. The summary was prepared by Kurt Henkel, Landscape Coordinator, Parks and Landscape, Hornsby Shire Council.

### **1. Why do you value Fagan Park?**

#### Submission 1: Galston Area Residents Association

Because of its rural life, environmental significance, heritage fabric, family passive recreation opportunities, absence of organized sporting facilities, visual environment. The Deed of Gift and its requirements.

#### Submission 2: Rotary Club of Galston

For active and passive community use, in particular youth recreation, Music Festival events.

#### Submission 3: The wide vistas, unclutteredness, rural atmosphere.

#### Submission 4: Peaceful, beautiful park.

#### Submission 5: A magnificent park bequeathed by Bruce Fagan to the community, of which horse riders a significant part

#### Submission 6: Friends of Fagan Park

Unique in the Sydney area, uncluttered, un-commercial, safe and peaceful atmosphere, historical remnants of a rural past and of family life

#### Submission 7: Model Aero club

Supports findings of all recent surveys, high passive recreational value, rural, garden and historical settings.

#### Submission 8: Rare passive recreation area, quiet, unobtrusive development, available for everyone to visit.

### **2. Do you think the development options are consistent with these values?**

#### Submission 1: Galston Area Residents Association

Believes the following development options are not consistent with these values: equestrian facilities of any kind, kiosk, BMX track, additional adventure play facilities, no permanent event facilities, no need to enlarge Australian Garden.

#### Submission 2: Rotary Club of Galston

Valued for its unique position geographically and as a lasting facility for future generations

#### Submission 3: Only in some degree. Do not support any development that will take away from the openness of the park. Supports extension of the Australian Garden.

#### Submission 4: Supports the scope of improvements as they are in line with the historical, recreational values, Bruce Fagan's wishes and community needs.

#### Submission 5: Does not believe Council are responding adequately to its own findings and support for access to the eastern side of the park.

#### Submission 6: Friends of Fagan Park

Does not believe Council are clearly explaining how the informal riding facilities will be developed.

Concerned about insurance issues, potential environmental damage, cost of horse riding use, exclusive use issues.

#### Submission 7: Model Aero Club

Supports protection of the heritage/rural valley through CMP plan. Supports development confined to the existing developed park. Supports informal riding in the overflow parking area. On the western side of the park. Supports upgrade of the perimeter bridle trail.

#### Submission 8: Believes proposed improvements may be pandering to a few. Improvements should include promotion and careful additions to services. No need for adventure playground, more shelter sheds. Equestrian activities should be limited to showing horses.

### **3. What is your future vision for Fagan Park?**

#### Submission 1: Galston Area Residents Association

To maintain and conserve the built heritage of the park. The 'un-development' of the park for the enjoyment of future generations. Appropriate enhancement of the existing environmental assets and encouragement of wildlife. To enable future generations to enjoy the natural and built heritage as the basis of recreational and educational experiences.

Submission 2: Rotary Club of Galston

To properly maintain the park and develop it for a diverse range of public activities, in response to changing needs.

Submission 3: That future generations will recognize the value of the park as a passive facility for their use and enjoyment.

Submission 4: A place that all can enjoy in both passive and recreational ways.

Submission 5: Open the park up to a greater variety of users.

Submission 6: Friends of Fagan Park

To provide services, facilities and park development for the use and enjoyment of people of all ages, free from exploitation by any particular group, to the exclusion of others.

Submission 7: Model Aero Club

To leave the park 'un-spoilt' and to recognize the importance of the rural character of the open valley in the east of the park.

Submission 8: As a passive recreation facility. Does not support horse riding in the park, but does support the showing of horses.

**4. Do you see value in Council conserving and developing Fagan Park in ways identified in the presentation and documents? Why or Why not?**

Submission 1: Galston Area Residents Association

Does not believe the proposed developments are for the benefit of all. Believes the undeveloped natural and heritage character of the park are its greatest asset.

Submission 2: Rotary Club of Galston

Believes the plans allow for more and better use of the park by the public.

Submission 3: Concerned that allowing any sporting group into any part of the park could be seen as occupation by stealth, leaving the rest of the park vulnerable.

Submission 4: Believes Council should be looking for a greater return on its annual financial investment, through enabling a wider usage by local residents.

Submission 5: Supports the approach being taken by Council, but believes the equestrian needs are not being adequately addressed.

Submission 6: Friends of Fagan Park

Does not believe the plans and supporting information clearly identify the scope of works proposed and that the POM is being amended due to Council's desire to enable informal riding in the park. Does not believe the documents clearly explain the scope of changes.

Submission 7: Model Aero Club

Believes the current proposals are generally acceptable in the context that the open rural valley is managed appropriately, as outlined in the CMP and with a view to maintaining the heritage / rural zone in its current character.

Submission 8: Believes the conservation proposals will maintain and protect what visitors like.

**5. Are there any additional comments / suggestions that you wish to make?**

Submission 1: Galston Area Residents Association

Believes the park should be preserved with the only additional development in the long term to be additional native vegetation and enhancement of the natural qualities of the park.

Submission 2: Rotary Club of Galston

Requests Council to inform and consult with the community to allow it to fully participate in all major decision making processes. Galston Rotary is prepared to offer voluntary assistance where practicable.

Submission 3: Notes that implementation of the plan depends on funding and assistance from volunteers. Suggests a think tank could be arranged to establish ways of identifying how volunteers may assist.

Submission 4: Notes that we need to think more of the needs of youth and families and less of older forces holding it back.

Submission 5: Asks Council to stop being influenced by minority groups that really don't represent the community.

Submission 6: Friends of Fagan Park

Asks for the draft CMP to be adopted by Council before proposals to alter the POM are put forward.

Submission 7: Model Aero Club

Believes that riding groups have lobbied Council to consider the development of horse riding facilities in Fagan Park, but that these are not supported by the users of the park. Notes that there is no need for any change, except for more toilets, path, shade and signage improvements and works that address the protection and maintenance of the cultural and environmental heritage of the park.

Submission 8: Believes that the potential mixing of horse riding, people, bikes and planes is an issue. Concerned that this will lead to unsightly fences or possibly litigation issues. Believes there is plenty of space for riding outside of the park.

**Appendix E Metropolitan Greenspace Grant Application**

## Appendix E Metropolitan Greenspace Grant Application

### 7. Type of assistance sought:

Amount of assistance sought:

- |           |                  |  |
|-----------|------------------|--|
| • 2003/04 | <b>\$40,000</b>  | Detail design development & finalise scope |
| • 2004/05 | <b>\$100,000</b> | Construction funding                       |
| • 2005/06 | <b>\$100,000</b> | Construction funding                       |

Funds to be provided by applicant **\$240,000**  
(Based on \$ for \$ funding)

**Note:** *Additional funding of up to \$1 Million of Council funds may be identified following completion of the current Conservation Management Plan / Landscape Masterplan / POM review.*

Total cost of project **\$480,000** over the 2003/06 financial years

All previous grants provided for this or related projects (provide details). Include any other source of funds for this project

DLWC grant funding for POM preparation \$15,000

### 8. Purpose and objectives of the proposed project

#### Purpose:

To further develop Fagan Park to respond to the recreation needs of visitors from Hornsby Shire and the wider metropolis, by building on the findings of surveys of park users, the local and the wider community, undertaken in 2002.

To develop design plans and implement works to further develop Fagan Park, responding to a Conservation Management Plan, Landscape Masterplan and Draft POM that are currently in preparation.

The POM will build on the three distinct character zones of the park.

#### Objectives:

- To upgrade the physical environs and recreational facilities to cater for regional and local user groups, including improving the variety of natural, cultural and recreational experiences and provision for regional play opportunities.
- To develop design plans that respond to a long-term masterplan for Fagan Park.
- To develop works identified in the Conservation Management Plan.

- To build on the three distinct character zones of the park:
  - Rural / heritage zone
  - Developed park / garden zone
  - Natural zone
- To include a variety of recreation, environmental and heritage conservation works undertaken in accordance with a long-term staged masterplan for Fagan Park.
- Works may include:
  - Improvements to pedestrian & vehicular entry points and circulation in the main car park;
  - Development of a coordinated directional and interpretive signage program;
  - Improvements / upgrade to the existing playground area including possibly an 'access for all' adventure playground;
  - Additional theme gardens in the 'Gardens of Many Nations';
  - Major pathway construction works;
  - Improvements responding to the needs of major events;
  - Improved BBQ/picnic facilities;
  - Mass tree planting and creek revegetation works; and
  - Informal horse riding facilities.

## **9. Give a brief description of the project**

Fagan Park is located in the rural sector of Hornsby Shire and is a significant developed park within the northwest of Sydney, attracting visitors from across Sydney to enjoy the open landscape parklands, historic buildings and bushland areas.

Extensive user surveys undertaken in 2002 have confirmed the visitation characteristics including numbers, drawing areas, preferred activities and the scope of improvements with community support.

Fagan Park is crown land, dedicated by the late Bruce Fagan to the community and under the care and control of Hornsby Shire Council. The Park was developed as the Shire's Bicentennial project with extensive theme gardens referencing various nationalities across the world.

It is also used regularly for major events, drawing people from across the north-western sector of Sydney to annual events such as the Galston Country Music Festival, Australia Day celebrations, school events, and major informal picnic days such as Mothers Day. The Country Music Festival has attracted crowds of greater than 7000 people, whereas on Mothers Day in excess of 900 cars have been recorded as entering the park. It is also an important local and regional community venue for regular passive activities such as picnicking and walking.

Fagan Park is a distinct facility in the area and is of equal importance to Rouse Hill Regional Park. The Park includes a heritage conservation area with original farm homestead, a variety of farm buildings and a rural museum developed and managed by community volunteers, collectively known as the 'Friends of Fagan Park'. The Park also has approximately 12 hectares of remnant vegetation including two significant areas of bushland with one area containing the largest and best remnant

in the Shire of the endangered Sydney Turpentine Ironbark Forest associated with shale soils and the other containing rare stands of White Mahogany Forest. Both these bushland areas are recognised as having regional significance.

In 2002 investigations were conducted for provision of a multi-purpose showground facility in Hornsby Shire with Fagan Park one of the sites under consideration. Preliminary investigations confirmed the high regional significance of the Park as a recreation resource and identified its various environmental and heritage elements. Further investigations have involved extensive public consultation including user surveys, telephone surveys and letterbox drops.

At Council's February meeting it was resolved to prepare a Conservation Management Plan and amend the Fagan Park Plan of Management, enabling informal equestrian use, and a broader recreational focus to the Park.

Council is currently preparing a long-term masterplan for Fagan Park, in response to Council's resolution, which will be included in the review of the Plan of Management. The Conservation Management Plan for Fagan Park is currently being prepared by consultants and is expected to be completed by June 2003. The draft Plan of Management including the Conservation Management Plan and Masterplan is timetabled for completion by August 2003, with adoption of the Plan by the Department of Land and Water Conservation anticipated by December 2003.

Improvements identified in the masterplan process are expected to be developed as funding becomes available.

The likely **high priority** works shall be:

- Conservation works to the farm group;
- Mass tree planting and creek revegetation works;
- Access improvements including path construction and the development of a coordinated directional and interpretive signage program;
- Playground improvement works; and
- BBQ/picnic facility improvements.

It is expected that the works will respond to current needs.

## **10. Explain how the project meets the criteria for regional open space enhancement.**

Applicants are requested to refer by number to the assessment criteria addressed.

1. Fagan Park is of regional significance because of its unique rural character that attracts users from across Sydney. User surveys have found that many visitors travel from central Sydney, and the west of Sydney to enjoy the parklands.

As the residential development of the north-western area of Sydney continues, it is expected that visitation will increase and the importance of

Fagan Park as a recreational resource will continue to rise. The expansive open views and rural character of the park make it a distinct and unusual place in the region that is relatively accessible to a wide variety of residents by the existing road network.

The Park is located approximately 15 kilometres from Rouse Hill Regional Park, and is in close proximity to the developed residential areas of Hornsby Shire and Baulkham Hills Shire. There are similarities between the parks as both are of regional importance, have significant historical and natural elements and provide for the informal recreation needs of the local and wider communities. Fagan Park, as with Rouse Hill Regional Park will become increasingly important recreational facilities as development of the Hills and Rouse Hill Regions continues. Residential development within the Hornsby Shire, and the metropolitan area, including significant infill development is also contributing to increasing demand.

There are several Bushland Parks of regional importance within Hornsby and adjoining Shires. These parks provide contrasting recreational opportunities and experiences for visitors and complement the types of opportunities available at parks such as Fagan Park.

In this context, Fagan Park is an important element of a wider network of regional open space that has rising usage due to population expansion in the region.



## **Appendix F      Netherby Measured Drawings**



*Measured Study Of Fagan Park For Hornsby Shire Council*

*Prepared By Glendenning Group Architects Pty Limited  
4/2-1 Pacific Highway Hornsby 2077. Ph (02) 482 7033, Fax (02) 482 7201.*



PLANS FOR THE DEVELOPMENT OF FAGAN PARK WERE DISCUSSED WITH BRUCE FAGAN RIGHT UP TO THE TIME OF HIS DEATH. THE HORNSBY SHIRE COUNCIL, THE SOLE TRUSTEE OF THE SITE, ON BEHALF OF THE CROWN, HAS SUBSEQUENTLY DESIGNED A COMPREHENSIVE PLAN FOR THE FUTURE IMPROVEMENT AND RESTORATION OF THE PARK, THE UNDERLYING AIM BEING TO PRESERVE FAGAN PARK FOR THIS AND FUTURE GENERATIONS, AT THE SAME TIME REPRESENTING "A UNIQUE OPPORTUNITY FOR PEOPLE FROM ALL WALKS OF LIFE TO INVEST, NOT ONLY THEIR MONEY BUT ALSO THEIR TIME AND TALENTS IN A WORTHWHILE COMMUNITY PROJECT".

TODAY, PRIDE OF PLACE IN FAGAN PARK IS STILL NETHERBY COTTAGE, A THREE BEDROOM HOMESTEAD WITH A FIREPLACE IN EACH ROOM. THE COTTAGE IS CONSTRUCTED OF THE HAND-MADE CLAY BRICKS WHICH WERE CREATED ON THE PROPERTY AND BOASTS SHINING POLISHED WOOD FLOORS, A GALVANISED IRON ROOF, PRESSED STEEL CEILINGS AND CEDAR TRIMMINGS. THE HOMESTEAD HAS BEEN LOVINGLY RESTORED BY VOLUNTEERS IN ASSOCIATION WITH COUNCIL, MUCH OF THIS WORK BEING FUNDED WITH MONIES MADE AVAILABLE DURING THE COURSE OF THE NATION'S BICENTENNIAL CELEBRATIONS IN 1988.

ALSO RESTORED AS PART OF THE HISTORICAL DISPLAYS ON SITE IS THE ORCHARD'S ORIGINAL PACKING SHED AND LATER MILKING COMPLEX WHICH HAS NOW BEEN FITTED OUT TO BECOME THE FAGAN PARK RURAL MUSEUM - EXHIBITING AGRICULTURAL EQUIPMENT AND ITEMS SYNONYMOUS OF THE EARLY FARMING AND ORCHARDING ACTIVITIES OF THE GREATER HORNSBY REGION. DISPLAYS INCLUDE THE FAGANS' ORIGINAL SULKY, SPREADER AND SPRING CART, A 1911 STEAM ENGINE WHICH HAS BEEN RESTORED BY THE MEMBERS OF THE SHIRE'S MODEL ENGINEERING SOCIETY, A 1935 CHEVROLET TRUCK WHICH HAS BEEN FULLY RESTORED BY WORKERS UNDER THE CORRECTIVE SERVICES DEPARTMENT PROGRAMME IN BATHURST, THE COMPLETE RANGE OF ORCHARDING EQUIPMENT WHICH WAS ORIGINALLY USED ON THE PROPERTY (INCLUDING ALL THE OLD PACKING GEAR USED TO PACK THE PROPERTY'S CITRUS FRUITS FOR SOUTHERN AND OVERSEAS MARKETS), AND A RANGE OF OTHER FARMING IMPLEMENTS DONATED FOR THE FAGAN PARK MUSEUM DISPLAY.

FAGAN PARK HAS BEEN ESTABLISHED ON 55 HECTARES OF RICH LAND WHICH WAS ONCE HOME TO THE LARGEST CITRUS ORCHARDS IN THE SOUTHERN HEMISPHERE. THE HOME OF ONE OF THE REGION'S NOTED PIONEERING FAMILIES - THE FAGANS, THE PARK HAS BEEN METICULOUSLY TENDED BY VOLUNTEERS AND COUNCIL STAFF FOR THE PAST FEW YEARS TO CREATE WHAT IS ARGUABLY ONE OF THE SHIRE'S FINEST SHOWPIECES.

FAGAN PARK CAN TRACE ITS ORIGINS BACK TO AN IRISH IMMIGRANT FROM LONDON-DERRY KNOWN AS WILLIAM FAGAN. HE ARRIVED IN AUSTRALIA IN THE LATE 1840'S AND WORKED FOR A SHORT TIME IN SYDNEY BEFORE ACQUIRING THE FUNDS TO PURCHASE LAND - AND A WIFE INTO THE BARGAIN! FAGAN WAS CONVINCED THAT THE LAND HE BOUGHT IN THE VICINITY OF THE HAWKESBURY HAD GREAT POTENTIAL FOR A FUTURE CITRUS INDUSTRY AND THIS BEGAN WHAT WAS TO LATER BECOME A VAST ORCHARD EMPIRE STRETCHING ACROSS PROPERTIES AT DURAL, GALSTON AND ARCADIA.

THE PIONEERING FAGANS HAD THREE SONS AND FOUR DAUGHTERS. WILLIAM FAGAN TEAMING UP WITH HIS YOUNGER BROTHER SAM TO CONTINUE THE FAMILY'S INVOLVEMENT IN THE ORCHARDING INDUSTRY IN THE REGION. THE PARTNERSHIP BEGAN OPERATIONS AT DURAL BUT WAS LATER DISSOLVED WHEN SAM PURCHASED AN EXTENSIVE PROPERTY AT GALSTON AND CONSTRUCTED A FINE HOMESTEAD MADE OF HAND-MADE BRICKS, AND A LARGE PACKING SHED.

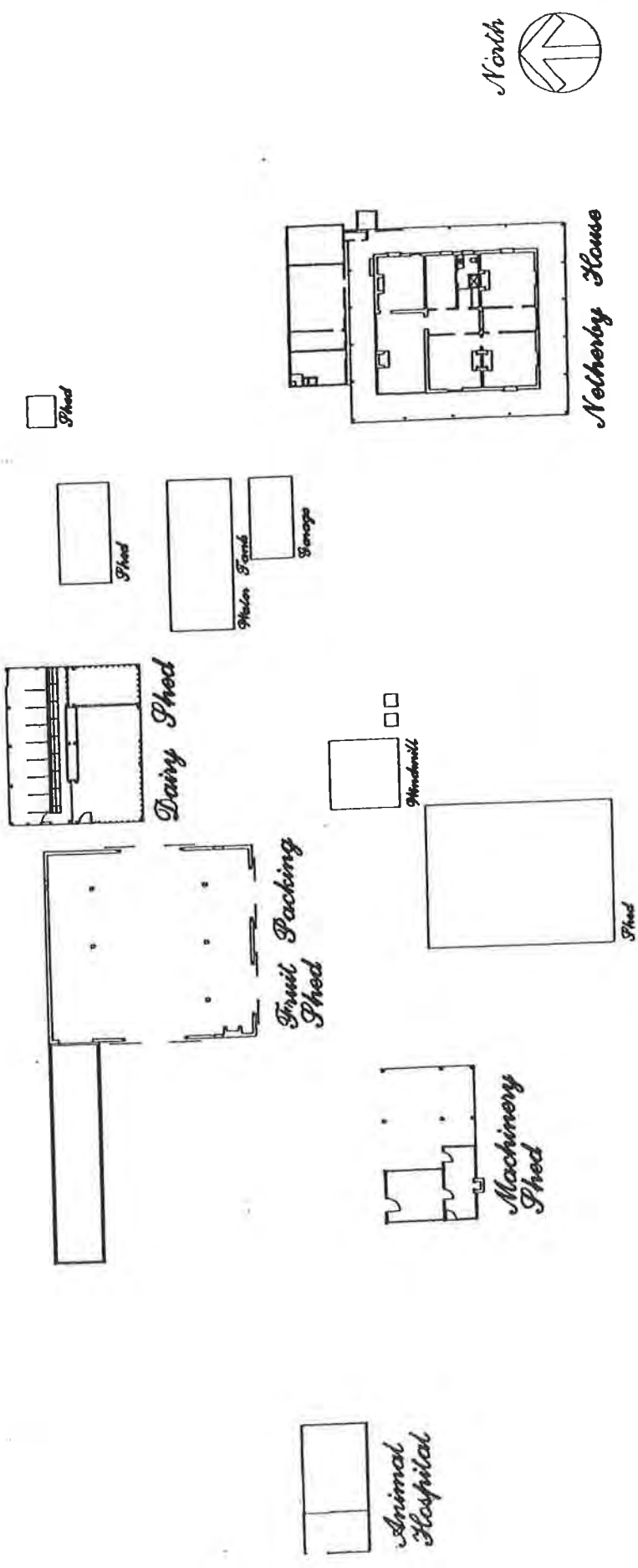
THIS ENTERPRISING YOUNGER BROTHER CONTINUED TO ACQUIRE LAND AROUND THE GALSTON PROPERTY AND CLEARED IT TO CREATE WHAT WAS REPUTED TO BE THE LARGEST CITRUS ORCHARDING OPERATION IN THE SOUTHERN HEMISPHERE. WHEN SAM FAGAN DIED IN 1948, HIS YOUNGEST SON CONTINUED THE AGRICULTURAL OPERATIONS OF THE FAMILY, BUT UNDER A DIFFERENT GUISE. FROM A VERY EARLY AGE BRUCE FAGAN HAD A GREAT INTEREST IN CATTLE AND SOON DECIDED TO INCREASE THE FAMILY'S JERSEY DAIRY CATTLE HERD AS THE BIG ORCHARD OPERATION BEGAN TO WIND DOWN DURING THE COURSE OF THE 1930'S AND THE GREAT DEPRESSION.

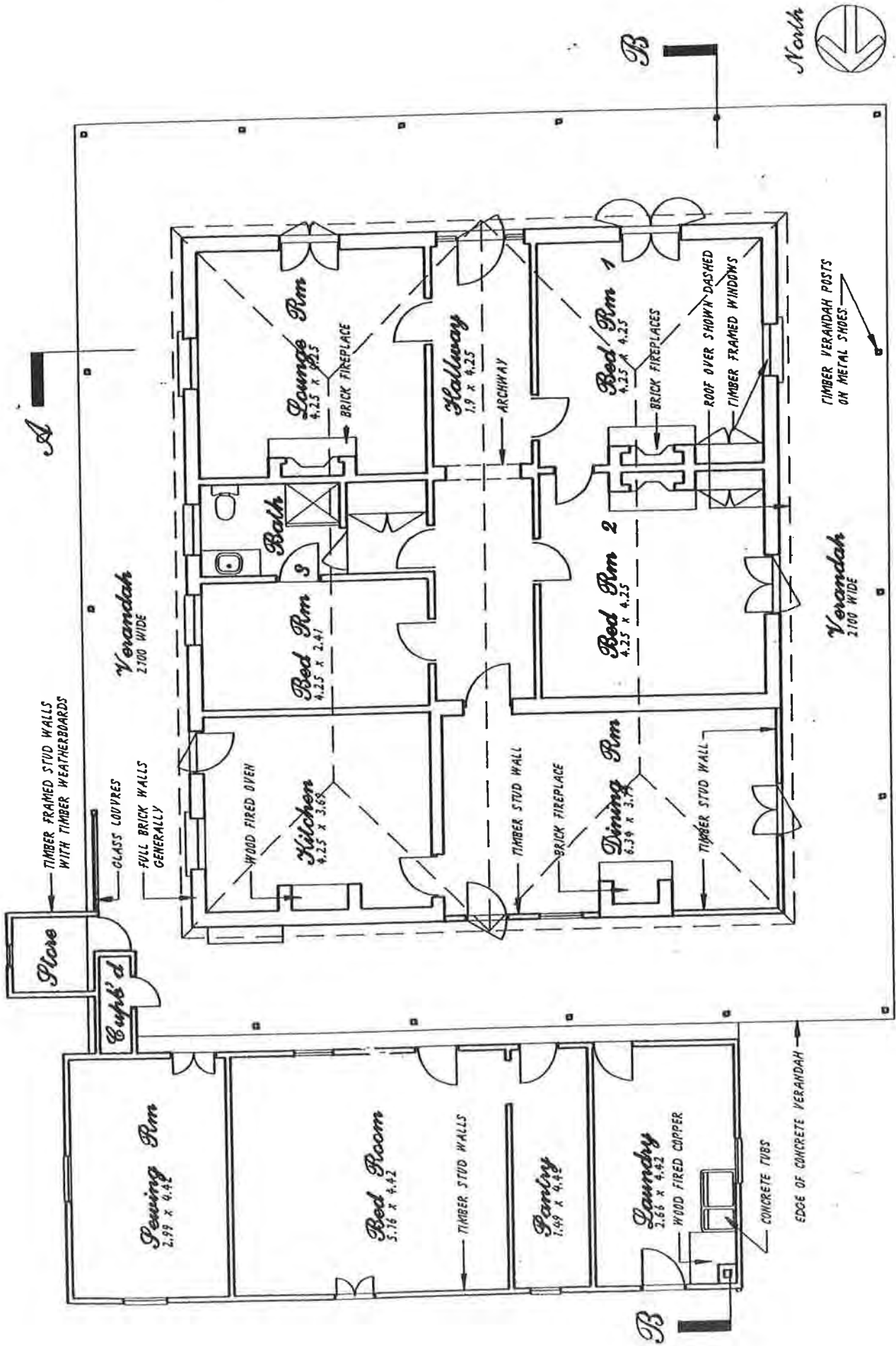
BRUCE FAGAN AND HIS SISTER IDA LIVED IN THE BRICK HOME ON THE FAMILY'S GALSTON PROPERTY KNOWN AS "NETHERBY". BOTH COMMITTED TO SEEING THE PAST RETAINED FOR THE FUTURE GENERATIONS, BOTH BRUCE AND IDA FAGAN MADE THE DECISION IN THE LATE 1970'S TO SAFEGUARD THE TRADITION TO THE PROPERTY BY PLACING IT INTO THE TRUSTEESHIP OF THE HORNSBY SHIRE COUNCIL, A MOVE WHICH WAS FORMALISED IN 1980. BY 1984 BOTH FAGANS HAD PASSED AWAY - AND SO OVER 130 YEARS ASSOCIATION WITH THE HORNSBY SHIRE DISTRICT CAME TO A CLOSE. THE REMAINING LEGACY WHICH HAD INITIALLY GIVEN RISE TO THEIR PROSPERITY IS FAGAN PARK.

## Introduction - Fagan Park

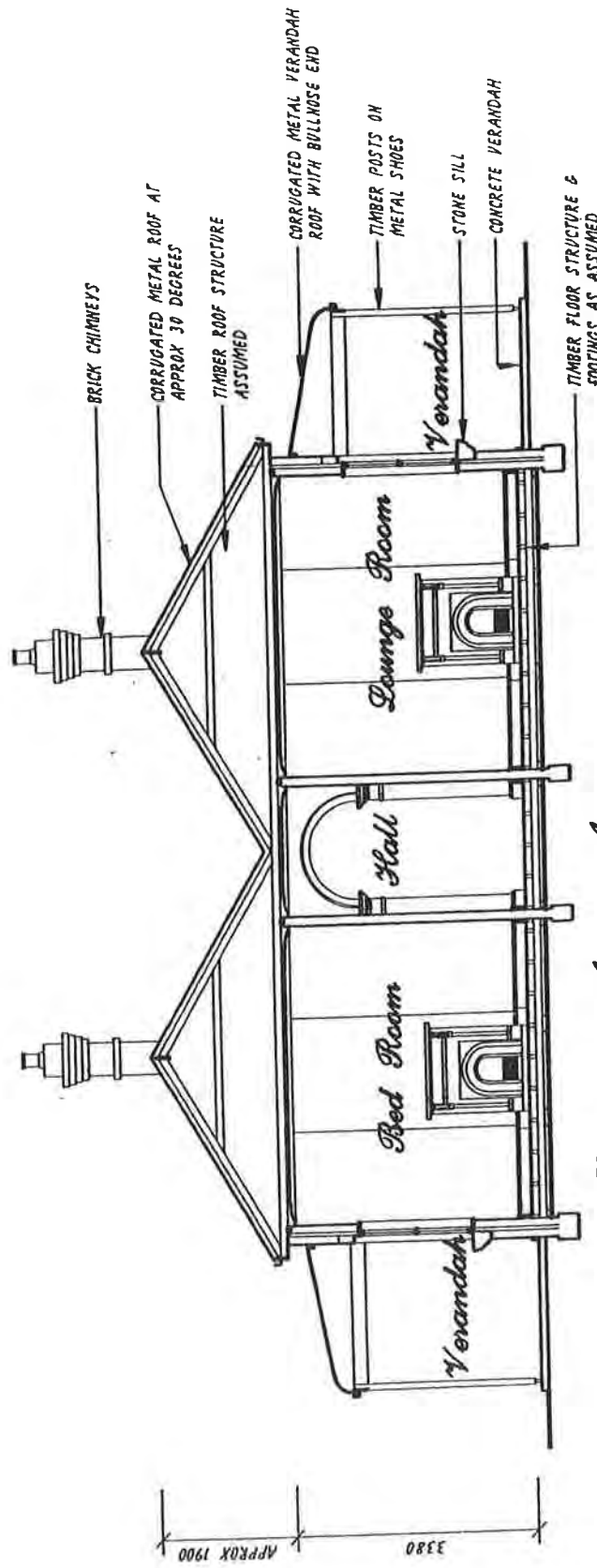


*Site Plan, Historic Buildings - Fagan Park*

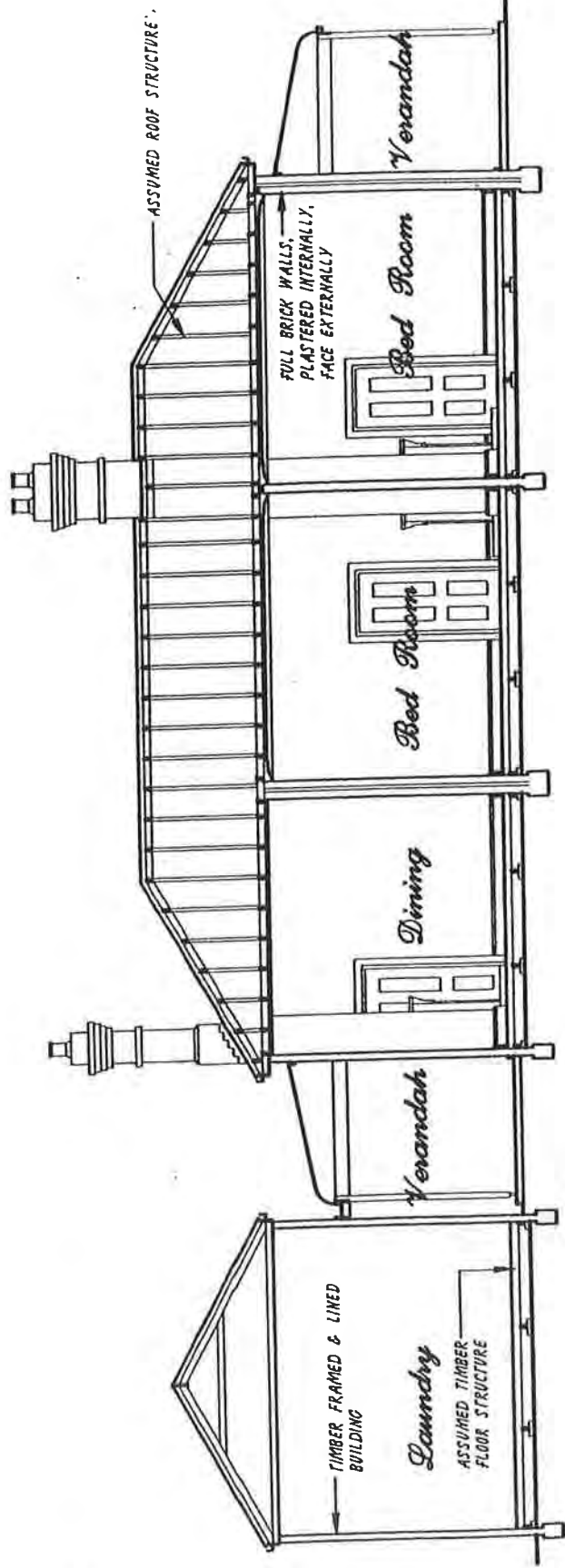




Netherby House Floor Plan - Fagan Park



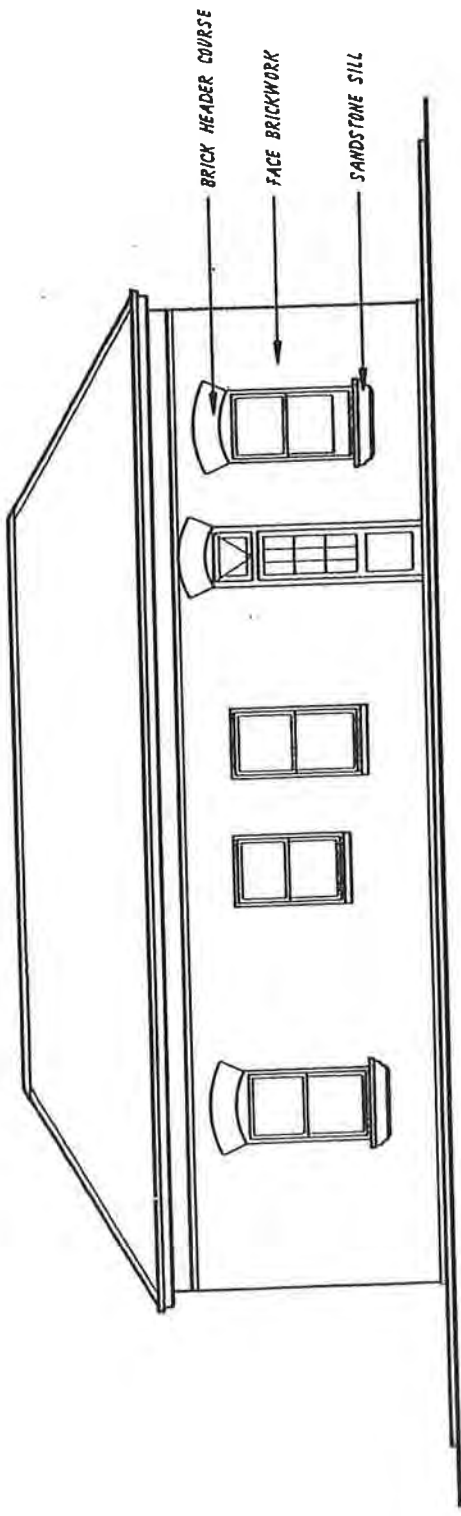
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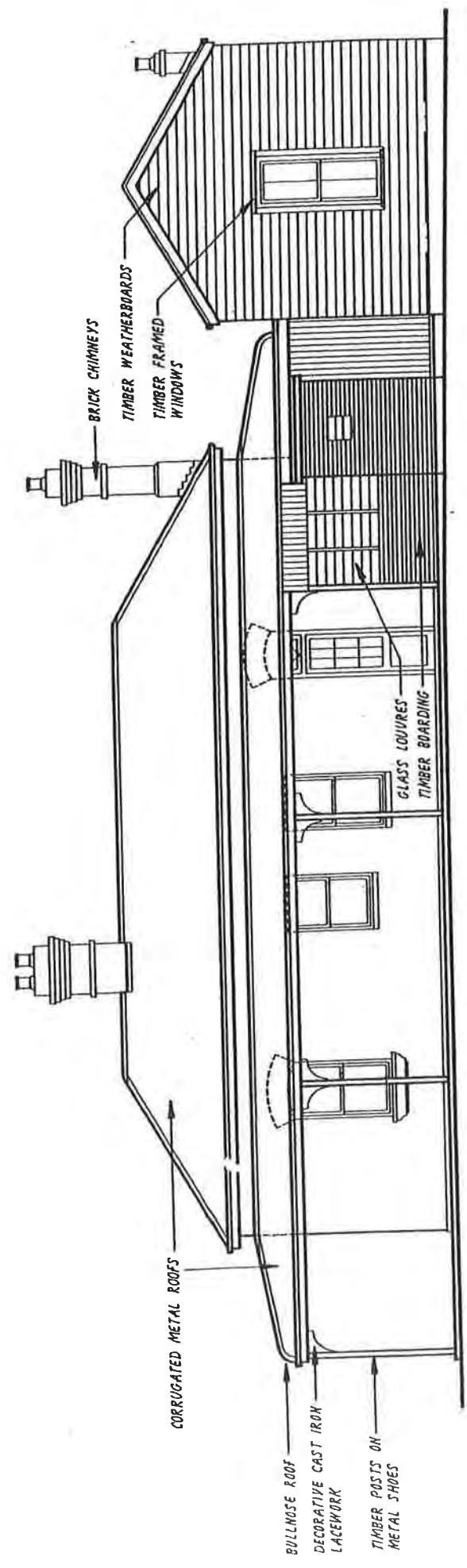
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Netherby House Sections - Fagan Park

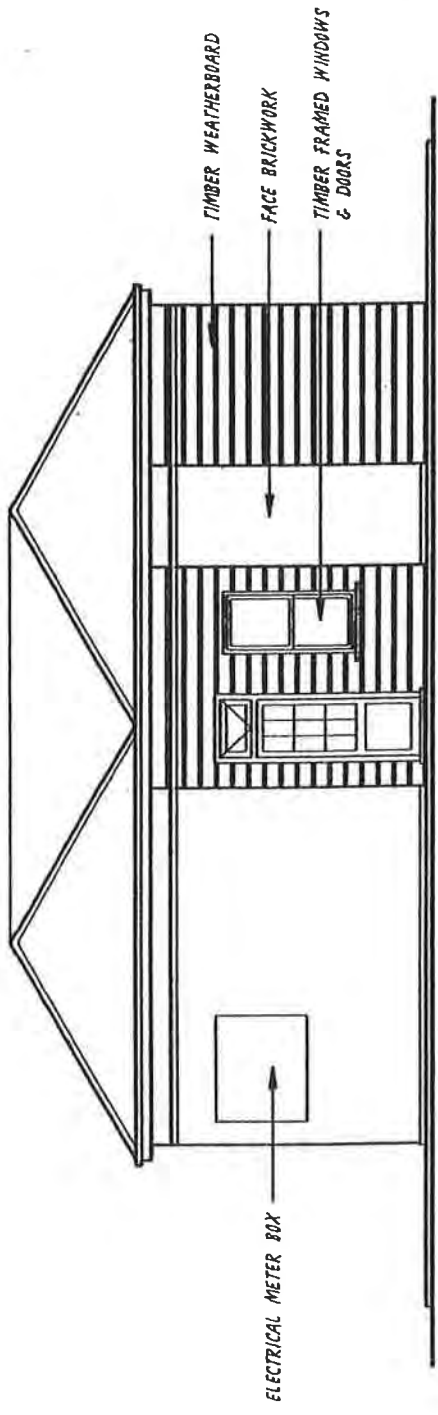




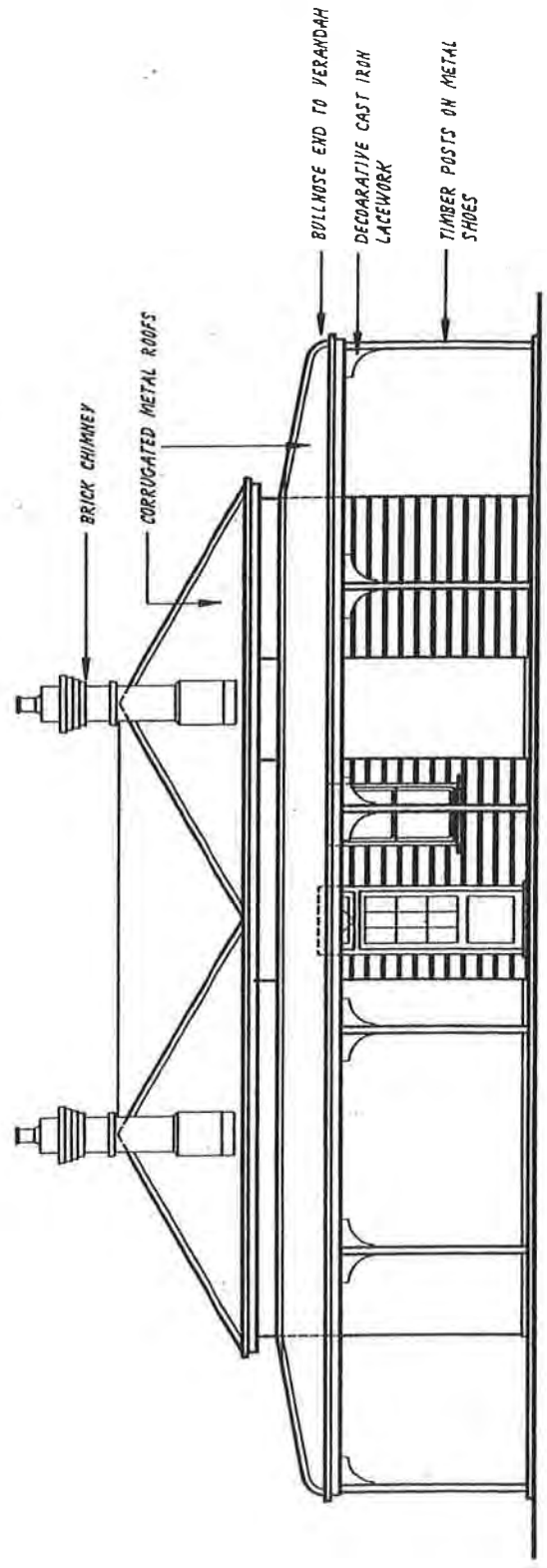
*East Elevation without the Verandah*



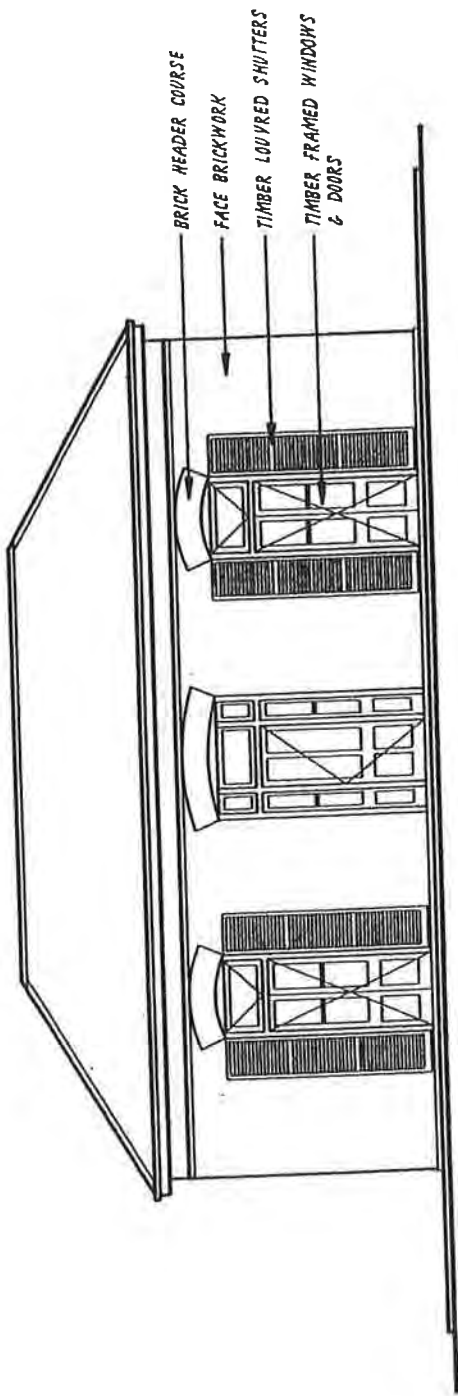
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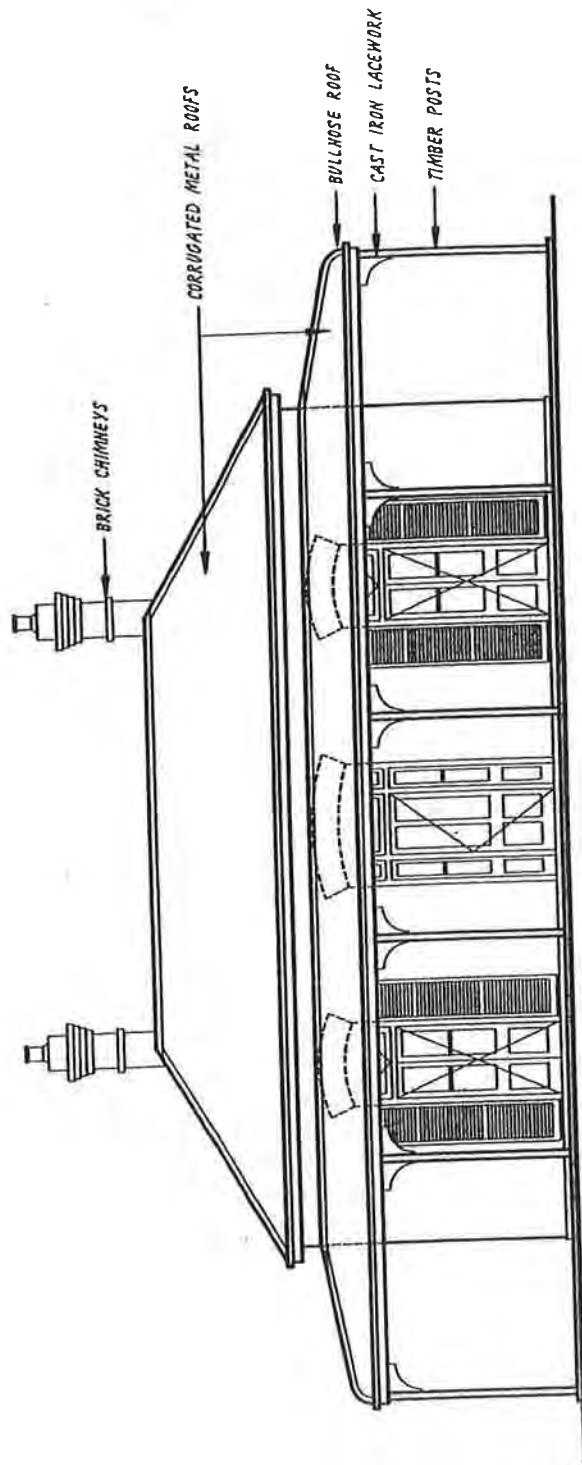
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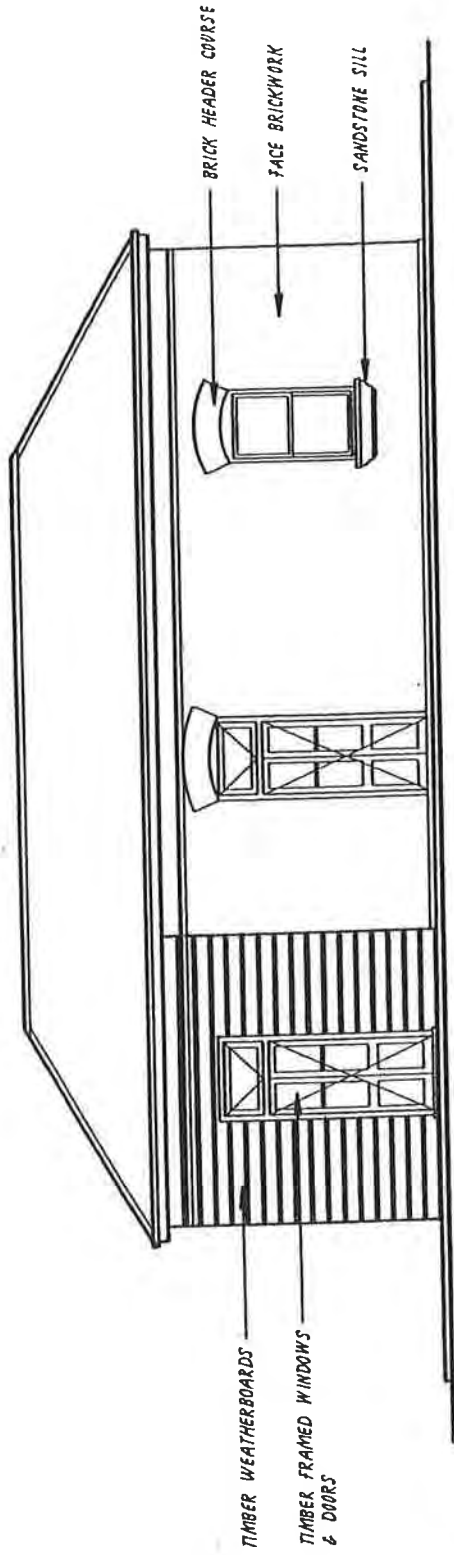
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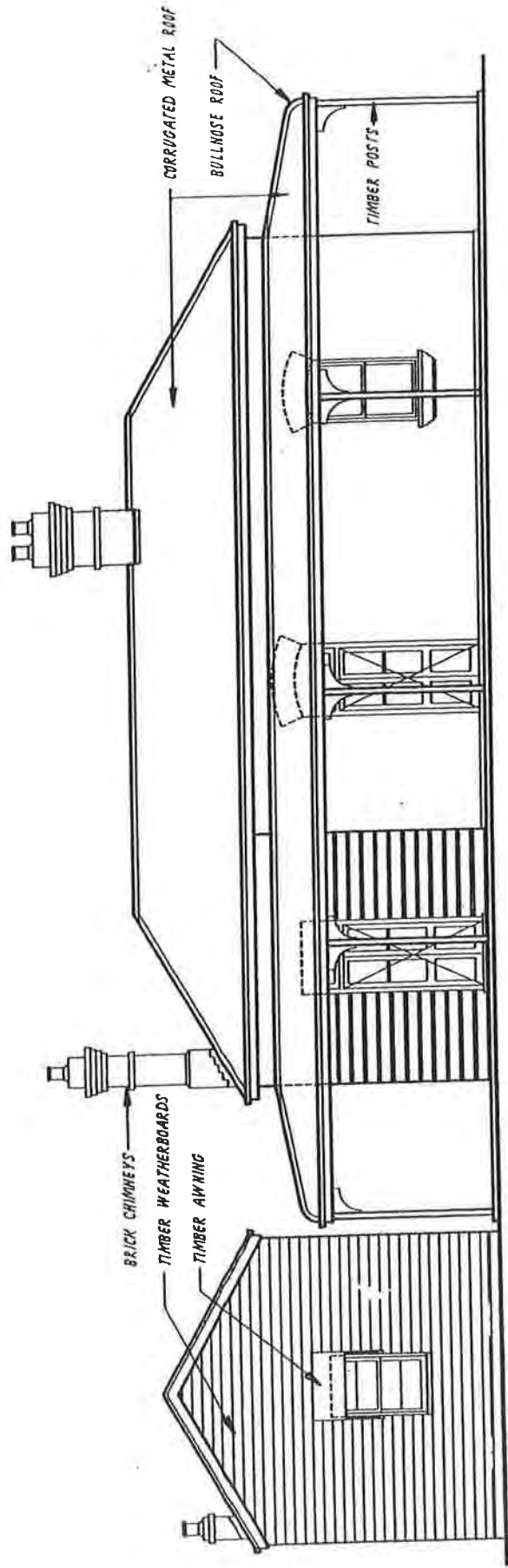
*South Elevation without the Verandah*



*South Elevation*

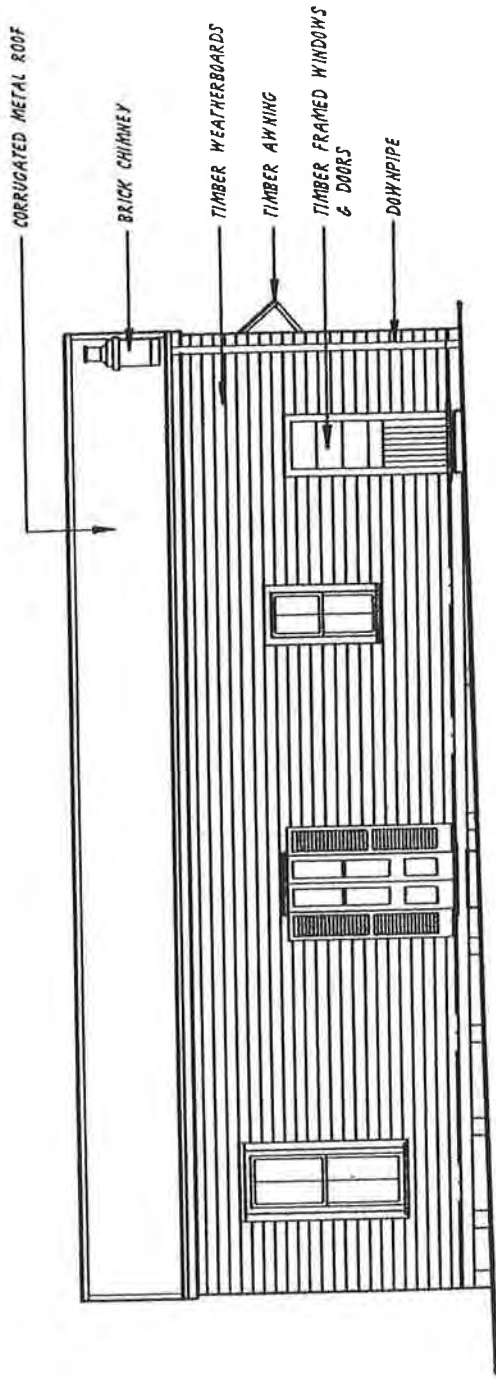


*West Elevation without the Verandah*

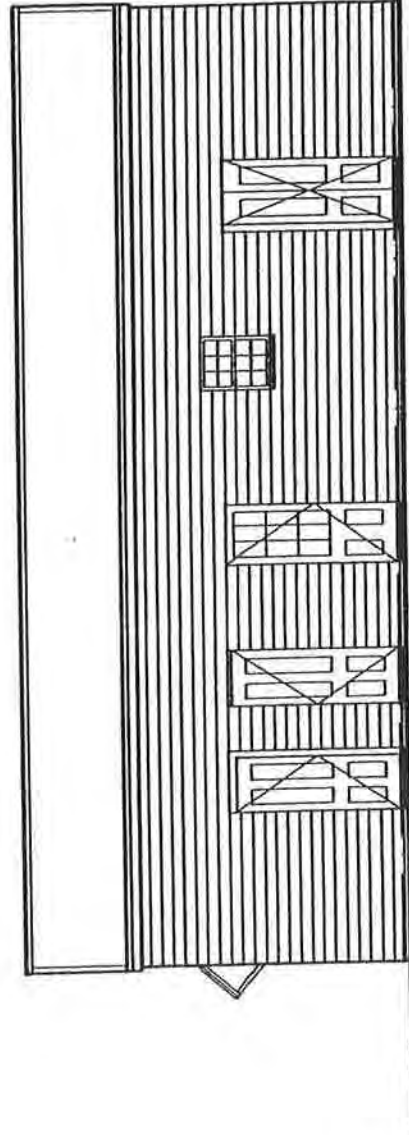


*West Elevation*

*Netherby House Elevations - Fagan Park*

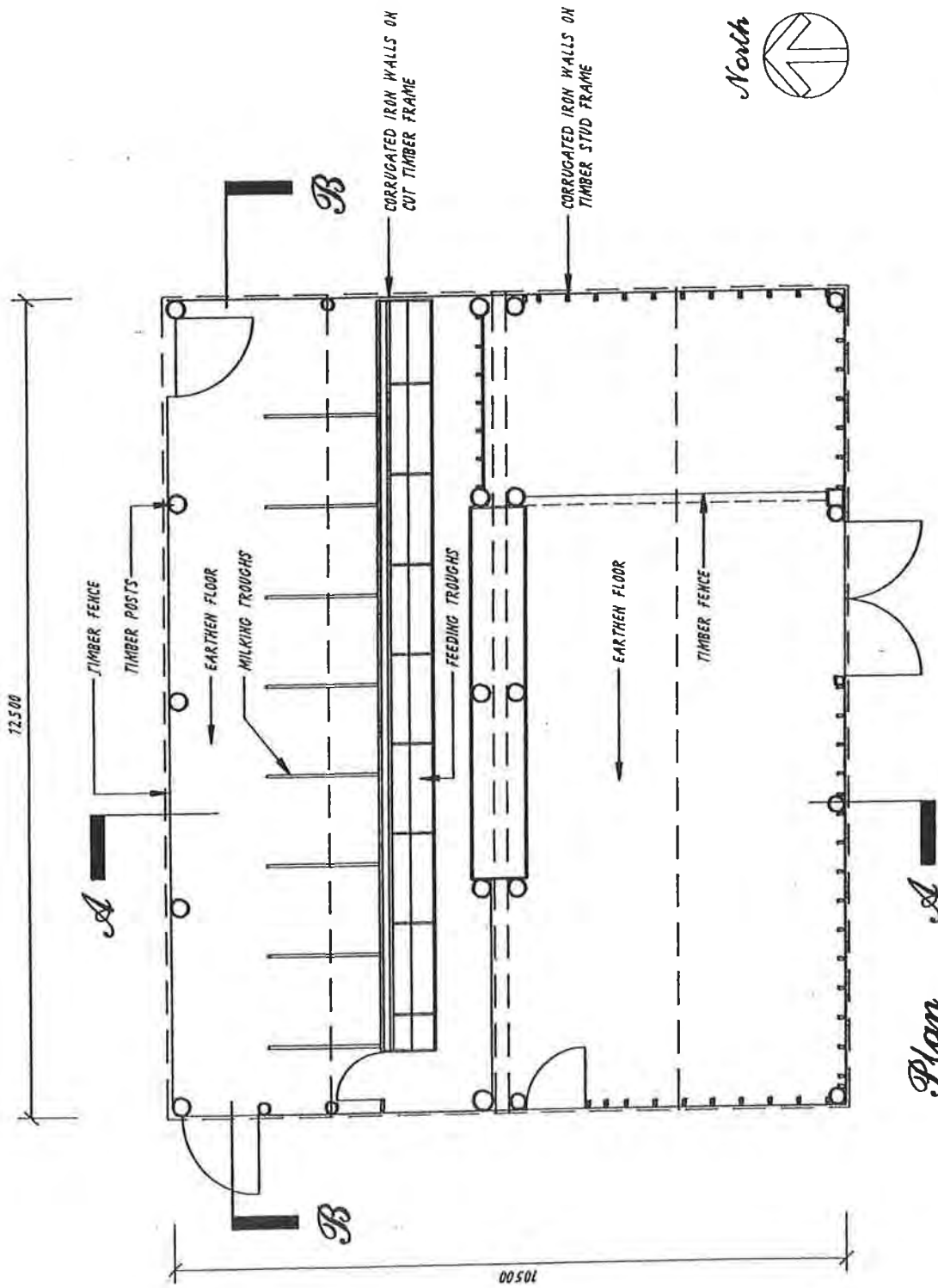


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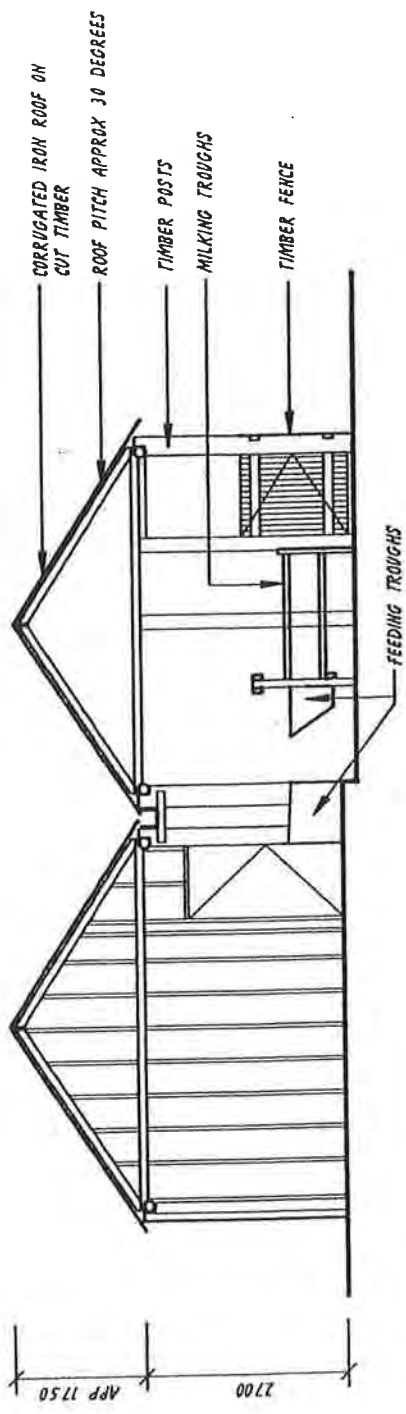


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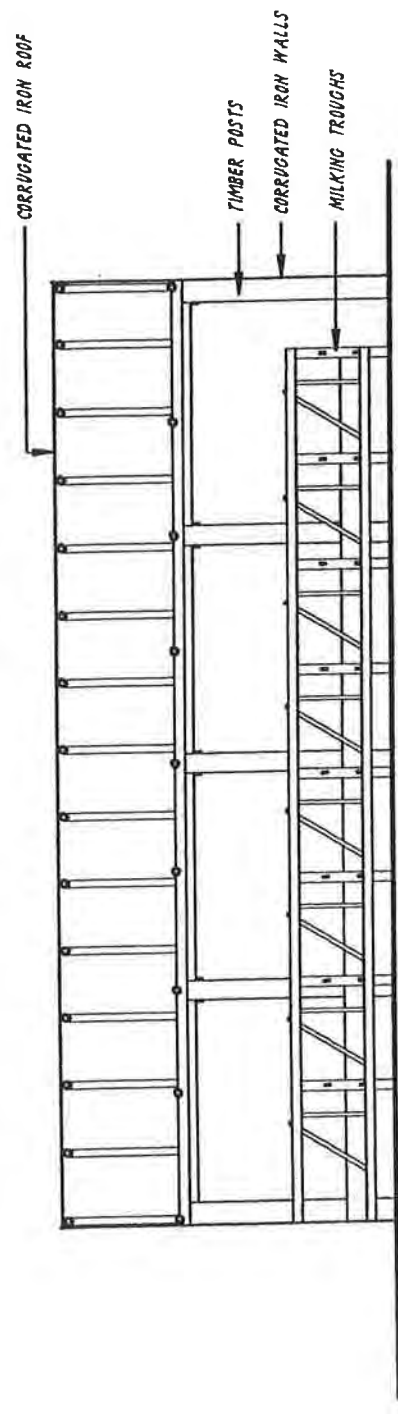
*Netherby House Elevations - Fagan Park*



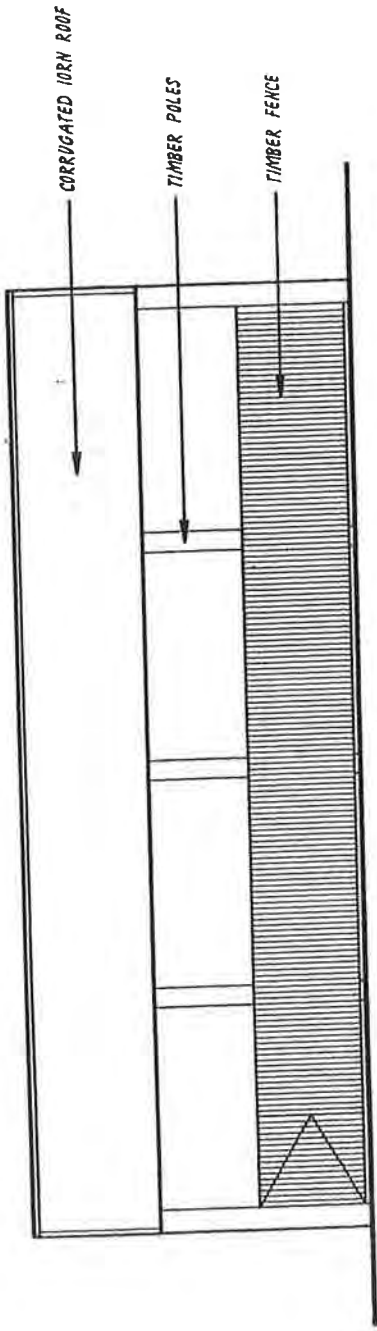
Dairy Shed Plan - Fagan Park



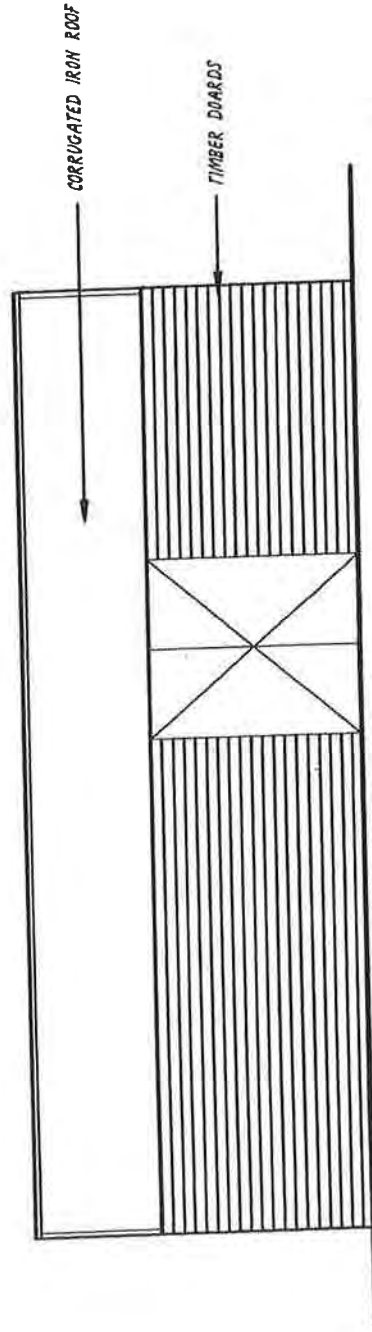
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*Section B - B*

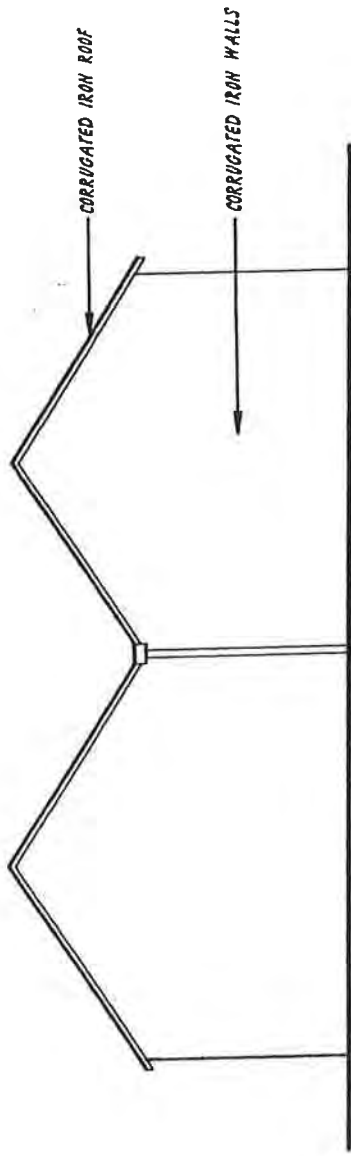


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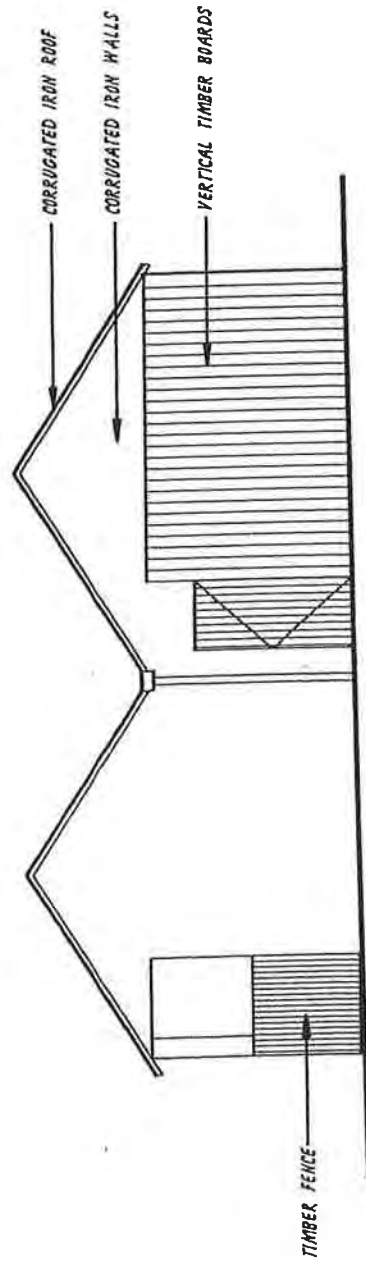


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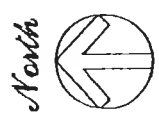
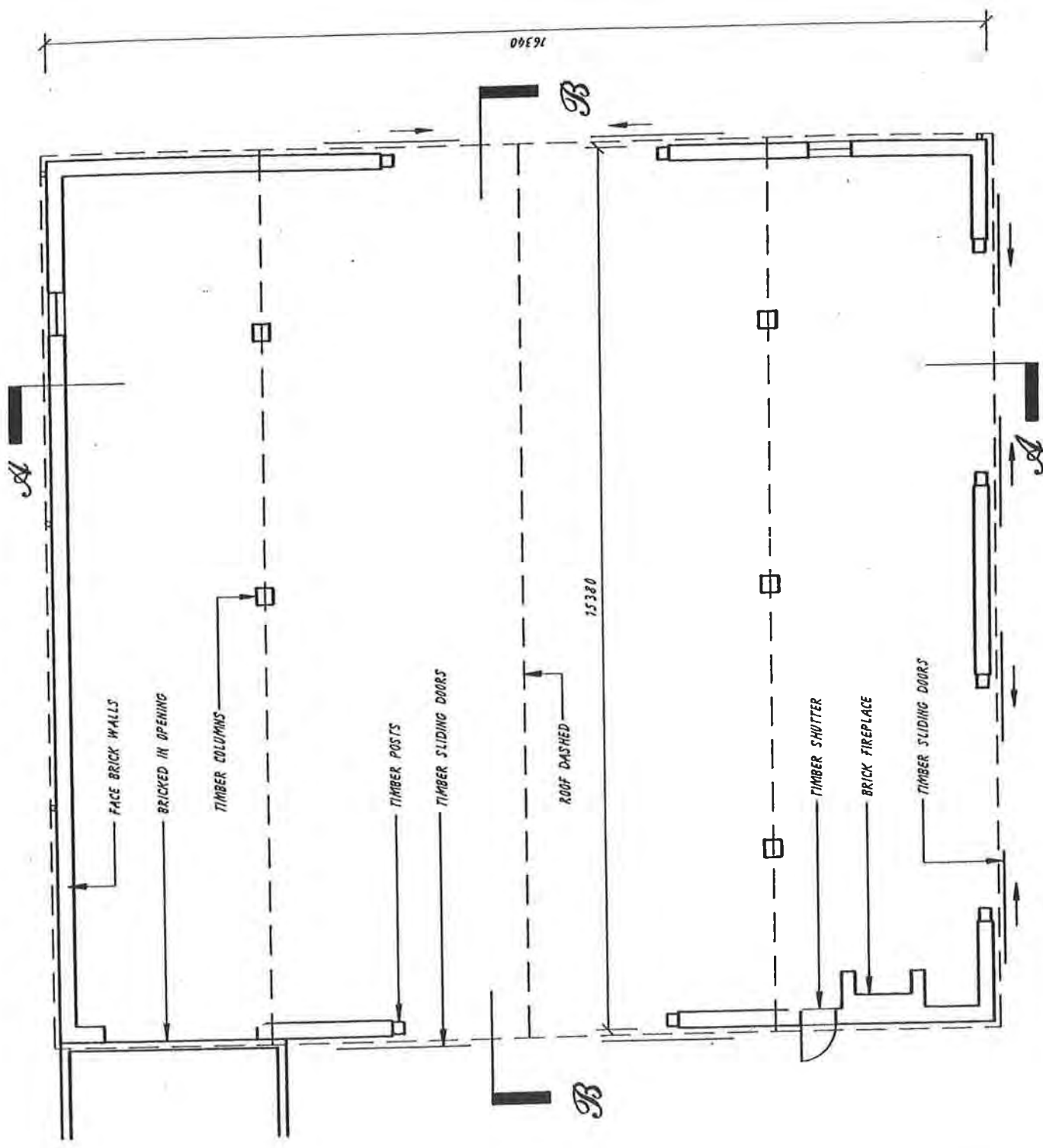




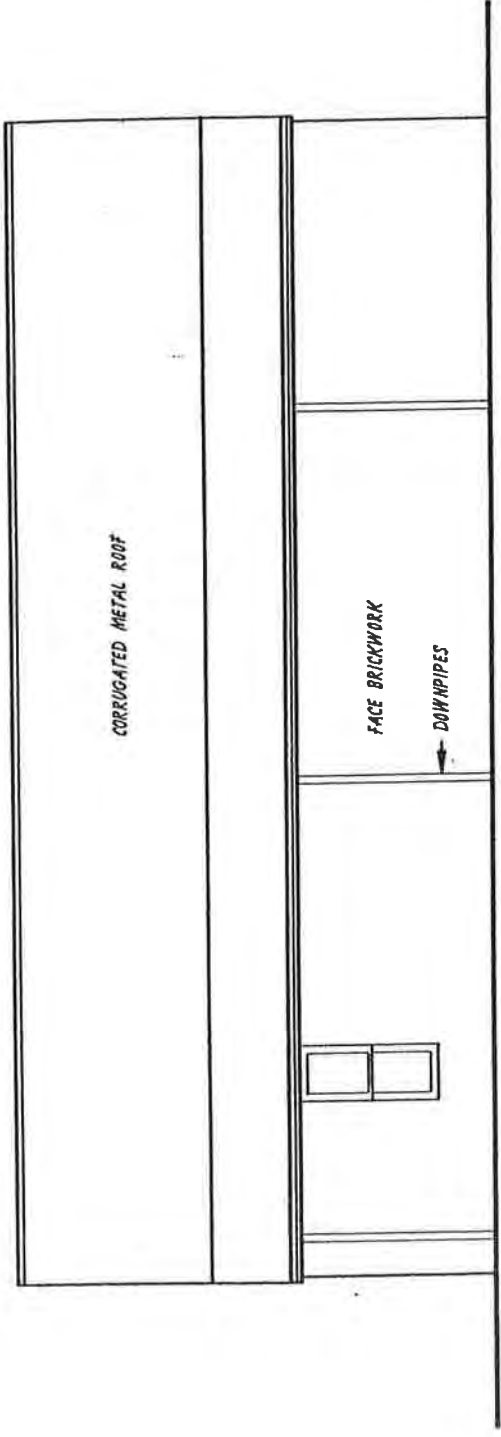
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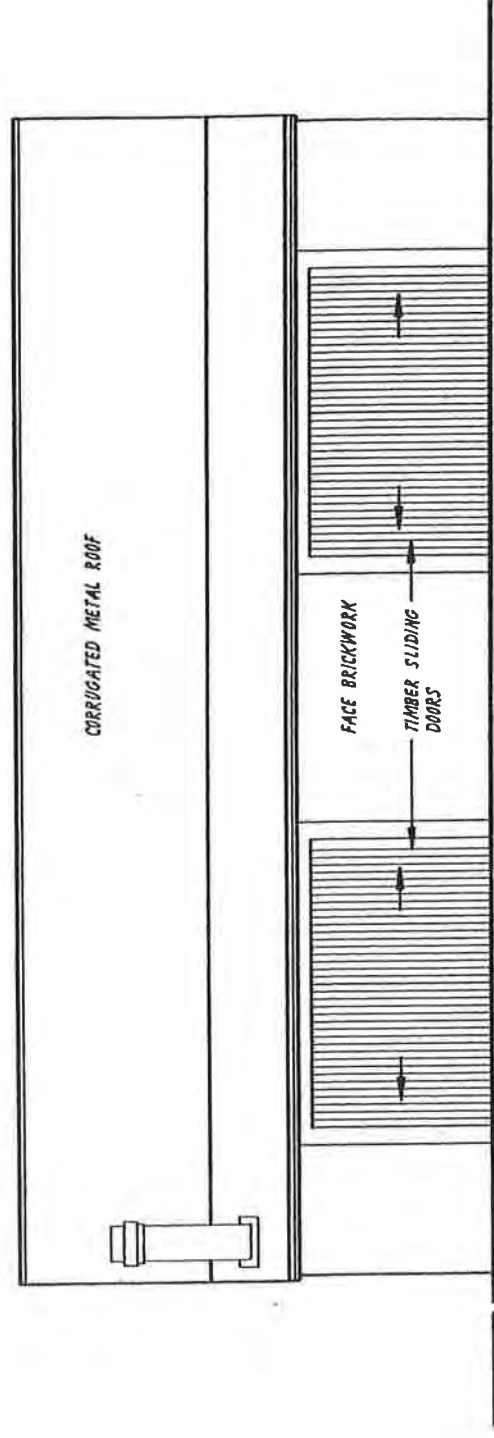
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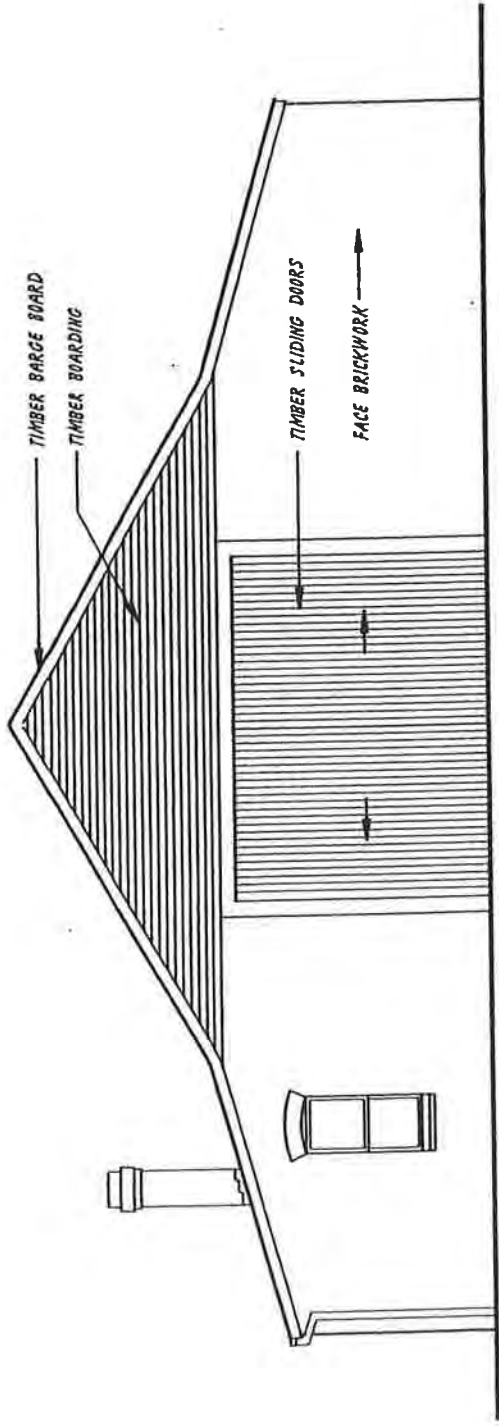
*Fruit Packing Shed Plan - Fagan Park*



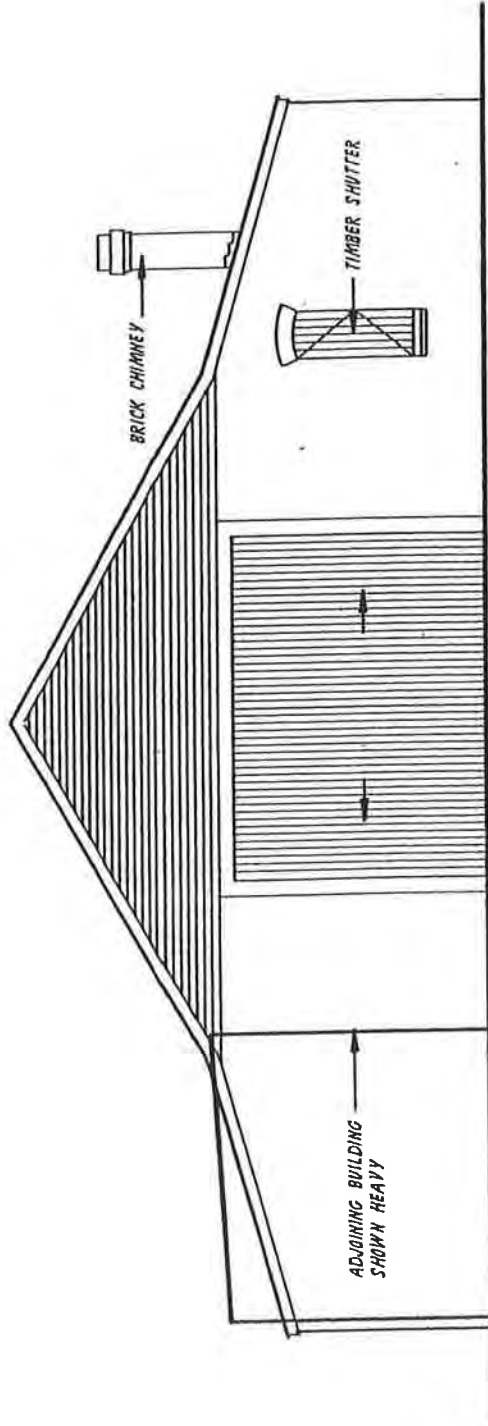
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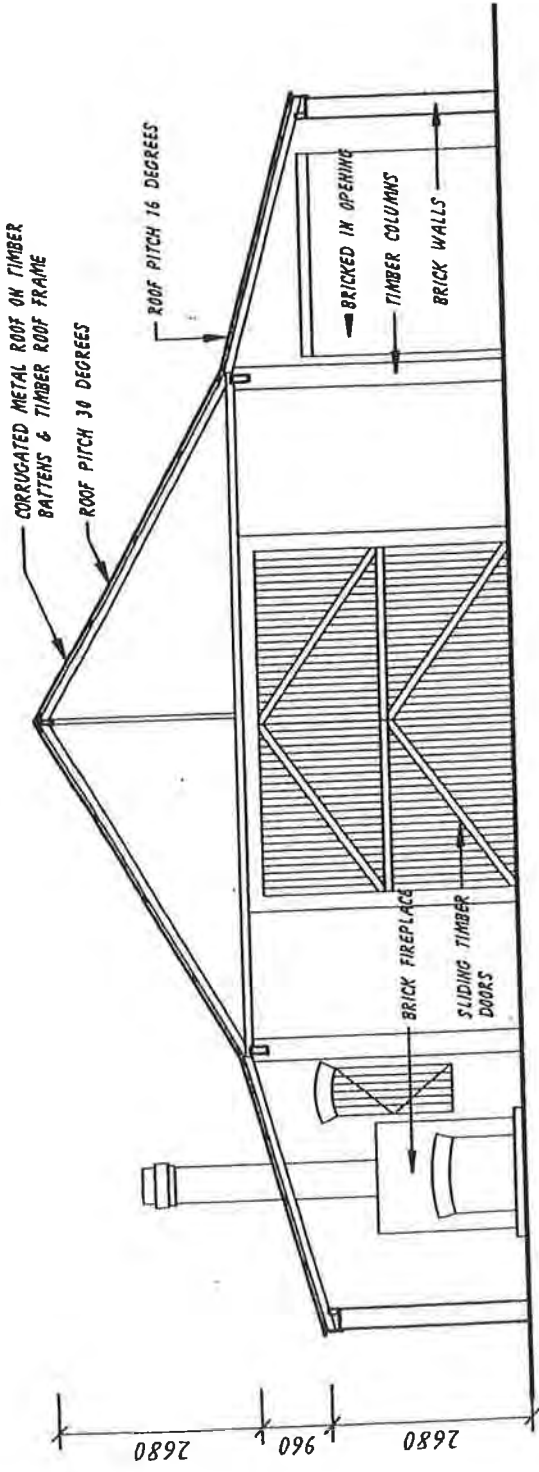
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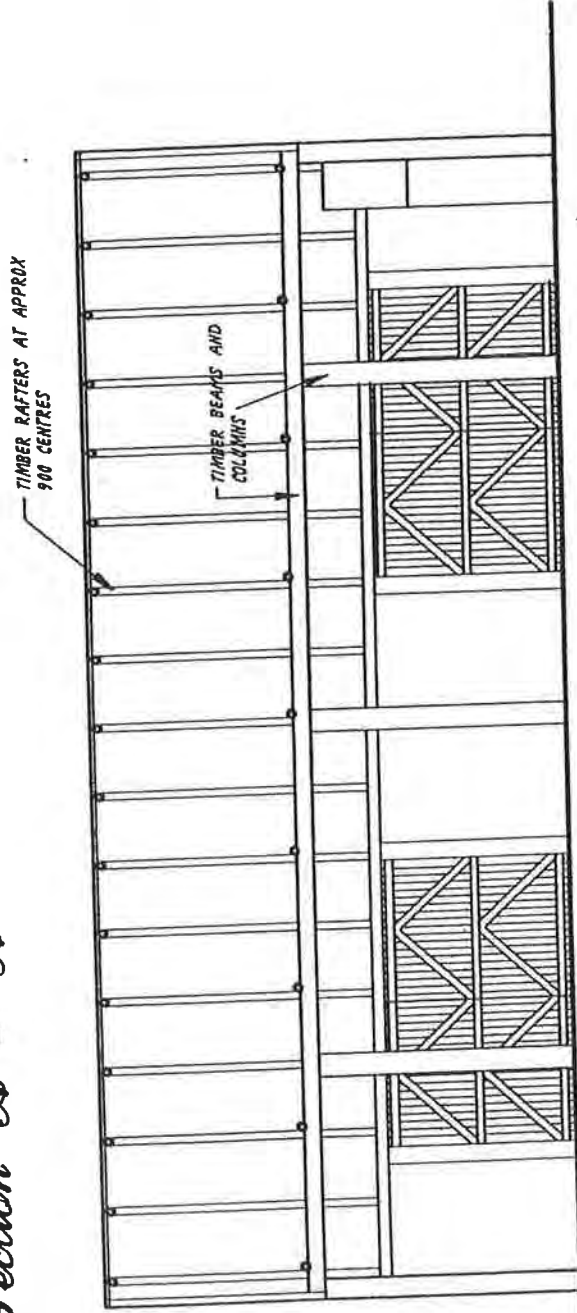
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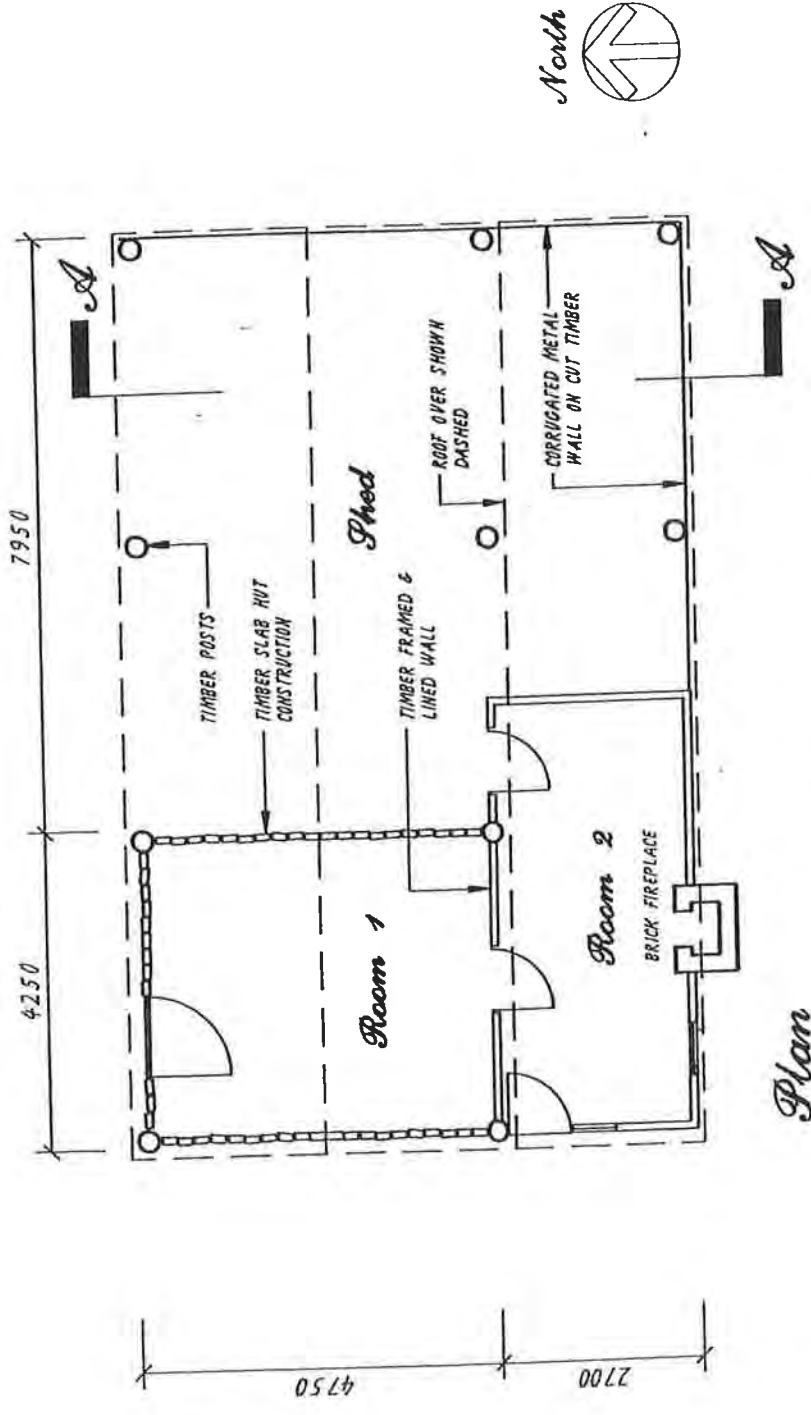
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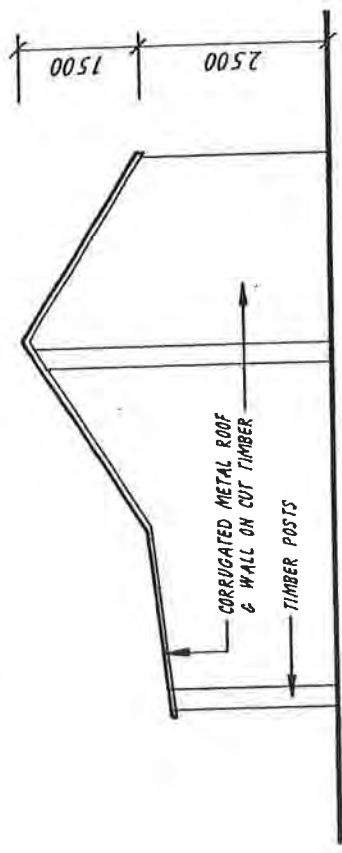
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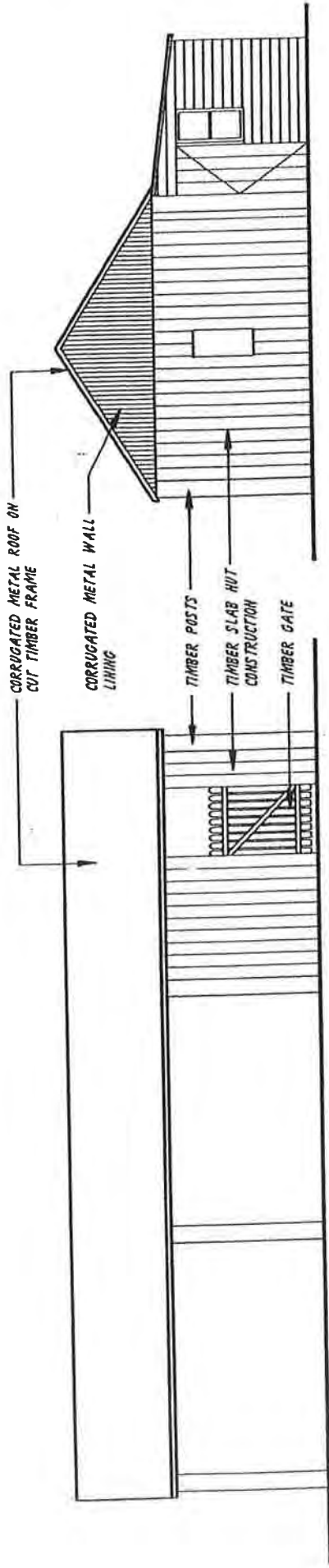


Plan



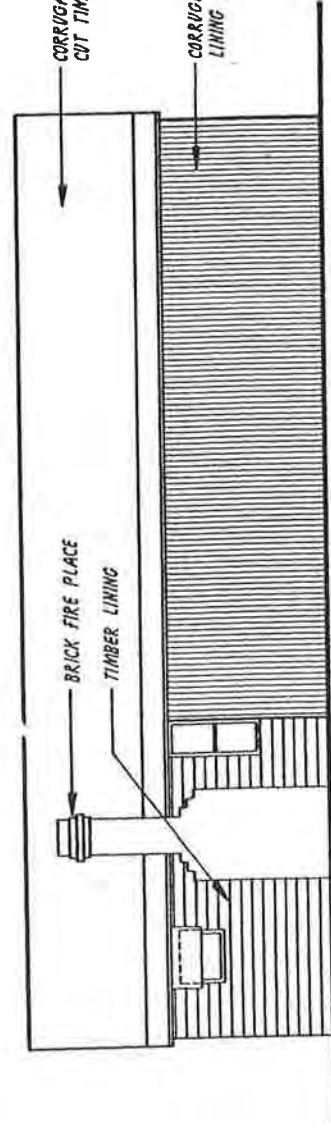
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Machinery Shed Plan & Sections - Fagan Park



*North Elevation*

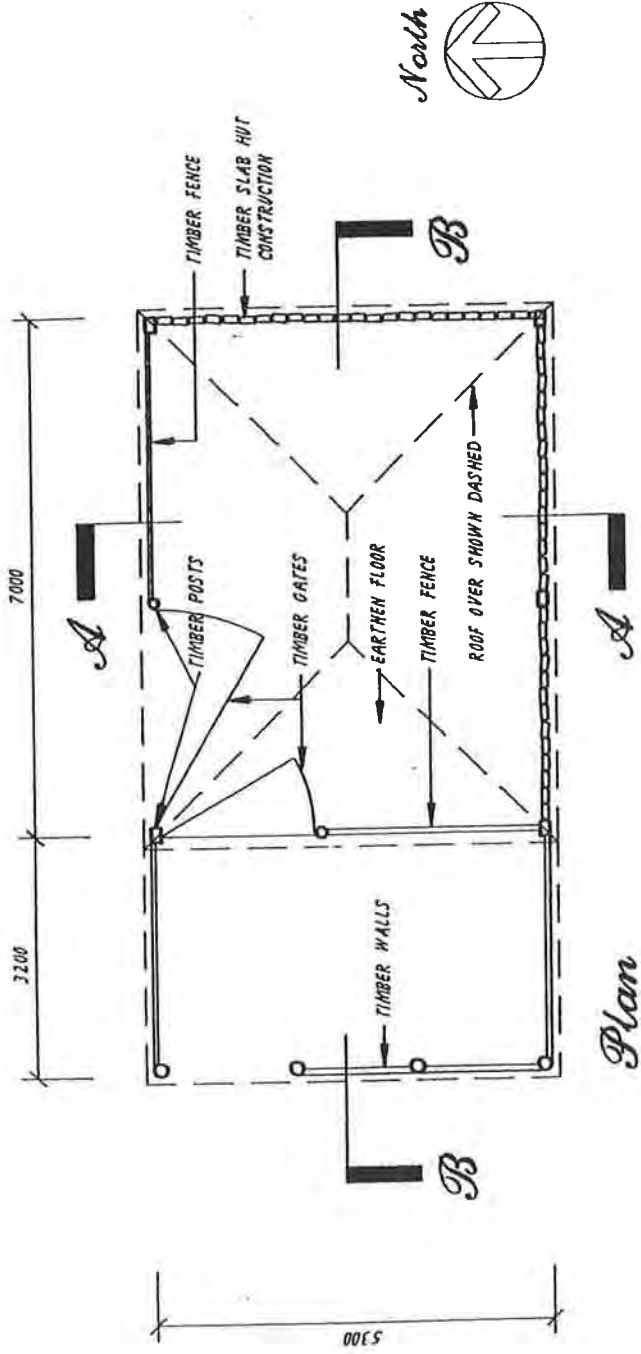
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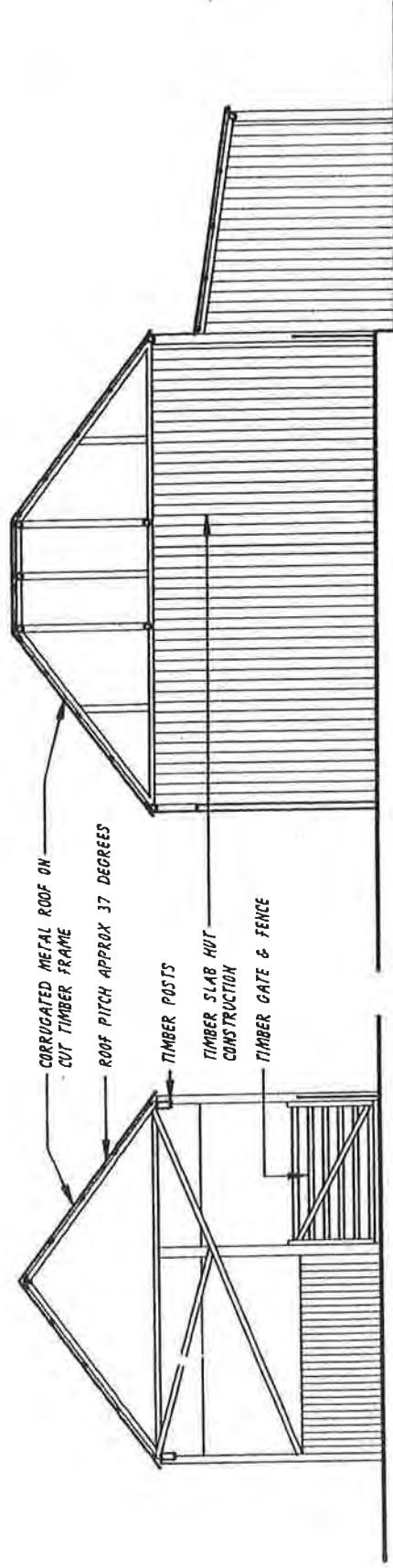
*South Elevation*

*West Elevation*

*Machinery Shed Elevations - Fagan Park*



Plan

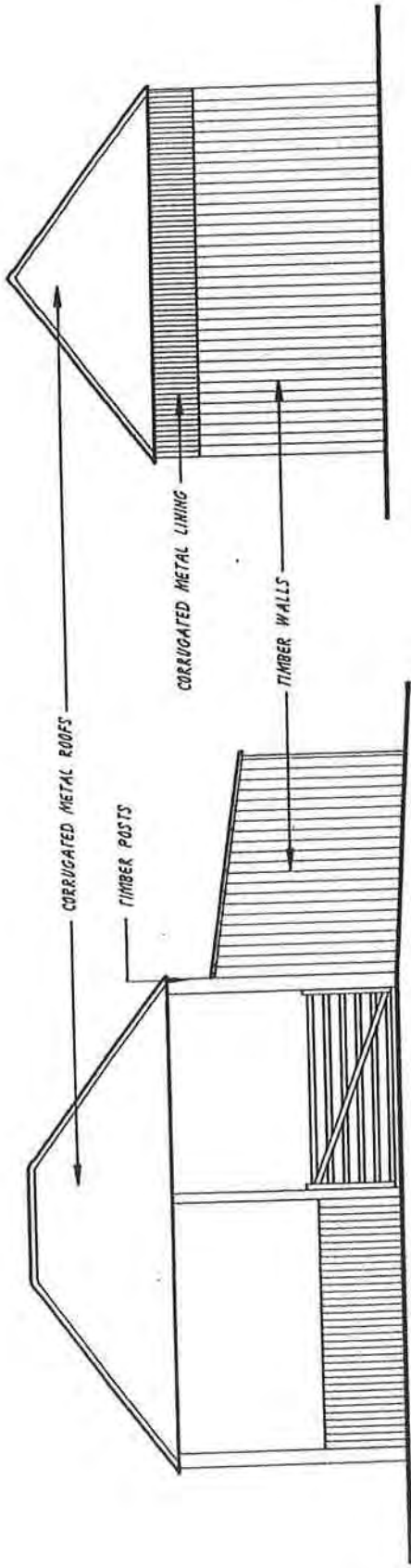


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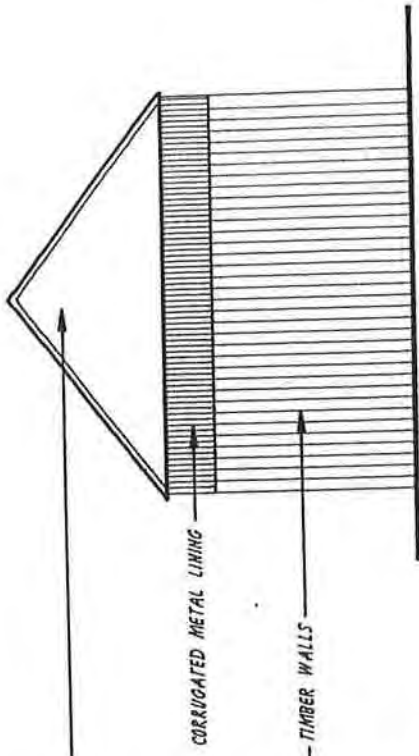
Section B - B

Animal Hospital Shed Plan & Sections - Fagan Park

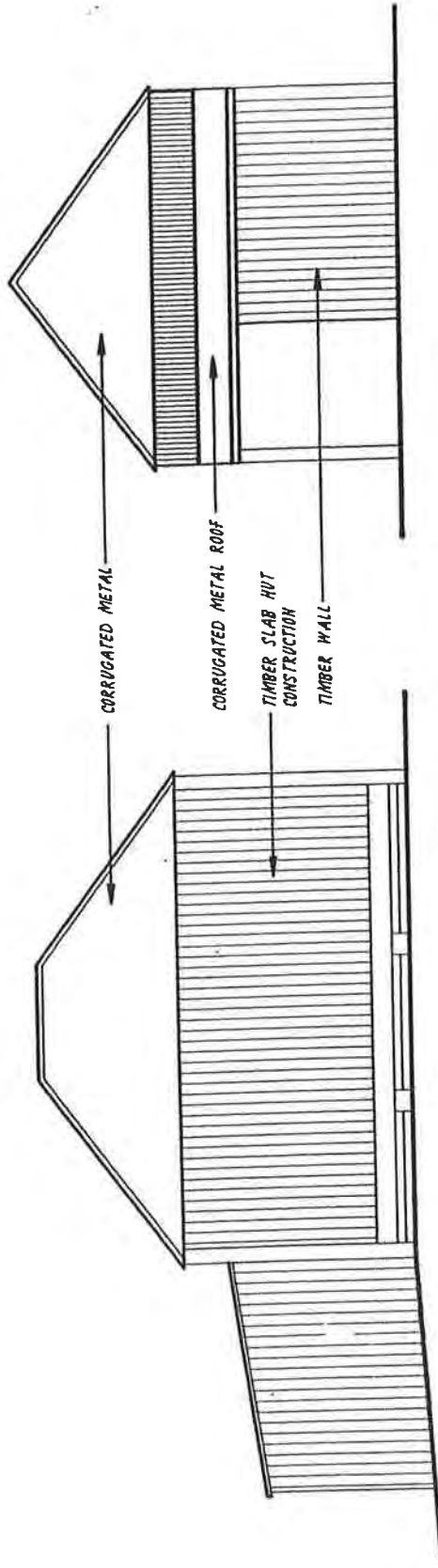




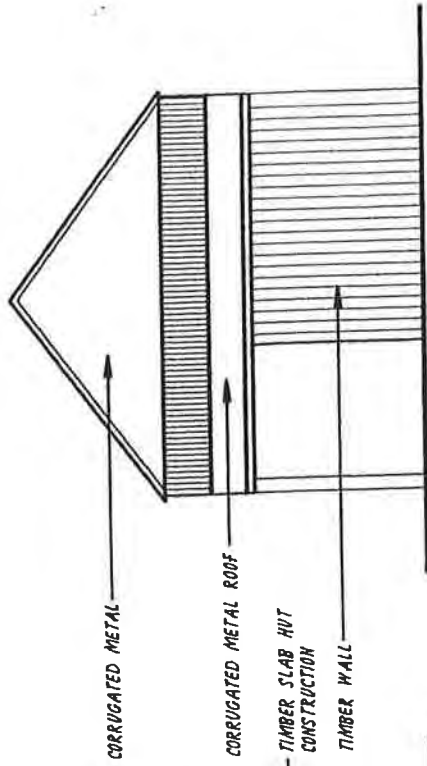
*North Elevation*



*East Elevation*



*South Elevation*



*West Elevation*

*Schedule Of Finishes - Fagan Park*

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Remarks

Ceilings

Walls

Floor

Area	Structure	Finish	Parting	North	South	East	West	Remarks
<b>Netherby House</b>								
DINING ROOM	TIMBER	POLISH	8" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	METAL RIB
HALLWAY	TIMBER	POLISH	10" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	METAL PANEL
BED ROOM 1	TIMBER	POLISH	8" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	METAL PANEL
BED ROOM 2	TIMBER	POLISH	8" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	METAL PANEL
LOUNGE ROOM	TIMBER	POLISH	10" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	PLASTER
BED ROOM 3	TIMBER	POLISH	8" TIMBER	SET PLASTER	SET PLASTER	SET PLASTER	SET PLASTER	PLASTER B'D
BATH ROOM	CONCRETE	TILE	-	TILE\RENDER	TILE\RENDER	TILE\RENDER	TILE\RENDER	PLASTER B'D
KITCHEN	TIMBER	POLISH	6" TIMBER	PAINTED BRICK	PAINTED BRICK	PAINTED BRICK	PAINTED BRICK	METAL RIB
<b>Original House</b>								
SEWING ROOM	TIMBER	POLISH	NIL	TIMBER	TIMBER	TIMBER	TIMBER	TIMBER
BED ROOM	TIMBER	POLISH	8" & 10"	TIMBER	TIMBER	TIMBER	TIMBER	TIMBER
PANTRY	TIMBER	POLISH	2" x 1"	TIMBER	TIMBER	TIMBER	TIMBER	TIMBER
L'DRY / BATHROOM	TIMBER	POLISH	8" TIMBER	TIMBER	TIMBER	TIMBER	TIMBER	TIMBER

FIRE PLACE ON NORTH WALL WITH TIMBER SURROUND, RED TILE HEARTH & 8 x 7 INCH SKIRTING. ARCHITRAVES ARE 4 3/4 x 7 INCH FINISHED.

METAL CEILING PANELS WITH CIRCLES & ROSETTES.

CEILING AS PER DINING ROOM.

CEILING AS PER DINING ROOM.

SET PLASTER CEILING & CORNICE.

LOW 9" CEILING. 4" PLASTER B'D CORNICE.

LOW 9" CEILING. 4" PLASTER B'D CORNICE.

SOME SAWN BOARDS TO EAST WALL.

Netherby House Finishes Schedule - Fagan Park

Area	Structure	Floor Finish	Shining	North	South	East	West	Ceilings	Remarks					
Dairy Shed	DAIRY SHED	EARTH	-	FENCE	TIMBER	METAL \ TIMB	METAL \ TIMB	-	COW BALES & FOOD BINS - HARDWOOD CONSTRUC. ROUND POLES - 10" AVERAGE, SET INTO GROUND AT 9' CENTRES. RAFTERS - 3" POLES AT 2' CENTRES. BATTENS - 3" x 7" AT 4' CENTRES. CEILING TIES 4" DIA AT 4'6" CENTRES. RIDGE BOARD 6" x 7". CONCRETE & TIMBER FLOOR. CORRUGATED IRON WALLS TO NORTH END OF BUILDING & TIMBER STUD WALLS TO SOUTH.					
										BRICK	BRICK	BRICK	BRICK	EXTERNAL WALLS FROM BRICKS MADE ON SITE. 5 MAIN INTERNAL POSTS - 72" SQ HARDWOOD. WALL PLATES - 6" SQ. TIES AT 1.5 BAY INTERVALS - 6" SQ. RAFTERS - 4" DIA AT 2' CENTRES. DOOR - LEGED, FRAMED & VERTICAL BOARDED.
										OPEN	METAL	METAL	TIMBER	POLE CONSTRUCTION GENERALLY. 10" DIA POLES, 7" DIA WALL PLATES, 4" DIA RAFTERS, 3" x 7" BATTENS, CORRUGATED IRON ROOF.
Machinery Shed	SHED	EARTH	-	TIMBER SLAB	TIMBER SLAB	TIMBER	TIMBER	-	TIMBER SLAB HUT STYLE CONSTRUCTION FROM 72" WIDE TIMBER CUT DOWN TO 10", CORNER POLES - 70" DIA, TOP PLATES - 6" x 4", RAFTERS - 4" DIA AT 2' CENTRES. BATTENS - 3" x 7", 2 OFF CROSS RAILS - 6" DIA, CORRUGATED IRON ROOF.					
										BRICK	BRICK	BRICK	BRICK	EXTERNAL WALLS FROM BRICKS MADE ON SITE. 5 MAIN INTERNAL POSTS - 72" SQ HARDWOOD. WALL PLATES - 6" SQ. TIES AT 1.5 BAY INTERVALS - 6" SQ. RAFTERS - 4" DIA AT 2' CENTRES. DOOR - LEGED, FRAMED & VERTICAL BOARDED.
										OPEN	METAL	METAL	TIMBER	POLE CONSTRUCTION GENERALLY. 10" DIA POLES, 7" DIA WALL PLATES, 4" DIA RAFTERS, 3" x 7" BATTENS, CORRUGATED IRON ROOF.
Animal Hospital	ANIMAL HOSPITAL	EARTH	-	FENCE	TIMBER SLAB	TIMBER SLAB	TIMBER SLAB	-	TIMBER SLAB HUT STYLE CONSTRUCTION FROM 72" WIDE TIMBER CUT DOWN TO 10", CORNER POLES - 70" DIA, TOP PLATES - 6" x 4", RAFTERS - 4" DIA AT 2' CENTRES. BATTENS - 3" x 7", 2 OFF CROSS RAILS - 6" DIA, CORRUGATED IRON ROOF.					
										BRICK	BRICK	BRICK	BRICK	EXTERNAL WALLS FROM BRICKS MADE ON SITE. 5 MAIN INTERNAL POSTS - 72" SQ HARDWOOD. WALL PLATES - 6" SQ. TIES AT 1.5 BAY INTERVALS - 6" SQ. RAFTERS - 4" DIA AT 2' CENTRES. DOOR - LEGED, FRAMED & VERTICAL BOARDED.
										OPEN	METAL	METAL	TIMBER	POLE CONSTRUCTION GENERALLY. 10" DIA POLES, 7" DIA WALL PLATES, 4" DIA RAFTERS, 3" x 7" BATTENS, CORRUGATED IRON ROOF.

Historic Buildings Finishes Schedule - Fagan Park

## **Appendix G      Flora and Fauna Report**

**Terrestrial Flora and Fauna Assessment Report**  
**Part of a Review of Environmental Factors**  
**For Proposed Showground Facility at Fagan Park**

**8 August 2002**

**Prepared by**  
**The Bushland and Biodiversity Management Team**

**With the assistance of**  
**Patricia Pike, bushland restoration consultant, and**  
**Dr Stephen Ambrose, Ambrose Ecological Services Pty Ltd**  
**(separate report on Birds attached in Appendix 1)**

## INTRODUCTION

The Bushland and Biodiversity Management Team of Hornsby Shire Council's Environment Division was engaged on behalf of Council's Parks and Landscape Team to undertake a terrestrial flora and fauna assessment for a proposed showground facility at Fagan Park, Galston. This report contributes towards a Review of Environmental Factors (REF).

The Bushland and Biodiversity Management Team obtained the assistance of two external consultants. Ms Patricia Pike, a bushland restoration consultant with experience in botanical surveys and knowledge of the vegetation in the Sydney Turpentine Ironbark Forest in Carrs Bush. Patricia Pike was involved in the flora survey component of this report.

Dr Stephen Ambrose was consulted to prepare a separate "Bird and Their Habitat Report" due to the site containing notable bird populations and potential habitat for significant bird species. This report, dated 30 June 2002 has been attached as Appendix 1.

A preliminary investigation of the proposed Fagan Park Showground site was undertaken on 26 March 2002 with Michael Milligan, Parks and Landscape Team and officers from Council's Water Catchments Team.

It is anticipated that a complete REF for the proposed showground facility will be coordinated by the Parks and Landscape Team. The complete REF will address additional issues not covered in this report.

## METHODOLOGY

### Flora

The flora survey was divided in two areas based on topography and disturbance. Refer to Map 1.

- Area 1 – The proposed showground site including areas around the upper and lower dams and along the watercourse; and
- Area 2 - Along the eastern boundary of the proposed showground site adjacent to Bayfield Road.

The flora survey methodology involved a field assessment where the two survey areas were traversed by foot to identify the occurrence of flora species both native and exotic). In addition the following points were considered;

- Presence of rare or significant species
- Vegetation type and structure
- Habitat and distribution
- Level and nature of disturbance

### Fauna

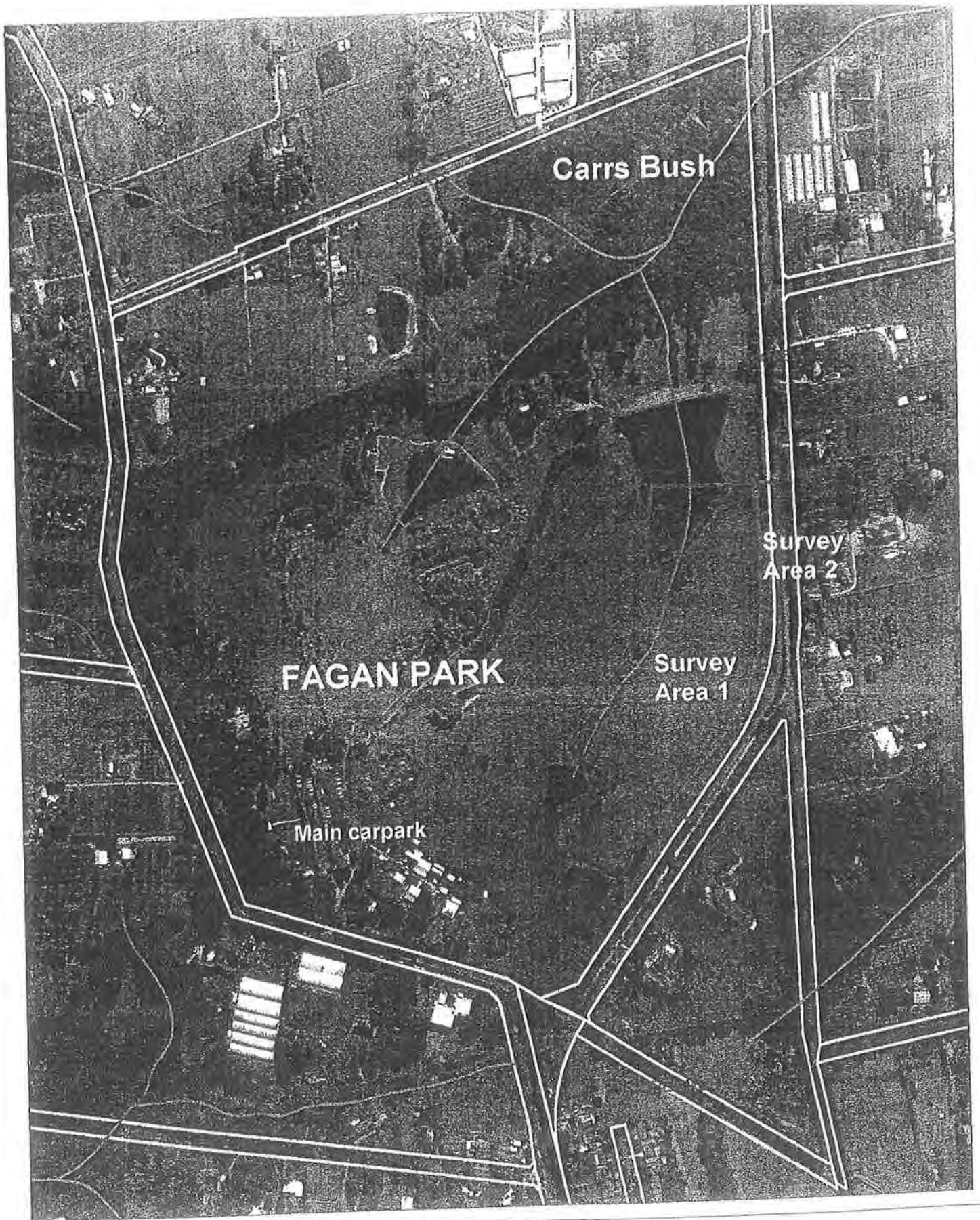
Fauna survey methodology involved the following;

- Opportunistic sightings
- Physical markings (eg. diggings, scratch marks)
- Recording frog calls and analysing the recorded calls with the frog call reference tape “Frog Calls of the Greater Sydney Basin” produced by David Stewart of Nature Sound.
- Locality sightings
- Habitat assessment

### Threatened Species

A National Parks and Wildlife Service – Wildlife Atlas database search for any threatened fauna and flora records, as listed under the *Threatened Species Conservation Act 1995*, in the surrounding locality. This was achieved using Council’s MapInfo Geographic Information System.





**Map 1: Fagan Park showing the location of the flora survey areas.**

----- Area 1 ----- Area 2



## FLORA SURVEY RESULTS

The flora survey was undertaken with the assistance of Ms Patricia Pike on two separate days;

- Area 1 – main showground site on the 24 April 2002.
- Area 2 – along boundary adjacent to Bayfield Road on the 22 May 2002.

### *Vegetation overview.*

The proposed showground site is located on land, which is mostly cleared and disturbed, and consists of open grasslands dominated by exotic species with scattered trees and shrubs around the three dams and along the eastern boundary adjacent to Bayfield Road. Past threats have been clearing for agriculture and grazing of livestock. Existing threats include continual mowing, promotion of weed invasion and rabbit infestation.

Downslope of the proposed site is a significant remnant of Sydney Turpentine Ironbark Forest, an endangered ecological community listed under Schedule 1 of the *Threatened species Conservation Act 1995*.

Below are a list of native and exotic flora species observed in both Area 1 and Area 2.

### Area 1: Showground site including around the upper and lower dams and along the watercourse

#### Native species

<i>Acacia floribunda</i>	<i>Gnaphalium involucreatum</i>
<i>Acacia parramattensis</i>	<i>Hydrocotyle peduncularis</i>
<i>Agrostis avenacea</i>	<i>Hypolepis muelleri</i>
<i>Alternanthera denticulata</i>	<i>Imperata cylindrica</i>
<i>Angophora floribunda</i>	<i>Juncus usitatus</i>
<i>Carex inversa</i>	<i>Microlaena stipoides</i>
<i>Cyperus brevifolius</i>	<i>Oxalis exilis</i>
<i>Cyperus sanguinolentus</i>	<i>Persicaria decipiens</i>
<i>Dichelachne crinita</i>	<i>Philydrum lanuginosum</i>
<i>Dichelachne rara</i>	<i>Pittosporum undulatum</i>
<i>Dichondra repens</i>	<i>Pratia purpurascens</i>
<i>Entolasia marginata</i>	<i>Pteridium esculentum</i>
<i>Epilobium billardieranum</i>	<i>Themeda australis</i>
<i>Eucalyptus tereticornis</i> #	<i>Typha orientalis</i>
<i>Geranium homeanum</i>	<i>Veronica plebeia</i>
<i>Glycine microphylla</i>	<i>Wahlenbergia gracilis</i>
<i>Glycine tabacina</i>	

# = Non-indigenous native species or planted species

Exotic Species (\* denotes Noxious Weed, as per the Noxious Weeds Act 1993)

<i>Andropogon virginicus</i>	<i>Paspalum urvillei</i>
<i>Axonopus affinis</i>	<i>Pennisetum clandestinum</i>
<i>Bromus cartharticus</i>	<i>Phalaris minor</i>
<i>Cinnamomum camphora</i> *	<i>Phytolacca octandra</i>
<i>Cirsium arvense</i>	<i>Pinus radiata</i>
<i>Conyza albida</i>	<i>Plantago lanceolata</i>
<i>Cynodon dactylon</i>	<i>Pyracantha sp.</i>
<i>Cyperus eragrostis</i>	<i>Robinia pseudo-acacia</i>
<i>Eragrostis tenuifolia</i>	<i>Rubus fruticosus</i> *
<i>Hypericum perforatum</i> *	<i>Rumex crispus</i>
<i>Hypochoeris radicata</i>	<i>Salix babylonica</i>
<i>Juncus articulatus</i>	<i>Senecio madagascariensis</i>
<i>Juncus cognatus</i>	<i>Setaria sp.</i>
<i>Ligustrum sinense</i> *	<i>Sida rhombifolia</i>
<i>Lonicera japonica</i>	<i>Solanum mauritianum</i>
<i>Myrsiphyllum asparagoides</i> *	<i>Sporobolus africanus</i>
<i>Paspalum dilatatum</i>	<i>Trifolium repens</i>
<i>Paspalum distichum</i>	<i>Verbena officinalis</i>

**Area 2: Along the eastern boundary of the proposed showground site adjacent to Bayfield Road.**

**Native species**

<i>Acacia parramattensis</i>	<i>Imperata cylindrica</i>
<i>Alternanthera denticulata</i>	<i>Leucopogon juniperinus</i>
<i>Callistemon viminalis</i> #	<i>Melaleuca quinquenervia</i> #
<i>Carex inversa</i>	<i>Microlaena stipoides</i>
<i>Centella asiatica</i>	<i>Oxalis perennans</i>
<i>Cyperus brevifolius</i>	<i>Persicaria hydropiper</i>
<i>Cyperus sphaeroideus</i>	<i>Pittosporum rhombifolium</i> #
<i>Desmodium varians</i>	<i>Pittosporum undulatum</i>
<i>Dichelachne rara</i>	<i>Polyscias sambucifolia</i>
<i>Dichondra repens</i>	<i>Pratia purpurascens</i>
<i>Einadia hastata</i>	<i>Senecio diaschides</i>
<i>Eucalyptus saligna</i> (juvenile) #	<i>Wahlenbergia gracilis</i>
<i>Glycine microphylla</i>	

# = Non-indigenous native species or planted species

Exotic Species (\* denotes Noxious Weed, as per the Noxious Weeds Act 1993)

<i>Ageratina adenophora</i>	<i>Ochna serrulata</i> *
<i>Andropogon virginicus</i>	<i>Paspalum dilatatum</i>
<i>Araujia hortorum</i>	<i>Pavonia hastata</i>

<i>Asparagus densiflorus</i> *	<i>Pennisetum clandestinum</i>
<i>Axonopus affinis</i>	<i>Phalaris minor</i>
<i>Bromus cartharticus</i>	<i>Phytolacca octandra</i>
<i>Chloris gayana</i>	<i>Plantago lanceolata</i>
<i>Cinnamomum camphora</i> *	<i>Rubus fruticosus</i> *
<i>Cirsium arvense</i>	<i>Rumex crispus</i>
<i>Conyza albida</i>	<i>Senecio madagascariensis</i>
<i>Cynodon dactylon</i>	<i>Setaria sp.</i>
<i>Cyperus eragrostis</i>	<i>Sida rhombifolia</i>
<i>Eragrostis tenuifolia</i>	<i>Solanum mauritianum</i>
<i>Euphorbia peplus</i>	<i>Solanum nigrum</i>
<i>Fumaria muralis</i>	<i>Sonchus oleraceus</i>
<i>Galium aparine</i>	<i>Stachys arvensis</i>
<i>Hypochoeris radicata</i>	<i>Trifolium repens</i>
<i>Medicago sp.</i>	<i>Verbena officinalis</i>
<i>Myrsiphyllum asparagoides</i> *	<i>Vicia sativa</i>

### Flora Summary Table

	Area 1	Area 2
Native	33 (48%)	25 (40%)
Exotic	36 (52%)	38 (60%)
TOTAL SPECIES	69	63

## FAUNA SURVEY RESULTS

The fauna survey was undertaken on two separate days;

- Fauna survey was conducted on 6 May 2002 from 5:00pm to 7:30pm. The weather conditions were clear and calm with the temperature at 15.5° C.
- Bird (ornithological) survey was conducted on 27 May 2002 (refer to the attached Ambrose Ecological Services report).

The following is a list of species observed or recorded on or near the subject development site.

### Mammals

<i>Species recorded</i>	<i>Record methodology</i>
Grey-headed Flying Fox ( <i>Pteropus poliocephalus</i> )	Observed flying over site
Long-nosed Bandicoot ( <i>Perameles nasuta</i> )	diggings/runways in vegetation
Rabbit ( <i>Oryctolagus cuniculus</i> )	Scats
Common Ringtail Possum ( <i>Pseudocheirus peregrinus</i> )	Scratch marks on tree near dam and observed

	in nearby Carrs Bush
Unidentified microchiropteran bat– probably the White-striped Mastiff Bat ( <i>Nyctinomus australis</i> )	Heard flying over site

Highly likely the Black Rat (*Rattus rattus*) and House Mouse (*Mus musculus*), two introduced species, are present as the site is a modified and disturbed site

#### Birds

- (Refer to Report dated 30 June 2002, prepared by Ambrose Ecological Services Pty Ltd)

#### Amphibians

<i>Species recorded</i>	<i>Record methodology</i>
Common Eastern Froglet ( <i>Crinia signifera</i> )	Frog call play back
Verreaux's Tree Frog ( <i>Litoria verreauxii</i> )	Frog call play back
Perons Tree Frog ( <i>Litoria peronii</i> )*	Frog call play back
Striped Marsh Frog ( <i>Limnodynastes peronii</i> )	Frog call play back

\*heard from nearby Carrs Bush

#### Reptiles

<i>Species recorded</i>	<i>Record methodology</i>
Long-necked Turtle ( <i>Chelodina longicollis</i> )	Observed in dam

Other reptiles that were not observed on the site, however, are likely to occur based on the presence on suitable habitat include;

- Eastern Water Skink (*Sphenomorphus quoyii*)
- Grass Skink (*Lampropholis delicata*)
- Eastern Blue Tongue (*Tiliqua scincoides*)
- Red-bellied Black Snake (*Pseudechis porphyriacus*)
- Eastern Brown Snake (*Pseudonaja textilis*)

### **Threatened Species Search - Results**

A search was undertaken on Council's MapInfo Geographic Information System to locate threatened species records from the National Parks and Wildlife Service – Wildlife Atlas Database within 2 km of the Fagan Park site.

The following species has been recorded within 2 km of the site.

Flora	Fauna
<i>Melaleuca deanei</i>	Koala
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	Heath Monitor
	Powerful Owl

## DISCUSSION

The results of the flora and fauna survey indicate that the proposed showground site supports habitat for native flora and fauna species, although the site is in a modified and highly disturbed state.

### *Assessment of Impacts on Native Flora*

Native flora was observed on the site and is likely to be remnant of the past vegetation of the area prior to clearing for agricultural activities. The site would have originally supported Sydney Turpentine Ironbark Forest, as a remnant exists in nearby Carrs Bush. Although, species, which are found in Sydney Turpentine Ironbark Forest, are present, the site does not support a characteristic remnant of Sydney Turpentine Ironbark Forest due to the highly disturbed and modified nature of the site and the lack of tree and shrub species. The diversity of native flora is limited to mainly grasses and groundcovers. Scattered trees and shrubs exist, confined to areas around the existing dams and watercourse and along the eastern boundary. Native species observed included non-indigenous species that were planted in the past. A diversity of exotic species are present including common pasture weeds and those listed as Noxious Weeds under the *Noxious Weeds Act 1993*, such as Blackberry, Privet, Bridal Creeper, Camphor Laurel, Asparagus Fern and Fire Weed.

Existing threats such as mowing, weed invasion and rabbit infestation are continual and are further degrading the habitat value of the site for native flora. No significant flora species were observed on the site, including threatened species as listed under the *Threatened Species Conservation Act*, or Rare Or Threatened Australian Plants (ROTAPs). The proposed showground site does not support suitable habitat for threatened flora species.

### *Assessment of Impacts on Native Fauna*

Native fauna observed on or near the proposed showground site, with the exception of birds, were low in diversity and consists of species, which are relatively common in the Shire. No threatened fauna species were recorded on the subject site. The absence of an intact canopy and understorey, a modified habitat and the existing disturbances such as mowing, attribute to the low number of species and habitat present in the proposed development area. The time of the survey heading into the winter months was not optimal particularly for surveying amphibians and reptiles. However, threatened frog and reptile species known to occur in the Shire, including the Red-crowned Toadlet, Giant Burrowing Frog and the Heath Monitor are unlikely to be present based on the absence of suitable habitat. The Green and Golden Bell Frog has not been recorded in the Hornsby Shire and is unlikely to occur at Fagan Park. In addition, the site does not support viable threatened fauna habitat and is relatively isolated from large bushland reserves.

Although the site is mostly cleared and disturbed, and does not adjoin large areas of bushland, native fauna was found in this modified habitat. The conclusions of the Ambrose Ecological Services report on "Birds and their Habitat" (see Appendix 1) was that Fagan Park has moderate to high conservation value as habitat for native bird

species as it provides a broad diversity of habitats including wetlands, grasslands and forest (referring to the nearby Carrs Bush). Fagan Park provides habitat for two regionally significant bird species, the Cattle Egret and Latham's Snipe, both are protected under the Japan-Australia and China-Australia Migratory Bird Agreements. The Cattle Egrets were observed roosting in vegetation around the lower dams, and the Latham's Snipe, although was not recorded in the recent survey, has been previously recorded on site and would likely roost in tall pasture grasses within the drainage gully.

The Council report, *Fauna Corridors and Vegetation Links in Hornsby Shire* has identified Fagan Park as part of a bushland corridor. However, it is likely that bushland in nearby Carrs Bush would provide corridor value and not the proposed showground site due to the absence of bushland. The Ambrose Ecological Services report states, "*The major corridor for the movement of terrestrial birds through Fagan Park is Carrs Bush.*".

#### ***Assessment of Impacts on the downslope Carrs Bush***

The area north and downslope of the proposed development site known as Carrs Bush supports a significant remnant of Sydney Turpentine Ironbark Forest, listed as an endangered ecological community under the *Threatened Species Conservation Act 1995*. The remnant is approx. 7 ha. in size. Very few remnants of Sydney Turpentine Ironbark Forest remain on public land. In the Hornsby Shire remnants occur at Fagan Park, Reddy Park and Tim Brownscombe Reserve. The Fagan Park Plan of Management, dated September 1996, states, "*The bushland at Fagan Park represents probably the largest and best remnant of this type of forest in the Shire. Of particular significance is the stand in the upper area of Eucalyptus acmenoides (White Mahogany) which the Sydney Royal Botanic Gardens has described as the best remaining example in the Sydney area, which is at the southern limit of its natural spread*". The NSW Scientific Committee Final Determination (Appendix 2) states, "*It is estimated that only 0.5% of the original area of Sydney Turpentine Ironbark Forest exists in the form of a number of remnants*". Furthermore, the Hornsby Shire Threatened Biota Conservation Plan recommends that remnants not only be preserved but also conserved through long-term protection involving expansion and linking of remnants.

The significance of the downslope vegetation therefore needs to be taken into full consideration, particularly any indirect impacts such as changes in hydrology and drainage associated with the large-scale landform modification, including the relocation of an existing watercourse. In addition, other indirect impacts will be nutrient run-off associated with an increase number in horses and showground infrastructure (i.e. sewage and stormwater disposal). Increase nutrients will impact native vegetation and encourage weed infestation.

A Hornsby Council Bushcare Group, under the supervision of a qualified Bushcare Trainer employed by Council, has been carrying out bush regeneration within Carrs Bush since October 1999. In addition, Council has employed a contract bush regeneration team, to regenerate specified areas of Carrs Bush where there is weed invasion. The remnant is in reasonable condition, however, on-going maintenance will be required in the future (Pat Pike *pers. com*). There are concerns that the

proposed showground will result in run-off with high nutrients, which will promote weed growth and deterioration of the endangered Sydney Turpentine Ironbark Forest.

## CONCLUSIONS and RECOMMENDATIONS

The main concern with this proposal are the following;

- The large amount of excavation and landform modification required including the relocation of the watercourse. The existing dams and the surrounding environment provide habitat for native flora and fauna, including habitat for two significant bird species, the Cattle Egret and Latham's Snipe. The proposal is likely to impact on their habitat.
- Indirect impacts on the endangered Sydney Turpentine Ironbark Forest remnant, located downslope in Carrs Bush. Impacts will include changes to the drainage and hydrology (including ground and surface water), increased nutrient run-off associated with horses and additional infrastructure (i.e. sewage and stormwater disposal), sediment run-off during construction, and the long-term spread of weeds.

Given the location of a significant remnant of Sydney Turpentine Ironbark Forest in Carrs Bush, which is downslope of the proposed showground site, it is recommended that the "*precautionary principle*" of Ecological Sustainable Development (ESD) be used. Impacts, either direct or indirect, on the Sydney Turpentine Ironbark Forest *must* be avoided.

It is therefore recommended that further investigation on the following be undertaken:

- A qualified consultant to undertake a hydrological and geotechnical survey of the showground site to address the impacts on groundwater and surface water and the indirect impacts on the downslope Sydney Turpentine Ironbark Forest.

In addition, further information is required.

- A detailed soil and water management plan should be prepared to the satisfaction of Council's Water Catchments and Bushland and Biodiversity Management Teams which address the issues of increased nutrient and stormwater run-off from the showground site (during and post development), and sediment and erosion control.
- A detailed Landscape Plan should be prepared by a qualified consultant. The Plan should be to the satisfaction of Council's Bushland and Biodiversity Management Team. The Plan should include planting of indigenous native species (trees, shrubs and groundcovers), which occur in the Sydney Turpentine Ironbark Forest in Carrs Bush. All native plants are to be grown from local seed to retain the genetic diversity.



Furthermore, all recommendations in the Ambrose Ecological Services Report (Appendix 1), in regards to the impacts on birds, in particular the significant species, Cattle Egret and Latham's Snipe, must be complied with.

## **REFERENCES**

ESP Ecological Surveys and Planning P/L (1999), *Hornsby Shire Threatened Biota Conservation Plan*, Hornsby Shire Council.

Fallding M, Hoyer G, Turner R, Vollmer J, and Berghout M (1994), *Fauna Corridors and Vegetation Links in Hornsby Shire*, Hornsby Shire Council.

Parks and Landscape Team (1996), *Fagan Park Plan Of Management*, (Adopted in May 1997), Hornsby Shire Council.

## **ACKNOWLEDGEMENT**

Greg Daley, Acting Environmental Scientist (Water Quality), Water Catchment Team, Environment Division of Hornsby Shire Council.

Karen Thumm, local frog specialist.

## **APPENDIX 1**

### **Assessment of Potential Impacts of Proposed Horse Showground on Birds and Their Habitat in Fagan Park Galston.**

*Assessment of Potential  
Impacts of Proposed  
Horse Showground on Birds  
and Their Habitats in  
Fagan Park, Galston.*

*Prepared For :*  
**Hornsby Shire Council**  
PO Box 37,  
HORNSBY NSW 2077

30 June 2002  
Report No. : 200215rp1

*Prepared By :*  
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Report No. 200215rp1

This report has been prepared in accordance with the scope of services described in the contract or agreement between Ambrose Ecological Services Pty Ltd (Ambecol) and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and Ambecol accepts no responsibility for its use by other parties.

Author:	Dr Stephen Ambrose
Position:	Director, Ambrose Ecological Services Pty Ltd
Signed:	
Date:	30 June 2002

# INTRODUCTION

## 1.1 INTRODUCTION

The purpose of this report is to predict potential impacts of the proposed development and operation of a horse showground on the status of bird species and their habitats in Fagan Park, Galston.

In particular, targeted surveys for threatened and regionally significant bird species and populations were conducted in Fagan Park and the need for a Species Impact Statement was investigated. Measures for managing bird populations and their habitats in parts of Fagan Park that may potentially be impacted by the proposed showground are also presented.

## 1.2 SUBJECT SITE

Fagan Park is c. 55 ha in area and is located in Galston in the Hornsby Local Government Area. It is bounded to the west and south-west by Arcadia Road, to the north by Carr's Road, to the east in by Bayfield Road and to the south-east by a private rural property.

The Park is a highly modified environment located in at the interface between suburban metropolitan Sydney and rural areas. Most of the native vegetation in Fagan Park has been cleared and the property was previously used as an orchard and for grazing cattle before it was converted to a public Park.

Most of Fagan Park is landscaped and consists of lawned picnic areas, 10 ha of landscaped gardens and children's playgrounds. Three man-made farm dams are located in the eastern regions of the Park. Remnant Sydney Turpentine Ironbark Forest, named Carrs Bush, is located in the northern sections of the Park and along the western boundary and is c. 26 ha in area.

The development of a horse showground has been proposed on the neighbouring rural property along the south-eastern boundary of Fagan Park. This rural property has previously been used to graze cattle. It is understood that works for such a development will require extensive earthworks to level the slope of the land. This land currently slopes downwards towards the south-eastern boundary of Fagan Park. Therefore, it is important to investigate the potential of the construction and operation of the showground impacting on native fauna and flora habitat in parts of Fagan Park that are immediately downslope to the proposed development site.

Areas of bird habitat within Fagan Park that may be impacted on by the proposed development include the grassed areas and farm dams in the eastern half of the Park and the Sydney Turpentine Ironbark remnant. Therefore, these areas were surveyed and assessed for their important as habitat for native birds in the present study.

## 1.3 LEGISLATION PROTECTING NATIVE BIRDS IN NEW SOUTH WALES

Statutory planning instruments relevant to the protection of native fauna and their habitats on the subject site include:

### *(a) NSW Environmental Planning and Assessment Act, 1979*

This Act (*EP&A Act 1979*) ensures that environmental issues are considered in assessing development or activity proposals and as such legislates for procedures used in the

preparation of Local and Regional Environmental Plans, Development Control Plans, Local Environmental Studies and Environmental Impact Statements.

Under Section 5A of the *EP&A Act 1979*, the 'Eight Part Test' is the process used to assess whether a proposed development or activity is likely to have a significant effect on threatened species, populations, ecological communities, or their habitats.

**(b) NSW Threatened Species Conservation Act, 1995**

The proposed development of the subject site requires assessment and approval under Part 5 of the *Environmental Planning and Assessment Act 1979 (EP&A Act 1979)*. This Act, as amended by the *Threatened Species Conservation Act 1995 (TSC Act 1995)*, requires that the proposal be assessed to determine any impacts on threatened species, populations and ecological communities (threatened biota), or their habitats. Threatened biota are listed under Schedules 1, 2 and 3 of the *TSC Act 1995*.

Part 5A of the *EP&A Act 1979* lists eight factors that must be considered in determining whether a proposal or activity is likely to have a significant effect on threatened biota or their habitats. This assessment is called the "Eight-Part Test of Significance". If an Eight-Part Test determines that a proposed development has or is likely to have a significant effect or occupy land identified in the *TSC Act 1995* as critical habitat, then a SIS is required and must be prepared in accordance with Sections 109, 110 and 111 of the *TSC Act 1995* and Part 5 of the *EP&A Act 1979*.

**(c) Commonwealth Environmental Protection and Biodiversity Conservation Act 1999**

A proposed development or activity will trigger the EPBC Act, and will require Commonwealth assessment and approval, if it significantly impacts on:

- World Heritage properties;
- Ramsar wetlands of international importance;
- nationally threatened flora and fauna species and communities;
- migratory fauna species protected under international agreements;
- the Commonwealth marine environment; or
- nuclear actions, including uranium mining.

Unlike the Eight-Part Test established under Part 5A of the *EP&A Act 1979*, there are no formal administrative assessment procedures for assessing the impacts of a proposed development or activity on nationally significant species or their habitats. However, the Guidelines of Significance associated with the *EPBC Act 1999* have been drawn up by the Commonwealth Government. These state that an action has, will have, or is likely to have a significant impact on nationally threatened species and communities, or migratory species protected under international treaties, if it does, will, or is likely to:

- reduce the area of occupancy of the species, or
- fragment an existing population into two or more populations, or
- adversely affect habitat that is critical to the survival of a species, or
- disrupt the breeding cycle of a population, or
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful to a critically endangered species, becoming established in the endangered or critically endangered species' habitat (e.g. by direct competition, modification of habitat, or predation), or
- interfere with the recovery of the species.

**(d) Japan-Australia Migratory Bird Agreement, 1974 (JAMBA)**

JAMBA is a treaty between the Japanese and Australian Governments that aims to protect bird species that migrate seasonally between Japan and Australia, as well as their habitats in each of these countries. Bird species that are listed under JAMBA are listed in the schedules of the EPBC Act.

Article VI of the JAMBA states:

*"Each Government shall endeavour to take appropriate measures to preserve and enhance the environment of birds protected under the provisions of this Agreement. In particular, it shall:*

- (a) seek means to prevent damage to such birds and their environment;*
- (b) endeavour to take such measures as may be necessary to control the importation of animals and plants which it determines to be hazardous to the preservation of such birds; and*
- (c) endeavour to take such measures as may be necessary to control the introduction of animals and plants which could disturb the ecosystems of unique island environments."*

**(d) China-Australia Migratory Bird Agreement, 1986 (CAMBA)**

CAMBA is a treaty between the Chinese and Australian Governments that aims to protect bird species that migrate seasonally between China and Australia, as well as their habitats in each of these countries. Bird species that are listed under CAMBA are listed in the schedules of the EPBC Act.

Article IV of the CAMBA states:

*" Each Contracting Party shall endeavour, in accordance with its laws and regulations in force, to:*

- (a) establish sanctuaries and other facilities for the management and protection of migratory birds and also their environment; and*
- (b) take appropriate measures to preserve and enhance the environment of migratory birds. In particular, each Contracting Party shall:*
  - (i) seek means to prevent damage to migratory birds and their environment, and*
  - (ii) endeavour to take such measures as may be necessary to restrict or prevent the importation and introduction of animals and plants which (sic) are hazardous to the preservation of migratory birds and the environment "*

## **1.4 STRUCTURE OF THE REPORT**

The remainder of this report presents the results of field and desk top surveys of bird species that occur or potentially occur in Fagan Park, an analysis of the Park's importance for native birds, and predicts the potential impacts of the proposed development on native bird species and bird habitat values of the Park. The structure of the remaining chapters is outlined below:

*Chapter 2* presents the methods used in conducting the bird and habitat surveys and assessment of the conservation importance of Fagan Park (referred to as the "subject site").

*Chapter 3* presents the results of the surveys and analyses of the bird and habitat values of the subject site.

*Chapter 4* discusses the potential impacts of the proposed showground on bird species and their habitats in Fagan Park. It also presents some recommendations for reducing or avoiding these impacts.

## 2

# METHODOLOGY

### 2.1 INTRODUCTION

Bird and bird habitat issues relating to the showground development application were identified by reviewing relevant literature and databases, conducting a field survey and consulting with representatives of stakeholder groups. The methods by which this information was collected and analysed are presented below.

### 2.2 LITERATURE AND DATABASE SURVEY

Existing literature relevant to the subject site, in particular technical environmental reports produced by other consultancies and Hornsby Shire Council, were reviewed to determine the presence of terrestrial and aquatic habitats and communities, and bird species and populations of conservation significance within the Hornsby Local Government Area.

Bird species and populations considered threatened in NSW are listed in Schedules 1 and 2 of the TSC Act 1995. There are legislative ramifications if any Schedule 1 or 2 species are present in an area proposed for development and neighbouring areas (See Chapter 1).

Records of bird species and populations, listed under the TSC Act 1995 and EPBC Act 1995, and species of regional conservation significance, were obtained from databases for a 10 km radius around the subject site. This area is defined in the remainder of the report as the "locality".

The following databases were accessed for this information:

- NPWS Wildlife Atlas Database;
- NSW Cumberland Bird Observers' Club Atlas Database;
- NSW Bird Atlas Database;
- Birds Australia Atlas Database (1977-81 and 1998 onwards);
- Australian Bird Count (ABC) Database; and
- EPBC Database.

These databases only contain indicative records of flora and fauna species in the locality and not the result of a systematic flora and fauna survey. Database records for subject species varied in quality, reliability and accuracy of the geographic co-ordinates. Therefore, some species records are highly accurate in space and time, others are more tentative or only contain estimates of geographical locations. For instance, records from the NPWS Wildlife Atlas Database have an accuracy of 1 km and the co-ordinates provided to the consultants are of the south-west corner of each 1 km grid.



## 2.3 FIELD SURVEY

### 2.3.1 *Timing of Surveys and Survey Methods*

An ornithological survey of Fagan Park was conducted on 27 May 2002 to examine, describe and map bird habitats and to record bird species on the subject site. This included a diurnal survey (1230–1645 hrs) of birds and their habitats throughout Fagan Park and a targeted nocturnal survey for owl species in Carrs Bush (1730–2000 hrs).

The diurnal survey was conducted by traversing the subject site on foot and by sitting near the farm dams and recording what bird species were encountered. Bird species were identified by sight and/or their calls.

During the nocturnal survey, taped recordings of Powerful Owls, Barking Owls, Sooty Owls and Masked Owls were played through a 9-volt megaphone and then the observers listened and watched for responses from individuals of these species that may have been in the area. Taped recordings of each species were played for 10 minutes, followed by a 5-minute listening period. Visual searches for owls at night were conducted with hand-held spot lights. These procedures were repeated twice for each species, and if there was no response to playback calls, it was assumed that the species was not in the immediate area. Carrs Bush was considered the only part of the subject site containing potential habitat for owls and so the nocturnal surveys were confined to that area.

Christidis & Boles (1994) and Simpson & Day (1998) were used to identify and classify bird species that were present on the subject site.

### 2.3.2 *Presence of Native Bird Habitats*

It was not possible to determine with certainty all the bird species that use habitats on the subject site. This is because of the likely seasonal occurrences of some bird species, the occasional occurrence of vagrant species, and because some birds are difficult to detect as a result of their timid or cryptic behaviour. Therefore, the field survey also comprised an assessment of bird habitats present in the eastern half of Fagan Park and determined their potential to support native bird populations and, in particular, threatened species.

The assessment criteria include:

- vegetation structure, that is, the extent and nature of canopy, midstorey, understorey and ground strata;
- the nature and extent of flowering at the time of surveys and at other times of the year.
- potential importance of habitats as corridor links for the movement of bird species through the area.
- presence/absence of hollow-bearing trees for breeding and shelter;
- presence and quality of water for drinking, bathing, loafing and sheltering;
- presence and extent of mudflats in and around the wetland for foraging, resting and loafing;
- presence and identification of old and current nests;
- presence of parasitic bird species, e.g. cuckoo species thus betraying the presence of their host bird species; and
- evidence of droppings, pellets, diggings or footprints.

# 3

## RESULTS

### 3.1 INTRODUCTION

This chapter presents the results of additional field work and literature and database surveys in assessing the importance of the subject land as native bird habitat.

### 3.2 BIRD HABITATS

There are three main bird habitats in the eastern half of Fagan Park that have the potential of being impacted on by the proposed showground. These are:

- Waterbodies;
- Grassland areas; and
- Sydney Turpentine Ironbark Forest (Carrs Bush)

Each of these habitats are described below:

#### *(a) Waterbodies*

**Occurrence:** The three dams in the eastern part of the site and its associated vegetation. For the purpose of this report the northernmost dam is referred to as Dam 1, the middle dam as Dam 2, and the southernmost dam as Dam 3.

**Vegetation Communities:** *Typha* spp. occur in the northern, north-western and south-western areas of Dam 1 and are sparsely distributed along the edges of Dam 2. A relatively dense stand of trees and understorey, consisting mostly of exotic trees and bushes, occurs along the bank that separates Dams 1 and 2. The deep water in these two dams is suitable for most waterfowl species and aquatic weed that grows there attracts waterfowl including Black Swans. Dam 3 has little vegetative cover and no reeds; it has deep water and steep banks and has little value as habitat for waterbirds.

**Habitat Elements:** The dams are foraging, roosting and resting areas for a broad range of waterfowl and other wetland bird species. They are likely to provide refuge for waterbirds that are displaced from other areas that are affected by prolonged drought.

The *Typha* vegetation would provide minimal cover and breeding habitat for aquatic birds. However, the shallow water near the banks of the dams provide suitable foraging habitat for coots, swamphens, egrets, herons and some waterfowl species. The relatively steep banks and deep water would make the dams unsuitable as foraging habitat for most wader species.

Latham's Snipe, known to occur in this part of Fagan Park, may potentially use the vegetation between Dams 1 and 2 for roosting and as refuge, and this bank as a foraging area. This vegetation is used as a nocturnal roost by a colony of up to 50 Cattle Egrets.

**Human Influences:** Weeds, particularly the Blackberry, have invaded parts of the dam vegetation. This area is also eroded and weed infestation of disturbed areas is also prevalent.

#### *(b) Grassland*

**Vegetation Communities:** Introduced and native grasses, including lawned areas.

**Habitat Elements:** Although grassland areas would provide minimal cover for most bird species, it provides foraging habitat for a range of wetland and terrestrial species such as Purple Swamphens, Cattle Egrets, Spur-winged Plovers, Australian Wood Ducks, Galahs, White Ibis, Willie Wagtail, Magpie-lark and Australian Magpie. Long grass growing along a drainage gully that runs from the southern boundary of Fagan Park to the dams is likely to provide roosting and foraging habitat for Latham's Snipe, a regionally significant species. Cattle Egrets and Latham's Snipe, and their habitats, are protected under the Japan-Australia and China-Australia Migratory Bird Agreements.

**Human Influences:** This habitat has been highly modified by grazing of domesticated animals and the invasion of weeds. Grassland areas within and around picnic areas are manicured lawns.

### (c) Sydney-Turpentine Ironbark Forest

**Occurrence:** Northern area of Fagan Park and along the western boundary.

**Vegetation Communities:** Sydney-Turpentine Ironbark Forest. The upper canopy is dominated by Sydney Turpentine (*Syncarpia glomulifera*), Grey Ironbark (*Eucalyptus paniculata*) and Sydney Red Gum (*Angophora costata*). Typical understorey plant species include Wombat Berry (*Eustrephus latifolius*), Blueberry Ash (*Eleocarpus reticulatus*), Apple Berry (*Billardiera scandens*), Elderberry Panax (*Polyscias sambucifolia*) and Rough Fruit Pittosporum (*Pittosporum revolutum*). Most of the understorey vegetation is intact in the forested areas in the northern part of the park, but has been removed and replaced by lawn in the picnic areas along the western boundary of the park. A creekline with associated riparian vegetation runs through the forest in the northern part of the park in a roughly north-south direction.

**Habitat Elements:** The average height of the upper canopy is 25-30 m, with the diameters of trees at breast height ranging from 20-50 cm. The upper canopy is likely to provide food for nectarivorous bird species (e.g. honeyeaters) and insectivorous bird species (e.g. pardalotes and silveryeyes). The understorey and ground litter provides foraging and breeding habitat for fairy-wrens, thornbills and White-browed Scrubwrens, particularly along the drainage line. There are several hollow-bearing trees that would be suitable as nest or roost trees for owl species. However, Carrs Bush is unlikely to be part of a permanent territory of any owl species that occur in the Hornsby Shire because of the small size of the remnant and its relative isolation from other vegetation remnants.

**Human Influences:** The understorey in the forest along the western boundary of the park has been removed and replaced by lawn. Most of the understorey and ground cover in the remaining parts of the forest has been retained. A bushfire appears to have spread to parts of the forest in the northern part of the park within the last few years. A bush regeneration program is underway in Carrs Bush which includes weed removal, planting of native saplings and provision of hollow logs at ground level.

## 3.3 BIRD SPECIES

### 3.3.1 Bird Species Recorded in Fagan Park

One hundred and two bird species have been recorded in Fagans Park (Table 3.1). Thirty-four of these species (c. 33%) were recorded during the 27 May 2002 survey.

**Table 3.1 BIRD SPECIES RECORDED IN FAGANS PARK**

Common Name	Scientific Name	Recorded during 27 May 2002 survey	Database and Literature Records
Brown Quail	<i>Coturnix pectoralis</i>		X
Black Swan	<i>Cygnus atratus</i>	X	X
Blue-billed Duck	<i>Oxyura australis</i>	X	
Australian Wood Duck	<i>Chenonetta jubata</i>	X	X
Pacific Black Duck	<i>Anas superciliosa</i>		X
Grey Teal	<i>Anas gibberifrons</i>	X	
Chestnut Teal	<i>Anas castanea</i>	X	X

Common Name	Scientific Name	Recorded during 27 May 2002 survey	Database and Literature Records
Pink-eared Duck	<i>Malacorhynchus membranaceus</i>		X
Hardhead	<i>Aythya australis</i>		X
Australasian Grebe	<i>Tachybaptus novaehollandiae</i>	X	X
Hoary-headed Grebe	<i>Poliiocephalus poliocephalus</i>		X
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>	X	X
Darter	<i>Anhinga melanogaster</i>	X	
Australian Pelican	<i>Pelecanus conspicillatus</i>		X
White-faced Heron	<i>Egretta novaehollandiae</i>		X
White-necked Heron	<i>Egretta pacifica</i>		X
Cattle Egret	<i>Ardea ibis</i>	X	X
Australian Night Heron	<i>Nycticorax caledonicus</i>		X
Australian White Ibis	<i>Threskiornis aethiopica</i>	X	X
Straw-necked Ibis	<i>Threskiornis spinicollis</i>		X
Royal Spoonbill	<i>Platalea regia</i>		X
Pacific Baza	<i>Aviceda subcristata</i>		X
Black-shouldered Kite	<i>Elanus notatus</i>		X
Whistling Kite	<i>Milvus sphenurus</i>		X
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		X
Brown Goshawk	<i>Accipiter fasciatus</i>		X
Little Eagle	<i>Hieraaetus morphnoides</i>		X
Baillon's Crake	<i>Porzana pusilla</i>		X
Purple Swamphen	<i>Porphyrio porphyrio</i>	X	X
Dusky Moorhen	<i>Gallinula tenebrosa</i>	X	X
Eurasian Coot	<i>Fulica atra</i>	X	X
Latham's Snipe	<i>Gallinago hardwickii</i>		X
Black-fronted Plover	<i>Charadrius melanops</i>		X
Masked Lapwing	<i>Vanellus miles</i>	X	X
Rock Dove	<i>Columba livia</i>	X	X
Spotted Turtle-dove	<i>Streptopelia chinensis</i>		X
Brown Cuckoo-Dove	<i>Macropygia macroinensis</i>		X
Crested Pigeon	<i>Geophaps lophotes</i>	X	X
Yellow-tailed Black-Cockatoo	<i>Calyptorhynchus funereus</i>		X
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	X	X
Galah	<i>Cacatua roseicapilla</i>	X	X
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>		X
Australian King Parrot	<i>Alisterus scapularis</i>		X
Crimson Rosella	<i>Platycercus elegans</i>		X
Eastern Rosella	<i>Platycercus eximius</i>	X	X
Fan-tailed Cuckoo	<i>Cuculus flabelliformis</i>		X
Common Koel	<i>Eudynamis scolopacea</i>		X
Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>		X
Tawny Frogmouth	<i>Podargus strigoides</i>		X
Laughing Kookaburra	<i>Dacelo novaeguineae</i>		X
Little Grassbird	<i>Megalurus gramineus</i>		X
Common Starling *	<i>Sturnus vulgaris</i>		X
Sacred Kingfisher	<i>Todirhamphus sancta</i>		X
Dollarbird	<i>Eurystomus orientalis</i>		X
White-throated Treetreeper	<i>Cormobates leucophaea</i>	X	X
Superb Fairy-wren	<i>Malurus cyaneus</i>	X	X
Variiegated Fairy-wren	<i>Malurus lamberti</i>		X
Spotted Pardalote	<i>Pardalotus punctatus</i>		X
White-browed Scrubwren	<i>Sericornis frontalis</i>	X	X
Brown Gerygone	<i>Gerygone mouki</i>		X
White-throated Gerygone	<i>Gerygone olivacea</i>		X
Brown Thornbill	<i>Acanthiza pusilla</i>	X	X
Yellow Thornbill	<i>Acanthiza nana</i>		X
Little Wattlebird	<i>Anthochaera lunulata</i>	X	X
Noisy Friarbird	<i>Philemon corniculatus</i>		X
Noisy Miner	<i>Manorina melanocephala</i>	X	X
Lewin's Honeyeater	<i>Meliphaga lewinii</i>		X
Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>		X
Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>		X
Jacky Winter	<i>Microeca leucophaea</i>		X
Rose Robin	<i>Petroica rosea</i>		X
Eastern Yellow Robin	<i>Eopsaltria australis</i>		X
Eastern Whipbird	<i>Psophodes olivaceus</i>		X
Varied Sitella	<i>Daphoenositta chrysoptera</i>		X
Golden Whistler	<i>Pachycephala pectoralis</i>		X

Common Name	Scientific Name	Recorded during 27 May 2002 survey	Database and Literature Records
Rufous Whistler	<i>Pachycephala rufiventris</i>		X
Grey Shrike-thrush	<i>Colluricincla harmonica</i>		X
Leaden Flycatcher	<i>Myiagra rubecula</i>		X
Magpie-lark	<i>Grallina cyanoleuca</i>	X	X
Rufous Fantail	<i>Rhipidura rufifrons</i>		X
Grey Fantail	<i>Rhipidura fuliginosa</i>		X
Willie-Wagtail	<i>Rhipidura leucphrys</i>	X	X
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>		X
White-bellied Cuckoo-shrike	<i>Coracina papuensis</i>		X
Olive-backed Oriole	<i>Oriolus sagittatus</i>		X
Masked Woodswallow	<i>Artamus personatus</i>		X
White-browed Woodswallow	<i>Artamus superciliosus</i>		X
Dusky Woodswallow	<i>Artamus cyanopterus</i>		X
Grey Butcherbird	<i>Cracticus torquatus</i>		X
Pied Currawong	<i>Strepera graculina</i>	X	X
Australian Magpie	<i>Gymnorhina tibicen</i>	X	X
Australian Raven	<i>Corvus coronoides</i>	X	X
Richard's Pipit	<i>Anthus novaeseelandiae</i>	X	X
House Sparrow #	<i>Passer domesticus</i>		X
Double-barred Finch	<i>Taeniopygia bichenovii</i>		X
Nutmeg Mannikin #	<i>Lonchura punctulata</i>		X
Welcome Swallow	<i>Hirundo neoxena</i>	X	X
Fairy Martin	<i>Hirundo ariel</i>		X
Clamorous Reed-warbler	<i>Acrocephalus stentoreus</i>		X
Silvereye	<i>Zosterops lateralis</i>	X	X
Common Mynah #	<i>Acridotheres tristis</i>	X	X
<b>TOTAL SPECIES</b>		<b>34</b>	<b>102</b>

### 3.3.2 Threatened Bird Species

Threatened bird species that have been detected in the Hornsby Shire, their habitat requirements, and their likelihood of occurring in Fagan Park are shown in Table 3.2.

No threatened bird species have previously been recorded in the study area and none was detected during the present study.

Carrs Bush is potential habitat for the following threatened bird species: Barking Owl, Powerful Owl, Masked Owl, Sooty Owl, Black-breasted Buzzard, Grey Falcon, Superb Fruit-Dove, Turquoise Parrot, Superb Parrot and Regent Honeyeater. The latter six species are at best only likely to occur as occasional vagrants. The four owl species are regarded as sedentary species which hold territories throughout the year. None of the owl species were detected in Carrs Bush and are unlikely to occur there because of the relatively small area of bushland available and the geographical isolation of the remnant from other forest remnants.

The farm dams provide potential habitat for two threatened species: Magpie Goose and the Black Bittern. The Magpie Goose may occur on the dams as a very occasional vagrant. Black Bitterns may potentially use the vegetated banks of the dams as foraging and roosting habitat. However, they have not been recorded there despite targeted surveys and they are not likely to ever occur there because of the marginality of the habitat.

### 3.3.3 Regionally Significant Bird Species

Two regionally significant bird species, the Cattle Egret and Latham's Snipe, have been recorded in Fagan Park. Both of these species and their habitats are protected under the Japan-Australia Migratory Bird Agreement (JAMBA) and China-Australia Migratory Bird Agreement (CAMBA).

A colony of about 50 Cattle Egrets was observed roosting in the vegetation along the bank separating Dams 1 and 2 during the 27 May 2002 nocturnal survey. No Cattle Egrets were observed in Fagan Park during the diurnal survey, but the grassland areas surrounding the

dams provide potential foraging habitat for them. Cattle Egrets may occupy roosts all year, part of the year or briefly during migration (Marchant & Higgins 1990), but the degree of permanency of the roost in Fagan Park is not known.

The Latham's Snipe is a non-breeding visitor to south-eastern Australia from late August to early February (Higgins & Davies 1996). In Australia, this species prefers open freshwater wetlands with cover nearby, especially fresh meadows. Latham's Snipe forage on soft mud

Table 3.2 THREATENED BIRD SPECIES DETECTED IN THE HORNSBY SHIRE

Scientific Name	Common Name	EPBC Act Status	TSC Act Status	Habitat Requirements and Likelihood of Occurrence	Eight Part Test required.
<i>Anseranas semiplamata</i>	Maggie Goose		V	Coastal wetlands and floodplains, especially swamps. Occasionally seen flying along the coastline. May occur on the farm dams within Fagans Park as an occasional vagrant.	No
<i>Burhinus grallarius</i>	Bush Stone-curlew		E	Open grassed woodlands and sparsely treed rangelands, and edges of forests and watercourses. No habitat available. Unlikely to occur.	No
<i>Ixobrychus flavicollis</i>	Black Bittern		V	Rests in waterside vegetation and emerges at dusk and dawn to hunt for fish, amphibians, molluscs and insects. Potential habitat occurs in vegetation on the banks of farm dams. Not recorded on subject site.	No
<i>Charadrius mongolus</i>	Lesser Sand Plover		V	Favours coastal habitats including beaches, mudflats and mangroves. In NSW, most often seen on intertidal sand and mudflats in estuaries or roosting on sandy beaches or rocky shores at high tide. No habitat available. Unlikely to occur.	No
<i>Limosa limosa</i>	Black-tailed Godwit		V	Usually occurs on tidal flats; occasionally occurs on inland wetlands. No habitat available. Unlikely to occur.	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher		V	Usually occurs around exposed rocky parts of wave-cut shore platforms, on rocky promontories and stony beaches. No habitat available. Unlikely to occur.	No
<i>Diomedea exulans</i>	Wandering Albatross	V*	E	Found in southern Australian coastal waters. Individuals commonly seen foraging off the NSW coastline in winter months. No habitat available. Unlikely to occur.	No
<i>Sterna albifrons</i>	Little Tern	E*	E	Nests on sand or shingle beaches, in colonies. No habitat available. Unlikely to occur.	No
<i>Pandion haliaetus</i>	Osprey		V	Coasts and inlets of larger rivers around Australia. No habitat available. Unlikely to occur.	No
<i>Falco hypoleucos</i>	Grey Falcon		V	Occurs in open grassy woodlands of inland Australia. Vagrants may very occasionally disperse to coastal regions, especially in periods of prolonged drought	No
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard		V	Occurs in open woodlands and savannas of inland Australia. Vagrants may very occasionally disperse to coastal regions, especially in periods of prolonged	No

Scientific Name	Common Name	EPBC Act Status	TSC Act Status	Habitat Requirements and Likelihood of Occurrence	Eight Part Test required.
<i>Ptilinopus superbus</i>	Superb Fruit-Dove		V	drought. Edges of rainforests and eucalypt and acacia woodland wherever there are fruit-bearing trees. Potential habitat occurs in Carrs Bush. Unlikely to be impacted on by proposal.	No
<i>Cacatua leadbeateri</i>	Major Mitchell's Cockatoo			Occurs in mallee, mulga, Murray Pine and sheoak associations west of the Great Dividing Range. Individuals observed east of the Range are usually escapees from captivity. Unlikely to occur in Fagan Park.	No
<i>Calaptorhynchus lathamii</i> (Temmink, 1807)	Glossy Black-Cockatoo		V	Eucalypt forests of eastern Australia. Feeds exclusively on <i>Allocasuarina</i> (sheoak) seeds, particularly <i>A. littoralis</i> and <i>A. torulosa</i> . No available habitat.	No
<i>Neophema pulchella</i>	Turquoise Parrot		V	Steep, rocky ridges and gullies, rolling hills, valleys and river flats and the nearby plains of the Great Dividing Plain. Potential habitat occurs on the edges of Carrs Bush. May also occasionally drink from farm dams. Fagans Park is on the edge of the known range of this species and is only likely to occur as an occasional visitor.	No
<i>Polytelis swainsonii</i>	Superb Parrot	V*	V	Woodlands of western watershed of Great Dividing Range, NSW. Potential habitat occurs in Carrs Bush. May also occasionally drink from farm dams. It is only likely to occur as an occasional visitor to Fagans Park.	No
<i>Ninox connivens</i>	Barking Owl		V	Inhabits forest, woodland and most common in savannah. Potential habitat occurs in Carrs Bush. Not recorded in Fagans Park despite targeted surveys.	No
<i>Ninox strenua</i> (Gould, 1838)	Powerful Owl		V	Wet sclerophyll forest along coast hills and Great Dividing Range. More recently observed in urban areas where they search for common prey items such as possums and flying foxes. Potential habitat occurs in Carrs Bush. Not recorded in Fagans Park despite targeted surveys.	No
<i>Tyto novaehollandiae</i>	Masked Owl		V	Occurs in forest, savanna woodland and treeless areas with caves over much of Australia except central Australia and arid areas of Western Australia. Potential habitat occurs in Carrs Bush. Not recorded in Fagans Park despite targeted surveys.	No
<i>Tyto tenebricosa</i> (Gould 1845)	Sooty Owl		V	Rainforests, particularly rainforest gullies overtopped by eucalypts, along eastern scarp of	No



Scientific Name	Common Name	EPBC Act Status	TSC Act Status	Habitat Requirements and Likelihood of Occurrence	Eight Part Test required.
<i>Xanthomyza phrygia</i> (Shaw, 1794)	Regent Honeyeater	E*	E	Great Dividing Range. Potential habitat occurs in Carrs Bush. Not recorded in Fagans Park despite targeted surveys. Semi-nomadic, occurring in temperate eucalypt woodland forest in south-eastern Australia. Most records are from box-ironbark forests dominated by Swamp Mahogany, Spotted Gum and Riverina Casuarina woodlands. Potential habitat occurs on the edges of Carrs Bush. May also occasionally drink from farm dams. Fagans Park is on the edge of the known range of this species and is only likely to occur as an occasional visitor.	No

Habitat requirements for birds taken from Simpson & Day (1998).

\* = Listed under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act).

E = Endangered under Schedule 1 of the NSW Threatened Species Conservation Act 1995 (TSC Act).

E\* = Endangered under Schedule 1 of the TSC Act and EPBC Act.

V = Vulnerable under Schedule 2 of the TSC Act.

V\* = Vulnerable under Schedule 2 of the TSC Act and EPBC Act.

in open or open bare mud between vegetation (McGarvie & Templeton 1974; Frith *et al.* 1977) They roost during the day in vegetation near feeding areas, usually beside or under clumps of vegetation, sometimes in dense copses of tea-trees. In agricultural areas they sometimes roost in unvegetated drainage ditches or bare furrows of ploughed paddocks (Higgins & Davies 1996). Latham's Snipe are easily disturbed by people and grazing cattle (Naarding 1983), although they are sometimes recorded in wetlands prone to disturbance, e.g. near industrial complexes, next to roads, railways, airfields and within school grounds (Gill 1970; Naarding 1982, 1983).

Latham's Snipe were not observed at Fagan Park during the 27 May 2002 survey because they would have been at their breeding grounds in northern Japan and eastern mainland Asia. However, they are recorded each summer at the farm dams and in the adjoining pasture areas (Joan Macgregor, pers. comm). The NSW Bird Atlas records Latham's Snipe occurring in Fagan Park between October and February each year since 1994. There is no information about the numbers of Latham's Snipe occurring in Fagan Park, but Higgins & Davies (1996) indicate that in Australia this species usually occurs singly or in loose groups, and occasionally gather in larger groups of several dozen.

### 3.4 ASSESSMENT OF CONSERVATION VALUE

#### 3.4.1 Introduction

The conservation value of the bird habitats in Fagan Park has been determined by reference to the following criteria:

- ❑ *representativeness* – whether the habitats are unique, typical or common in the region. In addition, this criterion takes into account whether or not such habitats are presently held in reserves;
- ❑ the existence of *rare* and *restricted* bird species adds to an area's conservation value;
- ❑ the *degree of naturalness* is used to indicate the extent of human influence and to identify the condition of the habitats;
- ❑ the *presence of special natural features* is used to indicate the uniqueness of the subject site, because unusual natural features may be present which are not normally associated with a particular habitat type;
- ❑ the *size* of the area has implications for the area's ability to absorb disturbance and its carrying capacity for bird populations; and
- ❑ *links* to other natural areas provide corridors for the dispersal of bird species, and thus increase the area's significance.

These criteria are considered below.

#### 3.4.2 Representativeness

Vegetation and wetland communities and associated bird habitats occurring in Fagans Park (forest remnants, farm dams grassland and creeklines) also occur throughout much of outer northern and western Sydney. Due to much of the subject site being cleared for farming and human recreation, bird habitats such as tree hollows and corridor links are limited.

#### 3.4.3 Rare and Restricted Species

Potential habitat for twelve threatened bird species and actual habitat for two regionally significant bird species occurs in Fagans Park. These species are discussed in detail in Sections 3.3.2 and 3.3.3 and Chapter 4.

#### 3.4.4 Degree of Naturalness

Most of Fagans Park has been extensively cleared by past clearing activities, disturbed by grazing, and subsequently landscaped as gardens playgrounds which has significantly altered the general environment. As a result, few native plant species remain, except in Carrs Bush, and a large number of weed species, exotic plants and pasture grasses occur on site.

### 3.4.5 *Special Natural Features*

No special natural features were identified in the study area.

### 3.4.6 *Size*

The amount of remnant vegetation in Fagans Park is minimal and is largely restricted to Carrs Bush.

### 3.4.7 *Corridor Links*

#### *(a) Wildlife Corridors & Principles*

Wildlife corridors allow movement of flora and fauna between patches of wildlife habitat (Soule & Gilpin 1991). The preservation or establishment of corridors to link habitats has been proposed as a practical conservation measure to ameliorate habitat loss and fragmentation effects (Bennett 1990).

Corridor habitats are thought to help conserve invertebrates, can protect certain forest types, act as fauna refuges, link adjoining reserve areas and provide shelter and nesting sites for fauna (Taylor 1991).

It is essential for a corridor to have the following characteristics if they are to be effective:

- ❑ Vegetated corridors that comprise a mosaic of different habitats are considered more likely to contain the necessary food, shelter and nesting resources for fauna. Seasonal resource requirements are essential for survival and may only be found between a range of habitats at different altitudes and geographic variations (Recher 1993). Therefore, corridors that link patches over the entire ecological gradient from ridge to gully would conserve more species, especially those that have large home ranges and changing seasonal requirements (Lindenmayer *et al.* 1994).
- ❑ The quality of the habitat within the corridor is important. Some fauna would reluctantly utilise corridors of low quality, such as areas invaded by weeds or subject to frequent fires, or due to a reduction in the availability of essential resources (such as feeding, shelter, roosting and breeding sites).
- ❑ The size of the corridor is also important. For example, corridors with mature trees, but with little or no understorey may afford good habitat links for birds, bats and some arboreal fauna, but not for ground-dwelling fauna.
- ❑ Corridors that are 200 or more metres in width tend to facilitate the movement of all fauna by providing at least some core interior habitat that is not affected by edge environments (Lindenmayer 1994). Corridors between 80 and 200 m width tend to be effective at moving many fauna, including some fauna that do not tolerate urban disturbance and fragmentation (such as Sugar Gliders and some forest-dependent birds) (Bennett 1990, Claridge *et al.* 1991, Saunders & de Rebeira 1991, Catterall *et al.* 1991, Bentley & Catterall 1997). Corridors less than 30 m in width tend to be effective only for servicing the most tolerant of urban fauna (for instance, Brushtail Possums, Bush Rats, common urban birds, and fauna habitat generalists) (Bentley 1990, Lindenmayer 1994, Catterall *et al.* 1991, Bentley & Catterall 1997).
- ❑ Gaps between vegetation links should be narrow. Catterall *et al.* (1991) found that gaps greater than 15 m in width represent a significant barrier to the movement of forest dependent birds. Barnett (1978) found that a small mammal's ability to cross an unvegetated gap was inversely proportional to the size of the gap. Lynch &

Saunders (1991) found that the existence of a well-developed understorey was the single most important vegetation-related factor in corridor use by small bushland birds (Sewell & Catterall 1998).

#### *(b) Application to the Subject Site*

The study area is in a highly altered condition and has been fragmented by the development of paddocks, landscaping, tree clearing and past grazing activities. The major corridor for the movement of terrestrial birds through Fagan Park is Carrs Bush (that is, Sydney Turpentine-Ironbark Forest) which runs along the western and northern perimeters. This corridor is unlikely to be impacted by the proposed showground.

In addition, Carrs Bush does not readily link up with other major vegetation remnants in the locality because of the cleared rural nature of the landscape. Therefore, Carrs Bush is an isolated vegetation remnant that would currently have little value as a link with other wildlife corridors in the locality.

#### **3.4.8 Conclusion**

Fagan Park has moderate-high conservation value as habitat for native bird species. There is a broad diversity of habitats, ranging from forest to grasslands and wetlands that attract bird species that are typical of rural and urban areas of south-eastern Australia. It provides habitat for two regionally significant bird species, the Cattle Egret and Latham's Snipe, both of these species and their habitats being protected under the Japan-Australia and China-Australia Migratory Bird Agreements. However, Fagan Park only provides marginal habitat for bird species that are threatened at the state and national levels.

Fagan Park has a high public educational value in demonstrating the importance of habitat attributes to native bird species. The relatively open nature of the landscape, including the wetlands, and the broad diversity of bird life allow the public to observe and identify bird species easily. Therefore, there is great potential for developing an educational program in Fagan Park that would help people identify common bird species and learn about the ecology of native bird communities in a rural-urban landscape interface.

# IMPACTS AND RECOMMENDATIONS

## 4.1 INTRODUCTION

The proposed excavation development and operation of the horse showground has the potential to impact on birds and their habitats in Fagan Park. This chapter evaluates if these impacts are likely to be significant, especially with respect to threatened and regionally significant species and their habitats, and on the ecological integrity of the landscape.

## 4.2 POTENTIAL IMPACTS

### 4.2.1 *Threatened Species*

Threatened bird species that may potentially occur in Fagan Park would be infrequent visitors because of the marginality of the habitat, as indicated in Section 3.3.2. Therefore, the proposed showground is unlikely to significantly impact on the status of threatened bird species or their habitats at a local, regional or state level.

### 4.2.2 *Latham's Snipe*

It is my understanding that development of the showground will involve soil excavation and deposition so as to level the ground on the proposed showground site. This may cause the build-up of sediment in the downslope gully that interconnects the farm dams in Fagan Park. At the time of the site inspection this drainage gully was dry and its banks were flanked with tall pasture grasses which would provide suitable roosting and potential foraging habitat for Latham's Snipe. Therefore, construction of the showground has the potential to degrade the habitat of this species within Fagan Park if sediment barriers are not appropriately placed downstream from the showground construction site.

### 4.2.3 *Cattle Egret*

It is not known where the colony of Cattle Egrets that roost in Fagan Park forage. However, the proposed showground site and the grassland areas of Fagan Park provide potential foraging habitat for them. Cattle Egrets forage on low-lying grasslands, improved pastures and croplands (Chalmers 1972). Population densities are highest on moist, low-lying, poorly drained pasture, especially near hollows and ditches and where tussocks of long grass are present and, conversely, Cattle Egrets avoid short-cropped dry pasture (Heather 1982; McKilligan 1984). The proposed works and showground activities will make the showground site unsuitable as a foraging site for Cattle Egrets. However, there is no shortage of suitable foraging habitat for this species within the locality and, therefore, clearance of the showground site would not significantly affect the availability of potential foraging habitat for this colony of egrets.

Showground activities may cause some disturbance to roosting Cattle Egrets if development and/or operation of the showground occur at night time.

## 4.3 RECOMMENDATIONS

### 4.3.1 *Additional Surveys of Regionally Significant Bird Species*

1. Determine the precise habitat use of the Latham's Snipe in Fagan Park, especially in grassland areas adjacent to the proposed development site, to predict more accurately potential impacts of the showground on this species and its habitat. This can be achieved by conducting surveys of habitat use by the Latham's Snipe between August and February, that is, when this species occurs in south-eastern Australia.

2. **Determine whether the Cattle Egret roost is permanently or temporarily located in vegetation around the dams.** This will be determine if there are times of the year when the Cattle Egret is absent from Fagan Park and which would thus be better suited to construction of the showground.

#### ***4.3.2 Ameliorative Actions in the Event of Development Approval***

If approval is given to the development of the showground then the following measures should be implemented to reduce the risk of harm to bird habitats in Fagan Park:

1. **Sediment fences should be positioned along the boundary of the showground and Fagan Park during the construction period.** This will reduce the risk of sediment flowing into potential foraging and roosting areas of the Latham's Snipe and foraging areas of the Cattle Egret.
2. **If the Cattle Egrets roost in Fagan Park throughout the year, construction and operation of the showground should occur only during daylight hours.** If it is only a temporary roost, then construction should occur when the Cattle Egrets are not roosting in Fagan Park. These measures will reduce the risk of disturbance to roosting Cattle Egrets and other waterbirds in Fagan Park.
3. **If possible, construction of the showground should occur between March and July** to avoid the potential of construction activities disturbing day-time roosting of Latham's Snipe in Fagan Park.

#### ***4.3.3 General Recommendations***

1. **Retain the vegetation along the banks of the dams in Fagan Park** because of its importance as a roosting site and refuge for Cattle Egrets and other waterbirds.
2. **Erect interpretive signs near the dams to help visitors identify bird species that use the dams and surrounding grassland areas.** These areas provide ideal viewpoints for observing common waterbirds and grassland birds of south-eastern Australia. Interpretive signs that identify some of these species and provide information about their ecology would help educate the public about birds and their habitats.

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## **APPENDIX 2**

### **NSW Scientific Committee Final Determination For Sydney Turpentine Ironbark Forest**



Threatened Species Conservation Act 1995  
NSW Scientific Committee

## Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the Sydney Turpentine-Ironbark Forest as an ENDANGERED ECOLOGICAL COMMUNITY on Part 3 of Schedule 1 of the Act. The listing of endangered ecological communities is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. The Sydney Turpentine-Ironbark Forest (STIF) is the name given to the plant community that is characterised by the following assemblage of species:

<i>Acacia decurrens</i>		
<i>Acacia falcata</i>	<i>Acacia implexa</i>	<i>Acacia longifolia</i>
<i>Acacia myrtifolia</i>	<i>Acacia parramattensis</i>	<i>Allocasuarina torulosa</i>
<i>Angophora costata</i>	<i>Angophora floribunda</i>	<i>Aristida vagans</i>
<i>Billardiera scandens</i>	<i>Breynia oblongifolia</i>	<i>Bursaria spinosa</i>
<i>Centella asiatica</i>	<i>Cheilanthes sieberi</i>	<i>Clematis aristata</i>
<i>Clematis glycinoides</i>	<i>Clerodendrum tomentosum</i>	<i>Commelina cyanea</i>
<i>Corymbia gummifera</i>	<i>Daviesia ulicifolia</i>	<i>Dianella caerulea</i>
<i>Dichelachne rara</i>	<i>Dichondra repens</i>	<i>Dodonaea triquetra</i>
<i>Echinopogon caespitosus</i>	<i>Elaeocarpus reticulatus</i>	<i>Entolasia marginata</i>
<i>Entolasia stricta</i>	<i>Eucalyptus acmenoides</i>	<i>Eucalyptus globoidea</i>
<i>Eucalyptus paniculata</i>	<i>Eucalyptus resinifera</i>	<i>Exocarpos cupressiformis</i>
<i>Glycine clandestina</i>	<i>Goodenea hederacea</i>	<i>Goodenia heterophylla</i>
<i>Hardenbergia violacea</i>	<i>Imperata cylindrica</i>	<i>Indigofera australis</i>
<i>Kennedia rubicunda</i>	<i>Kunzea ambigua</i>	<i>Lepidosperma laterale</i>
<i>Leucopogon juniperinus</i>	<i>Lomandra longifolia</i>	<i>Melaleuca decora</i>
<i>Microlaena stipoides</i>	<i>Notelaea longifolia</i>	<i>Oplismenus aemulus</i>
<i>Oxalis exilis</i>	<i>Ozothamnus diosmifolius</i>	<i>Pandorea pandorana</i>

<i>Panicum simile</i>	<i>Pittosporum revolutum</i>	<i>Pittosporum undulatum</i>
<i>Poa affinis</i>	<i>Polyscias sambucifolius</i>	<i>Pomax umbellata</i>
<i>Poranthera microphylla</i>	<i>Pratia purpurascens</i>	<i>Pseuderanthemum variabile</i>
<i>Rapanea variabilis</i>	<i>Rubus parvifolius</i>	<i>Smilax glyciphylla</i>
<i>Stipa pubescens</i>	<i>Syncarpia glomulifera</i>	<i>Themeda australis</i>
<i>Tylophora barbata</i>	<i>Veronica plebeia</i>	<i>Zieria smithii</i>

2. The total species list of the community is considerably larger than that given in 1 (above), with many species present in only one or two sites or in very small quantity. In any particular site not all of the assemblage listed in 1 may be present. At any one time, seeds of some species may only be present in the soil seed bank with no above-ground individuals present. The species composition of the site will be influenced by the size of the site and by its recent disturbance history. The number of species and the above-ground composition of species will change with time since fire, and may also change in response to changes in fire frequency.

3. The structure of the community was originally forest, but may now exist as woodland or as remnant trees.

4. Characteristic tree species in the STIF are *Syncarpia glomulifera*, *Eucalyptus globoidea*, *Eucalyptus resinifera*, *Eucalyptus paniculata*, *Angophora costata* and *Angophora floribunda*.

5. Species composition varies between sites depending on geographical location and local conditions (e.g. topography, rainfall, exposure).

6. STIF occurs within the local government areas Ashfield, Auburn, Canterbury, Concord, Drummoyne, Leichhardt, Marrickville, Bankstown, Ryde, Hunters Hill, Baulkham Hills, Ku-ring-gai, Hornsby, Parramatta, Bankstown, Rockdale, Kogarah, Hurstville, Sutherland. The area is within the County of Cumberland and entirely within the Sydney Basin Bioregion.

7. In many of these LGAs particularly in the inner western suburbs, only remnant trees may remain. These may have particular ecological and genetic significance and may be important sources of propagation material for use in rehabilitation projects.

8. STIF typically occurs on areas with clay soils derived from Wianamatta Shale, or shale layers within Hawkesbury Sandstone.

9. Occurrences of STIF may occur on plateaus and hillsides and on the margins of shale cappings over sandstone.

10. STIF is referred to in Benson & Howell 1990 and in UBBS (1997). It includes vegetation described as map unit 90 of Benson (1992) and Benson & Howell (1994).

11. STIF provides habitat for a number of plant species recognised as being of regional conservation significance in UBBS (1997). These include:

<i>Acacia stricta</i>	<i>Arthropodum milleflorum</i>	<i>Brachychiton populneus</i>
<i>Chloris truncata</i>	<i>Danthonia linkii</i>	<i>Danthonia racemosa</i>
<i>Daviesia genistifolia</i>	<i>Einadia nutans</i>	<i>Einadia polygonoides</i>
<i>Einadia trigonos</i>	<i>Elymus scaber</i>	<i>Glycine microphylla</i>
<i>Lasiopetalum parviflorum</i>	<i>Lepidosperma gunnii</i>	<i>Leucopogon juniperinus</i>
<i>Marsdenia viridiflora</i>	<i>Omalanthus stillingifolius</i>	<i>Opercularia hispida</i>
<i>Paspalidium criniforme</i>	<i>Platylobium formosum</i>	<i>Pomaderris lanigera</i>
<i>Senecio hispidulus</i>	<i>Sporobolus creber</i>	<i>Stipa rudis</i> subsp. <i>nervosa</i>

12. STIF has an understorey that may be either grassy and herbaceous or of a shrubby nature. STIF can have a dense understorey in areas that have not been burnt for an extended period of time.

13. Adjacent communities on sandstone soils are generally part of the Sydney Sandstone Complex (see Benson & Howell 1990).

14. It is estimated that only 0.5 % of the original area of STIF exists in the form of a number of remnants.

15. Only small areas of STIF are presently included in conservation reserves.

16. Large areas of STIF have been cleared for agriculture and urban development. Remnants are small and scattered. Identified threats include: clearing, physical damage from recreational activities, rubbish dumping, grazing, mowing, weed invasion.

17. In view of the small size of existing remnants, the threat of further clearing and other known threats, the Scientific Committee is of the opinion that Sydney Turpentine-Ironbark Forest in the Sydney Basin Bioregion is likely to become extinct in nature unless the circumstances and factors threatening its survival or evolutionary development cease to operate and that listing as an endangered community is warranted.

Proposed gazettal date: 16/10/98  
Exhibition period: 16/10/98 to 20/11/98

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ROBIN WALKER

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galston

96531734

Bird List For Fagan Park, Galston.

December 1991 - November 1994.

Australasian Grebe  
Little Pied Cormorant  
White-faced Heron  
Cattle Egret  
Sacred Ibis  
Pacific Black Duck  
Chestnut Teal  
Wood Duck  
Little Crake  
Dusky Moorhen  
Purple Swamp Hen  
Coot  
Masked Plover  
Japanese Snipe  
Black Fronted Dotterel  
Brown Pigeon  
Feral Pigeon  
Spotted Turtle Dove  
Crested Pigeon  
Galah  
Sulphur Crested Cockatoo  
Yellow Tailed Black C/too  
Rainbow Lorikeet  
King Parrot  
Crimson Rozella  
Eastern Rozella  
Fantailed Cuckoo  
Laughing Kookaburra  
Dollar Bird  
Welcome Swallow  
Fairy Martin  
Richards Pipit  
Black Faced Cuckoo Shrike  
Rose Robin  
Eastern Yellow Robin  
Jacky Winter  
Golden Whistler  
Grey Shrike Thrush  
Rufous Fantail  
Grey Fantail  
Willie Wagtail  
Leaden Fly Catcher  
Eastern Whip Bird  
Double-barred Finch  
Rufous Night Heron. Sept 1994.  
Hoary Headed Grebe 26/10/94.

Clamorous Reedwarbler  
Little Grass Bird  
Superb Fairy Wren  
Brown Thornbill  
Yellow Thornbill  
White-throated Treecreeper  
Little Wattle Bird  
Noisy Friarbird  
Noisy Miner  
Yellow-faced Honey Eater  
Eastern Spinebill  
Spotted Pardalote  
House Sparrow  
Red-browed Firetail  
Olive Backed Oriole  
Common Starling  
Common Mynah  
Dusky Woodswallow  
Grey Butcherbird  
Australasian Magpie Lark  
Australasian Magpie  
Pied Currawong  
Australasian Raven  
Black Shouldered Kite  
White Eyed Duck  
Brown Quail H. E. Hoskin 1990  
Royal Spoonbill 1987  
Little Cuckoo Shrike 1991  
Sittella 1987  
Brown Warbler  
White Throated Warbler  
Lewins Honeyeater  
Nutmeg Mannakin  
Rufous Whistler  
Whitebrowed Scrubwren  
Sacred Kingfisher  
Tawny Frogmouth  
Black Swan  
Pelican  
Whistling Kite  
Little Eagle  
White Breasted Sea Eagle 1987  
Silvereye  
Marsh Crake. 30/10/91  
Red Kneed Dotterel 25/10/94

*Pacific Baya*

*Brown Goshawk*

*Straw-neck Ibis*

*White-neck Heron*

*Yellow nump thornbill*

11-11-02

**Appendix H      Latham's Snipe Report**

**Identification and Management  
of Latham's Snipe (*Gallinago  
hardwickii*) Habitat at Fagan  
Park, Galston**

*Prepared For :*  
**Hornsby Shire Council**  
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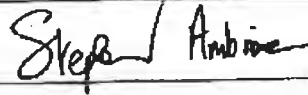
20 January 2003  
Report No. : 200215rp3

*Prepared By :*  
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Report No. 200215rp3

This report has been prepared in accordance with the scope of services described in the contract or agreement between Ambrose Ecological Services Pty Ltd (Ambecol) and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and Ambecol accepts no responsibility for its use by other parties.

Author:	Dr Stephen Ambrose
Position:	Director, Ambrose Ecological Services Pty Ltd
Signed:	
Date:	20 January 2003

# INTRODUCTION

## 1.1 INTRODUCTION

The Latham's Snipe (*Gallinago hardwickii*) is a migratory bird species that occurs in Fagan Park in Galston from August to February, inclusive, each year. This species and its habitats are protected under two international agreements, the *Japan-Australia Migratory Bird Agreement, 1974 (JAMBA)* and the *China-Australia Migratory Bird Agreement, 1986 (CAMBA)*. In Australia, these treaties are enforced under the Commonwealth's *Environmental Protection and Biodiversity Conservation Act, 1999 (EPBC Act)*.

The purpose of this report is to predict potential impacts of the proposed development and operation of a multipurpose showground on the status of the Latham's Snipe and its habitat in Fagan Park, Galston. The specific aims of the study were to:

- review available information on sightings of Latham's Snipe at Fagan Park and consultation with the NSW Bird Atlassers Inc. to ascertain the time and location of sightings by its members;
- conduct field visits to Fagan Park with the aim of sighting and confirming the presence of Latham's Snipe and ascertaining the extent of its habitat;
- provide a map indicating the extent of likely habitat based on observations and information received;
- review the current design for the showground facility and provision of advice on the extent of impact on the Latham's Snipe habitat; and
- prepare recommendations for land management of the defined habitat area.

## 1.2 SUBJECT SITE

Fagan Park is c. 55 ha in area and is located in Galston in the Hornsby Local Government Area. It is bounded to the west and south-west by Arcadia Road, to the north by Carr's Road, to the east by Bayfield Road and to the south-east by a private rural property.

The Park is a highly modified environment located at the interface between suburban metropolitan Sydney and rural areas. Most of the native vegetation in Fagan Park has been cleared and the property was previously used as an orchard and for grazing cattle before it was converted to a public Park.

Most of Fagan Park is landscaped and consists of lawned picnic areas, 10 ha of landscaped gardens and children's playgrounds. Three man-made farm dams are located in the eastern regions of the Park. Remnant Sydney Turpentine Ironbark Forest, named Carrs Bush, is located in the northern sections of the Park and along the western boundary and is c. 26 ha in area.

The development of a multipurpose showground has been proposed on the neighbouring rural property along the south-eastern boundary of Fagan Park. This rural property has previously been used to graze cattle. It is understood that works for such a development will require extensive earthworks to level the slope of the land. This land currently slopes downwards towards the south-eastern boundary of Fagan Park.

Hornby Shire Council is also considering the option of allowing people to ride horses through the grassland areas of Fagan Park downslope of the proposed showground area.

Therefore, it is important to investigate the potential of the construction and operation of the showground and recreational horse riding through Fagan Park impacting on potential habitat of the Latham's Snipe in the Park.

Areas of bird habitat suitable for Latham's Snipe within Fagan Park that may be impacted on by the proposed development and activities include the grassed areas and farm dams in the eastern half of the Park. Therefore, these areas were surveyed and assessed in the present study for their importance as habitat for the Lathams Snipe.

### **1.3 LEGISLATION AND TREATIES PROTECTING LATHAM'S SNIPE AND ITS HABITATS IN AUSTRALIA.**

#### **1.3.1 *Commonwealth Environmental Protection and Biodiversity Conservation Act, 1999***

A proposed development or activity will trigger the EPBC Act, and will require Commonwealth assessment and approval, if it significantly impacts on:

- World Heritage properties;
- Ramsar wetlands of international importance;
- nationally threatened flora and fauna species and communities;
- migratory fauna species protected under international agreements;
- the Commonwealth marine environment; or
- nuclear actions, including uranium mining.

Unlike the Eight-Part Test established under Part 5A of the NSW Environment Planning and Assessment Act, 1979 (EP&A Act), there are no formal administrative assessment procedures for assessing the impacts of a proposed development or activity on nationally significant species or their habitats. However, the Guidelines of Significance associated with the EPBC Act 1999 have been drawn up by the Commonwealth Government. These state that an action has, will have, or is likely to have a significant impact on nationally threatened species and communities, or migratory species protected under international treaties, if it does, will, or is likely to:

- reduce the area of occupancy of the species, or
- fragment an existing population into two or more populations, or
- adversely affect habitat that is critical to the survival of a species, or
- disrupt the breeding cycle of a population, or

- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful to a critically endangered species, becoming established in the endangered or critically endangered species' habitat (e.g. by direct competition, modification of habitat, or predation), or
- interfere with the recovery of the species.

**(d) Japan-Australia Migratory Bird Agreement, 1974 (JAMBA)**

JAMBA is a treaty between the Japanese and Australian Governments that aims to protect bird species that migrate seasonally between Japan and Australia, as well as their habitats in each of these countries. Bird species that are listed under JAMBA are listed in the schedules of the EPBC Act.

Article VI of the JAMBA states:

*"Each Government shall endeavour to take appropriate measures to preserve and enhance the environment of birds protected under the provisions of this Agreement. In particular, it shall:*

- (a) seek means to prevent damage to such birds and their environment;*
- (b) endeavour to take such measures as may be necessary to control the importation of animals and plants which it determines to be hazardous to the preservation of such birds; and*
- (c) endeavour to take such measures as may be necessary to control the introduction of animals and plants which could disturb the ecosystems of unique island environments."*

**(d) China-Australia Migratory Bird Agreement, 1986 (CAMBA)**

CAMBA is a treaty between the Chinese and Australian Governments that aims to protect bird species that migrate seasonally between China and Australia, as well as their habitats in each of these countries. Bird species that are listed under CAMBA are listed in the schedules of the EPBC Act.

Article IV of the CAMBA states:

*" Each Contracting Party shall endeavour, in accordance with its laws and regulations in force, to:*

- (a) establish sanctuaries and other facilities for the management and protection of migratory birds and also their environment; and*
- (b) take appropriate measures to preserve and enhance the environment of migratory birds. In particular, each Contracting Party shall:*
  - (i) seek means to prevent damage to migratory birds and their environment, and*
  - (ii) endeavour to take such measures as may be necessary to restrict or prevent the importation and introduction of animals and plants which (sic) are hazardous to the preservation of migratory birds and the environment "*

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## 1.4 STRUCTURE OF THE REPORT

The remainder of this report presents the results of field and desk top surveys of the habitat requirements of the Latham's Snipe, an analysis of Fagan Park's importance for this species, and predicts the potential impacts of the proposed multipurpose showground development on Latham's Snipe habitat in the Park. It also provides overall recommendations for managing Latham's Snipe habitat in Fagan Park. The structure of the remaining chapters is outlined below:

*Chapter 2* presents information about the habitat requirements and the general ecology of Latham's Snipe populations in Australia.

*Chapter 3* presents the methods used in conducting field and community consultation surveys relevant to determining the status of the Latham's Snipe and its habitats in Fagan Park (referred to as the "subject site"). It also describes the methodology used to assess the conservation importance of Fagan Park as Latham's Snipe habitat.

*Chapter 4* presents the results of surveys of the Latham's Snipe and its habitats within Fagan Park.

*Chapter 5* discusses the potential impacts of the proposed showground on the Latham's Snipe and its habitat in Fagan Park. It also presents some recommendations for reducing or avoiding these impacts and for longer-term management of Latham's Snipe habitat within Fagan Park.

## ECOLOGICAL REQUIREMENTS OF THE LATHAM'S SNIPE

### *Introduction*

The Latham's Snipe and its habitats are protected under the Japan-Australia Migratory Bird Agreement (JAMBA) and China-Australia Migratory Bird Agreement (CAMBA). This chapter describes the appearance of the bird, its distribution and abundance, habitat requirements, aspects of its ecology and threats to its status.

### *Description*

The Latham's Snipe is 230 to 250 mm in length, including a 75 mm bill. Both sexes are similar in appearance, and immature birds are similar to adults. The upper parts are light brown streaked with black. The wing primaries are dark brown. The throat is light brown; upper breast is light brown flecked with black, lower breast and belly pale grey; flanks and undertail are pale grey streaked with black. The eye is brown-black; bill olive-brown; legs and feet are olive-grey (Schodde & Tidemann 1993).

### *Distribution and Abundance*

The Latham's Snipe is a migrant between Japan and eastern Russia, where they breed during the northern summer (Naarding 1986; Nechaev 1994) and eastern Australia. It is commonly recorded throughout the wetter parts of eastern Australia, including Tasmania and the Bass Strait Islands (Higgins & Davies 1996).

Latham's Snipe individuals arrive in northern Australia between July and September, and arrive in south-eastern Australia between August and December-January (Lane 1987). Most leave south-eastern Australia by the end of February for the return migration to the northern hemisphere (Frith *et al.* 1977; Naarding 1983).

The breeding population in Hokkaido, Japan is estimated at 37,000 birds, 15,000 of them reaching Victoria, Tasmania and South Australia (Naarding 1986). The population elsewhere in the breeding range is unknown, but it could be increasing in Russia (Nechaev 1994). The Australian population is thought to have decreased between 1900 and the 1980s as a result of hunting, with only marginal subsequent increases (Naarding 1986; Higgins & Davies 1996).

### *Habitat*

In Australia, the Latham's Snipe occurs in a wide variety of permanent and ephemeral wetlands (Naarding 1981). It prefers open freshwater wetlands with vegetative cover nearby (Frith *et al.* 1977; Naarding 1983), such as tussock grasslands, sedges, lignum, reeds and rushes, heathland, tea-tree scrub, woodlands and sclerophyll forests (Higgins & Davies 1996).

It feeds on soft mud or in shallow water, at edges of wetlands, either in the open or on bare mud between vegetation (McGarvie & Templeton 1974; Frith *et al.* 1977; Lane 1978). It roosts during the day on ground in vegetation near the feeding areas, usually beside or under clumps of vegetation, and occasionally in dense copses of tea-trees (Higgins & Davies 1996).

In Japan the snipe often perches on posts or in trees. In display they fly high in the sky singing. There they live and breed in rough pastures, rice stubble and in larch and fir forests on mountain sides far from water. They locate their nests, which are depressions lined with grass or a little moss, in moderately dense herbage in grasslands, peat bogs and paddocks, and sometimes on hillsides among young trees (Schodde & Tidemann 1993).

### Ecology

In Australia, the Latham's Snipe occurs at wetlands singly or in small loose groups, but very occasionally may gather in larger groups of several dozen. Individuals are extremely shy, wary and skulking. They feed busily by thrusting their bills deep into mud with rapid, vertical sewing-machine action. When disturbed, the snipe will erupt from cover in fast, constantly twisting or zigzagging flight, uttering an explosive *kek* on leaving cover, which often causes others nearby to flush. When flushed, a snipe will fly to some height over a horizontal distance of more than 100 m, often circling quickly and uttering alarm calls before diving steeply. If it lands in the open it will quickly run to cover.

The Latham's Snipe feeds on seeds and other plant material, and invertebrates such as earthworms, spiders and insects (Higgins & Davies 1996, Todd 2000). The diet of this species is likely to vary between localities, depending on upon the availability of food. Frith *et al.* (1977) recorded seed types in the stomach contents of Latham's Snipe near Raymond Terrace and Cooma-Jindabyne, NSW. These seeds are listed in Table 2.1

Table 2.1 SEEDS RECORDED IN THE DIET OF LATHAM'S SNIPE

Poaceae (grasses)	X	X
Juncaceae (rushes)	X	X
Cyperaceae (sedges):		
<i>Carex</i> spp.	X	X
<i>Cyperus</i> spp.	X	X
<i>Eleocharis</i> spp.	X	X
<i>Scirpus</i> spp.	X	X
<i>Fimbristylis</i> spp.	X	X
Polygonaceae (herbs):		
<i>Polygonum</i> spp.	X	X
<i>Rumex</i> spp.	X	X
Boraginaceae	X	
Fabaceae (peas, beans)	X	X
Ranunculaceae	X	
Other Seeds:		
<i>Portulaca</i> spp.	X	X
<i>Hypericum</i> spp.	X	X
<i>Branchycome</i> spp.	X	X

Plant Type	Eoomahindahyne	Raymond Terrace
<i>Isotoma</i> spp.	X	X
<i>Cotula</i> spp.	X	X
<i>Solanum</i> spp.	X	X
<i>Papaver</i> spp.	X	X
<i>Foeniculum</i> spp.	X	X
<i>Conium</i> spp.	X	X
<i>Elatine</i> spp.	X	X
<i>Epacris</i> spp.	X	X
<i>Plantago</i> spp.	X	X
<i>Nymphoides</i> spp.	X	X

### Threats

Until the mid-1980s, hunting on freshwater swamps in southern Australia was responsible for the deaths of up to 10,000 Latham's Snipe each year (Naarding 1986). Current threats in Australia are drainage, water division and urban development, although the species readily occupies artificial and ephemeral swamps (Garnett & Crowley 2000). Mowing of habitat during summer can render habitat unsuitable for months at a time (M.A. Weston in Garnett & Crowley 2000). Habitat loss and increased fox predation could be affecting the breeding population in Japan (Weston 1998). Grasslands on Cape York Peninsula used during transit north (Garnett & Shephard 1997) are slowly being occluded by trees (Crowley & Garnett 1998), but not at a rate that currently threatens the species.

### Recommended Management Actions

Garnett & Crowley (2000) recommend the following actions for protecting the status of Latham's Snipe in Australia:

- The development and application of reliable techniques for monitoring regional abundance of the species and the relative importance of habitat patches; and
- Assessment of the importance of habitat patches before alienation by drainage or other development.



## METHODOLOGY

### 3.1 INTRODUCTION

Issues relating to possible impacts of the proposed showground on the status of Latham's Snipe and its habitats in Fagan Park were identified by reviewing relevant literature and databases, conducting field surveys and consulting with representatives of stakeholder groups. The methods by which this information was collected and analysed are presented below.

### 3.2 LITERATURE AND DATABASE SURVEY

The following databases were accessed for information relating to the presence and distribution of Latham's Snipe in the Hornsby Shire:

- NSW Bird Atlas Database;
- NSW Cumberland Bird Observers' Club Atlas Database;
- NPWS Wildlife Atlas Database;
- Birds Australia Atlas Database (1977-81 and 1998 onwards);
- Australian Bird Count (ABC) Database; and
- EPBC Online Database.

These databases only contain indicative records of the presence of species in the locality and are not the result of surveys. Database records for subject species vary in quality, reliability and accuracy of the geographic co-ordinates. Therefore, some species records are highly accurate in space and time, others are more tentative or only contain estimates of geographical locations. For instance, records from the NPWS Wildlife Atlas Database have an accuracy of 1 km and the co-ordinates provided to the consultants are of the south-west corner of each 1 km grid.

### 3.3 COMMUNITY CONSULTATION

A number of reports of the occurrence of the Latham's Snipe in Fagan Park have been made by members of the community. The following community members were interviewed in the present study and provided information on precise locations of Latham's Snipe within the Park:

- Mrs Joan Macgregor, NSW Bird Atlassers; and
- Mrs Beverley Inshaw.

Mrs Macgregor was able to provide additional information about the observations of the Latham's Snipe by two members of the NSW Bird Atlassers, Ms Dariel Larkin and Mr Ian McAllan. Mrs Inshaw provided a map (with dates) of her observations of the locations of the Latham's Snipe within Fagan Park.

## 3.4 FIELD SURVEYS

### 3.4.1 *Timing of Surveys*

Latham's Snipe normally roost during the day and forage at night, therefore, both diurnal and nocturnal surveys were conducted during the present study.

Diurnal surveys were conducted from 1000-1200 hrs and 1500-1800 hrs on 13 December 2002. Nocturnal surveys were conducted from 1900-2300 hrs on 17 December 2002 and from 0300-0500 hrs on 20 December 2002. These sampling times were chosen to gain an appreciation of the distribution and activity of Latham's Snipe in Fagan Park throughout 24-hour cycles.

### 3.4.2 *Survey Area*

Previous records of the occurrence of the Latham's Snipe in Fagan Park have been from the grassland and wetland areas in eastern half of the Park. There is no other suitable habitat in the Park for Latham's Snipe. Therefore, field surveys in the present study were restricted to these grassland and wetland areas. The boundaries of the survey area were the southern boundary of Carrs Bush to the north, Bayfield Road to the east, Arcadia Road to the south (including the grounds of Netherby Cottage), and the mowed grassland areas to the west of the drainage line that runs between the dams to the west.

### 3.4.3 *Survey Methods*

Latham's Snipe are secretive birds that normally forage or roost near large grass tussocks, in reed beds or under wetland vegetation. However, they are easily flushed from this vegetation, and when disturbed will utter a loud call, circle in the air and then settle to the ground up to 100 m from where it first took flight. Therefore, the whole of the survey area was covered on foot during each survey period in an effort to flush Latham's Snipe from the vegetation. During nocturnal surveys a portable 50-watt, 12V spotlight assisted in the detection of Latham's Snipe.

Individual Latham's Snipe will have a defined home range, that is, an area that they will not move out of during the periods that they are resident in their breeding or non-breeding grounds. The boundaries of a Latham's Snipe home range are easily determined by flushing the individual until it reaches a boundary. The Snipe will not cross the boundaries of its home range, even when flushed, and once it has reached a boundary it will turn back and move to another part of its home range to avoid detection. Therefore, when a Latham's Snipe was detected during the present surveys, attempts were made to flush it to the edges of its home range to determine these boundaries. This was not always successful because, on occasions, individuals avoided further detection upon returning to the ground after being flushed.

## RESULTS

### 4.1 INTRODUCTION

This chapter presents the results of community consultation, database and literature and surveys, additional field work in assessing the importance of Fagan Park as habitat for Latham's Snipe.

### 4.2 DISTRIBUTION AND ABUNDANCE OF LATHAM'S SNIPE IN FAGAN PARK

#### 4.2.1 *Abundance of Latham's Snipe*

Community members who were interviewed were uncertain as to whether there were one or two Latham's Snipe individuals in Fagan Park. However, only one Latham's Snipe was observed in Fagan Park during each survey period in the present study. When a Latham's Snipe lands on the ground after being flushed it sometimes scurries across the ground, unnoticed by the observer, to a new location up to 50-100 m away, and potentially giving an inexperienced or unsuspecting observer the mistaken impression that it is a second bird when encountered again. This may account for the level of uncertainty displayed by some community members regarding the number of Latham's Snipe in Fagan Park.

#### 4.2.2 *Distribution of Latham's Snipe*

The locations of Latham's Snipe observed in the present study and by community members, and the dates of those observations in 2002 are shown in Figure 1. Habitats of the Latham's Snipe within Fagan Park are shown in Plates 1-12 (Appendix A).

The Latham's Snipe was recorded foraging in unmown grassland areas around and south of Dam 1 (near Netherby Cottage), in the reed banks of Dam 2 and 3 (near the southern border of Carrs Bush), in vegetation on the banks of Dams 2 and 3, and in unmown grassland areas along the drainage line that runs north-south between Dams 1 and 2/3.

There were only two observations of a Latham's Snipe occurring in mown areas of the Hornsby Model Flying Field, east of the drainage line. The first observation was during a diurnal survey on 13 December 2002 when a snipe was flushed from the unmown grass along the drainage line and it landed briefly in the open field before it quickly scurried towards the cover of vegetation on the banks of Dam 2. The second observation was during a nocturnal survey on 17 December 2002 when it was observed foraging. Seeding Plantain (*Plantago lanceolata*) was widespread throughout the Hornsby Model Flying Field and it is probable that the Latham's Snipe was feeding on the seeds at the time that it was observed.

However, it would appear that the core foraging habitats of the Latham's Snipe are the unmown grassland areas around the three dams and along the drainage line and the wetland vegetation in and around Dams 2 and 3. Nearly all the observations of Latham's Snipe were in these areas. The unmown grassland along the drainage line appears particularly important as foraging habitat because of the presence and abundance of most plant types identified as food sources (see Table 2.1). The width (c. 30 m) and height (c. 0.5-1.0 m) of the unmown grass along the drainage line and around Dam 1 provides ideal foraging habitat for the Latham's Snipe, as well as concealment from potential predators. The mowed areas of the Hornsby Model Flying Field and grassed areas to west of the drainage line are too open to be used regularly as foraging habitat because of the risk of predation.

The Latham's Snipe was observed roosting under vegetation lining the banks of Dam 2 during the diurnal surveys conducted on 13 December 2002. However, Mrs B. Inshaw recorded Latham's Snipe throughout the known foraging range during her mid-morning surveys on 5, 6 and 7 November 2002 (see Figure 1). This suggests that the Latham's Snipe may potentially roost anywhere within its observed foraging range.

Based on the above observations, the predicted core range of the Latham's Snipe in Fagan Park is depicted in Figure 2. It includes the unmown grassland areas around and south of Dam 1, in the reed banks of Dam 2 and 3, in woodland and grassland vegetation on the banks of Dams 2 and 3, and in unmown grassland areas along the drainage line that runs north-south between Dams 1 and 2/3. Areas of the core range south, east and immediately north of Dam 1 are within the footprint of the proposed multipurpose showground.

#### 4.3 CONSERVATION VALUE OF FAGAN PARK FOR LATHAMS SNIPE

Watkins (1993) identifies sites of national importance to the Latham's Snipe as those which support at least 1% of the known Australian population. The size of the Latham's Snipe population in Australia is likely to be between 15,000 and 36,000 birds (Watkins 1993). The maximum number of Latham's Snipe in Fagan Park is two birds, representing between 0.006% and 0.01% of the estimated size of the national population. Therefore, Fagan Park is not a site of national importance for the Latham's Snipe.

The species is commonly recorded in coastal locations of the Sydney Basin Bioregion as far inland as the Great Dividing Range. According to the results of the literature and database survey, the Latham's Snipe has been recorded in at least six other locations within the Hornsby Shire in the last 20 years. This latter figure is likely to be an underestimate of the abundance of Latham's Snipe within the Shire because not all records are submitted to these databases. Therefore, Fagan Park has limited importance as habitat importance at a bioregional level, but has relatively greater importance in conserving Latham's Snipe within the Hornsby Shire.

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FIGURE 1

SITES AND DATES OF OBSERVATION OF LATHAM'S SNIPE WITHIN FAGAN  
PARK

NETHEBY  
CLAYAGE

6/11

17/12

7/11

DAM 1

17/12

17/12

17/12

17/12

20/12

HORNSBY MODEL  
AIR FIELD

17/12

7/11

17/12

20/12

13/12

13/12

13/12

DAM 2

5/11

13/12

13/12

6/11

20/12

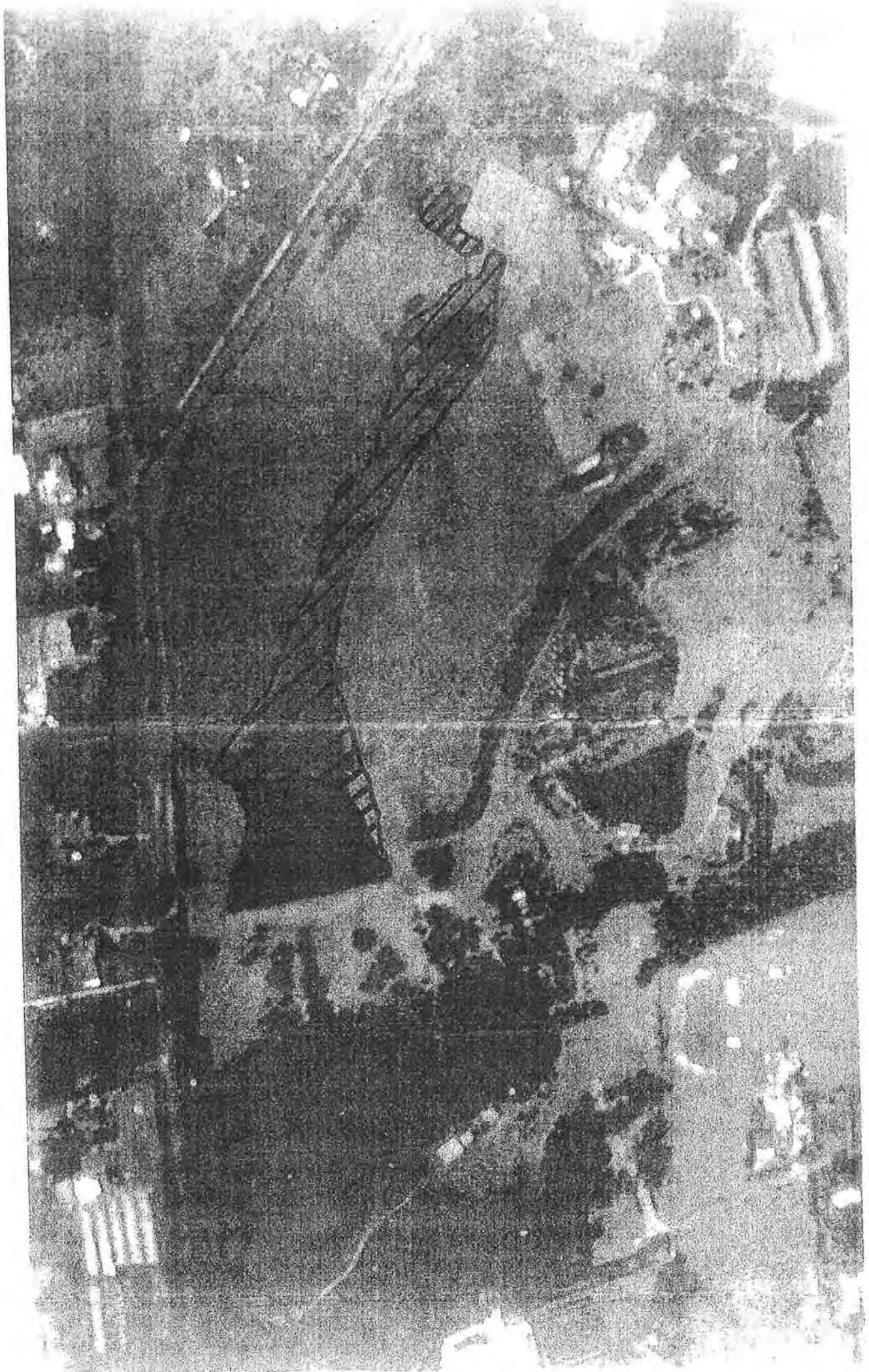
DAM 3

7/11

CARRS BUSH

FIGURE 2

CORE HABITAT OF LATHAM'S SNIPE (HATCHED AREA) IN FAGAN PARK





## IMPACTS AND RECOMMENDATIONS

### 5.1 INTRODUCTION

The proposed excavation, development and operation of the multipurpose showground has the potential to impact on the Latham's Snipe and its habitat in Fagan Park. This chapter evaluates if these impacts are likely to be significant, especially with respect to the local, bioregional and national status of the Latham's Snipe. Recommendations for land management of Fagan Park with respect to protection of Latham's Snipe habitat are also presented.

### 5.2 IMPACTS AND RECOMMENDATIONS

#### 5.2.1 - *Loss of Latham's Snipe Habitat*

Construction of the proposed showground would result in the removal of Latham's Snipe foraging and roosting grassland habitat from around Dam 1, and areas east and immediately south of it. The habitat removed would represent up to 28% of the known core habitat of the Latham's Snipe in Fagan Park.

Habitat loss is a recognised threat to the status of the Latham's Snipe in Australia. However, it is not known if the loss of habitat as a result of the proposed showground development would result in the unsustainability of Fagan Park as habitat for this species.

#### Recommendation:

Widening the unmowed grassland corridor along the drainage line between Dams 1 and 2/3 from 30 m to 40 m would probably offset any habitat loss in the southern part of the Snipe's home range in Fagan Park. Retention of the small dam south of Dam 1 would also reduce impact on the habitat.

#### 5.2.2 *Potential Degradation of Latham's Snipe Habitat*

Construction of the showground will involve soil excavation and deposition so as to level the ground of the proposed site. This may cause the build-up of sediment along the drainage line between Dams 1 and 2/3. Therefore, construction of the showground has the potential to degrade Latham Snipe habitat along the drainage line if sediment barriers are not used.

#### Recommendations:

- If the proposed showground is approved, then sediment barriers should be appropriately placed downstream from the showground construction site.
- Sediment barriers or other water quality improvement mechanisms should be maintained during the operation of the showground to prevent the potential runoff

of excess nutrients and weed materials from horse droppings into downstream areas of Fagan Park.

### 5.2.3 *Potential Disturbances to Latham's Snipe*

Showground activities may disrupt the activities of Latham's Snipe if development and/or operation of the showground (e.g. the use of floodlights) occur at night time. However, this is likely to be a short-term impact because native wildlife tend to habituate to such disturbances over the longer-term.

#### **Recommendation:**

If approval is given to the showground development then, if possible, construction should occur between March and July to avoid the potential of construction activities disturbing day-time roosting of Latham's Snipe in Fagan Park.

### 5.2.4 *Rehabilitation of the Corridor Along Drainage Line*

Hornsby Shire Council are considering rehabilitation of vegetation along the drainage line between Dam 1 and Dams 2/3 to create a more effective corridor for the movement of bird species through Fagan Park (K. Henkel, pers. comm). The rehabilitation would involve the removal of weeds and other exotic plants and the planting of native shrubs and trees.

While rehabilitation would potentially improve the habitat for some native bushland bird species and assist their movement through Fagan Park, the removal of some weeds and exotic plants would reduce actual food resources of the Latham's Snipe in the Park.

#### **Recommendations:**

- Rehabilitation should involve the planting of locally native grass species (e.g. tussock grasses) and sedges to offset the removal of exotic and weed food plant species.
- The rehabilitated corridor should have readily open understorey and shrub layers to allow easy access to potential food and roosting resources by the Latham's Snipe. A portion of the revegetation should include the development of a closed upper canopy layer would be best suited to facilitating the movement of native bushland birds along the corridor. Open canopies favour colonisation by Noisy Miners and Indian Mynahs which would chase other bird species out of the corridor. This combination of habitats would be the most sustainable from an environmental perspective.

### 5.2.5 *Recreational Horse Riding in Fagan Park*

The possible introduction of informal horse riding in Fagan Park, particularly in downslope areas of the proposed showground site, has the potential to disturb the foraging and roosting activities of the Latham's Snipe. Excess nutrients and introduction of weed seeds from horse droppings also has the potential to degrade the habitat of native birds within Fagan Park.

**Recommendations:**

- If proposed, informal horse riding in Fagan Park should be confined to areas outside of the core habitat areas of the Latham's Snipe, particularly in areas around wetlands and drainage lines and rehabilitation areas.
- Horse riding areas should be well defined by fencing that limits the range of equestrian activity and enables the effective management of water runoff through sediment barriers and water quality improvement mechanisms.

**5.2.6 Potential Impacts on the Status of Latham's Snipe**

The proposed showground development and management of habitats in Fagan Park will not impact on the national, regional nor statewide status of the Latham's Snipe or its habitats (see Section 4.3).

However, conservation of Latham's Snipe habitat in Fagan Park is encouraged because, although this species has been recorded elsewhere in the Hornsby Shire, it is rare to observe this species in urbanised areas of Sydney. There is real potential for Fagan Park management, Friends of Fagan Park and other relevant community groups to educate the community about bird species, their habitat requirements, and the importance of conservation of habitats in a urban/rural landscape.

**Recommendation:**

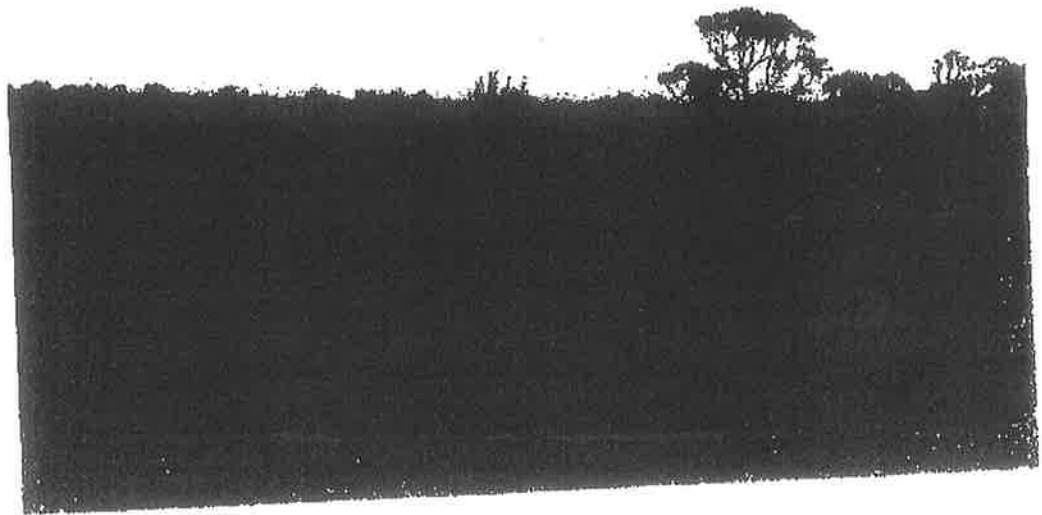
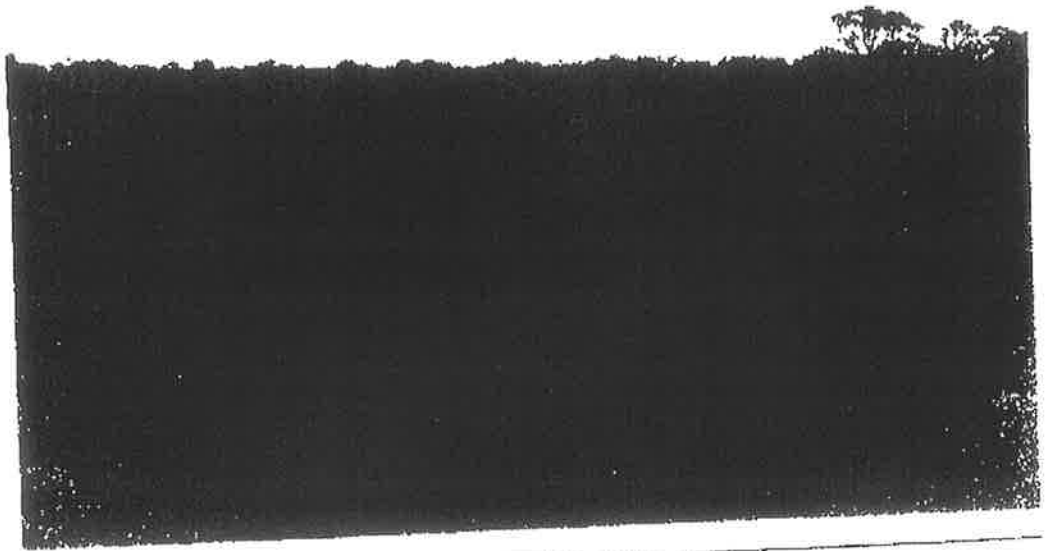
Erect interpretive signs near the dams to help visitors identify bird species that use the dams and surrounding grassland areas. These areas provide ideal viewpoints for observing common waterbirds and grassland birds of south-eastern Australia. The Latham's Snipe would be an excellent "flagship species" for demonstrating to the community the importance of conserving a range of habitats in Fagan Park for native wildlife.

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Appendix A  
Plates Showing Latham Snipe Habitat  
in Fagan Park.



Plates 1 (top) and 2 (bottom):  
Views of unknown grasses and shrubs along the drainage line between Dams 1 and 2.  
Vegetation surrounding Dam 2 shown middle right; Hornsby Model Flying Field shown in  
foreground.



Plates 3 (top) and 4 (bottom):  
Close-up views of unmown grasses and shrubs along the drainage line between Dams 1 and 2.  
Plate 3 is a westerly view from the Hornsby Model Flying Field. Plate 4 is a southerly view  
from the southern edge of Dam 2.

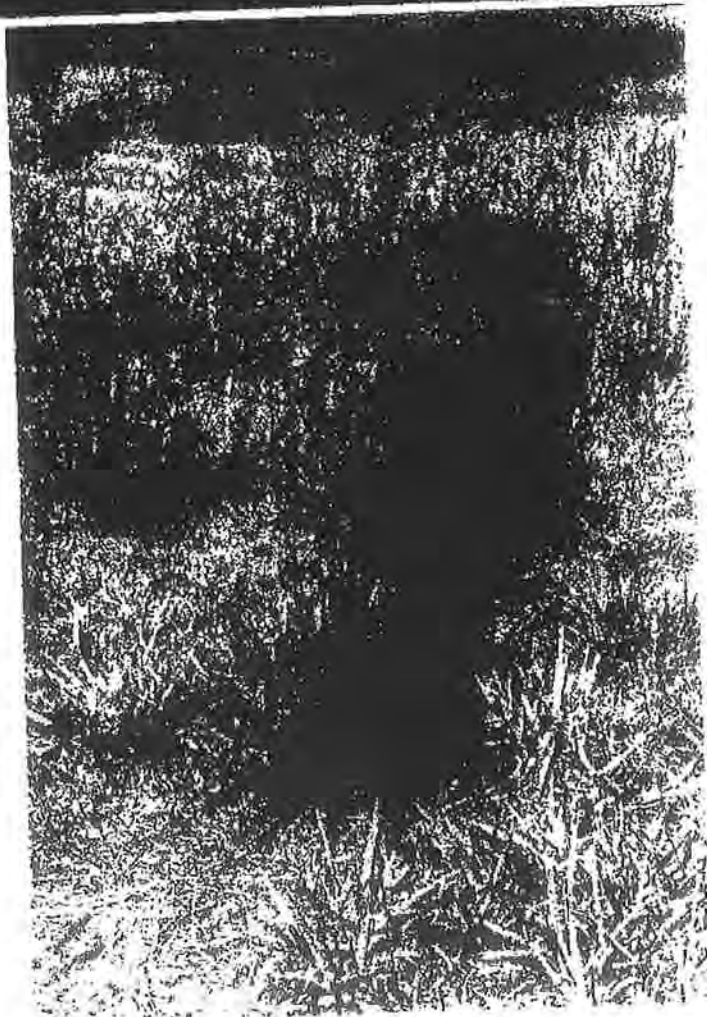


Plate 5 (top): South-westerly view of the Hornsby Flying Field showing seeding Common Plantain (*Plantago lanceolata*).

Plate 6 (bottom): Close-up of seeding Common Plantain in the Hornsby Flying Field



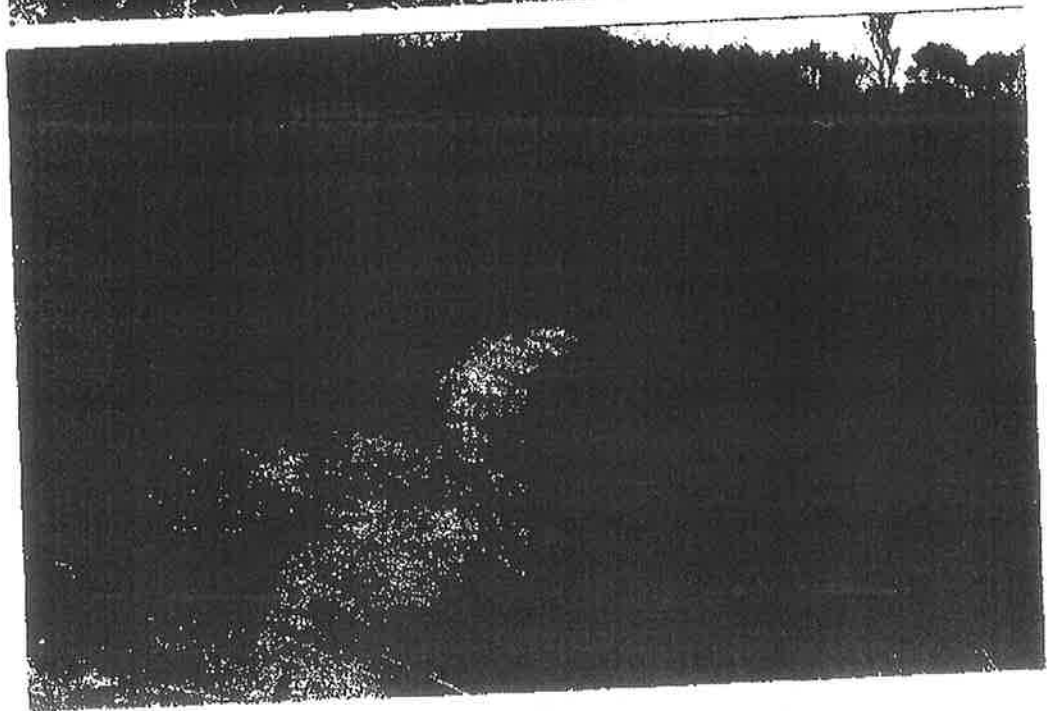
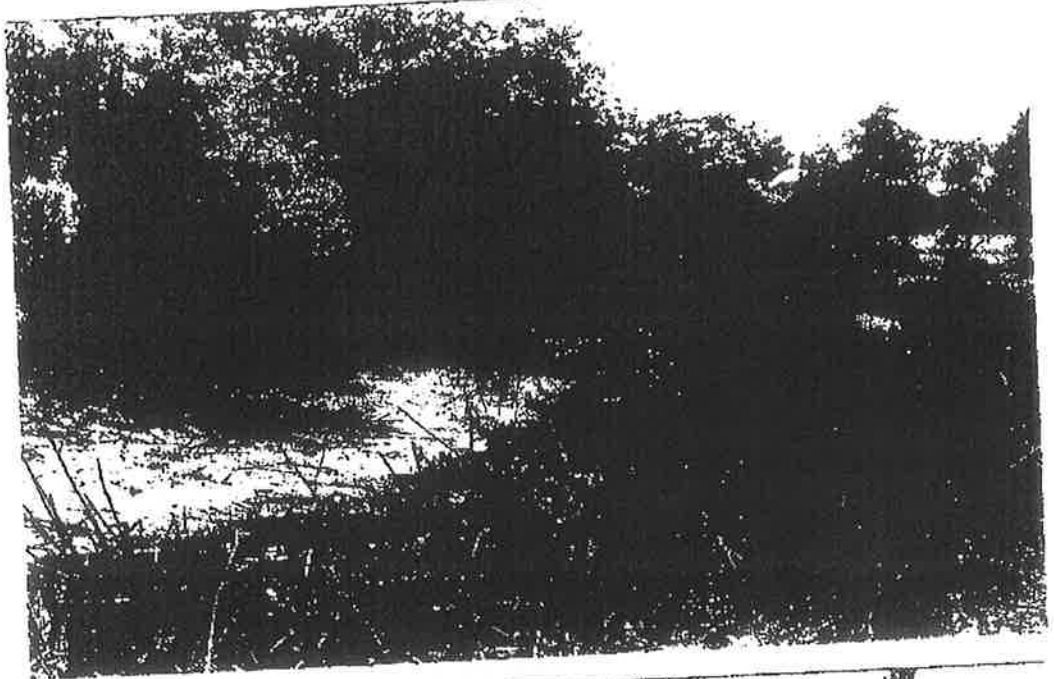
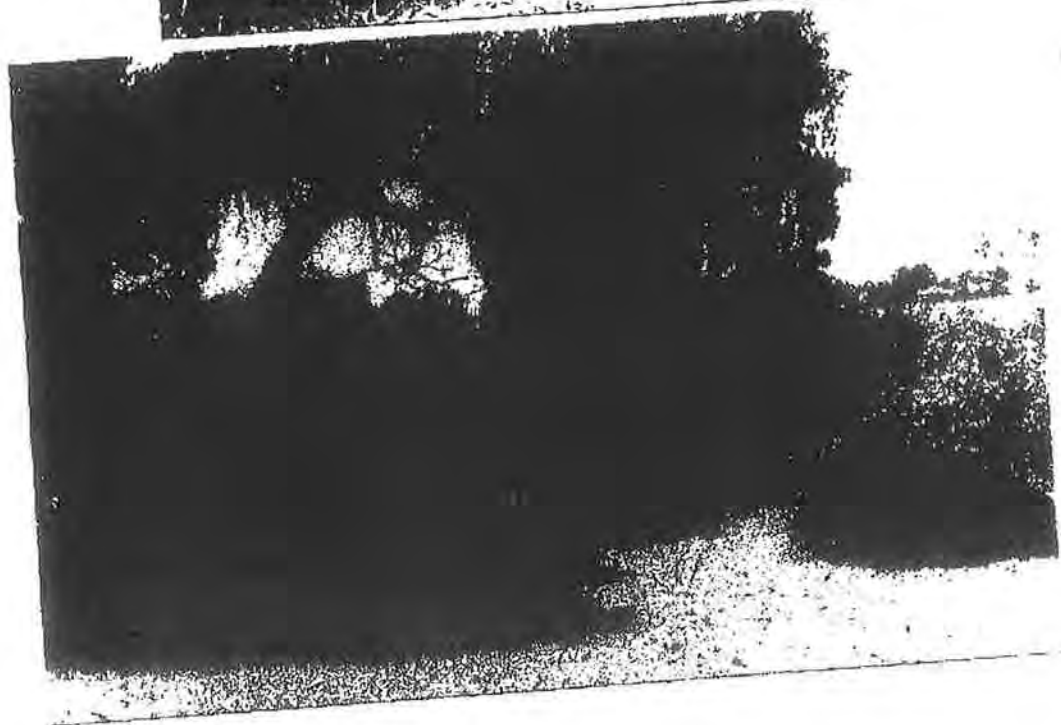


Plate 7 (top): Dense understorey and canopy vegetation (left) along the northern bank of Dam 2 and Spike-rush (*Eleocharis* sp.) (right) in shallow edge waters.  
Plate 8 (bottom): Tussock grasses (left) along the eastern bank of Dam 2 and Spike-rush (*Eleocharis* sp.) (right) in shallow edge waters.



Plates 9 (top) and 10 (bottom):  
Southern bank of Dam 2 showing dense understorey and canopy vegetation (background),  
large tussock grass clumps, and spike-rushes.

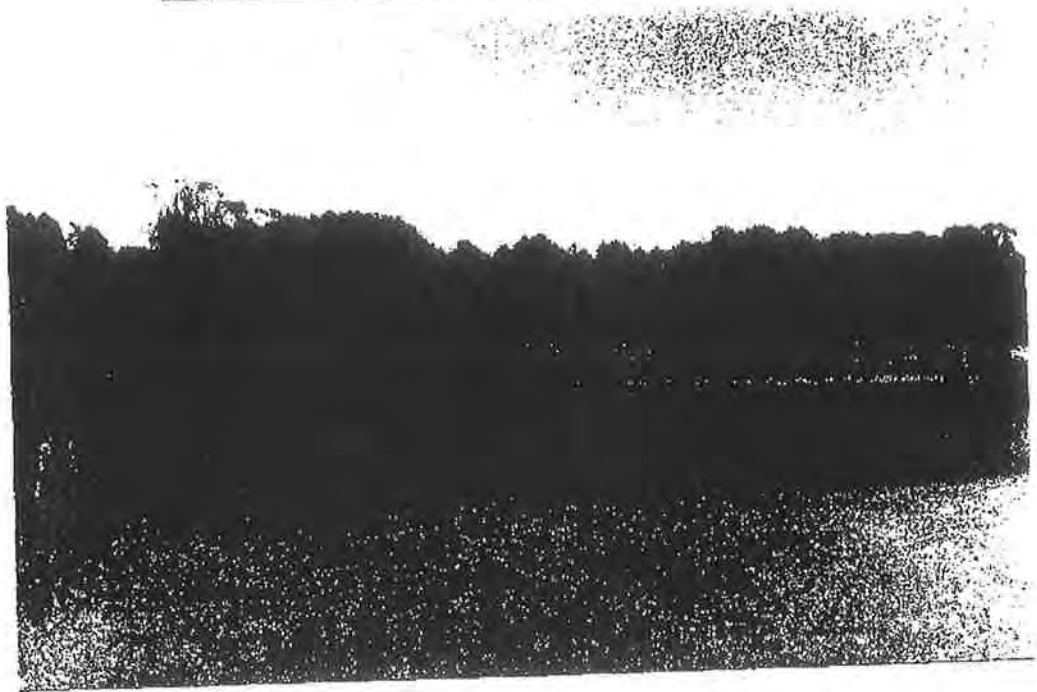
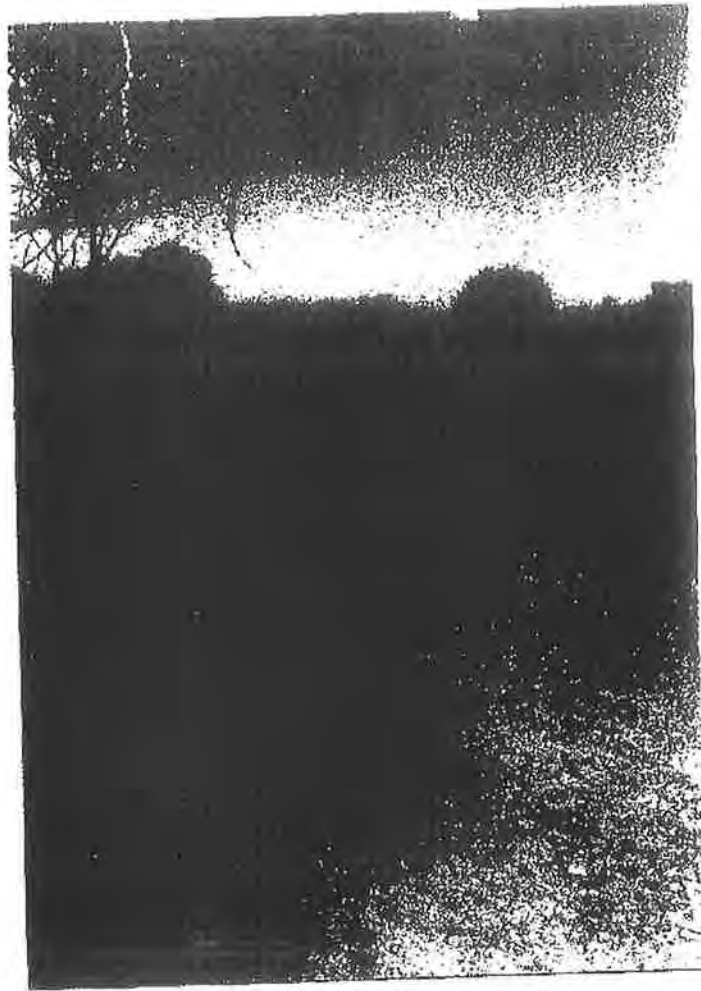


Plate 11 (top): Western bank of Dam 3 showing unknown grasses.  
Plate 12 (bottom): View of Dam 3 showing dense canopy and subcanopy vegetation (left) on southern bank and Spike-rushes growing in south-eastern corner of the dam.

**Appendix I      Showground Statement of Heritage Impact**

**FAGAN PARK  
HERITAGE IMPACT ASSESSMENT : PRELIMINARY REPORT**

**Statement of Heritage impact for:**

Fagan Park, Arcadia Road Galston (Part Lot 12, Lot 13-14, Lot 15-18 DP975148) Heritage Study item L203 and Netherby Homestead, 4-10 Arcadia Road Galston ( Lot 7 DP 16509) Heritage Study item 31/15.

Reference: Hornsby Shire Heritage Study 1992

**1.0 INTRODUCTION**

This statement was prepared by Craig Burton of CAB CONSULTING PTY LTD for Hornsby Shire Council from 2 December 2002 to 10 December 2002. The author wishes to acknowledge the support of Hornsby Council Park and Landscape Team, Hornsby Library , the Hornsby and Dural Districts Historical Societies and the Friends of Fagan Park.

This statement forms part of the statement of environmental effects for the proposed multipurpose recreation facility sited on sloping land adjacent to the south eastern boundary of Fagan Park and adjacent to the Netherby Farm Group.

The Plans reviewed for the proposed works are; "Preferred Design- Fagan Park Showground- September 2002.

The proposed facility comprises three gently sloped arena areas with retaining walls as built elements to support arenas together with a Clubhouse facility, roads , parking areas and plantations to accommodate and formalise the existing and proposed use of model aeroplanes equestrian and canine activities as well as other appropriate uses.

**1.1 DESCRIPTION**

Fagan Park is a fenced remnant of the former Fagan rural property fronting Arcadia Road to the south and west, Bayfield Road to the east, Carrs Road to the north and private property to the north west.

Its landform is undulating derived from weathered shale overlying sandstone and has two major catchments draining to the north and upper slopes of a larger catchment to the south and west. These upper slopes are intercepted by the Arcadia road formation whilst the northern drainage lines are intercepted by several dams before entering remnant forested bushland known as Carr's Bush and eventually drain into Stills Creek which in turn empties into the estuarine waters of Berowra Creek.

The western most catchment of the northern drainage lines has been adapted from rural lands into a parkland as interconnected detail areas known as the "Gardens of Many Nations". The open space is emphasised by grassed surfaces, access paths and shelter pavilions whilst the dammed water body creates a central focus. Further paths provide for the contrasting experience of the forested nature of Carr's Bush which is a significant remnant of the once extensive Turpentine -Ironbark Forest within the shale derived soils of the Sydney Region. Another remnant of this forest is also found along the Arcadia Road boundary as a substantial belt of treed vegetation acting as a buffer between the public Road and the park to the west and north west.

The other major catchment has its beginning along the Marramarra Ridge with the Netherby Farm Group sited at its head and within a saddle along the rigeline between two prominent knolls.

The "Gardens of Many Nations" development is not visible from the other catchment nor from the Netherby Farm Group. The rural character of this catchment is strongly visibly related to the Netherby Farm Group and evidence of fences, fencelines, roads and agricultural practices, particularly citrus orchards, is highly visible due to the cleared open character dominated by grassed surfaces, dams and peripheral tree plantations with some remnant trees associated with the creekline and dams. This rural composition is also highly visible from Bayfield Road.

The Netherby Farm Group appears to contain built form from many different periods of its development from the mid-nineteenth century to the present. It has been laid out along the ridgeline around a linear street system with buildings, access roads and fences responding to the different farming contexts provided by the different generations of the Fagan family.

Evident are old timber slab constructed buildings as well as sandstock brick walling , fireplaces and chimneys ( possibly made on site), painted weatherboard buildings, dry pressed machine made bricks forming the "Netherby" homestead, concrete brick stables and more recently built bricksheds as well as a collection of simple timber framed sheds with corrugated iron walls and roof sheeting and a rebuilt garage structure adjacent to the main water tank. A central windmill adds to the rural farm character of what is now a group of former farm buildings presented as a museum.

The Netherby Farm Group also contains timber post and rail fences as well as post and wire fences and gates as remnants of stock runs and paddock enclosures. Also evident is the use of sandstone detailing for road edges and thresholds to buildings.

Plantations are also evident dating from the Fagan family period and a more recently constructed front garden to "Netherby" Homestead.

## 2.0 OUTLINE HISTORY

Fagan Park is located on the Marramarra Ridge system comprising Ashfield Shale deposits of the Wianamatta geological formation overlying the Hawkesbury Sandstone formation and part of the larger Hornsby Plateau topography which helps to define the northern portion of the Sydney Region.

It is part of the territory of the Darug clan groups.

The indigenous vegetation was considered ( Benson and Howell) to be a Turpentine - Ironbark Forest associated with the Ashfield Shales and Sandstone Complex Forests associated with the Hawkesbury Sandstone. Fagan Park still contains representations of these although the lower slopes of the creek lines supports an ecotone of these vegetation types where the shale soils are shallow and sandstone outcrops appear in the area known as Carr's Bush.

Fagan park is part of a 600 acre grant to George Hall of Pitt Town ( dated 1819 ).

The Hall estate was subdivided and sold in 1882 to Henry, Robert and William Hudson, Timber Merchants of Sydney.

Timber getting favoured the upper slopes of the shale country and allowed the lower slopes to remain vegetated.

Cleared areas were attractive to agricultural pursuits which were taken up by William and Samuel Fagan from the middle of the nineteenth century to establish citrus orchards in the Galston area. Land was progressively purchased from the Hudsons and other owners of cleared land.

At the turn of the century Samuel Fagan and family moved into "Netherby" which appears to have been built c.1900-1901 within an earlier grouping of farm buildings comprising timber slab, vernacular timber frame and locally made brick construction.

Orchards remained the dominant land use on the area of Fagan Park until the 1930s when they were progressively cleared for the introduction of breeding milking cows and the establishment of the "Netherby" jersey stud.

With the death of Samuel Fagan in 1948 his son Bruce continued the jersey stud farm until the 1970s when his interest turned to horses.

Bruce Fagan and his sister Ida lived at "Netherby" until 1984 but had earlier in 1979 established deeds of agreement to donate the property to the ,then, Department of Lands under Hornsby Council's care, control and management.

Hornsby Council had in 1966 unsuccessfully negotiated with Bruce Fagan for the acquisition of the property for use as a golf course.

Bruce Fagan surrendered the balance of the property in February 1983, prior to his death in 1984.

The Deed of Gift expressed that the donated lands be preserved indefinitely for the cultural recreational, educational and historical benefit and use of the public.

The donated lands were to be known as "Fagan Park" to commemorate the role of the Fagan family in the district.

Fagan Park became the subject of a bicentennial project in 1983.

Alternative proposals to conserve the scale of the rural character were put forward by the local community in January 1984 as a response to the Fagan Park Development and Advisory Committee proposals but appear to have been not taken up.

Stuart Pittendrigh and Associates ( Landscape Architects ) were appointed in 1984 to prepare conceptual designs for a proposed garden project (submitted Febuary1985 ) identified later as the Gardens of Many Nations. This project received some funding from the Australian Bicentennial Authority in 1987 to enable implementation of part of the design and the gardens and park were opened on 5 November 1988.

During 1989 the "Friends of Fagan Park" was established following a recommendation of the Fagan Park Development and Advisory Committee.

## 3.0 HERITAGE SIGNIFICANCE

Two items have been identified as having heritage significance as part of the 1992 Hornsby Shire Heritage Study; Fagan Park has been considered of Regional Significance and "Netherby" of Local Significance. "Netherby" has also been identified as an item of significance as part of the Heritage Study of The North Western Sector of Sydney.

The following reviews the existing statement of significance for these items and proposes to extend the content of Fagan park to include items of natural significance in the form of creeklines, landform and remnant bushland. The "Netherby " Homestead item has been extended here and is referred to as the Netherby Farm Group which includes a curtiledge incorporating a collection of outbuildings, water tank, windmill structure, fences, roadways and former garden areas associated with the homestead.

Fagan Park is of high regional significance because ;

- its fabric contains evidence of a natural fragment of the once extensive Turpentine- Ironbark Vegetation Type now rare in the Sydney Region.

- its fabric contains evidence of different land uses associated with rural lands within the Sydney Region from timber getting , fenced orchards, fenced grazing paddocks, jersey stud, horses, potential archaeological sites and associated residential and farm buildings including equipment.

- as a public park conserving its rural character commemorating a local farming family: the Fagans.
- as a rural landscape reflecting the scale of farm development becoming rare within the Hornsby Shire area.
- as a place associated with the Fagan family within the Arcadia and Galston districts and as a result of a deed of gift from that family.
- as an open space associated with development relating to the celebration of Bicentenary of Australia.

"Netherby" homestead including the Farm Group of associated farm buildings, fences and pavings is of high local significance because;

- it contains fabric associated with different periods of rural development from the original Hall grant, different land uses implemented by the Fagan family and its adaption as a museum facility as part of a regional public park with a rural character.
- a good example of a Federation Period homestead with details influenced by the Victorian Period and its siting and form arising from an earlier nineteenth century farm buildings and fenced paddocks composition.
- its association with three generations of the Fagan family.

#### **4.0 OBLIGATIONS AND CONSIDERATIONS**

Arising from the Statements of Heritage Significance are the following obligations and considerations.

##### **4.1 OBLIGATIONS**

- i. Conserve the "Netherby" Farm Group, its rural landscape curtilage and setting. The curtilage can be defined by both visual analysis and historical investigation and would include the whole of the catchment of the southernmost drainage line whilst the setting is the scale and character of the surrounding context that contributes to the sense of place that the heritage item is placed within. The development opposite and to the south of "Netherby" detracts from the setting as do the shelter structures on the Marramarra ridgeline and the eco-garden structures, to some extent. The "Netherby" garden is one of the defined landscape elements of the "Netherby" Farm Group as is a fence line or roadway where the earlier form is known but no longer evident.
- ii. Conserve the remnant Bushland areas and fauna within the Park. This includes the different fragments of Carr's Bush, the peripheral south and western belt along the Arcadia Road Boundary, selected individuals and copses within the parklands and rural lands which support particular habitats from forest to open grassland and aquatic/wetland margins. These represent part of the natural heritage of the place. Carr's Bush is a significant remnant of Sydney Turpentine-Ironbark Forest, an endangered ecological community listed under Schedule 1 of the Threatened Species Conservation Act 1995.
- iii. Conserve natural, drainage lines and water quality within the Park area. This includes the waterforms of creek and dam found within the place and the physical impact of development on them as well as surface and subsurface drainage, issues of erosion and conservation of soil profiles and geological formations as part of the natural heritage of the place.
- iv. Conserve identified archaeological sites within the Park. Further investigation may reveal both Aboriginal and Euro-Australian archaeological sites. Known sites are some of the shale quarries for gathering material for brick making and the possible kiln sites where the bricks were fired. It is possible that following a more detailed investigation other sites may be revealed.

##### **4.2 CONSIDERATIONS**

- i. Preparation of a Conservation Management Plan for Fagan Park. This will allow for a more detailed historical analysis based on physical and documentary evidence to refine the statement of significance and to form the basis for policies to guide the future management of the whole of Fagan Park.

- ii. Interpretation of different land use patterns as part of future development of the park. The location and extent of timber getting, orchards, Jersey cattle and horses as well as the conservation of sections of bushland and the nature of the built environment provides an opportunity to tell the story of the place in a more integrated way by means of interpretative design. The extent of detailed knowledge may arise from the process of preparing a conservation management plan.
- iii. The visual and spatial structure of the rural landscape of Fagan Park. This analytical understanding of the inherent nature of the place ( the amount of open space versus enclosed space and what it should look like) will aid in the definition of curtilage and setting. It provides a holistic approach on which to integrate the outcomes of the conservation management plan and environmental issues with planning and design proposals which will have a perceptual basis ( how seen and experienced by the park users) on which to structure the spatial composition of Fagan Park into the future.
- iv. Adapt design of proposals to harmonise with the rural character of the Netherby Group setting and be sympathetic in terms of siting, form, proportions, landscape character and design.
- v. Conserve the generally open rural landscape character of the Netherby Farm Group and northern drainage catchment valley as a contrast to the more developed catchment containing the "Gardens of Many Nations" and Carr's Bush. This approach tends towards diversity as opposed to the possible outcome of homogeneity if the park is allowed to develop as a series of ad hoc developments with the introduction of similar scaled developments and particularly built elements.

## 5.0 RECOMMENDATIONS

That the proposal be amended to be more sympathetic to the heritage significance of the "Netherby" Farm Group in order to conserve the rural landscape character of the place. The proposed equestrian uses contribute to the heritage significance of the place however the hard edged design treatment and extent of built intervention is unsympathetic to the rural landscape character of Fagan Park and the "Netherby " Farm Group.

It is recommended that an arena located in the south eastern corner of the park be of a scale that enables the development of grassed embankments and buffer vegetation instead of retaining walls. This alternative approach would be more sympathetic to the setting of the Netherby Farm Group. It could also be integrated with the Netherby Farm Group utilising interpretative elements of known former elements such as; fence lines, gardens, plantings and the tennis court associated with "Netherby " Homestead together with its front garden addressing Arcadia Road. It would need to be carefully designed to ensure the scale and use is sympathetic to the museum functions and provide an opportunity to extend the museum concept to the external spaces that have a known former state and history.

It is recommended that any facilities downslope and within the viewshed of the Netherby Farm Group and setting be of a minimal nature in terms of physical intervention by adopting the existing landforms (little or no regrading of the existing topography) or alternatively interpreting the agricultural patterns of fence lines, cultivation lines and roads to provide some structure, by means of careful site investigation and design, for these facilities. This area of Fagan's farm was intensively cultivated and the existing cultural landscape could be left as part of the interpretation of past agricultural practices.

This could be further integrated into future vegetative plantations to minimise the visual impact of activities whilst conserving fauna habitats, water quality and a balance of open rural paddocks with treed vegetation.

## 6.0 CONCLUSION

The extent of earthworks and retaining structures as put forward on the proposal would detrimentally impact on the heritage significance of the Netherby Farm Group due to the physical and visual change to the curtilage and the landscape setting of the item. Further investigation may be necessary to determine the exact habitat requirements of identified significant fauna, particularly migratory bird species before alternative proposals are developed. Further investigation may be required to assess the environmental impact of the introduction of vehicular roads, carparking and downslope drainage in respect to water quality and the potential impact on the natural heritage of the place.

A Conservation Management Plan be prepared for Fagan Park.

## REFERENCES

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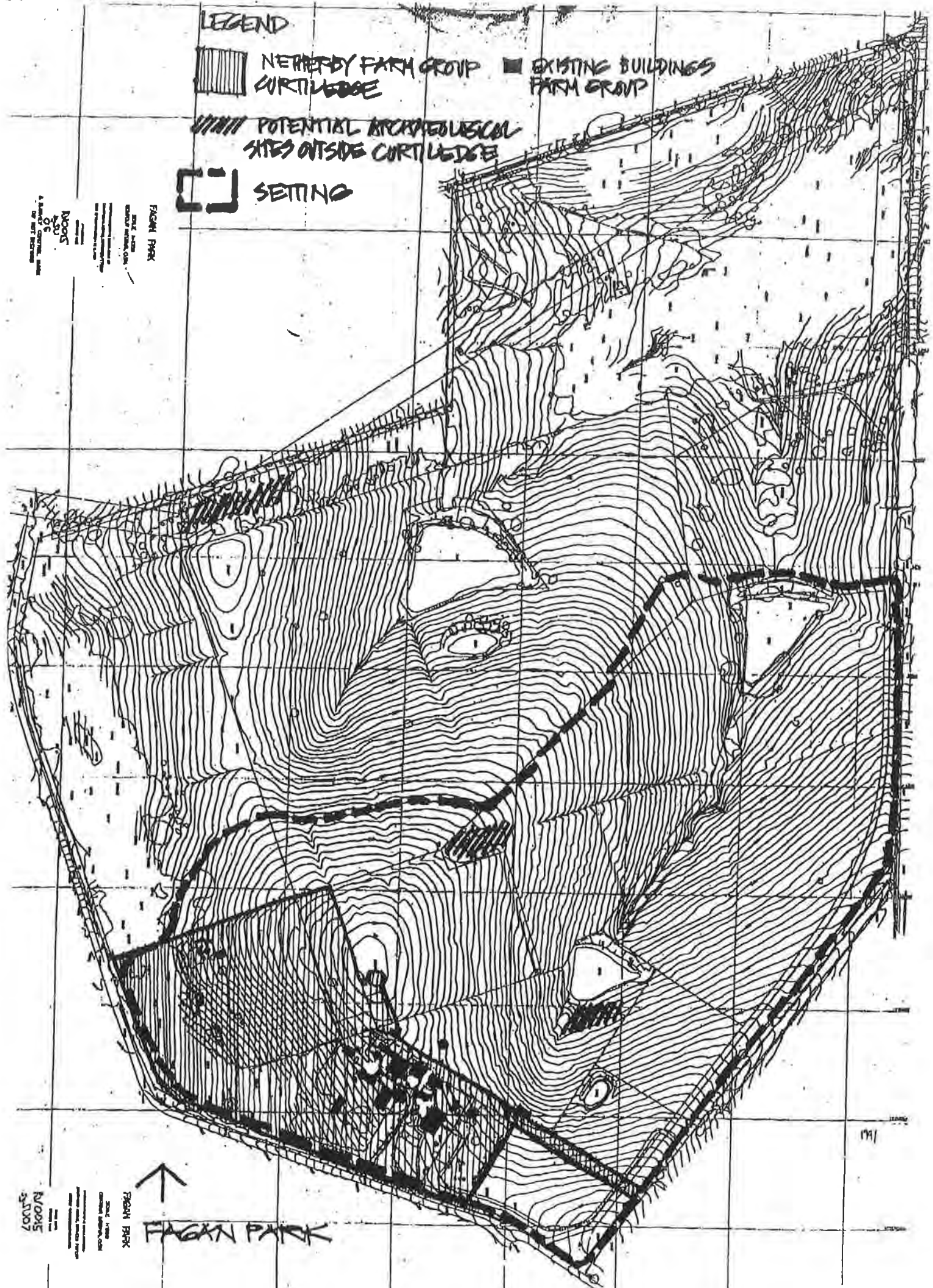
LEGEND

 NETHERBY FARM GROUP CURTILAGE  
 EXISTING BUILDINGS FARM GROUP

 POTENTIAL ARCHAEOLOGICAL SITES OUTSIDE CURTILAGE

 SETTING

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 2005  
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 A PART OF THE  
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**Appendix J      Draft Visitor Code**

# **Fagan Park, Galston**

## **DRAFT VISITOR CODE**

**Fagan Park is a very special place for the people of Galston-Arcadia, Hornsby Shire and New South Wales. Please help us care for the Park by following a few simple rules during your visit.**

### ***WE ASK VISITORS TO REMEMBER:***

**Observe all signs for your safety and information.**

**Respect the rights and needs of other visitors – Fagan Park is a place for passive recreation and enjoyment of the environment.**

**Place your rubbish in the bins provided or take it out with you.**

**Please report to Hornsby Shire Council any evidence of vandalism that you see during your visit.**

### ***PLEASE DO NOT :***

**Damage or deface any building or structure.**

**Damage or remove any plants.**

**Disturb any wildlife.**

**If you have any questions about this Visitor Code or would like more information about Fagan Park, please write to The General Manager, Hornsby Shire Council, PO Box 37, Hornsby NSW 1630 Telephone (02) 9847 6666 during business hours.**

**For information about the history of Fagan Park contact The Friends of Fagan Park, Hornsby & District Historical Society or visit the Local Studies section of Council's Library.**

